Attachment B1
Positive Control Log Matrix for Gravity Fed Machine

POSITIVE CONTROL LOG MATRIX FOR GRAVITY FED MACHINE | Revision: 2

Item	Category	Subcategory	Vision System/ MC Feature-Part	Control Item	Frequency	AT28	AT28 (MSOP)	AT128	AT128 (MSOP)	AT128 (AMS)	10/11 AT128	AT8005	AT8005 (AMS)	AT28 (WB)	MICRO VISION	G6L	ST60
1	Mark	Mark Score (Laser)	In-track	Acceptance Score / Confirm Score	Every set-up	60%	80%	85%	85%	80%	Follow if AT28/MSOP or AMS lot	60%	80%	85%	N/A	60%	N/A
				Rejection Score/ Minimum Score	Every set-up	40%	60%	50%	50%	60%	50%	40%	60%	50%	60%	50%	N/A
				Verification Criteria (Min Area)	Every set-up	4 pixel	4 pixel	N/A	N/A	N/A	N/A	4 pixel	4 pixel	N/A	N/A	N/A	N/A
			In-pocket	Acceptance Score / Confirm Score	Every set-up	50%	50%	75%	75%	75%	75%	60%	80%	50%	N/A	60%	N/A
				Rejection Score/ Minimum Score	Every set-up	30%	30%	50%	50%	50%	50%	40%	60%	30%	70%	50%	N/A
				Verification Criteria (Min Area)	Every set-up	10 pixel	10 pixel	N/A	N/A	N/A	N/A	4 pixel	4 pixel	N/A	N/A	N/A	N/A
		Mark Score (Ink)	In-track	Acceptance Score / Confirm Score	Every set-up	60%	80%	85%	85%	80%	Follow if AT28/MSOP or AMS lot	70%	80%	85%	N/A	60%	N/A
				Rejection Score/ Minimum Score	Every set-up	40%	60%	50%	50%	60%	50%	50%	60%	50%	N/A	70%	N/A
				Verification Criteria (Min Area)	Every set-up	4 pixel	4 pixel	N/A	N/A	N/A	N/A	4 pixel	4 pixel	N/A	N/A	N/A	N/A
			In-pocket	Acceptance Score / Confirm Score	Every set-up	50%	50%	75%	75%	75%	75%	70%	80%	50%	N/A	60%	70%
				Rejection Score/ Minimum Score	Every set-up	30%	30%	50%	50%	50%	50%	50%	60%	30%	N/A	70%	N/A
				Verification Criteria (Min Area)	Every set-up	10 pixel	10 pixel	N/A	N/A	N/A	N/A	4 pixel	4 pixel	N/A	N/A	N/A	N/A
		Mismatch	In-track	Missing Area & Excess Area	Every set-up	N/A	N/A	5%	3%	5%	Follow if AT28/MSOP or AMS lot	N/A	N/A	15 pixel	N/A	N/A	N/A
				Missing Size & Excess Area	Every set-up	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3 pixel	N/A	N/A	N/A
			In-pocket	Missing Area & Excess Area	Every set-up	N/A	N/A	5%	3%	5%	Follow if AT28/MSOP or AMS lot	N/A	N/A	N/A	N/A	N/A	N/A
				Missing Size & Excess Area	Every set-up	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	10 pixel	N/A	N/A	N/A
		Correlation + Matching Method	In-track		Every set-up	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Blob (pixel)	N/A	N/A	N/A
			In-pocket		Every set-up	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Square Area (pixel)	N/A	N/A	N/A
2	Orientation	Chamfer	In-track	Min Gray Score/ Gray Confirm Score	Every set-up	80%	80%	N/A	N/A	N/A	N/A	80%	80%	N/A	N/A	N/A	N/A
				Min Binary Score/ Binary Confirm Score	Every set-up	80%	80%	N/A	N/A	N/A	N/A	80%	80%	N/A	N/A	N/A	N/A
				Acceptance Score	Every set-up	N/A	N/A	80%	80%	80%	80%	N/A	N/A	80%	N/A	N/A	N/A
				Rejection Score	Every set-up	N/A	N/A	70%	70%	70%	70%	N/A	N/A	80%	N/A	N/A	N/A
				Method	Every set-up	Correlation	Correlation	N/A	N/A	N/A	N/A	N/A	N/A	Correlation	N/A	N/A	N/A
				Blob Defect Method	Every set-up	N/A	N/A	Blob Area	Blob Area	Blob Area	Blob Area	N/A	N/A	N/A	N/A	N/A	N/A
			In-pocket	Gray Image/Acceptance Score/ Confirm Score	Every set-up	80%	80%	80%	80%	80%	80%	80%	80%	80%	N/A	N/A	70%
				Gray Image/Rejection Score	Every set-up	80%	80%	70%	70%	70%	70%	N/A	N/A	80%	N/A	N/A	N/A
				Gray Image/ Min Binary Score	Every set-up	10%	10%	N/A	N/A	N/A	N/A	80%	80%	N/A	N/A	N/A	N/A
				Binary Image Correlation	Every set-up	Disable	Disable	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Blob Defect Method/ Method	Every set-up	N/A	N/A	Square Area	Square Area	Square Area	Square Area	N/A	N/A	Correlation	N/A	N/A	N/A
2	Orientation	Pin Dot/ Notch / Dimple	In-track	Min Gray Score	Every set-up	60%	60%	N/A	N/A	N/A	N/A	60%	60%	60%	N/A	70%	N/A
				Min Binary Score	Every set-up	60%	60%	N/A	N/A	N/A	N/A	60%	60%	60%	N/A	70%	N/A
				Acceptance Score	Every set-up	N/A	N/A	70%	70%	70%	70%	N/A	N/A	N/A	N/A	N/A	N/A
				Rejection Score	Every set-up	N/A	N/A	60%	60%	60%	60%	N/A	N/A	N/A	N/A	N/A	N/A
				Method	Every set-up	Correlation	Correlation	N/A	N/A	N/A	N/A	N/A	N/A	Correlation	N/A	N/A	N/A
				Blob Defect Method	Every set-up	N/A	N/A	Blob Area	Blob Area	Blob Area	Blob Area	N/A	N/A	N/A	N/A	N/A	N/A
			In-pocket	Gray Image Acceptance Score	Every set-up	60%	60%	70%	70%	70%	70%	60%	60%	N/A	N/A	70%	70%
				Gray Image Rejection Score	Every set-up	60%	60%	60%	60%	60%	60%	N/A	N/A	60%	N/A	N/A	N/A

Spec. No. TFP16-003 Rev. KY
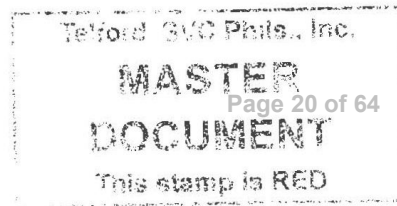
Attachment B1(cont.)
Positive Control Log Matrix for Gravity Fed Machine

POSITIVE CONTROL LOG MATRIX FOR GRAVITY FED MACHINE — Revision: 2

Item	Category	Subcategory	Vision System/ MC Feature-Part	Control Item	Frequency	AT28	AT28 (MSOP)	AT128	AT128 (MSOP)	AT128 (AMS)	10/11AT128	AT8005	AT8005 (AMS)	AT28 (WB)	MICRO VISION	G6L	ST60
	INPUT VARIABLE					PLATFORM (GRAVITY FED MACHINE)											
2	Orientation	Pin Dot/ Notch / Dimple	In-pocket	Gray Image Min Binary Score	Every set-up	10%	10%	N/A	N/A	N/A	N/A	60%	60%	60%	N/A	70%	N/A
				Binary Image Correlation	Every set-up	Disable	Disable	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Blob Defect Method/ Method	Every set-up	N/A	N/A	Square Area	Square Area	Square Area	Square Area	N/A	N/A	N/A	N/A	N/A	N/A
3	Taping Assembly	Pick and Place	Indexer	Motor Step-Up	Every set-up	4000-6500 steps	4000-6500 steps	N/A	N/A	N/A	N/A	N/A	N/A	Correlation	N/A	N/A	N/A
				Motor Step	Every set-up	4000-6500 steps	4000-6500 steps	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Drop of Height	Every set-up	0.5-1.0 mm	0.5-1.0 mm	0.5-1.0 mm	0.5-1.0 mm	0.5-1.0 mm	0.5-1.0 mm	0.5-1.0 mm	0.5-1.0 mm	0.5-1.0 mm	0.5-1.0 mm	N/A	N/A
				Speed	Every set-up	N/A	N/A	10 - 85%	11 - 85%	12 - 85%	35%	N/A	N/A	10000-70000	N/A	N/A	N/A
				Purge Off Delay	Every set-up	N/A	N/A	15-30 msec	15-30 msec	15-30 msec	15-30 msec	N/A	N/A	N/A	N/A	N/A	N/A
			Unit Orientation at Tape		Every set-up	C1,C2,C4,C3,M1	C1,C2,C4,C3,M1	C1,C2,C4,C3,M1	C1,C2,C4,C3,M1	C1,C2,C4,C3,M1	C1,C2,C4,C3,M1	C1,C2,C4,C3,M1	C1,C2,C4,C3,M1	C1,C2,C4,C3,M1	C1,C2,C4,C3,M1	C1,C2,C4,C3,M1	C1,C2,C4,C3,M1
4	Sealing Assembly	Sealing Temperature			Start of the shift & Every set-up	180-220 °C	180-220 °C	180-220°C	180-220°C	180-220°C	180-220°C	180-220 °C	180-220 °C	180-220°C	180-220°C	180-220°C	130-170°C
		Sealing Pressure			Start of the shift & Every set-up	50-90 Psi	50-90 Psi	50-90psi	50-90psi	50-90psi	50-90psi	50-90 Psi	50-90 Psi	50-90psi	50-90 Psi	40-90 psi	20-40psi
		Sealing Time (sec/ms)			Start of the shift & Every set-up	0.1 - 0.5 sec	0.1 - 0.5 sec	50-200ms	50-200ms	50-200ms	50-200ms	0.1 - 0.5 sec 100-500 ms	0.1 - 0.5 sec 100-500 ms	50-200ms	100-500ms	0.05-0.5 sec	20-40psi
5	MPD Parts			Move time	Every set-up	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	150-500	N/A	N/A
				Acceleration	Every set-up	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	50-350	N/A	N/A
				Deceleration	Every set-up	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	50-300	N/A	N/A
				Cycle time	Every set-up	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	150-500	N/A	N/A
6	Lead Parameters	Lead Burr Parameter		Tip Burr	Every set-up	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Refer to Lead Burr Parameter Matrix (Attachment DQ) at TFP10-001	N/A
				Shoulder Burr (from Shoulder Ave.)	Every set-up	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A
				Shoulder Gap Width	Every set-up	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A
7	In-pocket Light Group	Leads		Leads Inspection	Every set-up	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Set A	N/A
				Lead Burr Inspection	Every set-up	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Set A	N/A
		Laser Ink Mark		Mark Inspection	Every set-up	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Set B	N/A
				Black PVI	Every set-up	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Set A	N/A
				White PVI	Every set-up	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Set B	N/A
		Ink Mark		Mark Inspection	Every set-up	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Set A	N/A
				Black PVI	Every set-up	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Set B	N/A
				White PVI	Every set-up	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Set A	N/A
8	Scratch	Intrack & In-pocket		Include Orientation	Every set-up	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Enabled	N/A
				Defect Can Be Totally Within Orientation	Every set-up	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Enabled	N/A
				Include Marking	Every set-up	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Enabled	N/A
				Defect Can Be Totally Within Marking	Every set-up	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Enabled	N/A

Spec. No. TFP16-003 Rev. KY