CONVEYER TYPE NEEDLE DETECTOR

APA−6500

INSTRUCTION MANUAL

CAUTIONS:

- Before using the Detector, read this INSTRUCTION MANUAL thoroughly for correct and safe use.
- Keep this INSTRUCTION MANUAL carefully and always refer to it when necessary.
- This Detector aims at decreasing the numbers of straying needles.
- Perfect detection of needles is not warranted.
- In the event of any doubt arising, the original INSTRUCTION MANUAL in Japanese is to be final authority.

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CAUTIONS FOR SAFE OPERATION

Read this INSTRUCTION MANUAL thoroughly for safety and always follow the instructions.

Before using the Detector, read this INSTRUCTION MANUAL carefully and use the Detector correctly and safely.

Keep this INSTRUCTION MANUAL carefully and be sure to always refer to it when necessary.

Cautions For Safety

Be very careful not to get caught in the conveyer belt, rollers and other rotating and moving parts.
Make sure to observe the following cautions.

- **Working Clothes:**
  Do not wear a necktie, muffler, scarf or other hanging articles and be careful not to get sleeves, cuffs, skirt and other parts of the clothes caught in the Detector.

- **Cleaning the Detector:**
  Before checking or cleaning the belt, rollers and other rotating parts always turn off the power source switch and pull the plug out of the receptacle.

- **Grounding the Detector:**
  The green lead wire on the power plug is the grounding conductor. Always connect it for safety's sake and to prevent receiving an electric shock.

Cautions For Use

- Only needles, pins and other articles made of iron (Ferromagnetic materials) can be detected.
  Weakly magnetic articles such as those of stainless steel and non-magnetic articles can not be detected.
  Always use articles made of iron
- Use metal buttons, fasteners, hooks and other garment fastenings and accessories that have been treated previously for detection support, that is, Needle Care (NC) products. (See page 12)
- Before and after needle detecting work, always check and adjust the sensitivity of the Detector with the attached test pieces by the specified method.
- Detection sensitivity of needles, broken needles and iron pieces differs with their size, quality, passing height and direction. Use the Detector after surely checking with actual articles.
- A strong magnetic field is being generated from the detection unit. Clocks and watches, diskettes, credit cards, etc. may go out of use because of the magnetic field, so be sure to keep them away from the Detector.

This mark indicates that the text concerns matters in which there is danger of injury and/or physical damage occurring.

This mark indicates that the text concerns matters in which there is danger of being caught in rotating and moving parts.

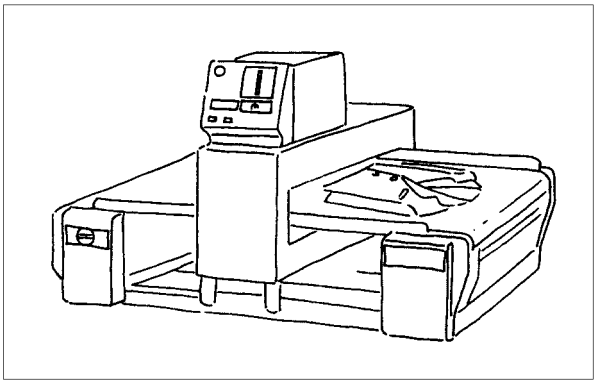
1. APPLICATIONS AND FEATURES

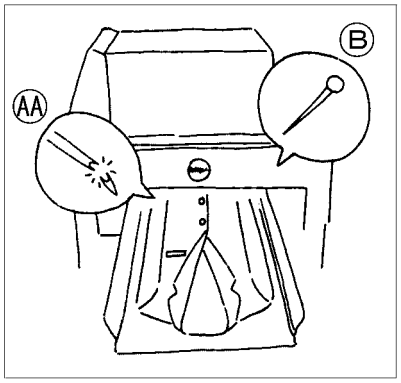
APPLICATIONS

This Detector is for detecting needles straying in sewn garments such as women's, children's and men's clothings, uniforms, working clothes, etc. Pay particular attention to the following points.

CAUTIONS

- Use detection support type accessories, that is, Needle Care (NC) products. (See Page 12).
- Make sure at the design stage that such garment accessories as iron and electrolytic nickel-plated articles that react to the Detector will not be used.
- Always use iron needles and pins (ferromagnetic materials: those that will be strongly attracted to permanent magnets) for sewing and other work. Stainless steel and other non-magnetic metals can not be detected.





SENSITIVITY AA : Broken sewing machine needle
(Equal to broken tips of Industrial sewing machine needle No.7 to 9.)
B : Iron-made standard marking pin (φ0.6×L33 mm)

FEATURES

A. Broken sewing machine needles and iron-made marking pins etc. can be detected by only placing sewn garments on the conveyer belt. When any needles are detected, the conveyer belt will stop automatically.

B. It is efficient because straying needles can be inspected under the condition of only 1 sheet but also bundled and packed sheets.

C. As the detection area is tunnel shape, the difference of the detecting sensitivity by the thickness of the objects to bo inspected is very few.
Straying needles can be detected at each sensitivity as follows.
Sensitivity AA : Broken sewing machine needle
(Equal to broken tips of Industrial sewing machine needle No.7 to 9.)
B : Iron-made standard marking pin (φ 0.6×L33 mm)

D. The sign to commence the detecting work can be recognized visually by providing with the LED while standing by, the detector can be used simply and conveniently.

2. INSTALLATION OF THE DETECTOR

PREPARATION

1. Selection of Location • Notices

1-1 Measures against Vibration

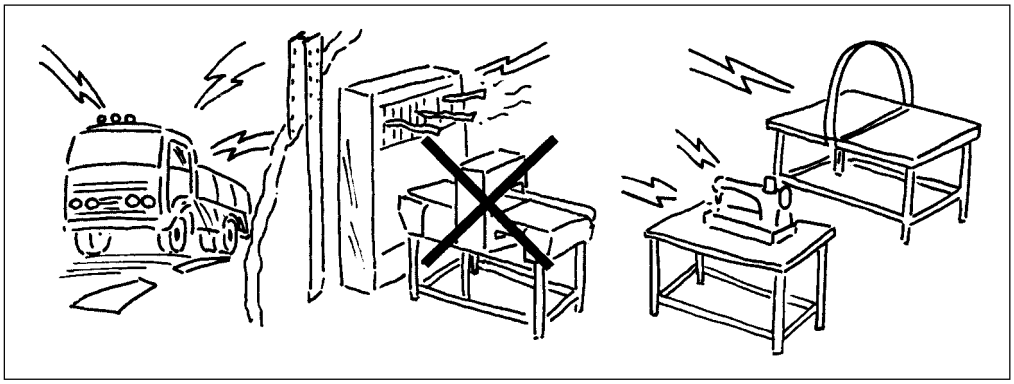
Choose a place indoors that has no vibration. A concrete floor gives the best results.
When the Detector has to be placed on a wooden floor, first place thick plywood, etc.
(example, 10 to 15 mm thick concrete panels) on the floor to prevent direct transmission of any vibration.
This usually suffices to make the Detector serviceable, although the best thing to do
would be to reinforce the wooden floor against vibration.

1-2 Effect of Metallic Products and Machinery

There should be no metallic desks, chairs, lockers, building pillars, reinforcing bars and other metallic objects within 1 meter from the detection unit. Also, keep air-conditioners, sewing machines, cutters, packing machines and other moving metallic objects ***at least 4 meters away.***
Detector may react when through near needle detecting part holding metal materials such as scissors, stapler and so on inside a pocket of apron etc.

1-3 Electric Wave Interference

Keep cellular phone, machines and devices that let off sparks, high-frequency wrapping machines, and other machines that could interfere with the normal operation of the Detector ***as far as 10 meters or more away.***
Also avoid places near roads and rails on which cars and electric trains travel.



1-4 Ambient Conditions

Select a place where is at ***normal temperature, little humidity and dust etc.***

1-5 Influence on Others

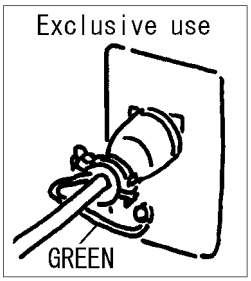
A strong magnetic field is generated from the detection unit. ***Clocks and watches, diskettes, credit cards, etc. may go out of use,*** so be sure to keep them away from the Detector.

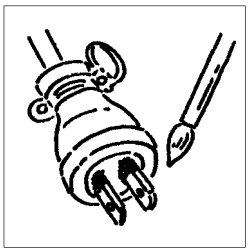
2. Power Source

Use a exclusive power source for the Detector.

Wire (or pipe) the power source to a 100V/220V AC receptacle equipped with a grounding terminal. The receptacle should have a breaker that is independent from other machines.

Always connect the green grounding terminal of the power source plug of the Detector to the receptacle.





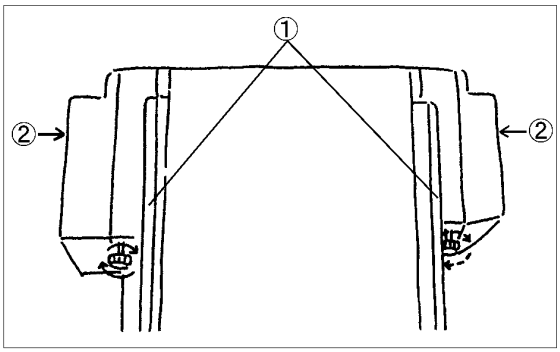
⚠ Dust adhered to the prongs of the power source plug could be the cause of fire, so wipe them clean.

INSTALLATION

1. Cautions for moving the Detector

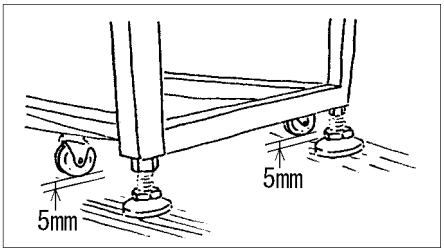
After unpacking the Detector, move it to its place of installation with the casters provided for that purpose.

⚠ Do not push or pull on the plastic guides ① and roller covers ② on both ends as they are liable to be damaged.



2. Securing method

Adjust the nuts of the four levelling bolts with a spanner so that ***the wheels of casters are clear of the floor by about 5mm each.*** Refer to the right figure.



⚠ The detector may malfunction unless the four levelling bolts are in full contact with the floor.

3. Cleaning

As small pieces of metal may be sticking to the surface and/or reverse side of the belt, joints and rollers as a result of handling and transporting the Detector, clean those ***parts carefully*** with a vacuum cleaner and a clean piece of cloth.

⚠ For safety's sake, be sure to unplug the Detector when doing the cleaning.

4. Adjusting Level

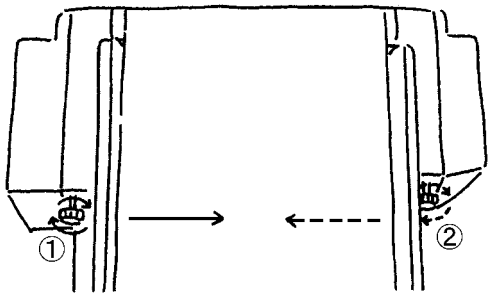
The conveyer belt has been adjusted for tension and meander on a level floor before the detector is shipped. Therefore, if the belt meanders to one side, the cause is that the floor is inclined or that the levelling bolts have been improperly adjusted, so adjust those as follows.

＊ Note that adjusting may take many attempts and several hours to accomplish.

4-1 Gradually raise the two levelling bolts on the guide side to which the belt has shifted or lower the levelling bolts on the opposite side. (See 2. Securing Method on Page 5)

4-2 As this adjustment can mostly be done with these four levelling bolts, go about the job patiently.

4-3 When adjustment by the above procedure is difficult, adjust by turning clockwise a little at a time the tension adjusting bolt on the side to which the belt shifts.



① Tension adjusting bolt for shifting the belt to the right
② Tension adjusting bolt for shifting the belt to the left

5. Confirming workings of the control unit

If the conveyer belt travels properly, carry out the following checks.

5-1 Change the sensitivity push button switch on the control panel to AA, turn the sensitivity adjusting knob to 7 to ▲ mark (8), and then make the conveyer belt travel by pressing the power source key and the conveyer key ON.

5-2 Walk around the Detector checking how the detection level LED go on to see how much vibration there is.

※ If all the detection level LED go on, the buzzer sounds and the conveyer belt stops, ***it means there is too much vibration from the floor, so reinforce the floor.***

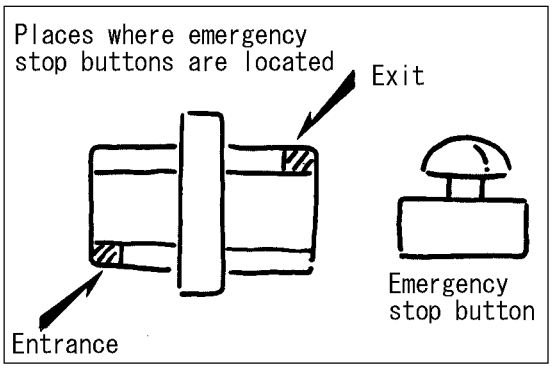
(See 1-1 on Page 4)

6. Confirming workings of the emergency stop buttons (Option)

Emergency stop buttons are located at the entrance and at the exit of the conveyer. Check their operation.

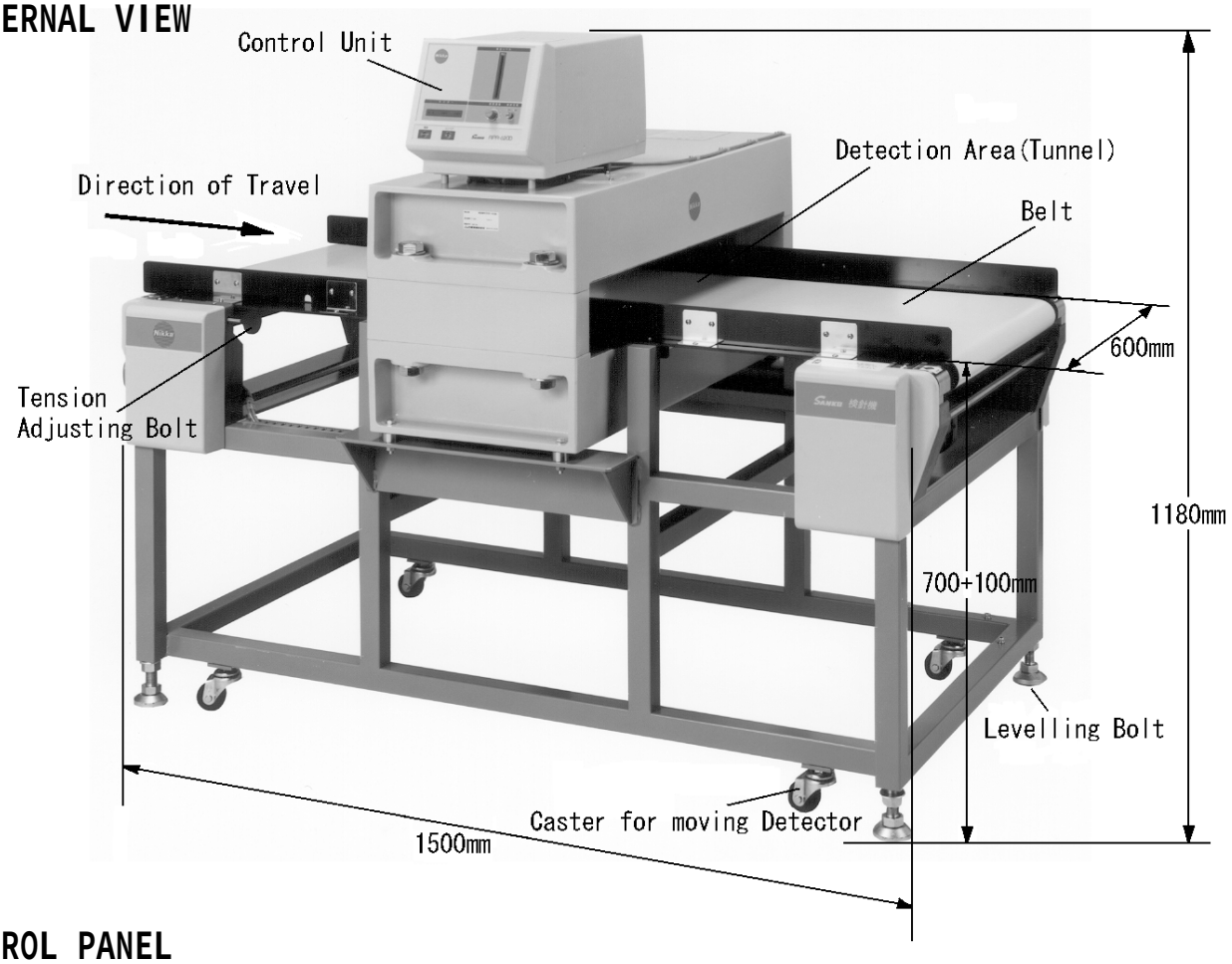
6-1 Press either one and, all power sources are shut off.

6-2 When make the Detector restart, press the emergency stop button once again and press the power source key on the control panel.



3. NAME OF PARTS

EXTERNAL VIEW



CONTROL PANEL

① Operation Indicator Lamp(LED)
The characters(letters) go on after belt starts.(denoting that detection is possible)

② Standby Indicator Lamp(LED)
When belt starts, the characters go on.(detection is not possible during the several seconds while this lamp is flashing)

③ Power Source Indicator Lamp(LED)
The characters(letters) go on while power is ON.

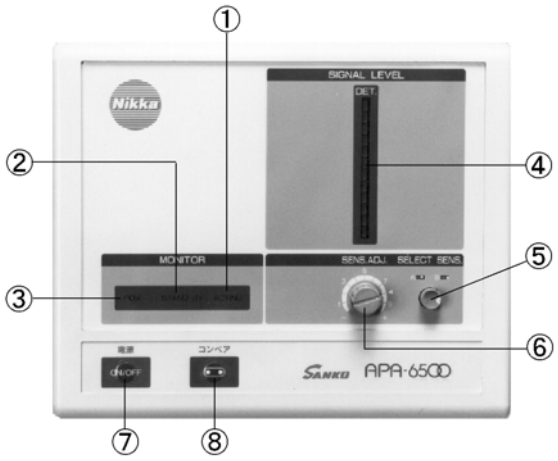
④ Detection Level Indicator Lamps(LED)
When a needle or some such object is detected, all 12 green, blue, and red lamps go on. The noise signal such as vibration etc. also can be seen by eyes.

⑤ Sensitivity Conversion Push Button Switch
Sensitivity AA is to detect broken sewing machine needles.
Sensitivity B is to locate marking pins, etc.

⑥ Sensitivity Adjusting Knob
Sets detection sensitivity. Normally at ▲ mark (8).

⑦ Power Source Key
Pressing this turns the electricity to the electronic circuit ON or OFF.

⑧ Conveyer Key
The conveyer belt travels or stops by each press.



※ Please note that the appearance etc. might be changed to improve the products.

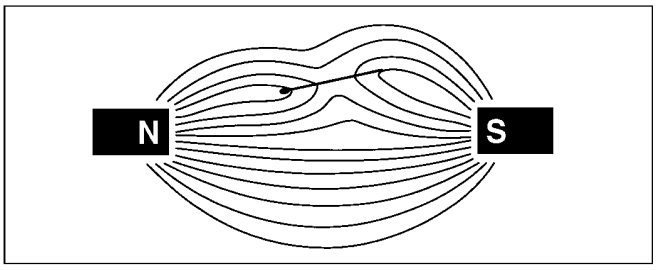
4. SPECIFICATIONS AND PRINCIPLE

SPECIFICATIONS

Detecting Method	Magnetic induction
Detecting Ability	With sensitivity conversion function.
(Needle Detection)	With attached test pieces for confirming the set sensitivity
	Sensitivity AA : Steel ball Fe ϕ 1.0
	(Equal to broken tip of industrial sewing machine needle No.7 to 9)
	Sensitivity B : Steel ball Fe ϕ 2.5
	(Equal to Standard iron marking pin → ϕ 0.6 x L33 mm)
	(See 6.Detection Standards on page 12)
Effective Detecting Width	600 mm
Detecting Height	100 mm
Alarms	Electronic buzzer, Detection level LED, Belt stop
Belt Speed	20 m / min. (50 Hz) and 24 m / min. (60 Hz)
Power Source	100V AC 50 / 60 Hz Approx. 200W
Dimensions and Weight	1500(W) × 1180(H) × 940(D) mm, Approx. 230 kgs.
Accessories	Test pieces Fe ϕ 1.0 (for Sensitivity AA)
	Fe ϕ 2.5 (for Sensitivity B)
	Fuse, Instruction manual
Options	Bell-mouth guide, Emergency stop buttons, Printer, Stabilizing transformer

PRINCIPLE

When a ferromagnetic substance such as needle, iron piece, etc. moves in a static magnetic field, a little electromotive force generates in a coil. This electromotive force is amplified, converted to sound and light and advise us the existence of the substances.



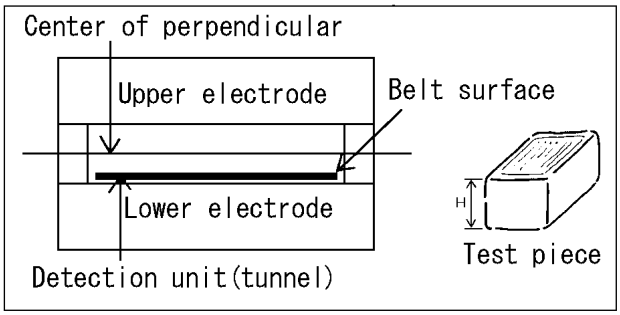
5. OPERATING INSTRUCTIONS

1. Operating Method

For safety, the operator must not wear a necktie, muffler, scarf and the like and should be very careful not to get his or her sleeve, skirt, etc. caught in the Detector.

Operations	Cautions
1. Insert the power source plug in the AC 100V receptacle.	● Use an exclusive AC100V receptacle. At the same time, connect to the ground. (See 2. Power Source on Page 5)
2. Press the power source key.	① The power source LED in the monitor goes on. 2 or 3 minutes later, the electronic circuit will stabilize and the Detector is ready for use. ② The flashing of several detection level LED does not mean that there is something wrong.
3. Put the sensitivity conversion push button switch on AA or B, turn the sensitivity adjusting knob slowly and set it at 7 to ▲ mark (8) on the dial.	● Position AA of the sensitivity conversion push button switch is for detecting broken sewing machine needles and position B is for detecting standard iron marking pins. (See 6. Detection Standards on Page 12)
4. Press the conveyer key.	● The conveyer belt starts to travel. The standby LED in the monitor blinks and then, several seconds later, the operation LED goes on.
5. Place one of the attached test pieces on the conveyer belt. (How to use the test piece is shown on the test piece) For Sensitivity AA, use Fe ϕ 1.0 For Sensitivity B, use Fe ϕ 2.5	① When the test piece is detected, the electronic buzzer sounds and the travelling belt stops at the same time. ② When the test piece is not detected, sensitivity is insufficient, so slowly turn the sensitivity adjusting knob slightly to the right (clockwise) and retest. Repeat the tests until ***the respective test pieces are properly detected without fail.***
6. Press the conveyer key.	● The belt restarts and ***the standby LED in the monitor blinks at the same time.*** ***For the few seconds while blinking, the detection circuit is on hold and can not detect any left-over needles or other objects.*** Always confirm that the standby LED goes out and the operation LED goes on before placing the objects to be inspected on the belt.

2. Before starting Detection

Operations	Cautions
1. Confirm the operation LED goes on and then pass the test piece through.	① Before starting and after finishing detection, ***make it a practice to always pass the test pieces through several times to see that the detector is operating properly.*** ※ So as to not to lose the test pieces, tie a piece of string about 1 meter long to each and tie the other end near the detection unit. ② Detecting ability differs somewhat depending on the height at which a left-over needle passes through the Detector. As the ***part around the center of the height is the area of the lowest sensitivity,*** set the sensitivity with the test pieces using the area of the lowest sensitivity as the basis.  ③ Pass through the attached test pieces with the side on which the seal is affixed facing up and confirm that they can be detected without fail.
2. Pass through a sewn garment that does not contain any broken needles or other unwanted articles.	① Check that the belt does not stop. 1) If it stops, it means that the metallic hooks, fasteners, front hooks, buttons, and other articles that are attached to the garment are of unsuitable quality. **Note:** The Detector will react to steel and electrolytic nickel-plated garment accessories. 2) Always use detection support type accessories/Needle Care (NC) products for metallic garment accessories. (See NC Products on Page 12)

3. Needle Detection

Operations	Cautions
● Place a sewn garment on the travelling belt.  Do not touch the traveling belt (especially near the roll part). It may cause injury. Place a proper table on exit side and take garments on the table is recommended.	① ***When the sensitivity conversion push button switch is on AA, the purpose is to detect broken sewing machine needles.*** Carry out needle detection on a finished garment with all fasteners, front hooks and other accessories attached. ② ***When the sensitivity conversion push button switch is on B, the purpose is to detect standard iron marking pins . (φ 0.6 x L33 mm).*** Carry out detection on a garment at the final stage after buttons etc. have been attached. (For ① and ② see 6. Detection Standards on page 12) ③ When a needle, broken needle, iron piece, pin, or other iron object is detected, the electronic buzzer sounds and the belt stops. Check the garment carefully and remove the needles etc. ④ ***Several needles may be left in the garment.*** Retest the garment even after a needle etc. have been removed from it. ⑤ Objects smaller than the standard sensitivity value (Sensitivity AA by φ 1.0 steel ball or Sensitivity B by φ 2.5 steel ball) can not be detected. However, since left-over needles and other objects have a thickness and a length, they may or may not be detected depending on how they pass through the detection unit even though they may be smaller than the standard value which they are converted to steel balls. Check with actual objects beforehand. (See 6. Detection Standards on Page 12 and 2. Detecting Ability on Page 13) ⑥ When the location of a left-over broken needle or other steel object is needed to know quickly, use of the handy type Sanko Needle Detectors TY-20R/TY-30(Option) is recommended.

4. End of Work

Operations	Cautions
● When the needle detecting work is finished, always press the conveyer key and power source key OFF.	① When the Detector is not in use, always pull out the plug from the receptacle.
● After the work is over, cover the Detector to prevent from dust.	① There are dust, iron powder and other fine particles floating in the air.

6. DETECTION STANDARDS

Sensitivity	Applications
Sensitivity AA ·····	Steel ball φ1.0: Equal to broken tip 3.5 mm of industrial sewing machine needles №. 7 to 9. ● Needle tips of the above size or larger can be detected at the final stage after fasteners, front hooks, etc. have been sewn on garments. ● Aims at detecting sewing machine needles that are broken while sewing garments or attaching accessories.
NC－A ·····	Steel ball φ0.8 or less: For metallic garment accessories and others ● Applies to NC-A products such as fasteners, hooks, etc. that can be attached with sewing machines and which react at the steel ball-converted value of φ 0.8 or less. (See below)
Sensitivity B ·····	Steel ball φ2.5: Equal to standard iron marking pin φ0.6×L33 mm. ● Marking pins of the above size or more can be detected at the final stage after buttons, buckles and other accessories have been attached. ● Aims at detecting marking and other pins, hand sewing needles, etc.
NC－B ·····	Steel ball φ1.5 or less: For metallic garment accessories and others ● Applies to NC-B products such as buttons, buckles, etc. that can be hand sewn and which react at the steel ball-converted value of φ 1.5 or less. (See below) ● There are some buttons and other accessories that can be detected by sensitivity A depending on their type of quality, shape, number attached, and other factors.

※ To set sensitivity, see 3 & 5 on Page 9, 1 on Page 10 and 2-1 on Page 13

● Relationship of Detecting Sensitivity to Steel Balls(Iron Balls)

The detecting sensitivities of this Detector have been set on the basis of steel balls (iron balls) which provide the most stable detection. Sensitivity should properly be set on the basis of needles, but since needles come in all sorts of types, thicknesses, lengths and sizes, which cause different signals to be sent out depending on the position and direction in which they pass through the Detector, they cannot be used as standards. Therefore, always use the Detector after first confirming what sort of size will be detected by testing with actual needles of various sizes.

● NC Products(Detection Support Type Accessories)

Front hooks, fasteners, buttons and other garment accessories made of metal which do not react at all or react only slightly to needle detectors are known by the general term "NC (Needle Care) Products". Sub-material manufacturers measure their garment accessory products based on a certain acceptance criteria and deliver those that have passed. Authorized Inspection Body：Japan Spinning Inspection Institute (Headquarters)

7. OPTIMUM USE OF THE DETECTOR

1. The Needle Detector helps to raise the efficiency in needle detecting work

The Needle Detector was designed and developed to simplify and to raise the efficiency of the work of detecting of pins, broken needles and other objects inadvertently left in garments by workers in the process of sewing apparel. Therefore, in order to eliminate left-over needles, make a general study of the entire sewing process giving consideration to the following points, together with the installation of the Detector.

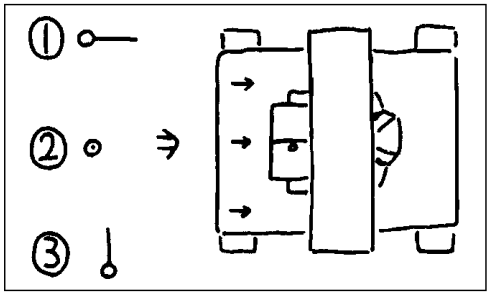
1-1 Assign a person to be responsible for the detecting work and have him give instructions and guidance to others on the correct use of the Detector.

1-2 Always restrict and control needles, marking pins, etc. to be used to those made of iron.

1-3 When a needle breaks in the sewing operation, make it rule that the search for the broken pieces must be continued until every piece is found to restore the needle to its original form, and supervise the implementation of that rule.

1-4 Control metallic garment accessories to the use of only detection support type (NC products).
(See NC Products on Page 12).

2. Detecting Ability



2-1 Strictly speaking, the detecting sensitivity of the detection unit is not uniform, there is a slight difference depending on the position and direction of the passing needle.
Therefore, setting of sensitivity with the test pieces is done by having them pass through the center part of the height where is the lowest part of the sensitivity.
(See 1-② on Page 10)
The sensitive level in each direction of passing direction of an actual needle is shown in the right figure,
where:

①highest ②close to highest ③lowest

2-2 The electronic circuit has been adjusted for detecting sensitivity in accordance with the speed of travel of the belt. Therefore, even though manually passing a once-inspected garment to and from through the detection unit, all the detection level LED will not always go on.

3. Reacts for Nothing?

When the Detector reacts for nothing, there are surely causes. Refer to the following.

3-1 A garment is supposed to have non-magnetic metallic buttons, front hooks, fasteners and other accessories attached to it. However, an accessory that has not been made detection support treatment has been included and the Detector has found it.

3-2 Iron powder from a cutter blade that is sharpened or powder from the whetstone is adhering to the garment being checked, and the Detector may have found that powder.
Be extra careful when handling cloth cutters that operate while the blade is being sharpened.

3-3 Even oil stains are detected. When machine oil is adhering to the garment being inspected, the Detector may detect the metallic powder that is mixed in with the oil.

3-4 Metallic rust may be adhering to the garment being examined.

8. DAILY INSPECTION AND REPAIR

1. Are the casters off the floor or is there any play or rattle in the conveyer? ..... Adjust the levelling bolts.

2. Has a sewing machine, cutter, packing machine or other moving metallic object been newly installed within 4 meters of the detection unit? ..... Cause of malfunction. Keep away.

3. Operate with no load under normal operating conditions.

⚠ When checking and cleaning the belt, rollers and other rotating parts, for safety's sake always unplug the Detector.

3-1 ***Are the bearings and other rotating parts making a strange noise?***

.....If so, clean off any waste yarn and dust on the rotating parts with a cloth and apply 2 or 3 drops of sewing machine oil or other machine oil to the parts.

Note: Avoid applying oil except when there is a strange noise. Dust and oil stain that stick to the belt during cleaning may cause malfunction of the Detector..

3-2 ***Two-thirds or more of the detection level LED go on.***

.....A needle, pin or other metallic object has fallen into the detection unit. In particular, they may be adhering to the upper part of the tunnel which contains a magnet. Check and remove whatever is adhering to it.

Note: As the Detector may be reacting to a wristwatch and magnetic cards etc with the body, remove them and check.

3-3 ***Many detection level LED go on or the belt stops always at the same spot of the belt.***

.....As this is because small metallic particles are adhering to the belt, first turn the sensitivity adjusting knob slightly to the right and raise the sensitivity until the belt always stop. Put a mark with water paint or the like on the place where the belt stops and check several times.

Thoroughly check both sides of the belt at the marked spot and remove all metallic particles that are found. If none can be found, those can be occasionally removed by wiping carefully with a clean and moistened cloth.

Note that the conveyer belt is recommended to replace every two years and the drive belt, once a year. ***(Belts are treated as consumable supplies.)***

3-4 ***The belt sometimes shifts to the side and contacts the guide.***

.....Wipe off dust and waste yarn from reverse side of the belt and the roll parts with a clean, moistened cloth and then make the Detector travel with no load for a few minutes.

If that does not seem to work normally, adjust by turning the tension adjusting bolts. (See 4. Adjusting Level on Page 6)

4. Do not place anything on the Needle Detector.

4-1 When the Detector is not in use, cover it with a vinyl sheet, cloth or the like to keep out dust, metal powder and other unwelcome objects.

9. TROUBLESHOOTING AND CORRECTIVE ACTION

Cause \ Nature of trouble		The belt conveyer does not travel	There is a strange noise from the belt conveyer	The belt shifts to one-side	The power source LED does not go on	The standby LED does not go on	The test piece is not detected when it passes through	When the belt stops, most of the detection level LED go on	When the belt is travelling with no load, most of the detection level LED go on	Something is detected for almost all garments that are examined	Corrective Action	Reference page
The power source plug is not connected to the receptacle		●			●	●					Insert the plug into the receptacle	9
The emergency stop button(Option)		●			●	●					Press the emergency stop button and power source ON again	6
The conveyer key is defective		●				●					Contact us	9
Insufficient oil or wear of bearings and other rotating parts			●								If not restored after oiling, contact us	14
Tension of the belt is not uniform				●							Adjust by turning the tension adjusting bolt	6
Setting of the sensitivity adjusting knob	Low						●				Turn the sensitivity adjusting knob to the slightly right	9
	High								●	●	Turn the sensitivity adjusting knob to the slightly left	9
A metallic particle is adhering to the belt									●		Clean both sides of the belt and rollers	14
A needle or other metallic object is sticking in the detection unit								●	●		Remove the objects and clean the inside	14
There is a large source of noise near the Detector								●	●		Move the source of noise and the Detector away from each other	4
There is a moving metallic object near the Detector								●	●		Move the moving metallic object and the Detector away from each other	4
The garments to be examined have been changed										●	Check the metallic accessories attached to the garment	10
The fuse has blown		●			●	●					If the condition is not restored after replacing with the spare fuse, contact us	16
The control unit circuit is defective					●	●	●	●	●	●	Contact us	16

１０．AFTER-SALES SERVICE

Before requesting inspection and repair

1. Read "8. DAILY INSPECTION AND REPAIR" on Page 14 and "9. TROUBLESHOOTING AND CORRECTIVE ACTION" on Page 15, and recheck once more.
   Then contact the nearest Office of Nikka Densoku Limited or Sanko Electronic Laboratory Co., Ltd.
2. When requesting inspection and repair, give the Model No. and a detailed explanation of the trouble.

Places to Contact:

Manufacturer:

Nikka Densoku Limited

(ニッカ電測株式会社)

Head Office　710 Ohnohara, Shimoakasaka, Kawagoe-shi 350-1155, Japan
Tel. 81-49-266-7311　Fax 81-49-266-5810

Osaka Branch　4-10-28 Nakamiya, Asahi-ku, Osaka 535-0003, Japan
Tel. 81-6-6955-6761　Fax 81-6-6955-6896

Nagoya Branch　1-18-28-401 Masaki, Naka-ku, Nagoya 460-0024, Japan
Tel. 81-52-322-1517　Fax 81-52-322-1880

Kyushu Branch　3-4-28 Shinonome-cho, Hakata-ku, Fukuoka 816-0071, Japan
Tel. 81-92-584-2791　Fax 81-92-584-2794

Exclusive Sole Agent for Conveyer Type Needle Detector:

Sanko Electronic Laboratory Co., Ltd.

（株式会社　サンコウ電子研究所）

Tokyo Branch　Shibata Bldg., 2-6-4 Uchikanda, Chiyoda-ku, Tokyo 101-0047, Japan
Tel. 81-3-3254-5031　Fax 81-3-3254-5038

Osaka Branch　Konishi Bldg., 2-3 Sugawara-cho, Kita-ku, Osaka 530-0046, Japan
Tel. 81-6-6362-7805　Fax 81-6-6365-7381

Nagoya Branch　Meihoku Bldg., 3-11-27 Kinjo, Kita-ku, Nagoya 462-0847, Japan
Tel. 81-52-915-2650　Fax 81-52-915-7238

Fukuoka Branch　11-11 Naraya-cho, Hakata-ku, Fukuoka-shi 812-0023, Japan
Tel. 81-92-282-6801　Fax 81-92-282-6803

Sales administration　1589 Hisasue, Takatsu-ku, Kawasaki-shi 213-0026, Japan
Tel. 81-44-788-5211　Fax 81-44-755-1021

Head Office　1677 Hisasue, Takatsu-ku, Kawasaki-shi 213-0026, Japan
Tel. 81-44-751-7121　Fax 81-44-755-3212

URL http://www.sanko-denshi.co.jp　E-mail info@sanko-denshi.co.jp

11. MAINTENANCE AND INSPECTION RECORD

Name : Conveyer Type Needle Detector

Model : APA-6500

Order No. : _____ Detection Unit Type : _____

Supplier : _____ Date : _____

Date	Records	Checked by

12. VARIOUS SANKO NEEDLE DETECTORS(IRON PIECE DETECTORS)

These Detectors were independently developed and put on sale by Sanko Electronic Laboratory Co., Ltd. and are known for their reliability and long and satisfactory service.
Select the most convenient type for the purpose.

APA-3000

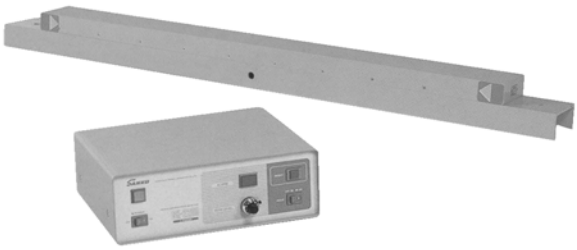
Mainly for use on sewn apparel. Reaction to garment accessories has been cut sharply by employing an electronic sensitivity selector.
・Detecting width: 14×55 cm
・Power source: 100V AC

SK-1200III

Mainly for sewn products. This is our best seller and most standard type.
・Detecting width: 14×55 cm
・Power source: 100V AC

SK-12TR／2200 (Wide Needle Detector)

For inspection of large sewn products and for continuous inspection during the production stage of carpets, etc.
・Detecting width: Up to 10×50 to 400 cm
・Power source: 100V AC



SK-6

Mainly for sewn products, this is a practical detector with a wide detecting width, considering its small size and light weight.
・Detecting width: 10×43 cm
・Power source: 100V AC

TY-30

This is a handy and slim type detector having conversion function of wide or spot range
・Detecting width: WIDE 4×9 cm
SPOT 3.5×3 cm
・Power source: Dry batteries R6p(1.5V)×2

TY-20R

This is the smallest needle detector and can fit in the hand. It is effective for examining a small amount of goods and for local detection.
・Detecting width: 3×6 cm
・Power source: Dry Batteries R6p(1.5V)×2

Office: Jl. Radin Inten II No. 62 Duren Sawit, Jakarta 13440 - Indonesia
Workshop: Jl. Pahlawan Revolusi No. 22B, Jakarta 13430 - Indonesia
Phone: 021-8690 6777 (Hunting)
Mobile: +62 816 1740 8925
Fax: 021-8690 6771