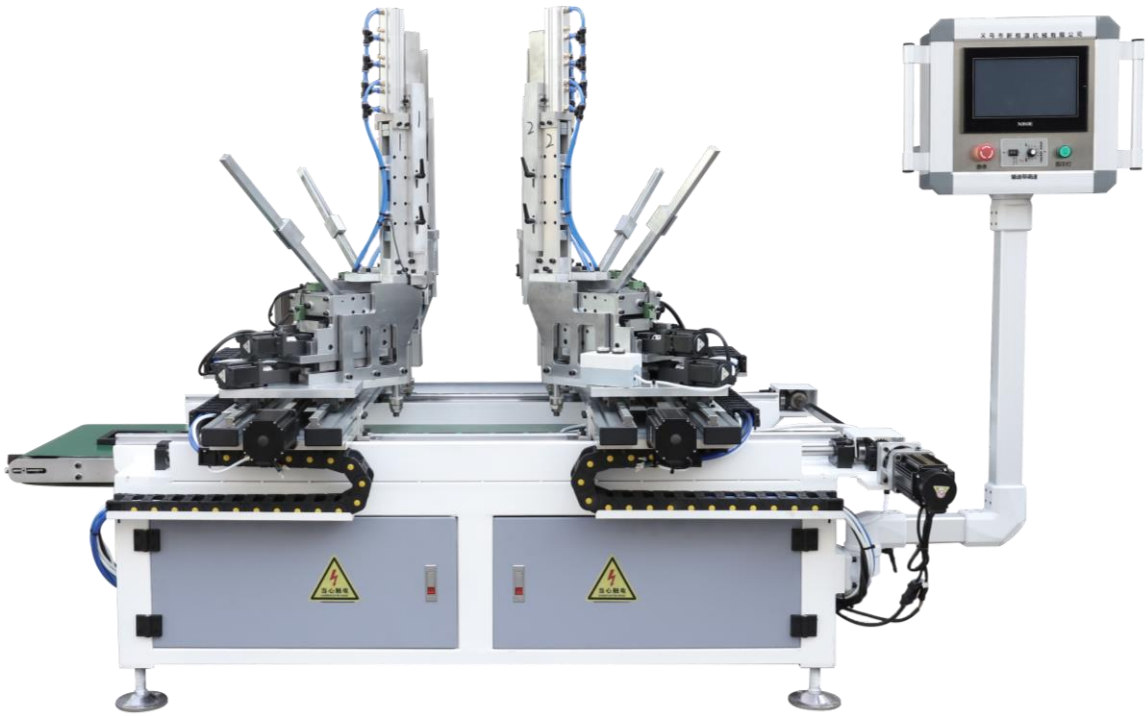
NN300 UNDERPINNER

NN300 Installation & Commissioning Manual



Field	Content
Document No.	NN300-ICM-001
Revision	V2.0
Issue Date	2026-06-24
Applicable Model	NN300 Underpinner (four-station picture-frame joining machine)
Reference Document	NN300-yuanban.mp4 installation demonstration video (original)

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FIGURE LIST

Fig. No.	Title	Type
01	Control Panel — Power-On	MECHANICAL
02	HMI — Start-Up Welcome Screen	HMI
03	Accessories & Tools (Nail Dies / Fixtures / Hex Keys)	MECHANICAL
04	Fixture Replacement — Loosen Mounting Screws	MECHANICAL
05	Fixture Replacement — Moulding 1–2 mm Above Fixture Surface	MECHANICAL
06	Magazine Height Adjustment	MECHANICAL
07	Nail Die Replacement (Mechanical)	MECHANICAL
08	HMI — Automatic Screen / Changeover Reset	HMI
09	V-Nail Loading (Incline Chute)	MECHANICAL
10	HMI — Parameter Adjustment (Length/Width Entry)	HMI
11	HMI — Length/Width Adjustment (Set Length / Set Width)	HMI
12	Moulding Clearance Check (approx. 0.5 mm)	MECHANICAL
13	HMI — Automatic Screen / Nailing Row Spacing & Count	HMI
14	Physical Nail Exit Reference	MECHANICAL
15	HMI — IO Monitor / Material-Out & Nail-Out Detection	HMI
16	Control Panel — Start & Emergency Stop	HMI+MECHANICAL
17	Machine Default Operating State	MECHANICAL
18	[Optional] Frame Collector — Width Adjustment (3–5 mm clearance)	MECHANICAL
19	[Optional] Frame Collector — Lift Platform	MECHANICAL
20	[Optional] Conveyor Connection	MECHANICAL
21	[Optional] Red-Line Sensor / Defect Detection	MECHANICAL

1 APPLICABILITY & REFERENCES

This manual applies to on-site installation, mechanical adjustment, HMI commissioning, and trial-run acceptance of the NN300 Underpinner (four-station picture-frame joining machine). Intended for qualified technicians with mechanical and electrical commissioning experience.

Reference source: NN300-yuanban.mp4 installation demonstration video (approx. 14 min 17 s; Chinese HMI interface in source video).

Item	Content
Applicable Model	NN300 Underpinner (four-station picture-frame joining machine)
Document No.	NN300-ICM-001
Document Revision	V2.0
Issue Date	2026-06-24
HMI Language	Chinese interface (XINJE touchscreen; labels per source video)
Source Video	NN300-yuanban.mp4 installation demonstration video (original)

2 SAFETY INSTRUCTIONS

Read this entire safety chapter before installation or operation. Failure to observe warnings may cause serious personal injury or equipment damage.

DANGER	If the emergency stop fails or guards are missing, moving parts may cause severe crushing or puncture injuries. Press the emergency stop immediately if any abnormality occurs.
WARNING	Before energising or pneumatic actuation, confirm no hands or tools are inside the nailing head, guide rails, or conveyor work zone.
CAUTION	When replacing fixtures, nail dies, or V-nails, de-energise the machine or confirm the HMI is in maintenance/changeover mode.
NOTE	The HMI displays primarily in Chinese; button names in this manual match the touchscreen (Set Length / Set Width / Reset / Start, etc.).

No.	Precaution
1	Installation/commissioning personnel must have mechanical and electrical commissioning experience
2	Before energising, verify cable and air-line connections are correct with no short circuits or air leaks
3	During commissioning, keep hands and tools clear of nailing heads, guide rails, and conveyor travel
4	Red emergency stop is on the control panel; press immediately if any abnormality occurs
5	When replacing fixtures/nail dies, confirm the HMI is in the corresponding maintenance mode
6	Wear protective gloves to avoid cuts from sharp metal edges

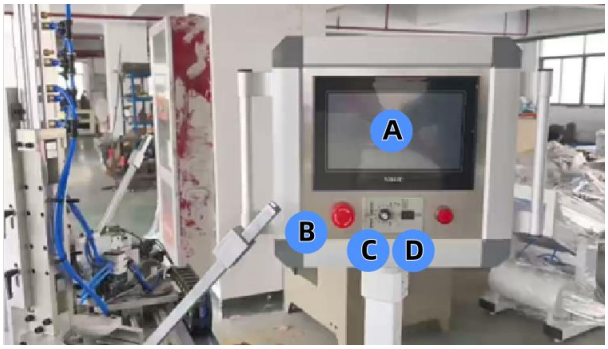
3 POWER-ON & HMI SETUP

PROCEDURE 3.1 Machine Energisation and HMI Start-Up

PURPOSE Energise the HMI and main controller; enter the operating interface.

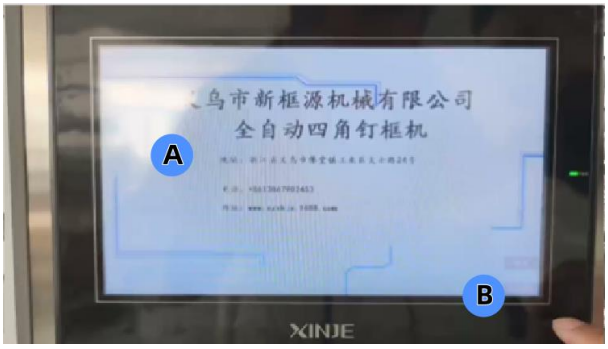
1	**Rotate the key switch to energise the touchscreen and main controller.** Key switch is on the control panel; rotate clockwise to ON. Backlight illuminates and controller indicators energise.
2	**Wait for the XINJE touchscreen to finish booting and display the start-up welcome screen.** Boot takes approx. 10–30 s; do not cycle power repeatedly to avoid system faults.
3	**Tap the lower-right button to enter the main interface (Automatic Screen).** Button is typically Enter Main Interface; parameter setup and operation are then available.
4	**Confirm the touchscreen display is normal with no unacknowledged alarms.** If alarms are present, review HMI alarm messages and clear faults before continuing.
VERIFY	Touchscreen displays the main interface normally with no unacknowledged alarms; control-panel indicators are normal.

FIG. 01 Control Panel — Power-On **MECHANICAL**



Ⓐ Touchscreen (XINJE HMI)
Ⓑ Emergency stop (red mushroom head)
Ⓒ Speed Adjustment Knob
Ⓓ Power / key switch (rotate to energise)

FIG. 02 HMI — Start-Up Welcome Screen HMI



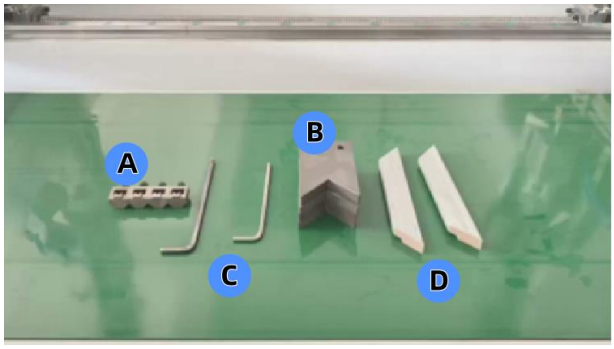
Ⓐ Manufacturer information / Model name
Ⓑ Enter Main Interface (lower-right button)

4 PACKING LIST & TOOLS

After uncrating, verify all items below before starting installation.

Ref.	Description	Qty / Notes	Remarks
A	Nail dies (multiple sizes)	4 sets (four stations)	Select per V-nail height
B	Fixtures (multiple sizes, stacked)	4 sets	For different moulding heights
C	Hex keys (L-type)	2 pcs (large/small)	Fixture/nail die fastening
D	Sample moulding	1 pc	Reference for dimension commissioning
—	V-nails	Per production requirement	Must match nail die specification

FIG. 03 Accessories & Tools (Nail Dies / Fixtures / Hex Keys) MECHANICAL



Ⓐ Nail dies (multiple sizes)
Ⓑ Fixtures (multiple sizes)
Ⓒ Hex key
Ⓓ Sample moulding

5 MECHANICAL INSTALLATION

PROCEDURE 5.1 Fixture Replacement — Four Stations

PURPOSE Accommodate picture frame moulding of different heights.

PREREQUISITE Machine energised or in a safe state; hex keys ready; sample moulding available.

1	**Confirm objective: accommodate different moulding heights.** Different moulding sizes require matching fixture heights; all four stations must use the same specification.
2	**Loosen the two fixture mounting screws (see Fig. 04).** Use an L-type hex key; turn counter-clockwise. Do not lose screws for reassembly.

3	**Remove the original fixture.** Lift vertically to avoid scratching station guides or sensors.
4	**Install a new fixture of the correct size.** Select size against the sample moulding; align locating slots on installation.
5	**Tighten mounting screws.** Tighten diagonally in alternate sequence; fixture must be level and secure.
6	**[Critical dimension] Moulding must sit 1–2 mm above the fixture surface (see Fig. 05).** Place the sample in the fixture for comparison; too high or too low affects nailing accuracy.
7	**Repeat for all four stations.** Verify height at each station before proceeding to the next.
VERIFY	With sample moulding installed, height is 1–2 mm above fixture; consistent across four stations.

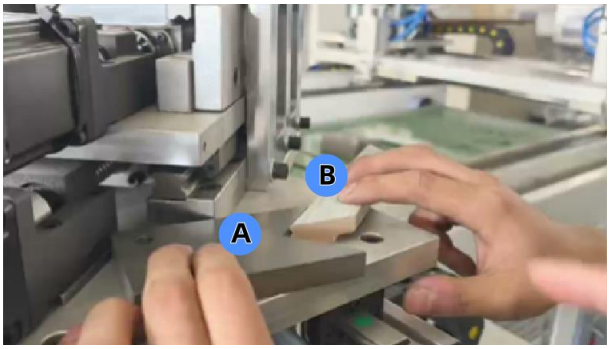
FIG. 04 Fixture Replacement — Loosen Mounting Screws MECHANICAL



Ⓐ Fixture mounting screws (2 pcs)

Ⓑ Hex key

FIG. 05 Fixture Replacement — Moulding 1–2 mm Above Fixture MECHANICAL



Ⓐ New fixture

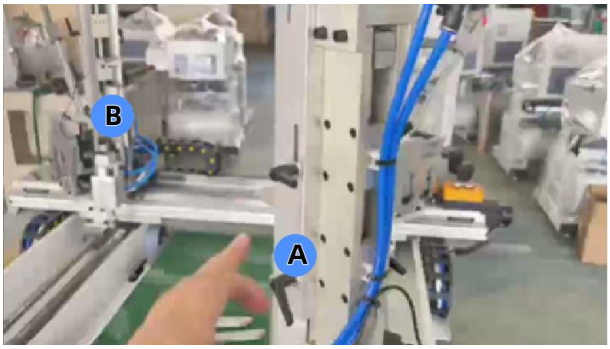
Ⓑ Sample moulding (height reference)

PROCEDURE 5.2 Magazine Height Adjustment — Four-Cavity Module

PURPOSE Set the material magazine height to correctly support the moulding.

1	**Loosen magazine adjustment screws; loosen related mounting screws if required.** Confirm no moulding in the station before adjustment to avoid pinching.
2	**The moulding magazine can now be moved vertically.** Movement must be smooth; if resistance is high, check for screws still tightened.
3	**Remove the sample moulding and place it in the fixture for comparison.** Sample represents production moulding; maintain normal placement orientation.
4	**[Critical dimension] Magazine height must be 2 mm above the moulding.** Use the sample top surface as reference; magazine lower edge 2 mm above moulding for stable feeding.
5	**Lock magazine height.** Tighten adjustment screws first, then mounting screws (if fitted) to prevent movement during operation.
6	**Repeat for all four cavity modules.** Heights must be consistent across four stations to avoid uneven feeding.
VERIFY	Magazine 2 mm above moulding; consistent across four stations; all screws tightened.

FIG. 06 Magazine Height Adjustment MECHANICAL



Ⓐ **Magazine adjustment screw**

Ⓑ **Magazine (moulding storage)**

PROCEDURE 5.3 Nail Die Replacement & V-Nail Loading

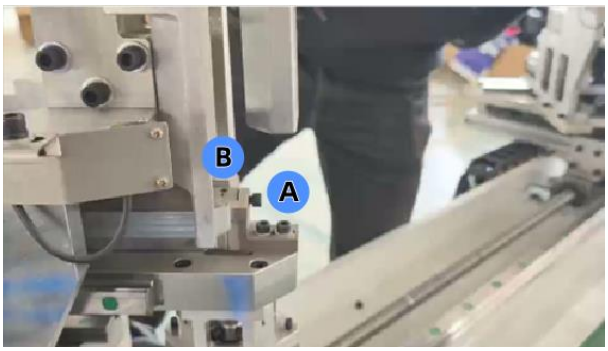
PURPOSE **Select the nail die for V-nail height and load V-nails correctly.**

CAUTION	Before nail die replacement, confirm changeover/maintenance mode on the HMI Automatic Screen. Nailing mechanism is inhibited in this mode.

1	**[HMI] Confirm changeover/maintenance mode on the Automatic Screen.** Nailing mechanism is inhibited; nail die can be replaced safely. If uncertain, press Reset first.
2	**Loosen nail die mounting screws and remove the original die (see Fig. 07).** Observe die orientation and station marking; avoid spilling V-nails on removal.
3	**Install the required nail die and tighten.** Die specification must match V-nail height; confirm no looseness after tightening.
4	**Replace at all four stations.** All four stations must use the same die size or nailing depth will vary.
5	**On the touchscreen, tap Changeover Reset or Reset (see Fig. 08).** After reset, mechanism returns to home position before loading nails and trial run.
6	**[V-nails] Load V-nail strips via the incline chute: open end inward, adhesive face upward (see Fig. 09).** Incorrect orientation causes jamming or missed nails; push each strip to the bottom of the magazine.

VERIFY	Four-station dies identical; V-nail orientation correct; no alarms after reset.

FIG. 07 Nail Die Replacement (Mechanical) **MECHANICAL**



Ⓐ **Nail die mounting screw**

Ⓑ **Nail die (select by nail height)**

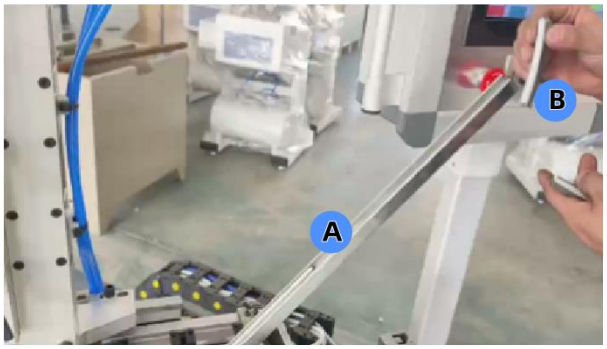
FIG. 08 HMI — Automatic Screen / Changeover Reset **HMI**



Ⓐ **Changeover Reset (after die replacement)**

Ⓐ **Reset (general reset button)**

FIG. 09 V-Nail Loading (Incline Chute) **MECHANICAL**



Ⓐ V-nail loading chute

Ⓑ V-nail strip (open end inward, adhesive face up)

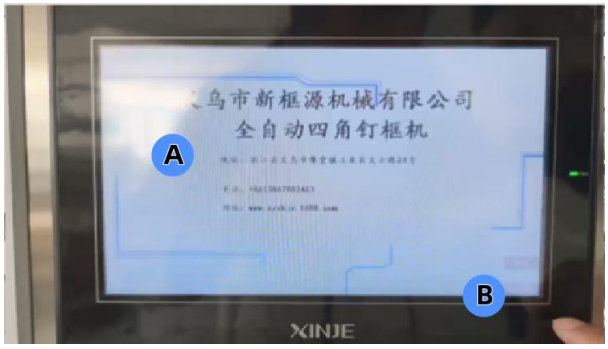
6 HMI OPERATION REFERENCE

This chapter describes each XINJE HMI screen. Screen captures are frames from the yuanban source video; button labels match the touchscreen (Chinese UI in source video).

6.1 Welcome Screen

HMI Button	English	Function	Related Procedure
Start-Up Welcome Screen	Start-Up Welcome	Displays manufacturer and model information	Procedure 3.1
Enter Main Interface	Enter Main Interface	Lower-right button enters operating interface	First use after power-on

FIG. 02 HMI — Start-Up Welcome Screen HMI



Ⓐ Manufacturer information / Model name

Ⓑ Enter Main Interface (lower-right button)

6.2 Automatic Screen — Changeover Reset

HMI Button	English	Function	Related Procedure
Changeover Reset	Changeover Reset	Restore initial state after nail die replacement	Procedure 5.3 Step 5
Reset	General Reset	General reset button	Procedure 5.3 / 8.2

FIG. 08 HMI — Automatic Screen / Changeover Reset HMI



Ⓐ Changeover Reset (after die replacement)

Ⓐ Reset (general reset button)

6.3 Parameter Adjustment / Length & Width

HMI Button	English	Function	Related Procedure
Parameter Adjustment	Parameter Adjustment	Three-column manual length/width adjustment screen	Procedure 7.1 Step 2

HMI Button	English	Function	Related Procedure
Reset (×3)	Reset (×3)	Restore column to initial values	Procedure 7.1 Step 3
Length (mm)	Length (mm)	Enter measured moulding length in mm	Procedure 7.1 Step 4
Width (mm)	Width 1 / Width 2	Both width values identical for square frames	Procedure 7.1 Step 5
Forward / Reverse	Forward / Reverse	Manual fine adjustment of axis position	During fine adjustment
Set Length	Set Length	Confirm button at bottom of length column; must be pressed after entry	Procedure 7.1 Step 6
Set Width	Set Width	Confirm button at bottom of width column; must be pressed after entry	Procedure 7.1 Step 6

FIG. 10 HMI — Parameter Adjustment (Length/Width Entry) HMI



- Ⓐ **Length (mm) entry field**
- Ⓑ **Width 1 (mm) entry field**
- Ⓒ **Width 2 (mm) entry field**
- Ⓓ **Set Length / Set Width / Reset buttons**

6.4 Automatic Screen — Nailing Row Configuration

HMI Button	English	Function	Related Procedure
Automatic Screen	Automatic Screen	Main operating screen	Procedure 8.1 Step 1
Distance (Rows 1–10)	Row Distance	Left column; set nailing position per row (mm)	Procedure 8.1 Step 2
Nail Count	Nail Count	Number of nails per row	Procedure 8.1 Step 3
Stop	Stop	Red stop button	—

FIG. 13 HMI — Automatic Screen / Nailing Row Spacing & Count HMI



- Ⓐ **Nailing row spacing (distance, mm)**
- Ⓑ **Nails per row (Nail Count)**
- Ⓒ **Automatic Screen (current view)**

6.5 IO Monitor — Material-Out & Nail-Out Detection

HMI Button	English	Function	Related Procedure
IO Monitor	IO Monitor	Entry via bottom navigation bar	Procedure 9.1 Step 3
Material-Out Detection	Material-Out Detection	Alarms when magazine is empty	Must be enabled before trial run
Nail-Out Detection	Nail-Out Detection	Alarms when V-nail magazine is empty	Must be enabled before trial run

FIG. 15 HMI — IO Monitor / Material-Out & Nail-Out Detection HMI

HMI Button	English	Function	Related Procedure

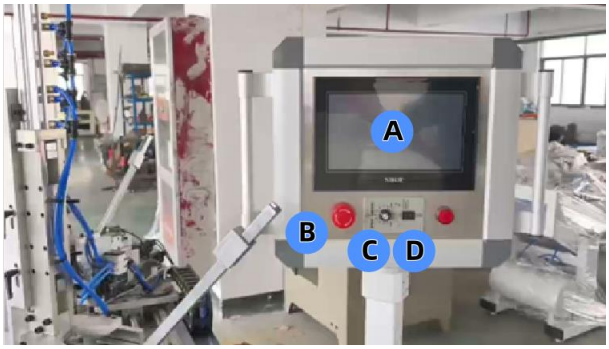


Ⓐ IO Monitor screen
Ⓑ Material-Out Detection
Ⓒ Nail-Out Detection

6.6 Physical Control Panel (XINJE)

HMI Button	English	Function	Related Procedure
Key Switch	Key Switch	Rotate to energise touchscreen and main controller	Procedure 3.1
Touchscreen	Touchscreen	XINJE HMI; primary parameters and operation	—
Emergency Stop	Emergency Stop	Immediately stops all motion	—
Speed Adjustment Knob	Speed Knob	Fine adjustment of operating speed	—
Start	Start (HMI Green)	Start after confirming detections are enabled	Procedure 9.1 Step 6

FIG. 01 Control Panel — Power-On MECHANICAL



Ⓐ Touchscreen (XINJE HMI)
Ⓑ Emergency stop (red mushroom head)
Ⓒ Speed Adjustment Knob
Ⓓ Power / key switch (rotate to energise)

7 COMMISSIONING — DIMENSIONS

PROCEDURE 7.1 Length and Width Entry

PURPOSE Enter target moulding length and width; confirm machine positioning.

1	**Enter Parameter Adjustment or Length/Width Adjustment via bottom navigation.** Both screens are similar with three-column length/width settings.
2	**Press Reset on each column to restore initial values.** Each column has a Reset button; reset before entry to avoid residual values.
3	**Measure moulding length (mm) with a tape measure; enter in the length field. Example: 200 mm (see Fig. 10).** Measure at the same location as production moulding; unit is millimetres.
4	**Measure width; enter in Width 1; enter the same value in Width 2 for square frames.** For non-square frames, Width 1 and Width 2 may differ.
5	**Press Set Length and Set Width to confirm (see Fig. 11).** After each value change, press Set Length/Set Width again or the mechanism will not move.
6	**Wait for the NN300 to adjust to the entered dimensions.** Do not reach into the station while moving; motion stops when in position.

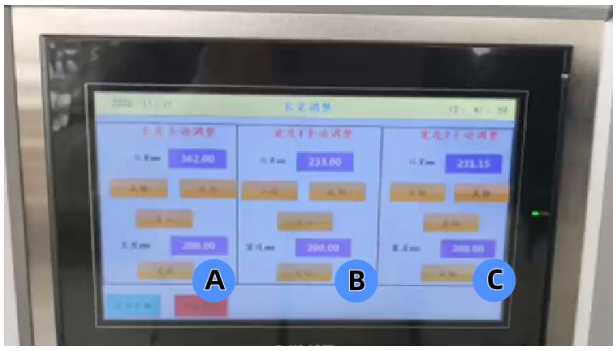
VERIFY Mechanism reaches set length/width; HMI values match entries.

FIG. 10 HMI — Parameter Adjustment (Length/Width Entry) HMI



Ⓐ Length (mm) entry field
Ⓑ Width 1 (mm) entry field
Ⓒ Width 2 (mm) entry field
Ⓓ Set Length / Set Width / Reset buttons

FIG. 11 HMI — Length/Width Adjustment (Set Length / Set Width) HMI



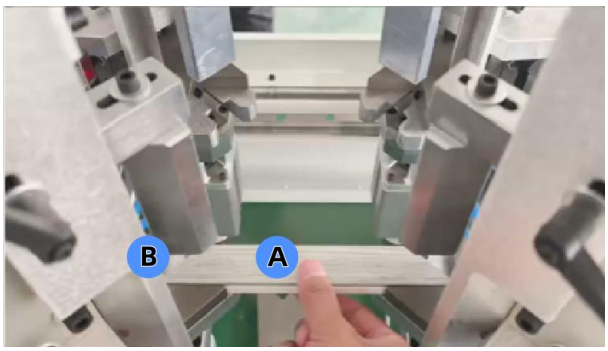
Ⓐ Set Length (length column confirm)
Ⓑ Set Width (Width 1 column confirm)
Ⓒ Set Width (Width 2 column confirm)

PROCEDURE 7.2 Clearance Check and Fine Adjustment

PURPOSE Confirm moulding clearance within the station is correct.

NOTE	Target running clearance approx. 0.5 mm. If too tight, increase value (0.1 mm steps); if too loose, decrease. Press Set Length/Set Width after each change.
1	**Place moulding in the station (see Fig. 12).** Same orientation as production with display face upward.
2	**Slide moulding left/right to check clearance.** Light finger pressure only; no significant binding or excessive play.
3	**[Acceptance criterion] Clearance approx. 0.5 mm.** Too tight causes nail misalignment; too loose affects positioning accuracy.
4	**If unsatisfactory, return to Length/Width Adjustment for fine tuning.** If too tight, increase (e.g. 200→200.1); if too loose, decrease; 0.1 mm steps.
5	**Press Set Length or Set Width after each change.** Without confirmation, mechanism does not update and clearance check is invalid.
6	**For both length and width: modify → Set Length/Set Width → re-check.** Proceed to nailing commissioning only when both directions are acceptable.
VERIFY	Moulding slides smoothly with approx. 0.5 mm clearance; commissioning engineer sign-off.

FIG. 12 Moulding Clearance Check (approx. 0.5 mm) MECHANICAL



Ⓐ Moulding placed in station
Ⓑ Slide left / right to check clearance

8 COMMISSIONING — NAILING

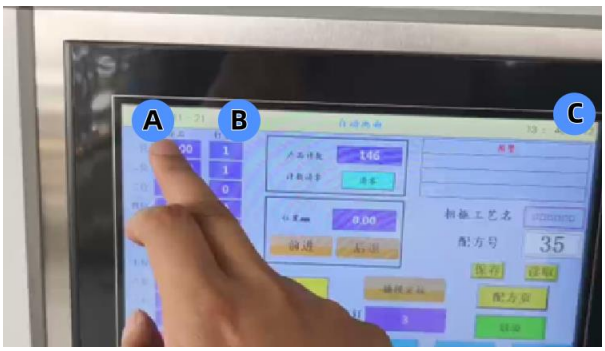
PROCEDURE 8.1 Nailing Row Configuration

PURPOSE Adjust V-nail exit positions (nailing row spacing and nail count).

1	**Enter the Automatic Screen (see Fig. 13).** Automatic Screen is the main production interface with Distance, Nail Count, etc.
2	**In the Distance column, set nailing positions (mm) for up to 10 rows.** Row 1 is typically nearest the operator; set rows downward.
3	**In the Nail Count column, set nails per row.** Nail count must match moulding structure and process requirements.
4	**Verify Row 1 and Row 2 positions against physical nail exits (see Fig. 14).** HMI values must correspond to physical exits; large deviation requires recalibration.
5	**If positions are correct, nailing setup is complete.** Trial-nail one piece before batch production.

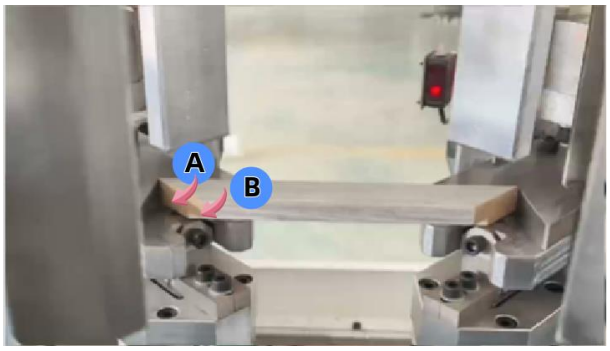
VERIFY Row positions match physical exits; nail counts are correct.

FIG. 13 HMI — Automatic Screen / Nailing Row Spacing & Count HMI



Ⓐ Nailing row spacing (distance, mm)
Ⓑ Nails per row (Nail Count)
© Automatic Screen (current view)

FIG. 14 Physical Nail Exit Reference MECHANICAL



Ⓐ V-nail exit (Row 1 position)
Ⓑ Row 2 nailing position

PROCEDURE 8.2 Restore Default State

PURPOSE Restore the machine to default operating state after commissioning.

1	**On the Automatic Screen, press Reset to restore default state (see Fig. 08).** Reset clears temporary commissioning states; mechanism returns to standard standby.
2	**Confirm machine is in normal default state (see Fig. 17 overview).** Visually inspect all stations for abnormal offset; confirm no HMI alarms.

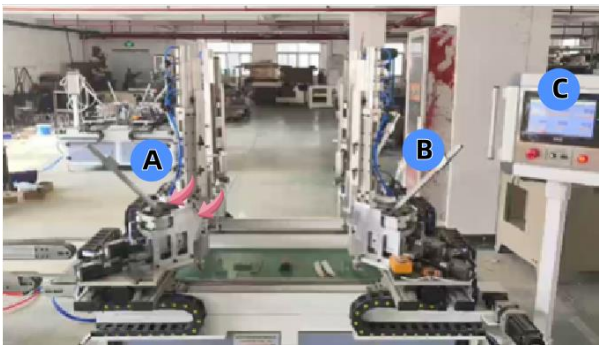
VERIFY No unacknowledged HMI alarms; mechanism at default position.

FIG. 08 HMI — Automatic Screen / Changeover Reset HMI



Ⓐ Changeover Reset (after die replacement)
Ⓐ Reset (general reset button)

FIG. 17 Machine Default Operating State MECHANICAL



Ⓐ **Left nailing station**
Ⓑ **Right nailing station**
Ⓒ **Control panel / HMI**

9 TRIAL RUN & ACCEPTANCE

PROCEDURE 9.1 Trial Run & Acceptance

PURPOSE **Verify nailing quality and four-corner joint integrity.**

WARNING	Before start, confirm Material-Out Detection and Nail-Out Detection are enabled on the IO Monitor screen; otherwise equipment damage may occur.

1	**Load moulding: display face up into the magazine.** Incorrect display-face orientation affects finished appearance; must match production.
2	**Load one moulding first to verify machine operation.** Single-piece trial run allows observation; stop immediately if faults occur.
3	**Enter the IO Monitor screen (see Fig. 15).** Access via bottom navigation; view detection switch status here.
4	**Confirm Material-Out Detection is enabled.** Empty magazine must alarm and stop to prevent dry firing.
5	**Confirm Nail-Out Detection is enabled.** Empty V-nail magazine must alarm to prevent production with missed nails.
6	**Press the green Start button on the HMI (see Fig. 16).** Physical red mushroom emergency stop location must be known during trial run.
7	**Inspect nailing quality, nail positions, and four-corner joints.** Check for missed nails, misaligned nails, and legs not seated in moulding.
8	**Batch production may begin if results are satisfactory.** Inspect 3–5 consecutive pieces in the first batch before full production.

VERIFY	Four corners joint well; no missed or misaligned nails; trial piece accepted.

FIG. 15 HMI — IO Monitor / Material-Out & Nail-Out Detection **HMI**



Ⓐ **IO Monitor screen**
Ⓑ **Material-Out Detection**
Ⓒ **Nail-Out Detection**

FIG. 16 Control Panel — Start & Emergency Stop **HMI+MECHANICAL**



Ⓐ **Start (HMI green button)**
Ⓑ **Emergency stop (physical red mushroom head)**
Ⓒ **Speed Adjustment Knob**

10 OPTIONAL — COLLECTOR & CONVEYOR

NOTE This chapter applies to the optional Frame Collector and conveyor assembly. Skip if not purchased.

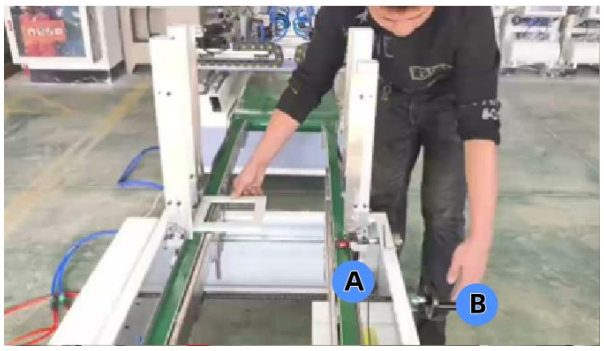
PROCEDURE 10.1 Frame Collector Adjustment

PURPOSE Adjust the frame collector for smooth stacking without frame damage.

1	**Take a finished frame; adjust collector width first (see Fig. 18).** Base adjustment on actual production frame width; do not estimate.
2	**[Clearance] Leave 3–5 mm relative to frame width.** Too little clearance crushes the frame; too much allows skewing or dropping.
3	**Place frame on lift platform; new frames stack below previous (see Fig. 19).** Confirm lift motion is smooth without binding or tilt.
4	**Adjust length: loosen two screws on the same side and move magazine window.** Loosen only that side to avoid loosening the entire assembly.
5	**[Clearance] Leave approx. 5 mm in the length direction, then tighten screws.** After tightening, push frame manually; it must move freely.

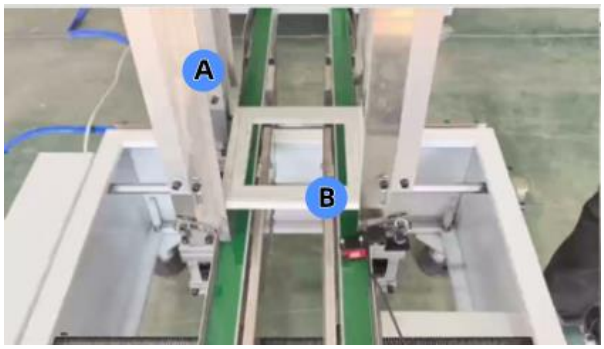
VERIFY Collector receives finished frames smoothly; width/length clearances meet requirements.

FIG. 18 [Optional] Frame Collector — Width Adjustment (3–5 mm clearance) MECHANICAL



Ⓐ **Collector guide channel**
Ⓑ **Width handwheel adjustment**

FIG. 19 [Optional] Frame Collector — Lift Platform MECHANICAL



Ⓐ **Lift platform / Conveyor belt**
Ⓑ **Finished frame placement position**

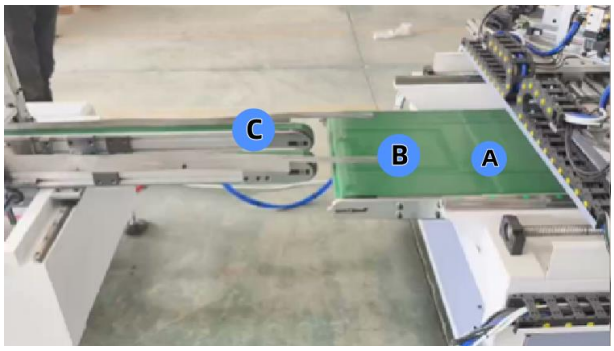
PROCEDURE 10.2 Conveyor Connection & Defect Detection

PURPOSE Connect the conveyor and verify defect detection operation.

1	**Connect the conveyor between the NN300 and frame collector (see Fig. 20).** Belt direction must match arrows; joints must be secure.

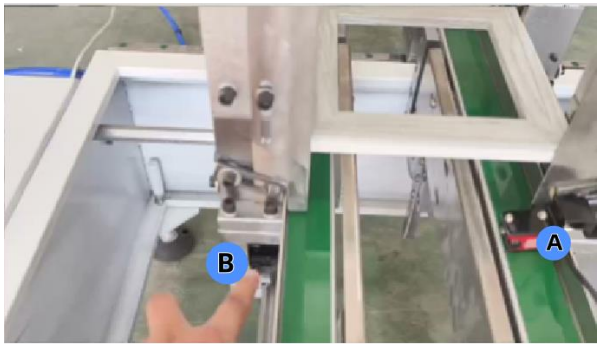
2	**If collector is too high, adjust the four levelling feet.** Align belt with machine discharge and collector infeed at the same level.
3	**Maintain appropriate spacing between machine and collector.** Too little spacing causes collision; too much causes dropping.
4	**Rotate the collector bottom emergency-stop switch to energise; belt runs automatically.** Confirm correct belt direction before batch production.
5	**Confirm machine conveyor switch is ON.** Switches on both machine and collector must be ON.
6	**[Red-line sensor] Red line below sensor indicates defective frame; machine stops automatically (see Fig. 21).** Deliberately trigger once during trial run to confirm stop function before production.
VERIFY	Conveyor runs parallel; red-line sensor positioned correctly and functional.

FIG. 20 [Optional] Conveyor Connection **MECHANICAL**



Ⓐ **NN300 machine discharge**
Ⓑ **Conveyor belt**
© **Collector infeed**

FIG. 21 [Optional] Red-Line Sensor / Defect Detection **MECHANICAL**



Ⓐ **Red-line sensor (red indicator)**
Ⓑ **Sensor adjustment position**

11 COMMISSIONING SIGN-OFF

After completing installation and commissioning, verify each item below and sign off. Retain this record with the equipment file.

#	Acceptance Item	Acceptance Criteria	Result ✓/✗
1	Fixture replacement — four stations	Moulding 1–2 mm above fixture	
2	Magazine height — four stations	Magazine 2 mm above moulding	
3	Nail die installation — four stations	Correct specification; consistent across four stations	
4	V-nail loading — four stations	Open end inward; adhesive face upward	
5	Length confirmation (Set Length)	Mechanism reaches entered length	
6	Width confirmation (Set Width)	Mechanism reaches entered width	
7	Moulding clearance check	Approx. 0.5 mm running clearance	
8	Nailing row spacing setup	Matches physical exit positions	
9	Material-Out Detection (IO Monitor)	Enabled and functioning	
10	Nail-Out Detection (IO Monitor)	Enabled and functioning	
11	Trial run — four-corner joints	No missed or misaligned nails	
12	Reset to default state	No HMI alarms; mechanism at home position	

#	Acceptance Item	Acceptance Criteria	Result ✓/✗

Commissioning Engineer	Customer Representative
Name: _____ Date: _____	Name: _____ Date: _____

12 REVISION HISTORY

Revision	Date	Change Description	Author
V1.0	2026-06-01	Initial release based on NN300-yuanban.mp4	—
V2.0	2026-06-24	Full revision: European industrial document format; unified figure scaling; detailed steps; commissioning sign-off sheet	—