5-Condition Auto Insertion Readiness Checklist

How to use: Walk through each condition below. Check the box that best describes your production environment. The more checks in the green zone, the stronger your readiness case.

Part A: Condition 1 - Volume Stability

1.1	Do you produce the same board types in batches of several thousand or more?	[ ] Yes	[ ] No	[ ] Unsure
1.2	Does your product mix change fewer than 4 times per month?	[ ] Yes	[ ] No	[ ] Unsure
1.3	Do you run at least 2 shifts on your THT line?	[ ] Yes	[ ] No	[ ] Unsure
1.4	Is your annual THT volume growing or stable?	[ ] Yes	[ ] No	[ ] Unsure

Result: ___/4 Yes

Part A: Condition 2 - Component Type

2.1	Are most THT components radial (caps, LEDs, transistors)?	[ ] Yes	[ ] No	[ ] Unsure
2.2	OR are most axial (resistors, diodes, jumpers)?	[ ] Yes	[ ] No	[ ] Unsure
2.3	Are odd-form components < 20% of THT count?	[ ] Yes	[ ] No	[ ] Unsure
2.4	Consistent component orientation across products?	[ ] Yes	[ ] No	[ ] Unsure

Result: ___/4 Yes

Part A: Condition 3 - Changeover Impact

3.1	Is changeover time < 10% of total production time?	[ ] Yes	[ ] No	[ ] Unsure
3.2	Standardised board sizes across main products?	[ ] Yes	[ ] No	[ ] Unsure
3.3	Could you dedicate a machine to one high-runner?	[ ] Yes	[ ] No	[ ] Unsure

Result: ___/3 Yes

Part A: Condition 4 - Labor Cost & Availability

4.1	Manual THT insertion among top 3 production expenses?	[ ] Yes	[ ] No	[ ] Unsure
4.2	Difficulty hiring skilled THT operators in past 12 mo?	[ ] Yes	[ ] No	[ ] Unsure
4.3	Running overtime to meet THT capacity?	[ ] Yes	[ ] No	[ ] Unsure
4.4	Average operator tenure less than 6 months?	[ ] Yes	[ ] No	[ ] Unsure

Result: ___/4 Yes

Part A: Condition 5 - Line Upgrade Synergy

5.1	Planning other SMT/THT upgrades in next 12 months?	[ ] Yes	[ ] No	[ ] Unsure
5.2	Common Feeder/Nozzle strategy across lines?	[ ] Yes	[ ] No	[ ] Unsure
5.3	Wave Soldering machine due for maintenance?	[ ] Yes	[ ] No	[ ] Unsure

Result: ___/3 Yes

Part B: Quick ROI Estimator

Fill in your estimated values. Simplified guidelines, not guaranteed outcomes.

THT operators per shift	___	*Dedicated insertion staff only*
Monthly cost per operator	**$**___	*Incl. benefits*
Estimated CPH of candidate machine	___	*Radial/Axial: 6,500-13,000+ CPH*
THT components per board (avg)	___	*Top 3 products*
Boards per month (total)	___	*All products*
First-year utilization	___**%**	*70-80% is common*
Machine investment	**$**___	*Incl. installation & training*

Simple Payback Estimate:

1. Monthly manual labor cost = Operators x cost per operator x shifts
2. Machine operating cost = ~10-15% of manual cost
3. Monthly savings = Manual cost - Machine cost
4. Payback (months) = Machine investment / Monthly savings

Note: Actual payback depends on labor cost, product mix, uptime, and current line setup. Directional guide only.

Part C: Scenario Matcher

If your pattern looks like...	Your recommended path is...	
High volume, stable mix	Full auto insertion, inline	
	Odd-form machine + offline	Odd-form dom
	One offline machine, high-runner first	Mixed small b
	Start small, risk reduction first	Labor shortag
	Bundle into same investment cycle	Planning othe

Next Steps

12+ Yes: Strong candidate. Request a free proofing with your actual boards.

7-11 Yes: Good potential. Start with a line concept design consultation.

Fewer than 7 Yes: Targeted automation may still work for specific areas/products.

Checklist provided by Southern Machinery as a free reference tool. Contact us for a free line concept design consultation with your actual production data.