

# TITLE 1

NO	SUBJECT	NO	SUBJECT	NO	SUBJECT
1101	CATA CIR	2101	GR-A CIR1	8101	R1MASTER
1102	CATB CIR	2102	V2502A VM	8102	R1EVICAS
1103	GRA MAKE	2103	RD1 CIR	8103	R1INR VM
1104	GRA TRAN			8104	R1PK VENT
		2105	RD1 TRANS	8105	R1PK ESS
1106	CAUS TRAN	2106	RD1 GC	8106	R1PK DISC
1107	CAUS CIR	2107	HP VC1	8107	R1PK COOL
1108	AFA MAKE	2108	HP VC1 LV	8108	R1N2 CHG
1109	AFA CIR	2109	HP VC1 DO	8109	R1CDW CHG
1110-1	AFA IN1	2110	WATR STP1	8110	R1GRA CHG
1110-2	AFA IN2	2111	STP1	8111	R1LINE FL
1110-3	AFA IN3	2112	STP1 RIN	8112	R1CATA CH
1110-4	AFA IN4	2113	STP1 RES	8113	R1CATB CH
1110-5	AFA IN5	2114	STP1 FILT	8114	R1GRB CHG
1110-6	AFA IN6	2115	STRIP1 SD	8115	R1FVCM CH
1111	HPDW CIR	2116	V2501A EB	8116	R1RVCM CH
1112	RINSE CIR	2117	V2502A EB	8117	R1HDW CHG
1113	EVICAS WE	2118	T2503A EB	8118	R1HEATING
1114	VAC LV CT	2119	V2501A CA	8119	R1NOZZ FL
1115	LP VC			8120	R1CDR VEN
1116	LP VC LV	2121	SLY FEED1	8121	R1HPDW IN
1117	LP VC DO	2122	DRY1 HEAT	8122	R1GRA MID
1118	WW STRIP	2123	DRY1	8123	R1GRA SEC
1119	DW LV CT	2124	CV1 2603G	8124	R1EM COOL
1120	HDW LV CT	2125	CV1 2603H	8125	R1ESS INJ
1121	HDW TV CT	2126	CV1 2603I	8126	R1CT VENT
1122	CDR LV CT	2127	CV1 2603J	8127	R1EM VENT
1123	FVCM RECI	2128	CV1 2603K	8128	R1STA CHG
1124	INHIB DO	2129	CV1 2603L	8129	R1RD
1125	SW N2 CH			8130	R1RD FLU
				8131	R1RINSE
				8132	R1RVCG VT
				8133	R1ST PURG
				8134	R1MVAC N2
				8135	R1BRAK VT
				8136	R1AG READY
				8137	R1EM SAFE V/V

01STR  
02STP  
03PER  
04TOT  
05EXE  
06END  
07OK  
08SOK  
09EMS

01. 1101SW.01STR.PVFL  
02. 1101SW.02STP.PVFL  
03. 1101SW.03PER.PVFL  
04. 1101SW.04TOT.PVFL  
05. 1101SW.05EXE.PVFL  
06. 1101SW.06END.PVFL  
07. 1101SW.07OK.PVFL  
08. 1101SW.08SOK.PVFL  
09. 1101SW.09EMS.PVFL

NO	SUBJECT	NO	SUBJECT	NO	SUBJECT
1101	CAT-A CIR	2101	GRAN-A CIR1	2201	GRAN-A CIR2
1102	CAT-B CIR	2102	V-2502A VAC	2202	V-2502B VAC
1103	GRAN-A MAKE	2103	RD1 CIR	2203	RD2 CIR
1104	GRAN-A TRANS				
		2105	RD1 TRANS	2205	RD2 TRANS
1106	CAUSTIC TRANS	2106	RD1 GRADE CHANGE	2206	RD2 GRADE CHANGE
1107	CAUSTIC CIR	2107	HP VC COMP1	2207	HP VC COMP2
1108	AFA MAKE	2108	HP VC COMP1 LV CTRL	2208	HP VC COMP2 LV CTRL
1109	AFA CIR	2109	HP VC COMP1 DOSING	2209	HP VC COMP2 DOSING
1110-1	AFA INJ(V-2501A)	2110	WATER STRIP1	2210	WATER STRIP2
1110-2	AFA INJ(V-2502A)	2111	SLURRY STRIP1	2211	SLURRY STRIP2
1110-3	AFA INJ(C-2501A)	2112	SLURRY STRIP1 RINSE	2212	SLURRY STRIP2 RINSE
1110-4	AFA INJ(V-2501B)	2113	SLURRY STRIP1 RESUME	2213	SLURRY STRIP2 RESUME
1110-5	AFA INJ(V-2502B)	2114	SLURRY STRIP1 FILTER	2214	SLURRY STRIP2 FILTER
1110-6	AFA INJ(C-2503B)	2115	SLURRY STRIP1 ABNR SD	2215	SLURRY STRIP2 ABNR SD
1111	HPDW CIR	2116	V-2501A EM BUBBLING	2216	V-2501B EM BUBBLING
1112	RINSE CIR	2117	V-2502A EM BUBBLING	2217	V-2502B EM BUBBLING
1113	EVICAS WEIGH	2118	T-2501A EM BUBBLING	2218	T-2501B EM BUBBLING
1114	VAC LV CTRL	2119	V-2501A CAUSTIC INJ	2219	V-2501B CAUSTIC INJ
1115	LP VC COMP				
1116	LP VC COMP LV CTRL	2121	SLY FEED1	2221	SLY FEED2
1117	LP VC COMP DOSING	2122	DRY1 HEATING	2222	DRY2 HEATING
1118	WW STRIP	2123	DRY1	2223	DRY2
1119	DW TANK LV CTRL	2224	CONVEY1 T2603G	2224	CONVEY2 T2603A
1120	HDW TANK LV CTRL	2225	CONVEY1 T2603H	2225	CONVEY2 T2603B
1121	HDW TANK TV CTRL	2226	CONVEY1 T2603I	2226	CONVEY2 T2603C
1122	CDR TANK LV CTRL	2227	CONVEY1 T2603J	2227	CONVEY2 T2603D
1123	FVCM RECEIVE	2228	CONVEY1 T2603K	2228	CONVEY2 T2603E
1124	INHIBITOR DOSING	2229	CONVEY1 T2603L	2229	CONVEY2 T2603F
1125	SEAL WATER N2 CHARGE				

## TITLE 2

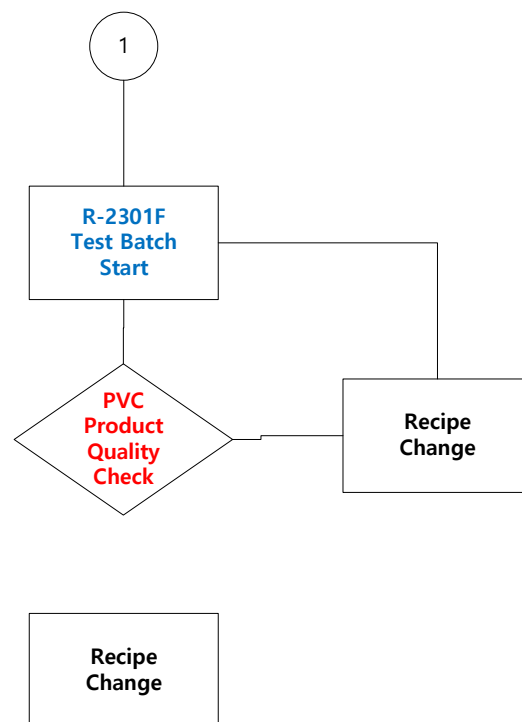
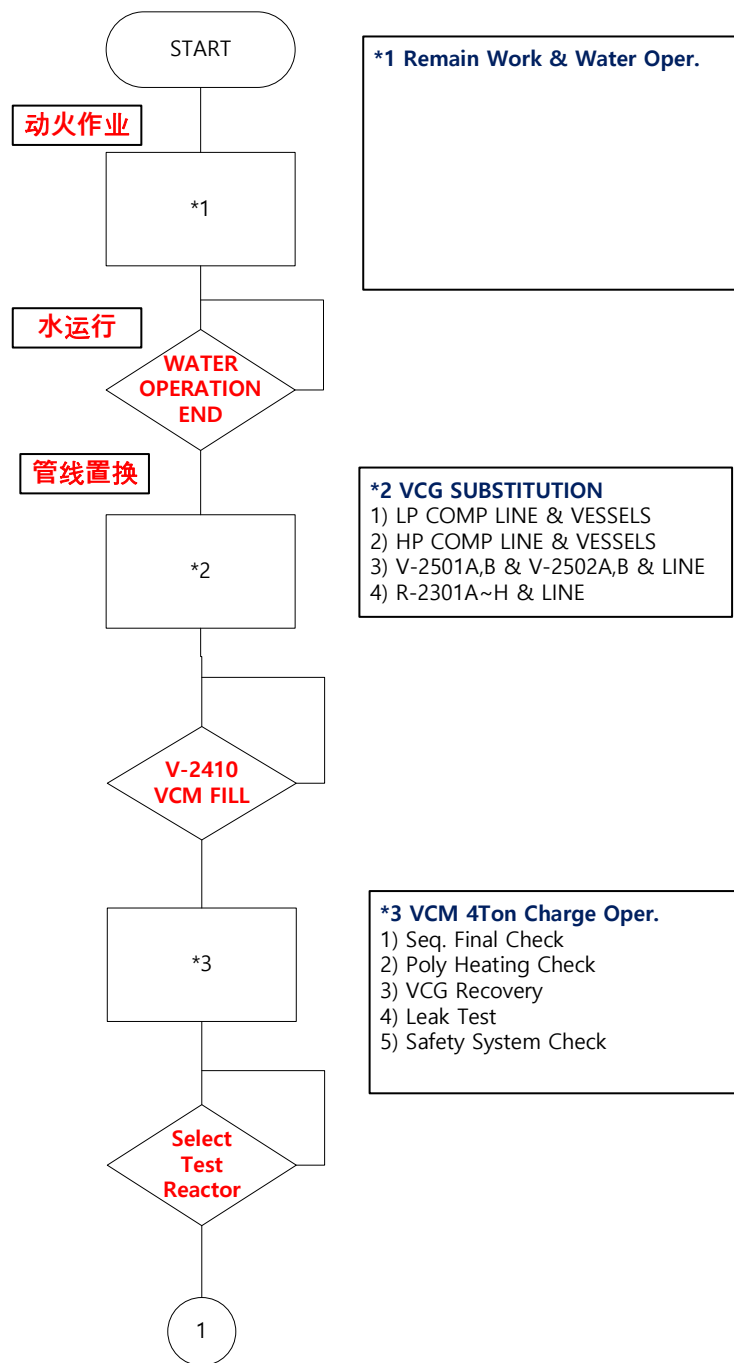
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8101	R-1 MASTER	8201	R-2 MASTER	8301	R-3 MASTER	8401	R-4 MASTER
8102	R-1 EVICAS COATING	8202	R-2 EVICAS COATING	8302	R-3 EVICAS COATING	8402	R-4 EVICAS COATING
8103	R-1 INERT VACUUM	8203	R-2 INERT VACUUM	8303	R-3 INERT VACUUM	8403	R-4 INERT VACUUM
8104	R-1 PRECHECK VENT	8204	R-2 PRECHECK VENT	8304	R-3 PRECHECK VENT	8404	R-4 PRECHECK VENT
8105	R-1 PRECHECK ESS	8205	R-2 PRECHECK ESS	8305	R-3 PRECHECK ESS	8405	R-4 PRECHECK ESS
8106	R-1 PRECHECK RUPTURE DISC	8206	R-2 PRECHECK RUPTURE DISC	8306	R-3 PRECHECK RUPTURE DISC	8406	R-4 PRECHECK RUPTURE DISC
8107	R-1 PRECHECK COOLING	8207	R-2 PRECHECK COOLING	8307	R-3 PRECHECK COOLING	8407	R-4 PRECHECK COOLING
8108	R-1 N2 CHARGE	8208	R-2 N2 CHARGE	8308	R-3 N2 CHARGE	8408	R-4 N2 CHARGE
8109	R-1 CDW CHARGE	8209	R-2 CDW CHARGE	8309	R-3 CDW CHARGE	8409	R-4 CDW CHARGE
8110	R-1 GRAN-A CHARGE	8210	R-2 GRAN-A CHARGE	8310	R-3 GRAN-A CHARGE	8410	R-4 GRAN-A CHARGE
8111	R-1 LINE FLUSH	8211	R-2 LINE FLUSH	8311	R-3 LINE FLUSH	8411	R-4 LINE FLUSH
8112	R-1 CAT-A CHARGE	8212	R-2 CAT-A CHARGE	8312	R-3 CAT-A CHARGE	8412	R-4 CAT-A CHARGE
8113	R-1 CAT-B CHARGE	8213	R-2 CAT-B CHARGE	8313	R-3 CAT-B CHARGE	8413	R-4 CAT-B CHARGE
8114	R-1 GRAN-B CHARGE	8214	R-2 GRAN-B CHARGE	8314	R-3 GRAN-B CHARGE	8414	R-4 GRAN-B CHARGE
8115	R-1 FVCM CHARGE	8215	R-2 FVCM CHARGE	8315	R-3 FVCM CHARGE	8415	R-4 FVCM CHARGE
8116	R-1 RVCM CHARGE	8216	R-2 RVCM CHARGE	8316	R-3 RVCM CHARGE	8416	R-4 RVCM CHARGE
8117	R-1 HDW CHARGE	8217	R-2 HDW CHARGE	8317	R-3 HDW CHARGE	8417	R-4 HDW CHARGE
8118	R-1 HEATING	8218	R-2 HEATING	8318	R-3 HEATING	8418	R-4 HEATING
8119	R-1 RINSE NOZZLE FLUSH	8219	R-2 RINSE NOZZLE FLUSH	8319	R-3 RINSE NOZZLE FLUSH	8419	R-4 RINSE NOZZLE FLUSH
8120	R-1 CONDENSER VENT	8220	R-2 CONDENSER VENT	8320	R-3 CONDENSER VENT	8420	R-4 CONDENSER VENT
8121	R-1 HPDW INJ	8221	R-2 HPDW INJ	8321	R-3 HPDW INJ	8421	R-4 HPDW INJ
8122	R-1 GRAN-A MID	8222	R-2 GRAN-A MID	8322	R-3 GRAN-A MID	8422	R-4 GRAN-A MID
8123	R-1 GRAN-A SEC	8223	R-2 GRAN-A SEC	8323	R-3 GRAN-A SEC	8423	R-4 GRAN-A SEC
8124	R-1 EMERGENCY COOLING	8224	R-2 EMERGENCY COOLING	8324	R-3 EMERGENCY COOLING	8424	R-4 EMERGENCY COOLING
8125	R-1 ESS INJ	8225	R-2 ESS INJ	8325	R-3 ESS INJ	8425	R-4 ESS INJ
8126	R-1 CONTROL VENT	8226	R-2 CONTROL VENT	8326	R-3 CONTROL VENT	8426	R-4 CONTROL VENT
8127	R-1 EMERGENCY VENT	8227	R-2 EMERGENCY VENT	8327	R-3 EMERGENCY VENT	8427	R-4 EMERGENCY VENT
8128	R-1 STA CHARGE	8228	R-2 STA CHARGE	8328	R-3 STA CHARGE	8428	R-4 STA CHARGE
8129	R-1 RUNDOWN	8229	R-2 RUNDOWN	8329	R-3 RUNDOWN	8429	R-4 RUNDOWN
8130	R-1 RD FLUSH	8230	R-2 RD FLUSH	8330	R-3 RD FLUSH	8430	R-4 RD FLUSH
8131	R-1 RINSE	8231	R-2 RINSE	8331	R-3 RINSE	8431	R-4 RINSE
8132	R-1 RVCG VENT	8232	R-2 RVCG VENT	8332	R-3 RVCG VENT	8432	R-4 RVCG VENT
8133	R-1 STEAM PURGE	8233	R-2 STEAM PURGE	8333	R-3 STEAM PURGE	8433	R-4 STEAM PURGE
8134	R-1 M-VAC N2	8234	R-2 M-VAC N2	8334	R-3 M-VAC N2	8434	R-4 M-VAC N2
8135	R-1 BREAK VENT	8235	R-2 BREAK VENT	8335	R-3 BREAK VENT	8435	R-4 BREAK VENT
8136	R-1 AG READY	8236	R-2 AG READY	8336	R-3 AG READY	8436	R-4 AG READY
8137	R-1 EMERGENCY SAFETY VALVE	8237	R-2 EMERGENCY SAFETY VALVE	8337	R-3 EMERGENCY SAFETY VALVE	8437	R-4 EMERGENCY SAFETY VALVE

# TITLE 3

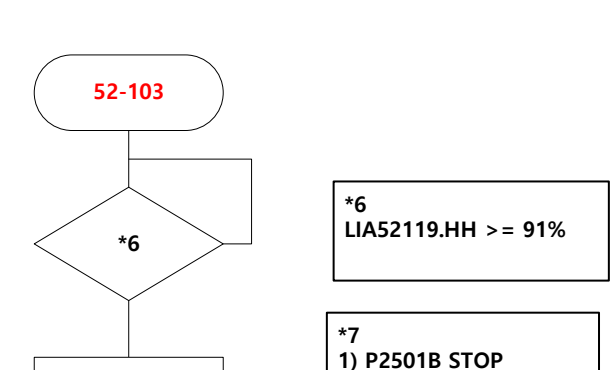
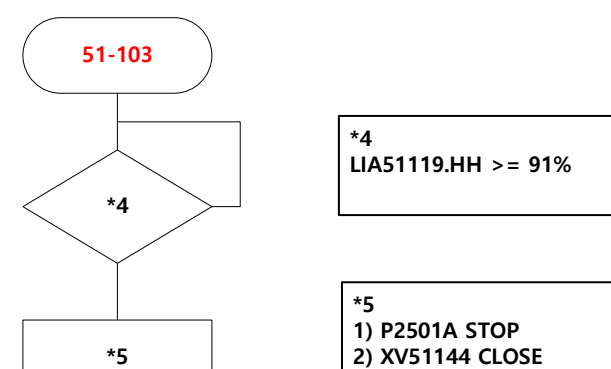
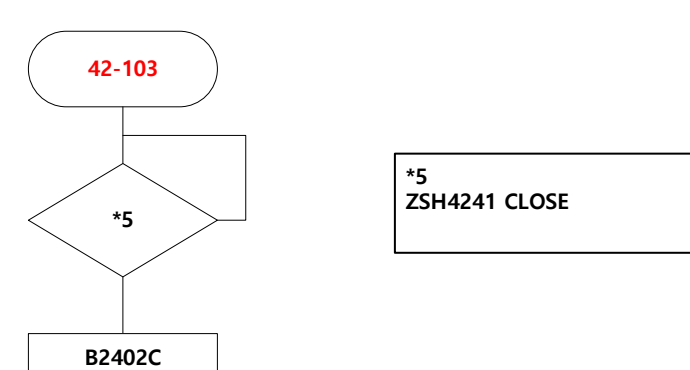
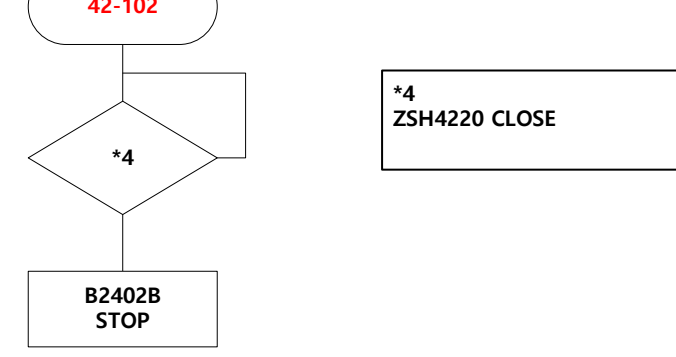
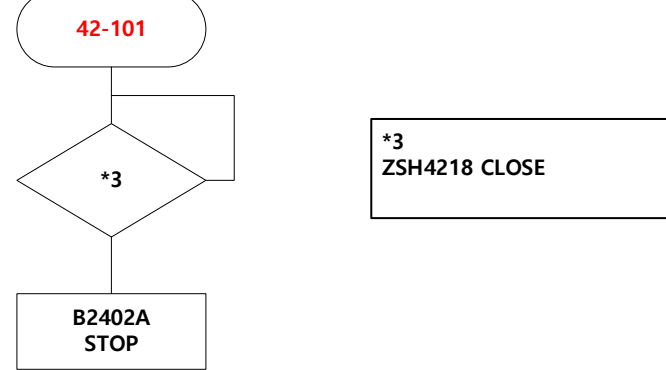
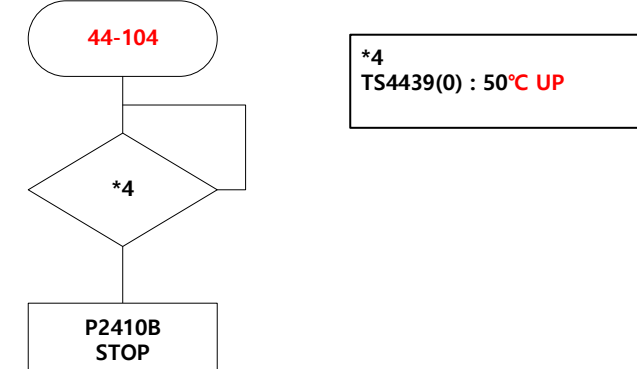
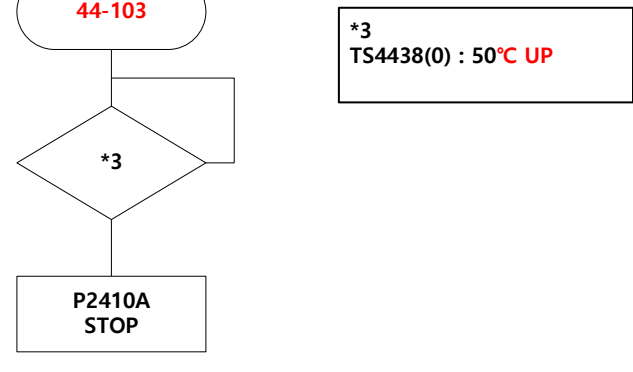
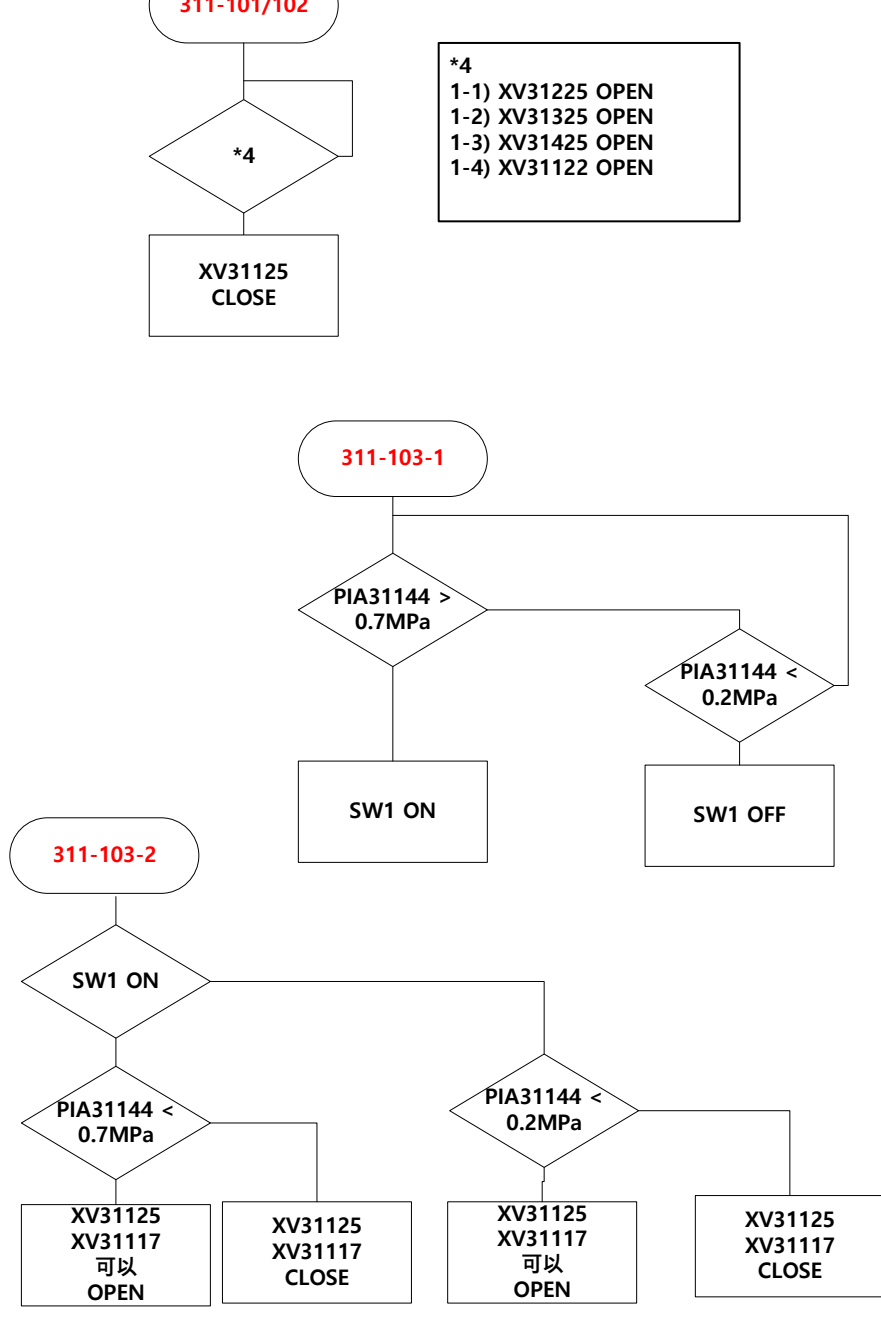
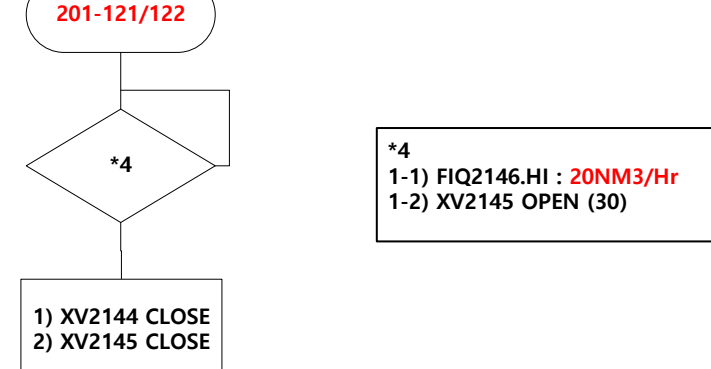
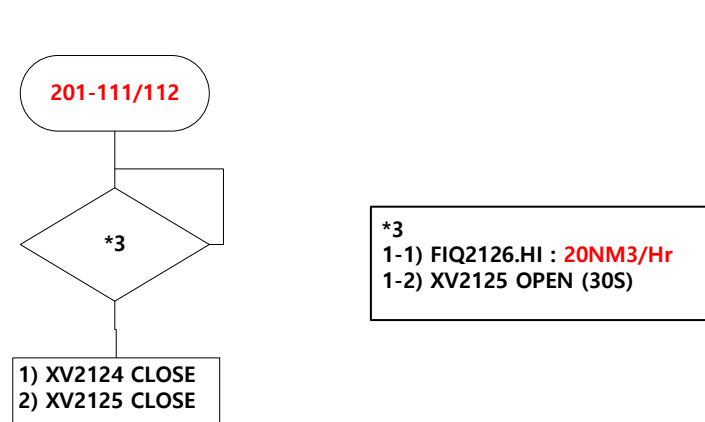
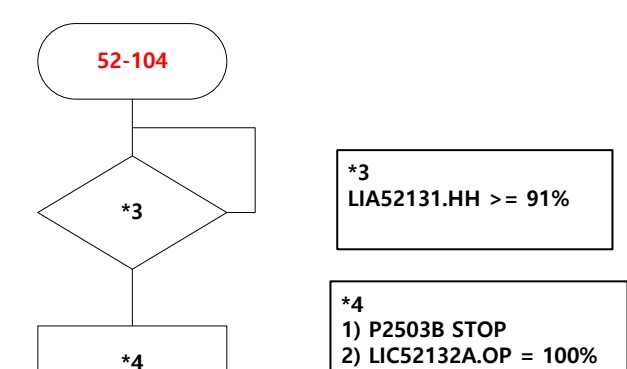
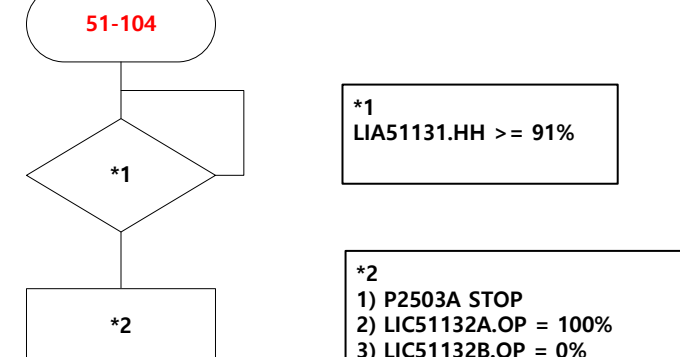
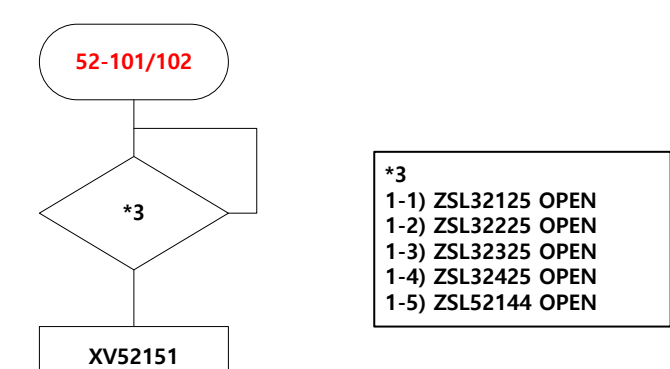
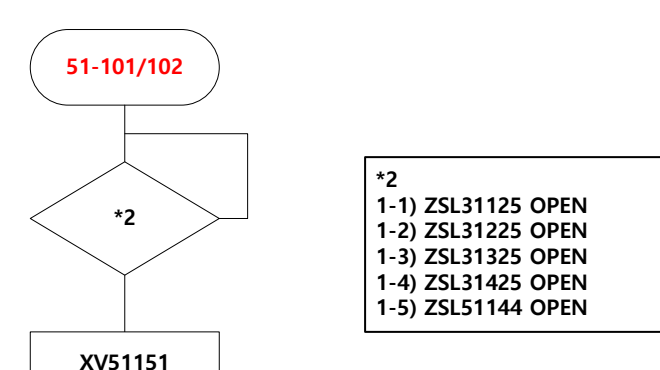
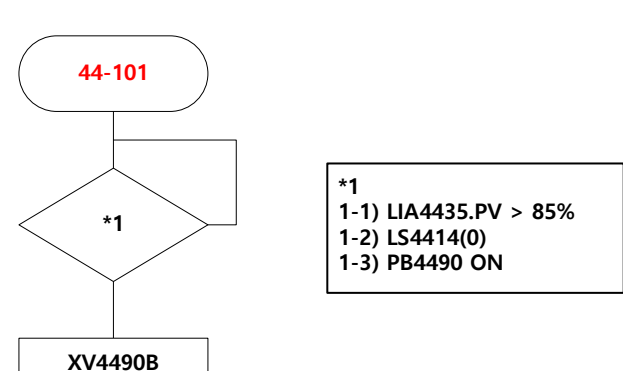
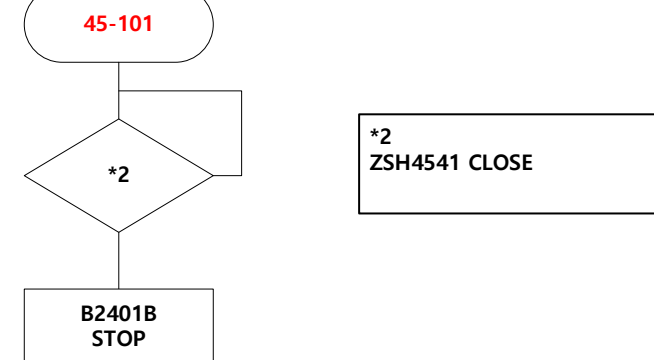
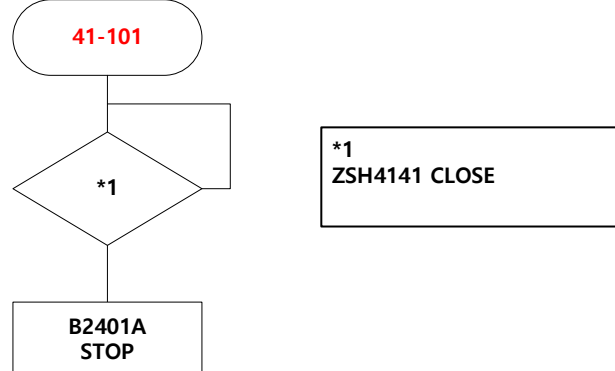
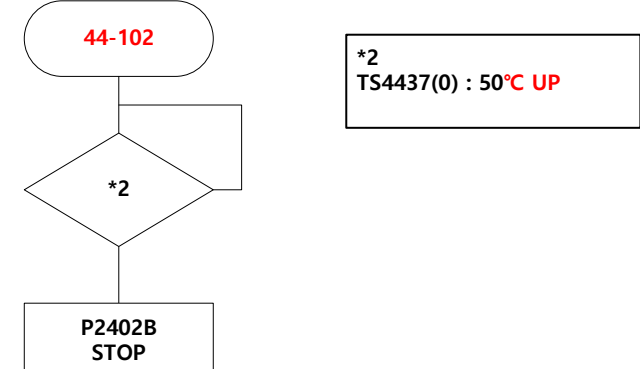
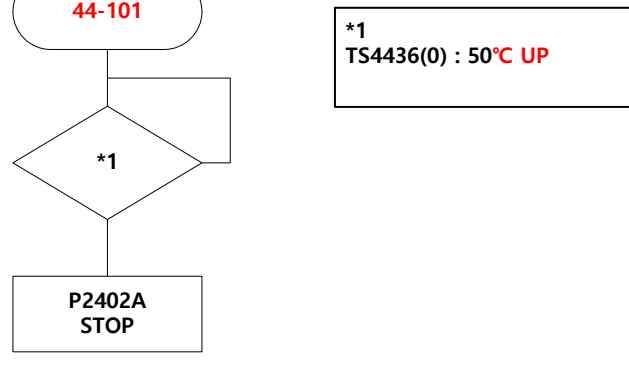
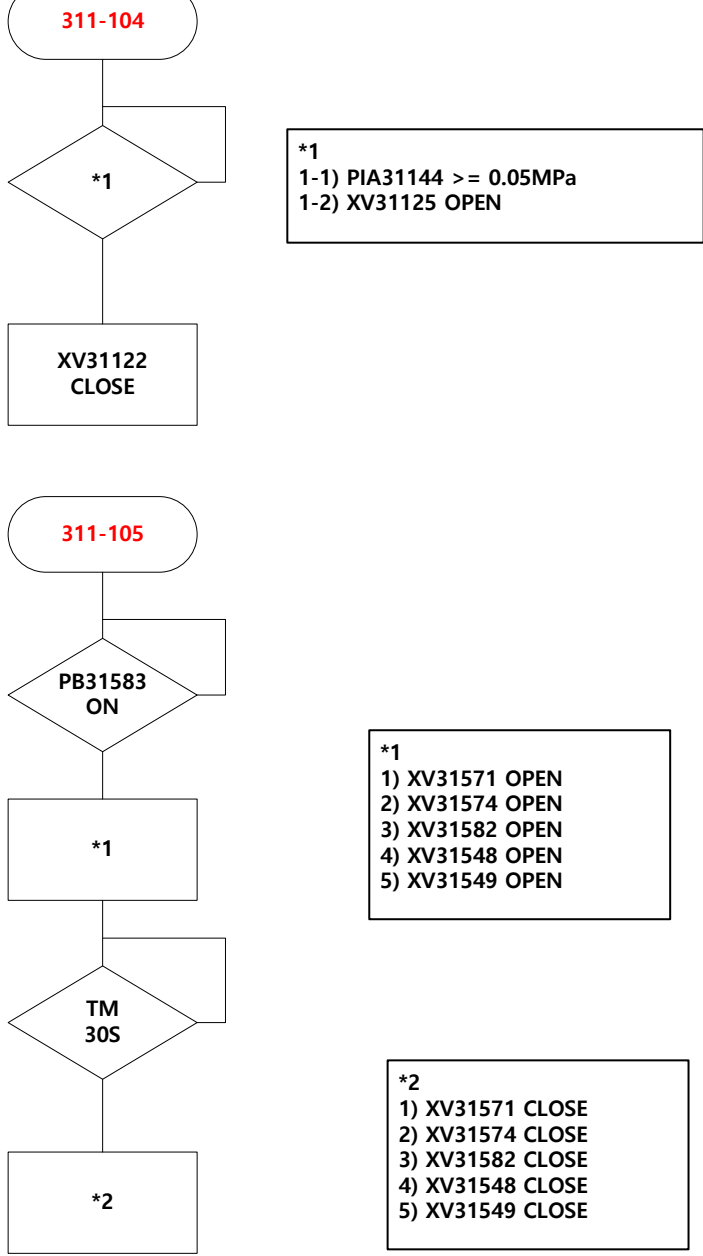
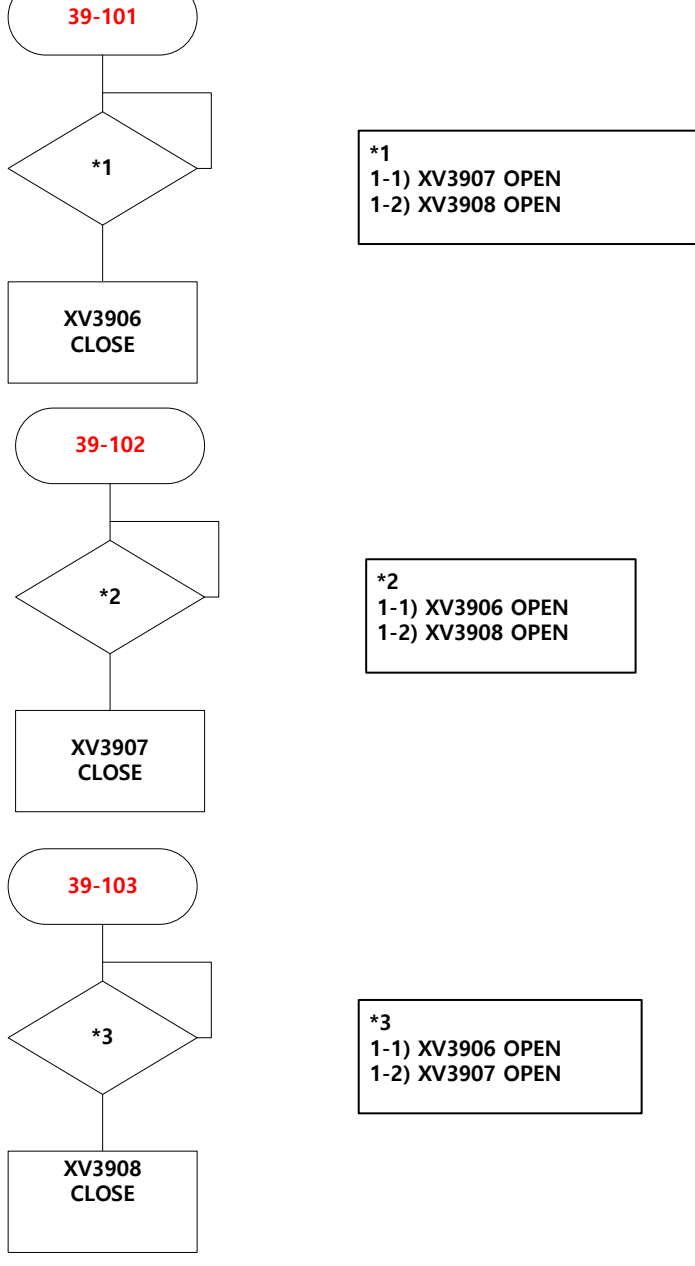
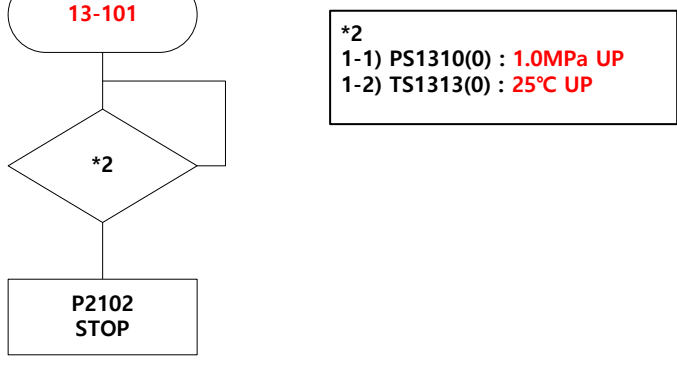
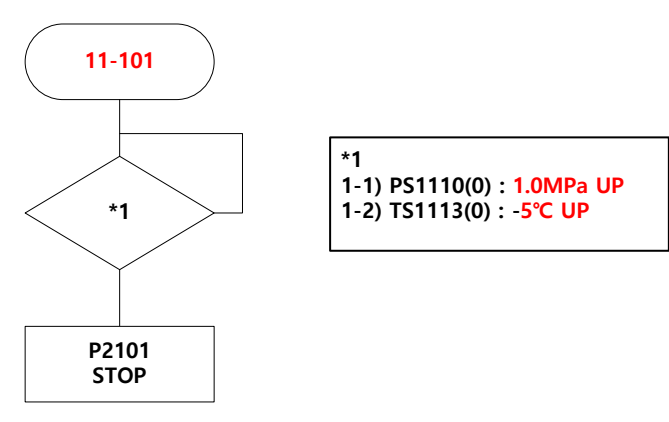
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8501	R-5 MASTER	8601	R-6 MASTER	8701	R-7 MASTER	8801	R-8 MASTER
8502	R-5 EVICAS COATING	8602	R-6 EVICAS COATING	8702	R-7 EVICAS COATING	8802	R-8 EVICAS COATING
8503	R-5 INERT VACUUM	8603	R-6 INERT VACUUM	8703	R-7 INERT VACUUM	8803	R-8 INERT VACUUM
8504	R-5 PRECHECK VENT	8604	R-6 PRECHECK VENT	8704	R-7 PRECHECK VENT	8804	R-8 PRECHECK VENT
8505	R-5 PRECHECK ESS	8605	R-6 PRECHECK ESS	8705	R-7 PRECHECK ESS	8805	R-8 PRECHECK ESS
8506	R-5 PRECHECK RUPTURE DISC	8606	R-6 PRECHECK RUPTURE DISC	8706	R-7 PRECHECK RUPTURE DISC	8806	R-8 PRECHECK RUPTURE DISC
8507	R-5 PRECHECK COOLING	8607	R-6 PRECHECK COOLING	8707	R-7 PRECHECK COOLING	8807	R-8 PRECHECK COOLING
8508	R-5 N2 CHARGE	8608	R-6 N2 CHARGE	8708	R-7 N2 CHARGE	8808	R-8 N2 CHARGE
8509	R-5 CDW CHARGE	8609	R-6 CDW CHARGE	8709	R-7 CDW CHARGE	8809	R-8 CDW CHARGE
8510	R-5 GRAN-A CHARGE	8610	R-6 GRAN-A CHARGE	8710	R-7 GRAN-A CHARGE	8810	R-8 GRAN-A CHARGE
8511	R-5 LINE FLUSH	8611	R-6 LINE FLUSH	8711	R-7 LINE FLUSH	8811	R-8 LINE FLUSH
8512	R-5 CAT-A CHARGE	8612	R-6 CAT-A CHARGE	8712	R-7 CAT-A CHARGE	8812	R-8 CAT-A CHARGE
8513	R-5 CAT-B CHARGE	8613	R-6 CAT-B CHARGE	8713	R-7 CAT-B CHARGE	8813	R-8 CAT-B CHARGE
8514	R-5 GRAN-B CHARGE	8614	R-6 GRAN-B CHARGE	8714	R-7 GRAN-B CHARGE	8814	R-8 GRAN-B CHARGE
8515	R-5 FVCM CHARGE	8615	R-6 FVCM CHARGE	8715	R-7 FVCM CHARGE	8815	R-8 FVCM CHARGE
8516	R-5 RVCM CHARGE	8616	R-6 RVCM CHARGE	8716	R-7 RVCM CHARGE	8816	R-8 RVCM CHARGE
8517	R-5 HDW CHARGE	8617	R-6 HDW CHARGE	8717	R-7 HDW CHARGE	8817	R-8 HDW CHARGE
8518	R-5 HEATING	8618	R-6 HEATING	8718	R-7 HEATING	8818	R-8 HEATING
8519	R-5 RINSE NOZZLE FLUSH	8619	R-6 RINSE NOZZLE FLUSH	8719	R-7 RINSE NOZZLE FLUSH	8819	R-8 RINSE NOZZLE FLUSH
8520	R-5 CONDENSER VENT	8620	R-6 CONDENSER VENT	8720	R-7 CONDENSER VENT	8820	R-8 CONDENSER VENT
8521	R-5 HPDW INJ	8621	R-6 HPDW INJ	8721	R-7 HPDW INJ	8821	R-8 HPDW INJ
8522	R-5 GRAN-A MID	8622	R-6 GRAN-A MID	8722	R-7 GRAN-A MID	8822	R-8 GRAN-A MID
8523	R-5 GRAN-A SEC	8623	R-6 GRAN-A SEC	8723	R-7 GRAN-A SEC	8823	R-8 GRAN-A SEC
8524	R-5 EMERGENCY COOLING	8624	R-6 EMERGENCY COOLING	8724	R-7 EMERGENCY COOLING	8824	R-8 EMERGENCY COOLING
8525	R-5 ESS INJ	8625	R-6 ESS INJ	8725	R-7 ESS INJ	8825	R-8 ESS INJ
8526	R-5 CONTROL VENT	8626	R-6 CONTROL VENT	8726	R-7 CONTROL VENT	8826	R-8 CONTROL VENT
8527	R-5 EMERGENCY VENT	8627	R-6 EMERGENCY VENT	8727	R-7 EMERGENCY VENT	8827	R-8 EMERGENCY VENT
8528	R-5 STA CHARGE	8628	R-6 STA CHARGE	8728	R-7 STA CHARGE	8828	R-8 STA CHARGE
8529	R-5 RUNDOWN	8629	R-6 RUNDOWN	8729	R-7 RUNDOWN	8829	R-8 RUNDOWN
8530	R-5 RD FLUSH	8630	R-6 RD FLUSH	8730	R-7 RD FLUSH	8830	R-8 RD FLUSH
8531	R-5 RINSE	8631	R-6 RINSE	8731	R-7 RINSE	8831	R-8 RINSE
8532	R-5 RVCG VENT	8632	R-6 RVCG VENT	8732	R-7 RVCG VENT	8832	R-8 RVCG VENT
8533	R-5 STEAM PURGE	8633	R-6 STEAM PURGE	8733	R-7 STEAM PURGE	8833	R-8 STEAM PURGE
8534	R-5 M-VAC N2	8634	R-6 M-VAC N2	8734	R-7 M-VAC N2	8834	R-8 M-VAC N2
8535	R-5 BREAK VENT	8635	R-6 BREAK VENT	8735	R-7 BREAK VENT	8835	R-8 BREAK VENT
8536	R-5 AG READY	8636	R-6 AG READY	8736	R-7 AG READY	8836	R-8 AG READY
8537	R-5 EMERGENCY SAFETY VALVE	8637	R-6 EMERGENCY SAFETY VALVE	8737	R-7 EMERGENCY SAFETY VALVE	8837	R-8 EMERGENCY SAFETY VALVE



NAME	08SOK	01STR	NAME	08SOK	01STR
EVICAS	8102SW.08SOK	1113SW.01STR	HP COMP1	8126SW.08SOK	2107SW.01STR
EVICAS	8202SW.08SOK	1113SW.01STR	HP COMP1	8226SW.08SOK	2107SW.01STR
EVICAS	8302SW.08SOK	1113SW.01STR	HP COMP1	8326SW.08SOK	2107SW.01STR
EVICAS	8402SW.08SOK	1113SW.01STR	HP COMP1	8426SW.08SOK	2107SW.01STR
EVICAS	8502SW.08SOK	1113SW.01STR	HP COMP2	8526SW.08SOK	2207SW.01STR
EVICAS	8602SW.08SOK	1113SW.01STR	HP COMP2	8626SW.08SOK	2207SW.01STR
EVICAS	8702SW.08SOK	1113SW.01STR	HP COMP2	8726SW.08SOK	2207SW.01STR
EVICAS	8802SW.08SOK	1113SW.01STR	HP COMP2	8826SW.08SOK	2207SW.01STR
GRAN-A(1LINE)	8110SW.08SOK	2101SW.01STR	HP COMP1	8127SW.08SOK	2107SW.01STR
GRAN-A(1LINE)	8210SW.08SOK	2101SW.01STR	HP COMP1	8227SW.08SOK	2107SW.01STR
GRAN-A(1LINE)	8310SW.08SOK	2101SW.01STR	HP COMP1	8327SW.08SOK	2107SW.01STR
GRAN-A(1LINE)	8410SW.08SOK	2101SW.01STR	HP COMP1	8427SW.08SOK	2107SW.01STR
GRAN-A(2LINE)	8510SW.08SOK	2201SW.01STR	HP COMP2	8527SW.08SOK	2207SW.01STR
GRAN-A(2LINE)	8610SW.08SOK	2201SW.01STR	HP COMP2	8627SW.08SOK	2207SW.01STR
GRAN-A(2LINE)	8710SW.08SOK	2201SW.01STR	HP COMP2	8727SW.08SOK	2207SW.01STR
GRAN-A(2LINE)	8810SW.08SOK	2201SW.01STR	HP COMP2	8827SW.08SOK	2207SW.01STR
GRAN-A_MID(1LINE)	8122SW.08SOK	2101SW.01STR	HP COMP1	8129SW.08SOK	2107SW.01STR
GRAN-A_MID(1LINE)	8222SW.08SOK	2101SW.01STR	HP COMP1	8229SW.08SOK	2107SW.01STR
GRAN-A_MID(1LINE)	8322SW.08SOK	2101SW.01STR	HP COMP1	8329SW.08SOK	2107SW.01STR
GRAN-A_MID(1LINE)	8422SW.08SOK	2101SW.01STR	HP COMP1	8429SW.08SOK	2107SW.01STR
GRAN-A_MID(2LINE)	8522SW.08SOK	2201SW.01STR	HP COMP2	8529SW.08SOK	2207SW.01STR
GRAN-A_MID(2LINE)	8622SW.08SOK	2201SW.01STR	HP COMP2	8629SW.08SOK	2207SW.01STR
GRAN-A_MID(2LINE)	8722SW.08SOK	2201SW.01STR	HP COMP2	8729SW.08SOK	2207SW.01STR
GRAN-A_MID(2LINE)	8822SW.08SOK	2201SW.01STR	HP COMP2	8829SW.08SOK	2207SW.01STR
GRAN-A_SEC(1LINE)	8123SW.08SOK	2101SW.01STR	HP COMP1	8132SW.08SOK	2107SW.01STR
GRAN-A_SEC(1LINE)	8223SW.08SOK	2101SW.01STR	HP COMP1	8232SW.08SOK	2107SW.01STR
GRAN-A_SEC(1LINE)	8323SW.08SOK	2101SW.01STR	HP COMP1	8332SW.08SOK	2107SW.01STR
GRAN-A_SEC(1LINE)	8423SW.08SOK	2101SW.01STR	HP COMP1	8432SW.08SOK	2107SW.01STR
GRAN-A_SEC(2LINE)	8523SW.08SOK	2201SW.01STR	HP COMP2	8532SW.08SOK	2207SW.01STR
GRAN-A_SEC(2LINE)	8623SW.08SOK	2201SW.01STR	HP COMP2	8632SW.08SOK	2207SW.01STR
GRAN-A_SEC(2LINE)	8723SW.08SOK	2201SW.01STR	HP COMP2	8732SW.08SOK	2207SW.01STR
GRAN-A_SEC(2LINE)	8823SW.08SOK	2201SW.01STR	HP COMP2	8832SW.08SOK	2207SW.01STR
			HP COMP1	8134SW.08SOK	2107SW.01STR
			HP COMP1	8234SW.08SOK	2107SW.01STR
			HP COMP1	8334SW.08SOK	2107SW.01STR
			HP COMP1	8434SW.08SOK	2107SW.01STR
			HP COMP2	8534SW.08SOK	2207SW.01STR
			HP COMP2	8634SW.08SOK	2207SW.01STR
			HP COMP2	8734SW.08SOK	2207SW.01STR
			HP COMP2	8834SW.08SOK	2207SW.01STR

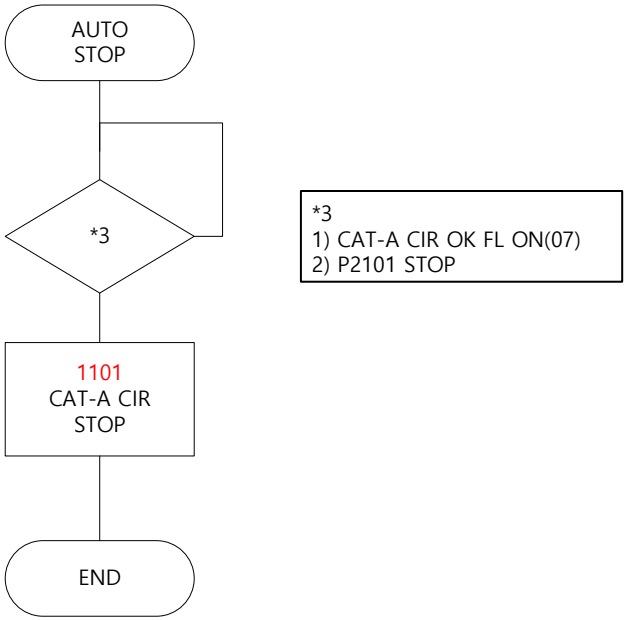
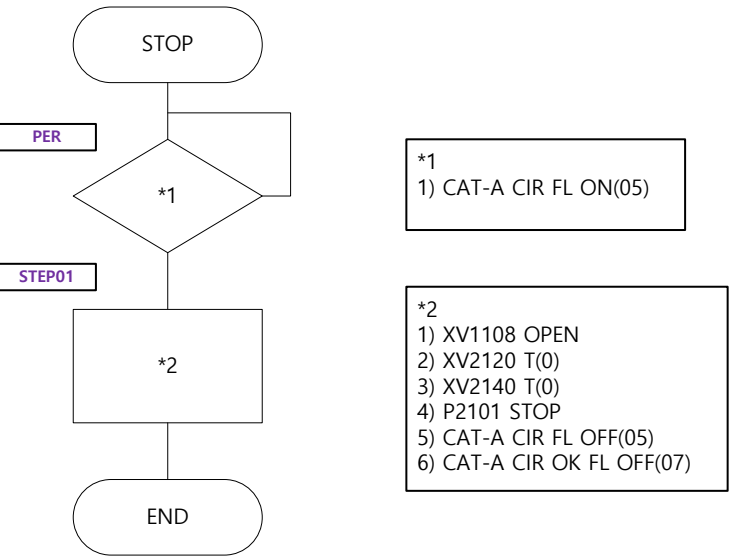
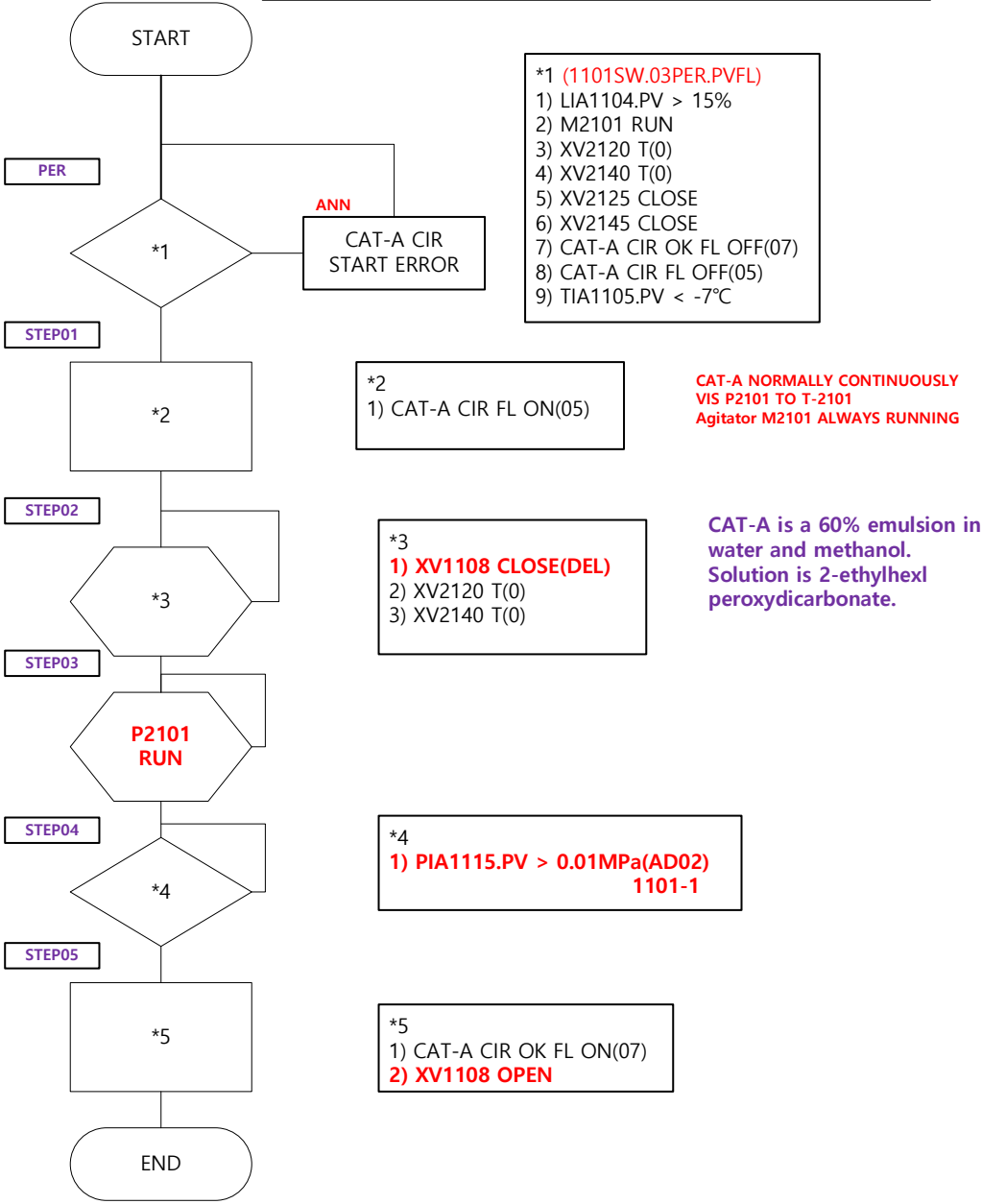


100 HISS (ALL PLUSE)



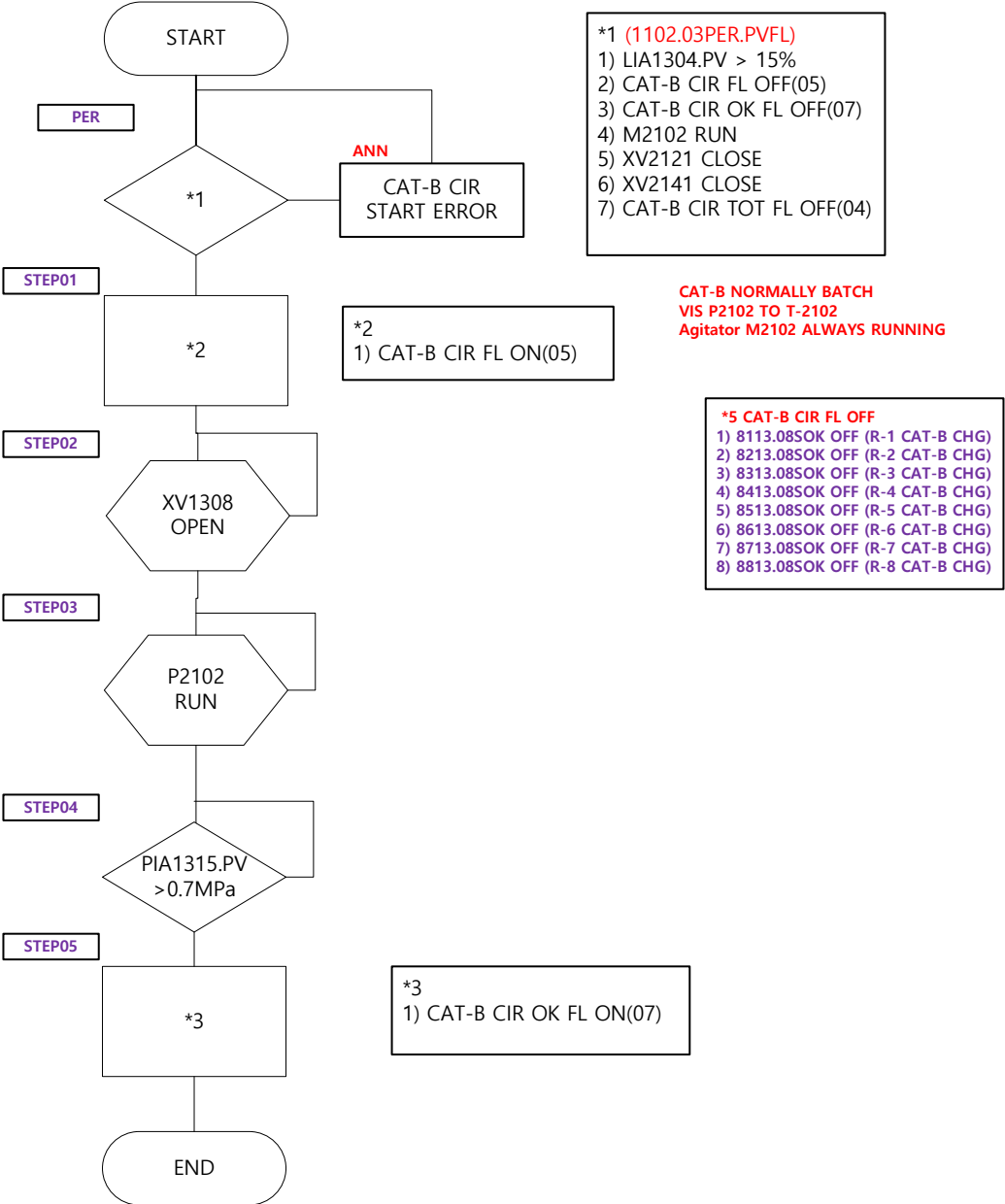
CAT-A is the primary initiator system, and is used in all grade.  
(to keep its temperature below -15°C)

1101 CAT-A CIR

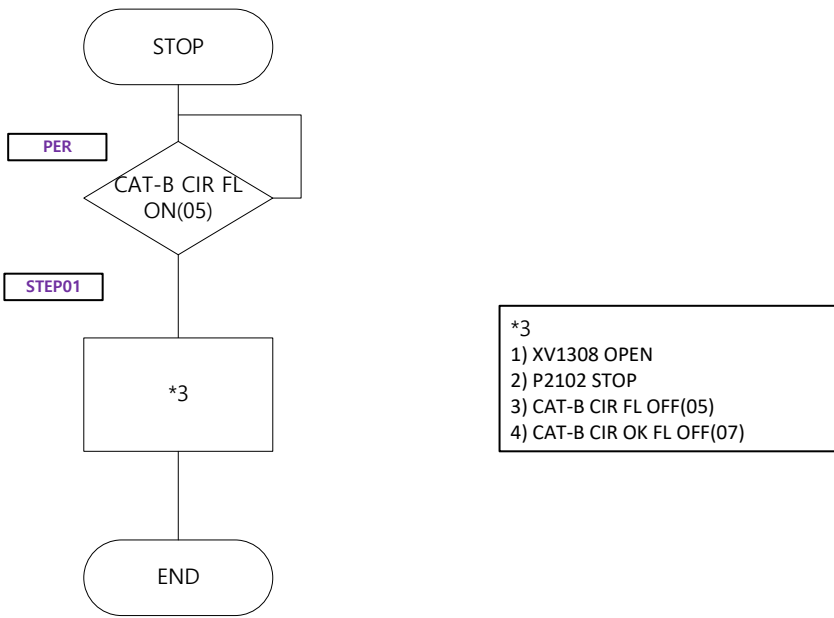
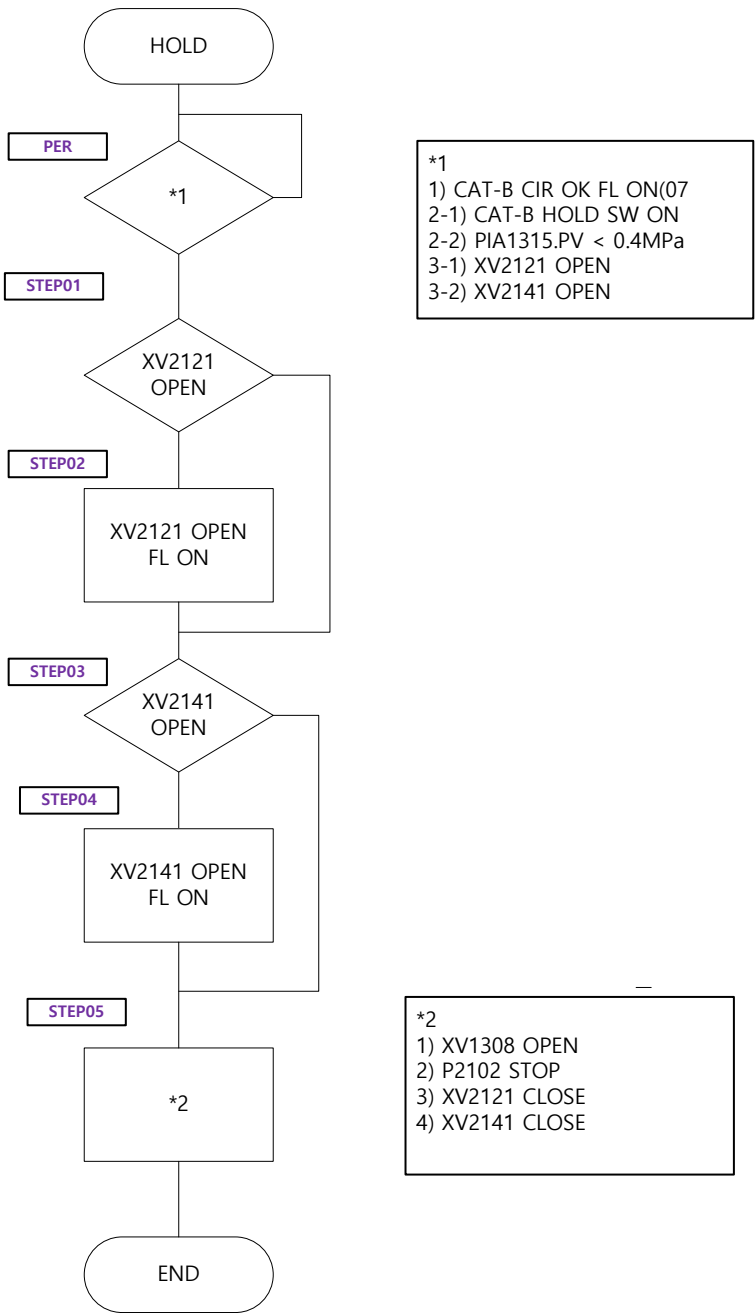
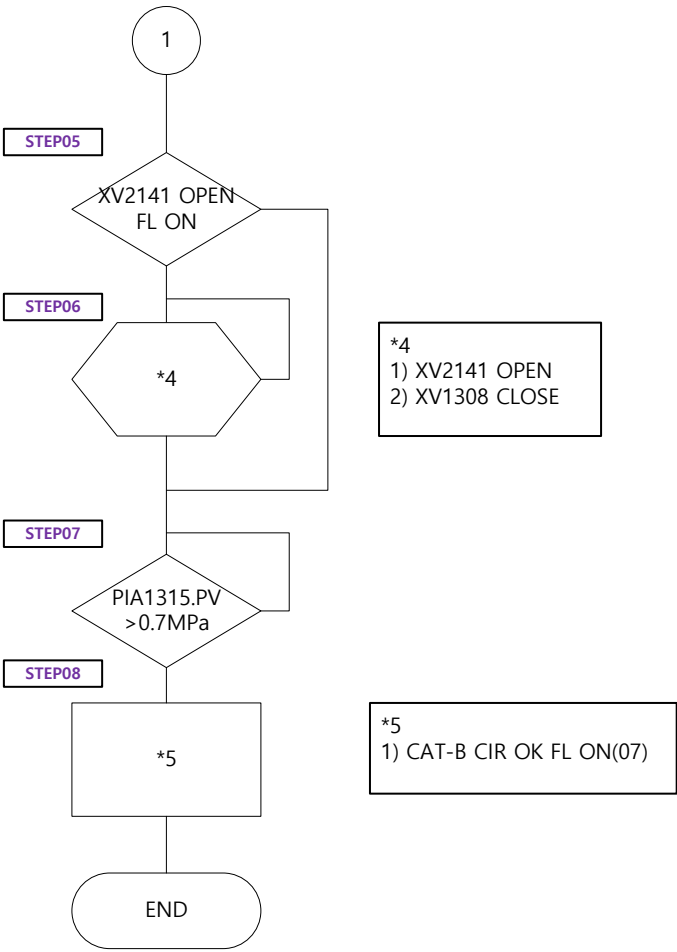
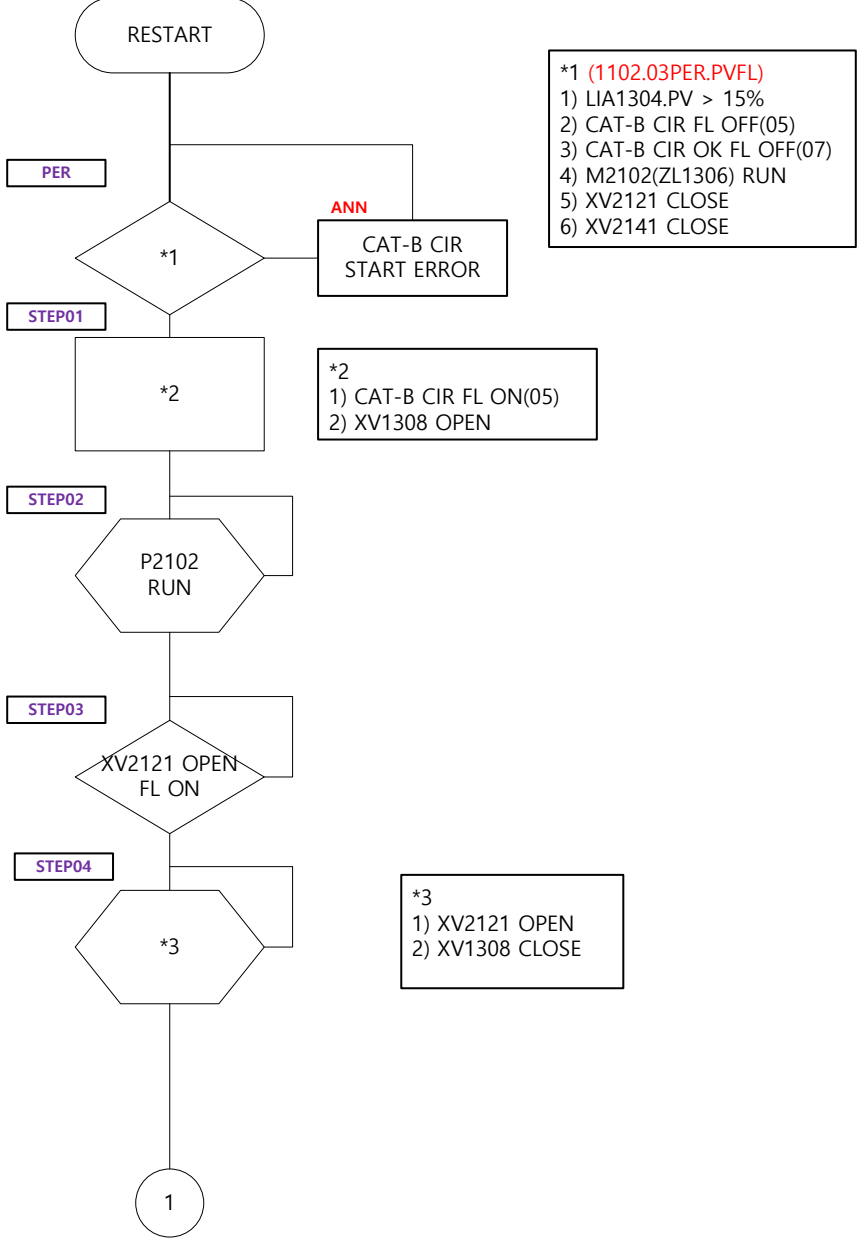


CAT-B is the secondary initiator system, and is used in addition to CAT-A on certain grades. (to keep its temperature below 20°C)

1102 CAT-B CIR (START)



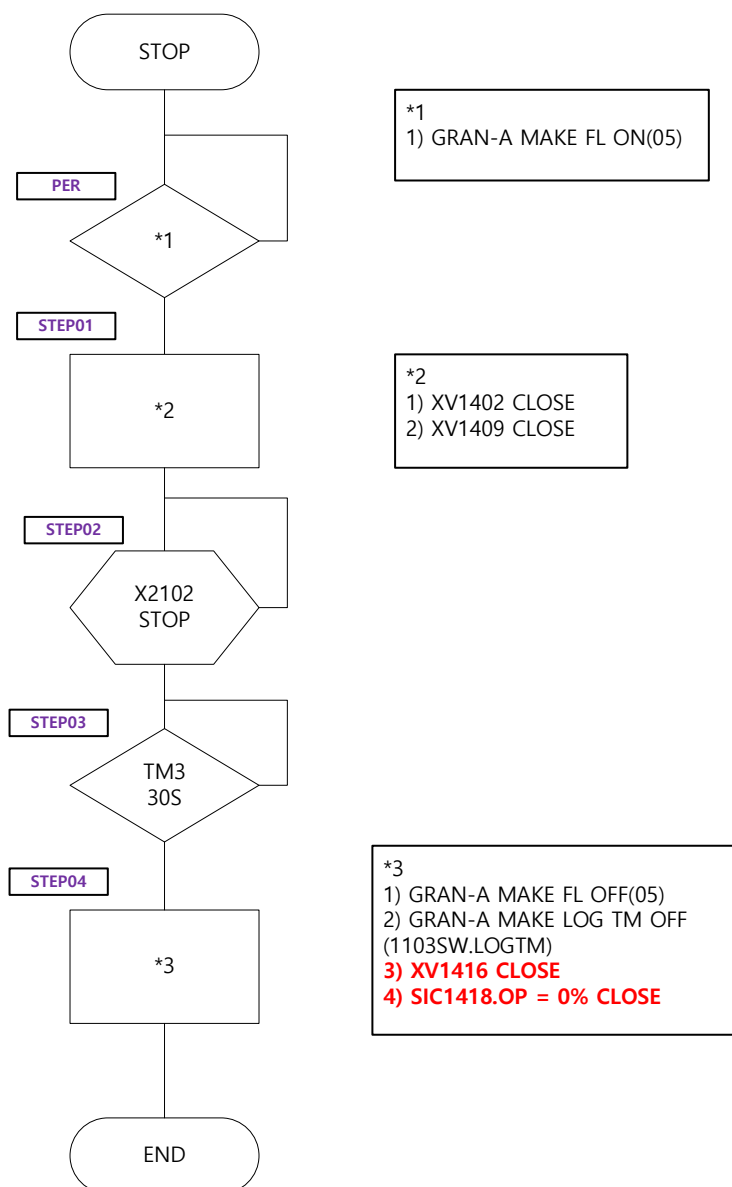
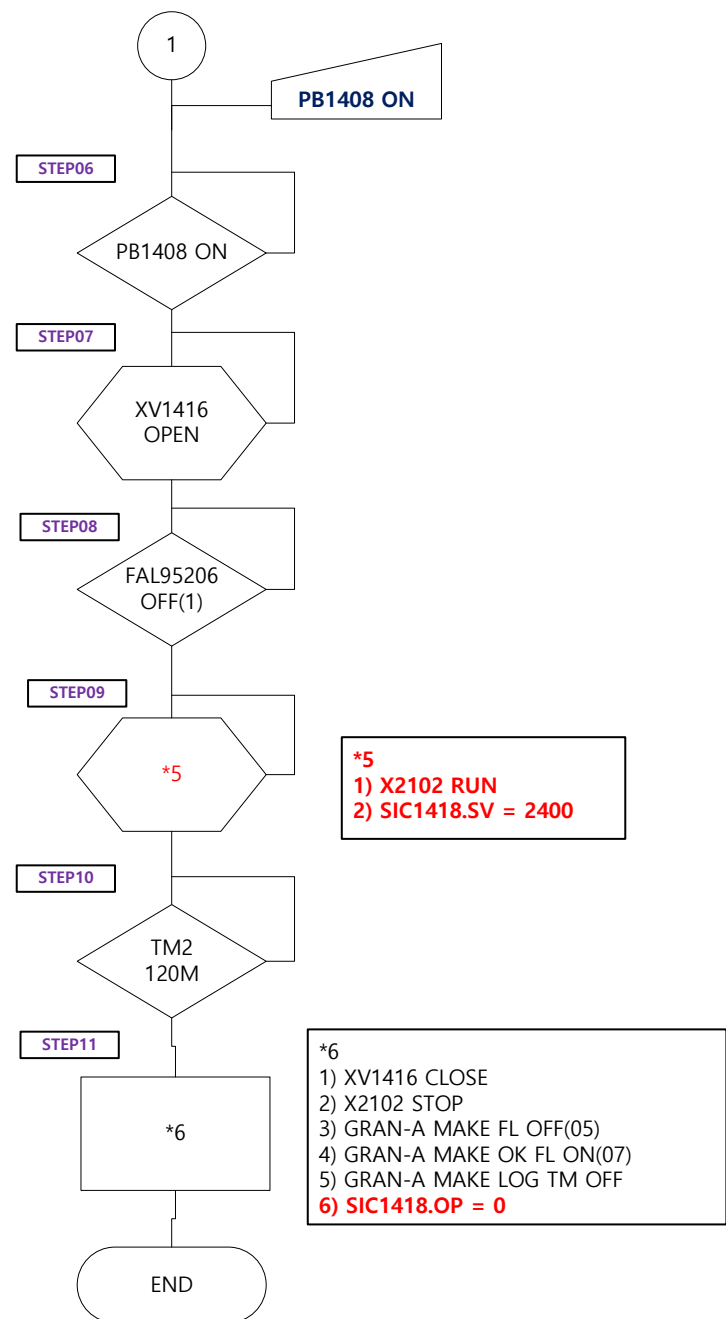
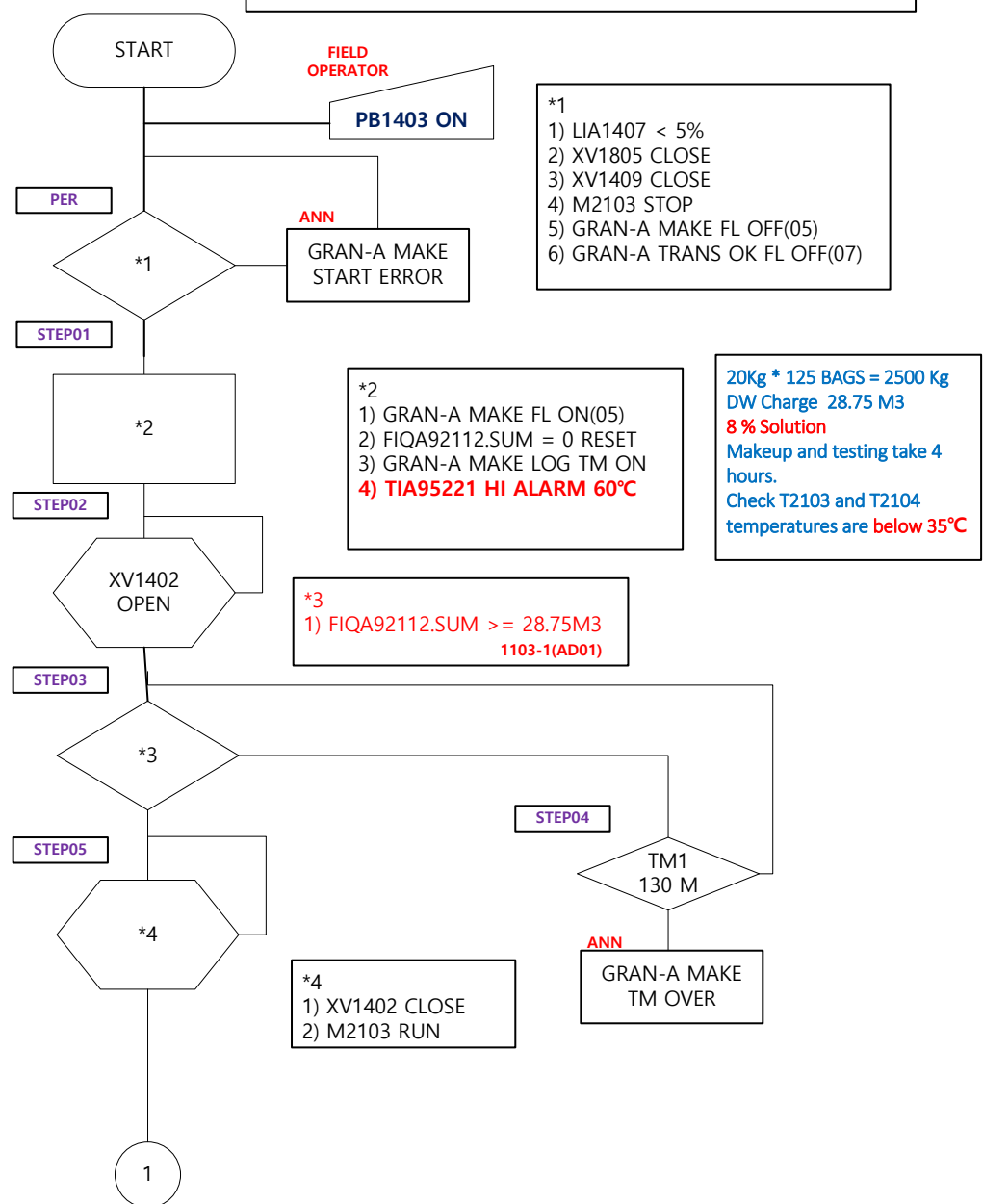
1102 CAT-B CIR (RESTART)

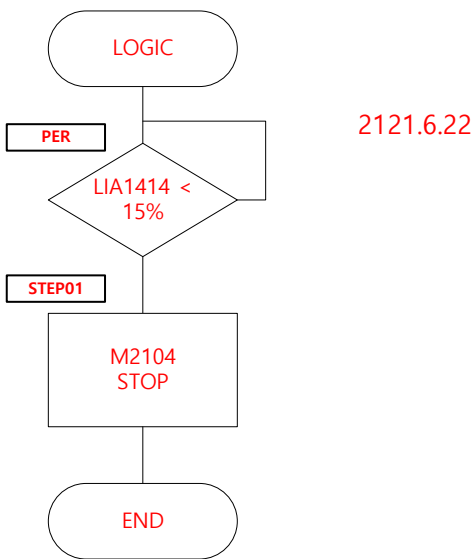
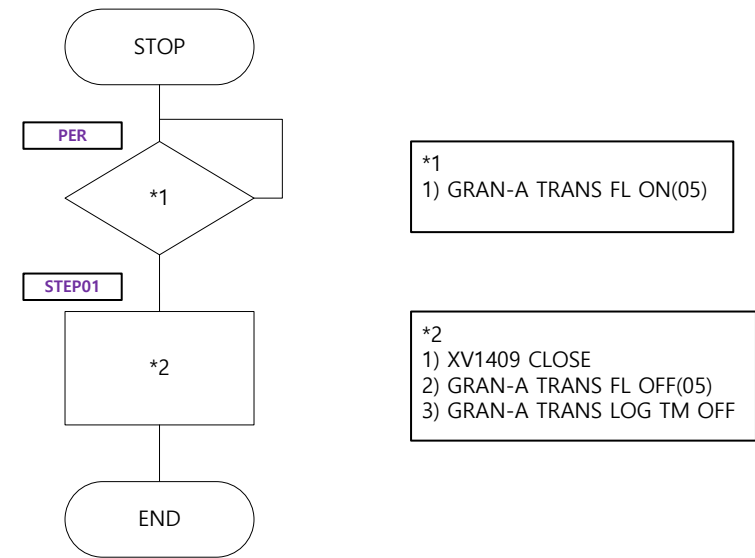
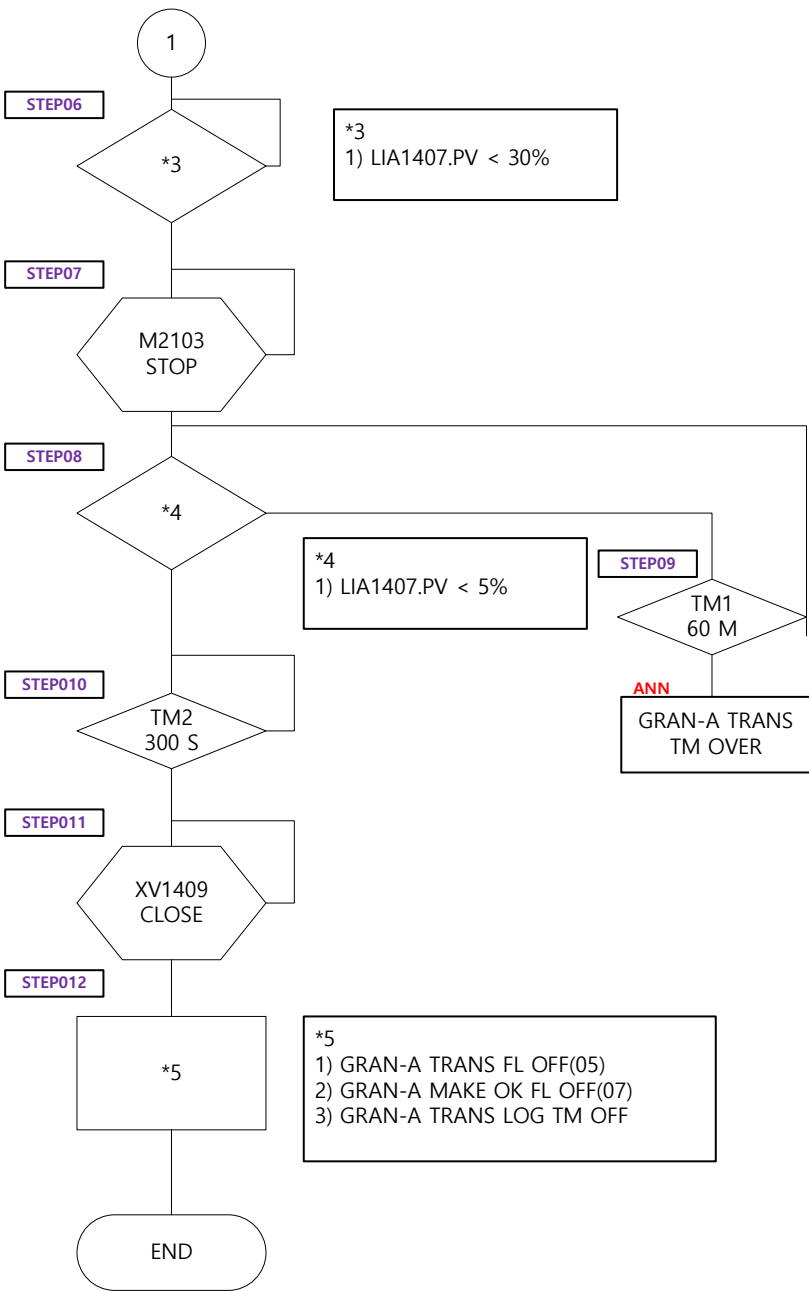
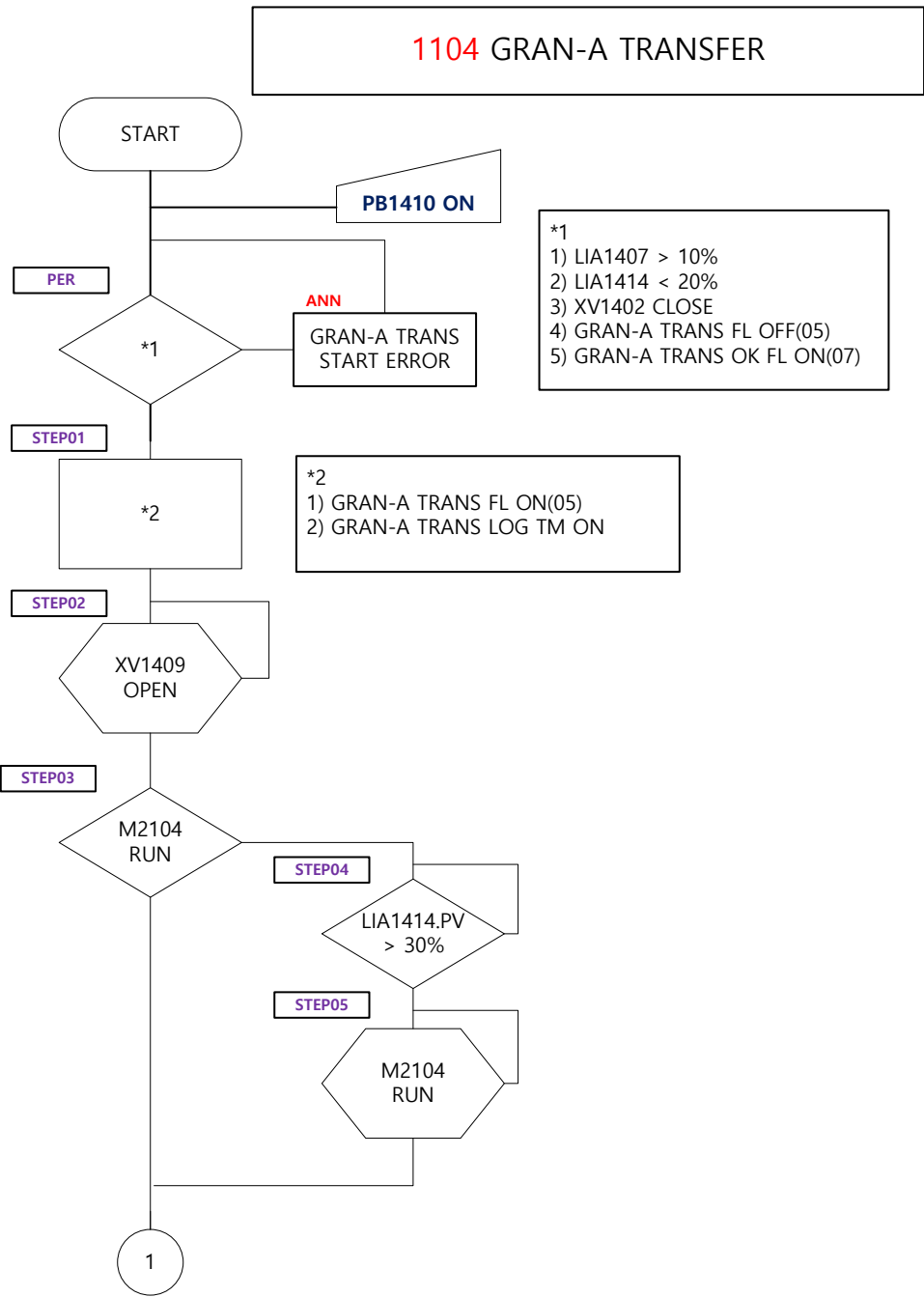


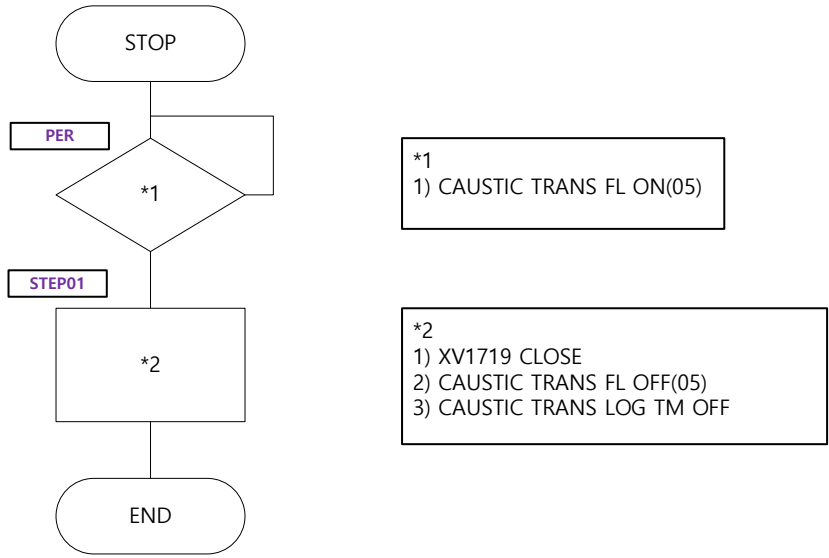
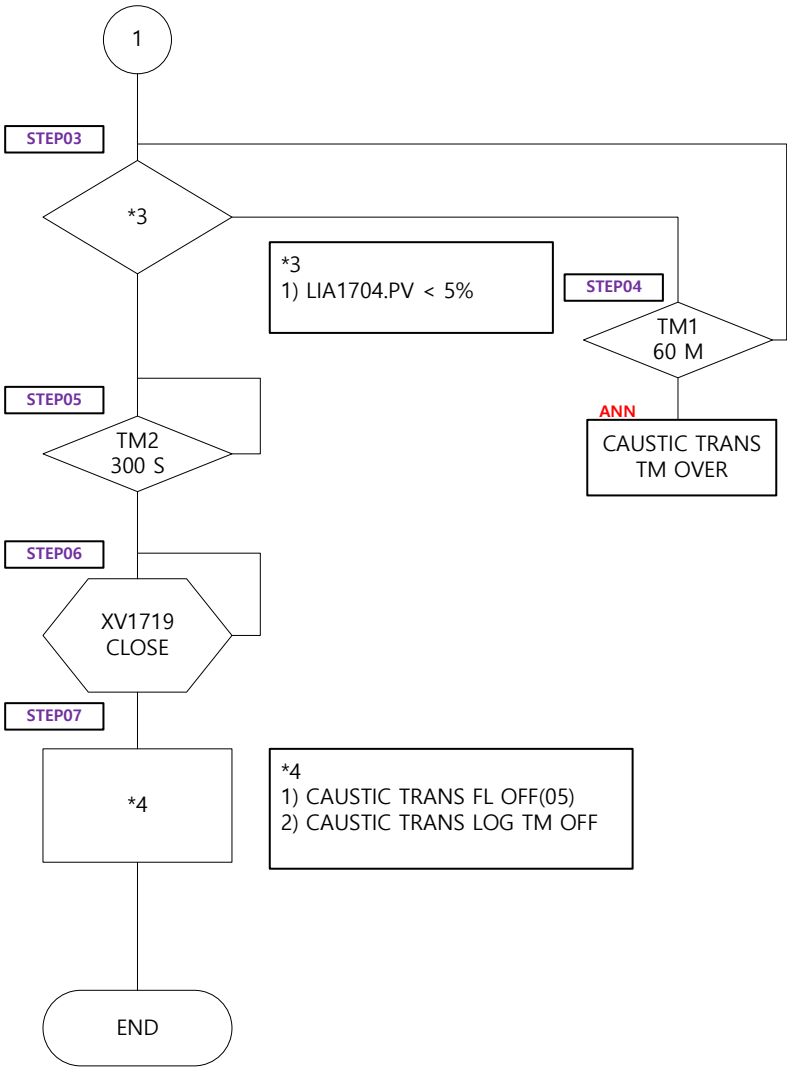
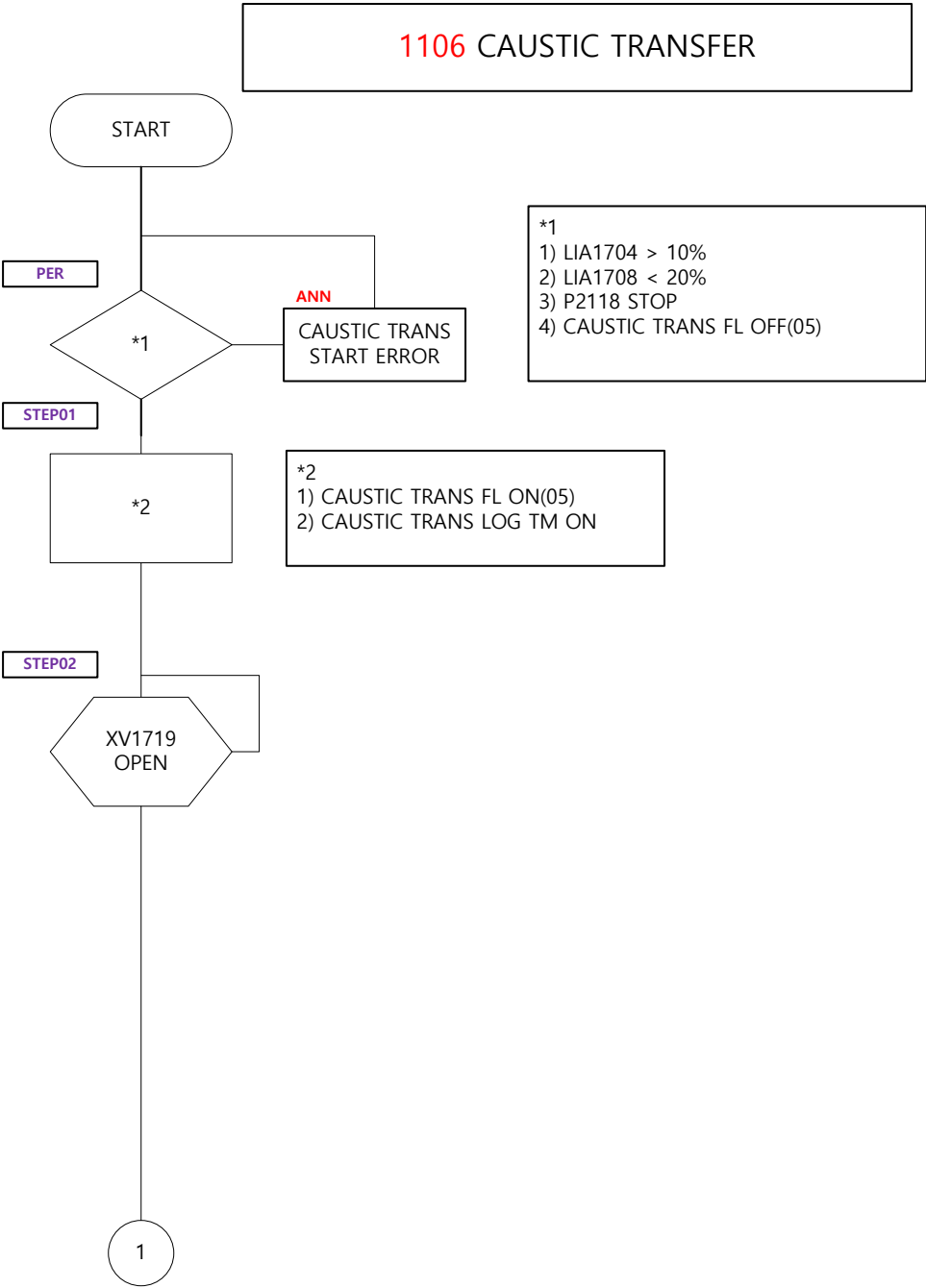


Gran-A controls the surfactants to control the size, shape and porosity of the PVC grains

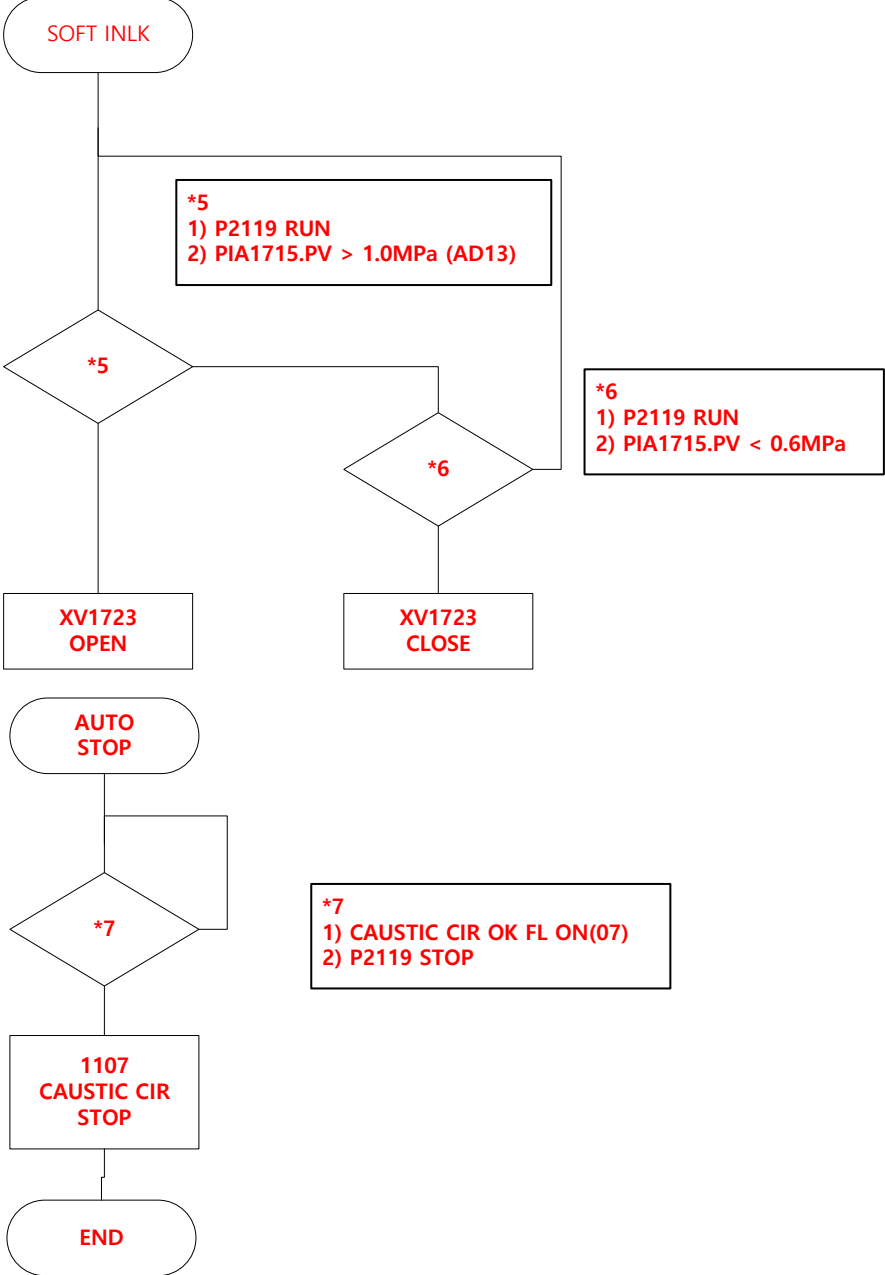
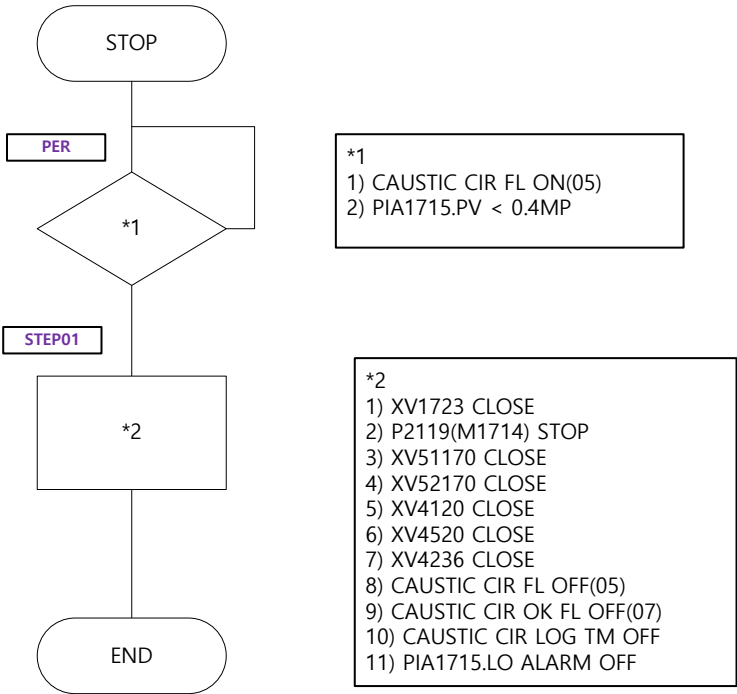
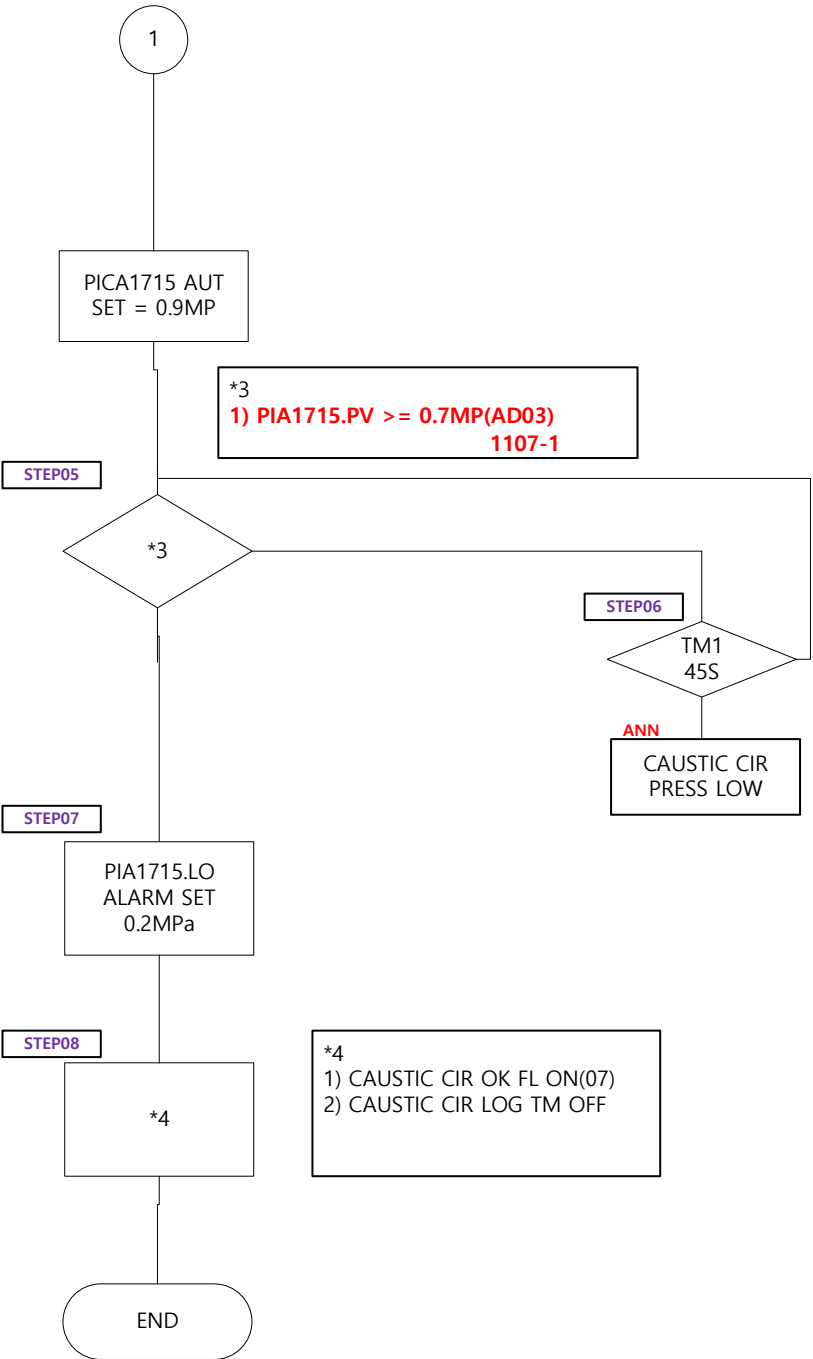
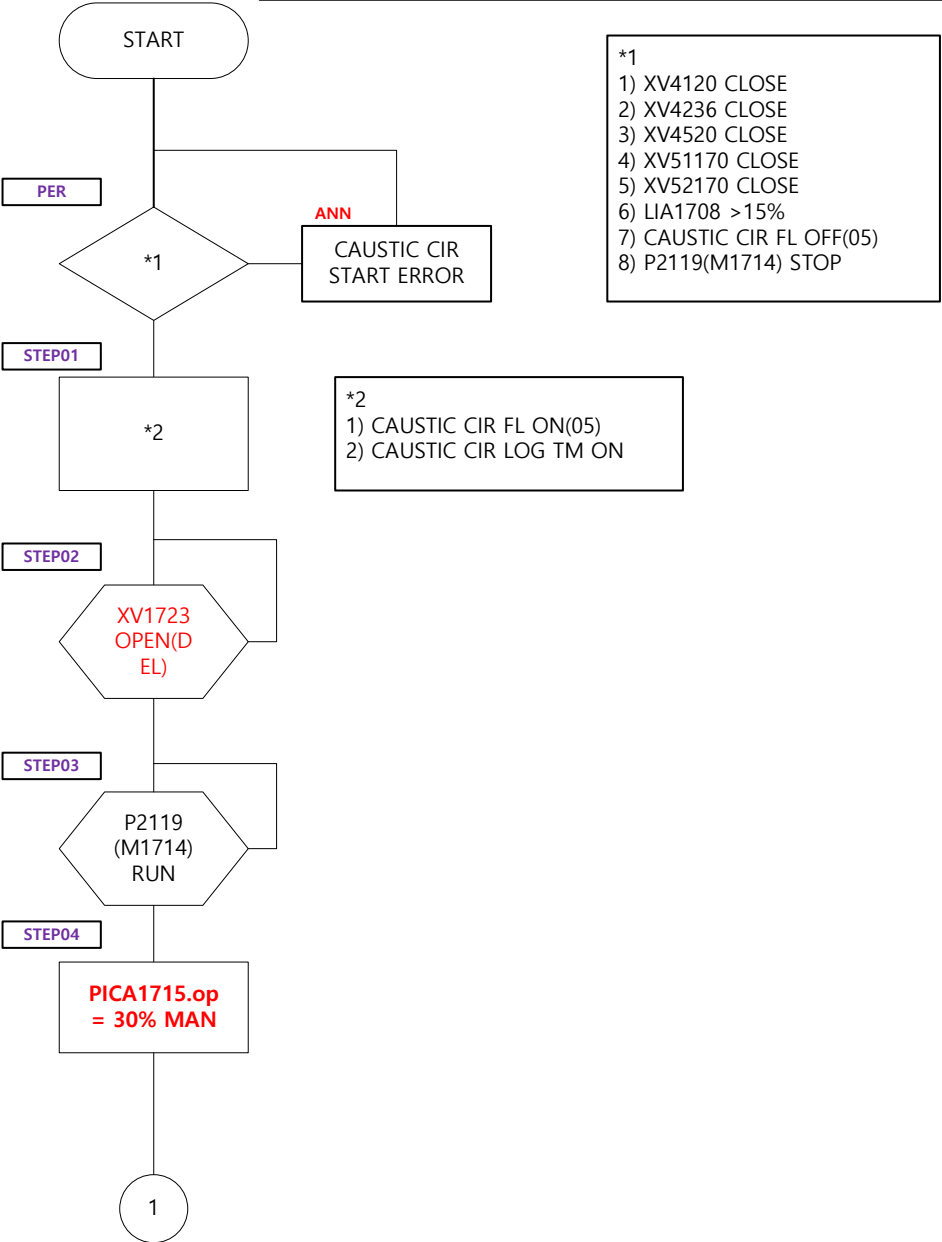
## 1103 GRAN-A MAKE UP





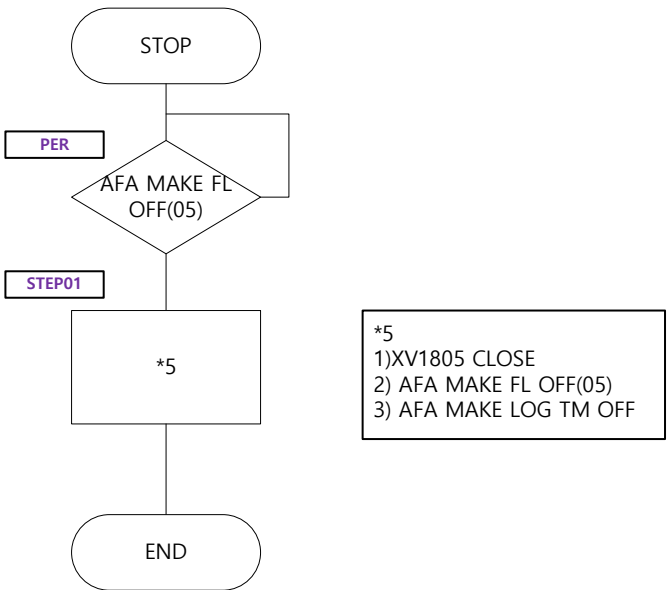
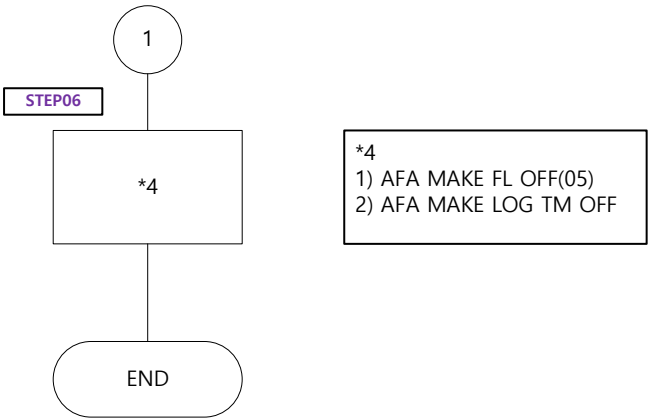
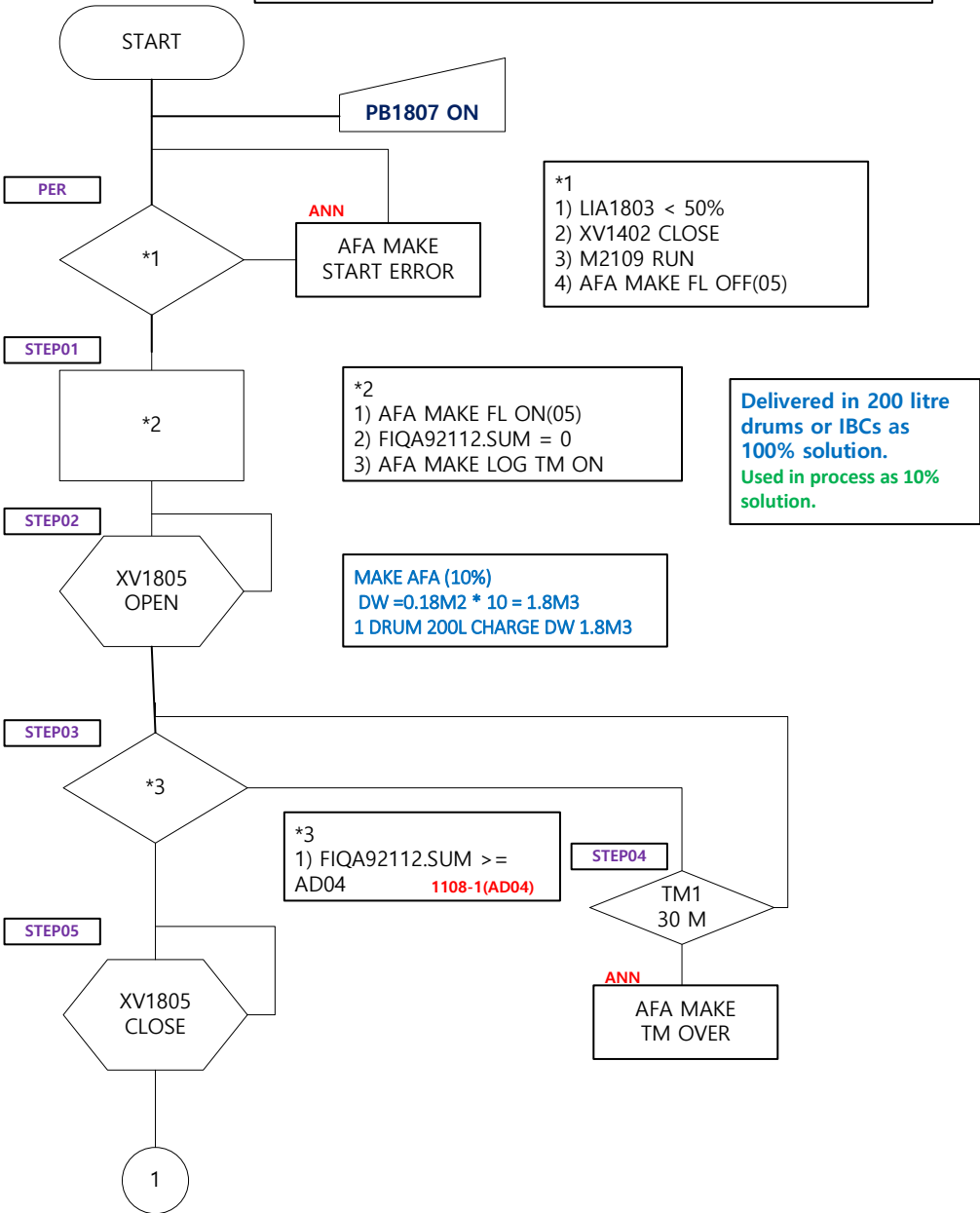


1107 CAUSTIC CIR



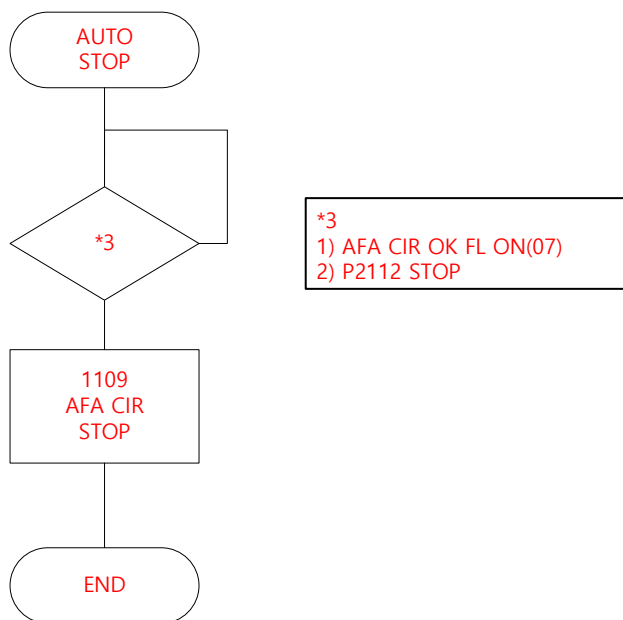
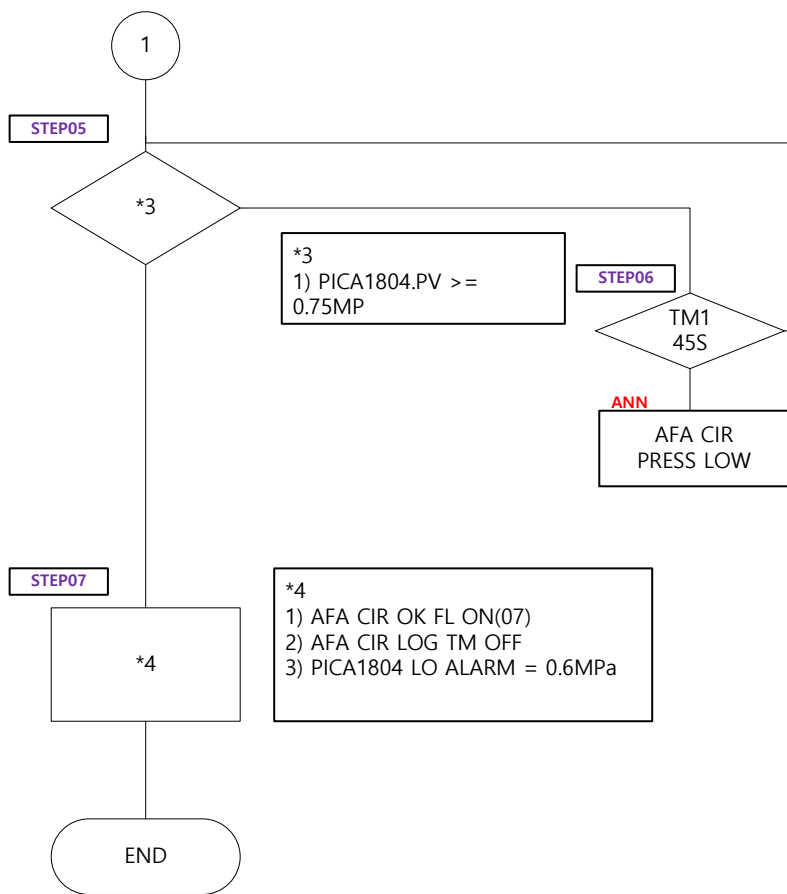
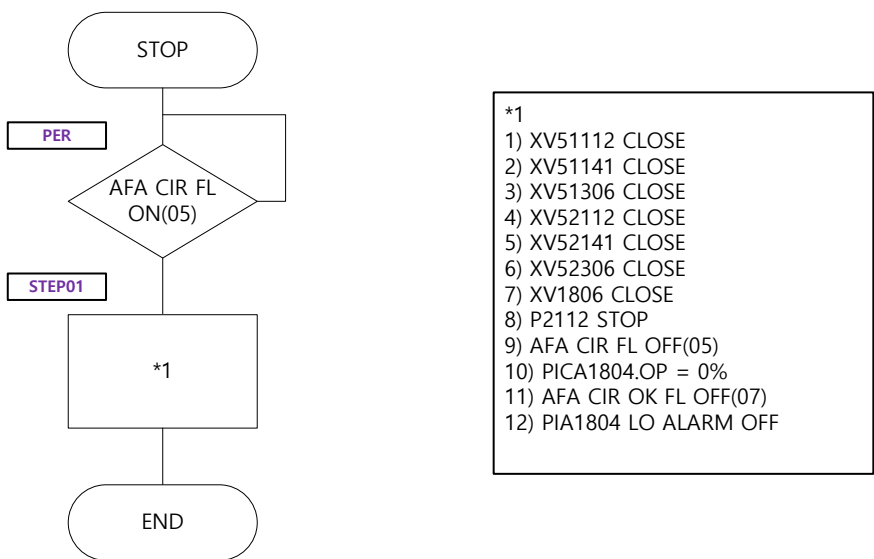
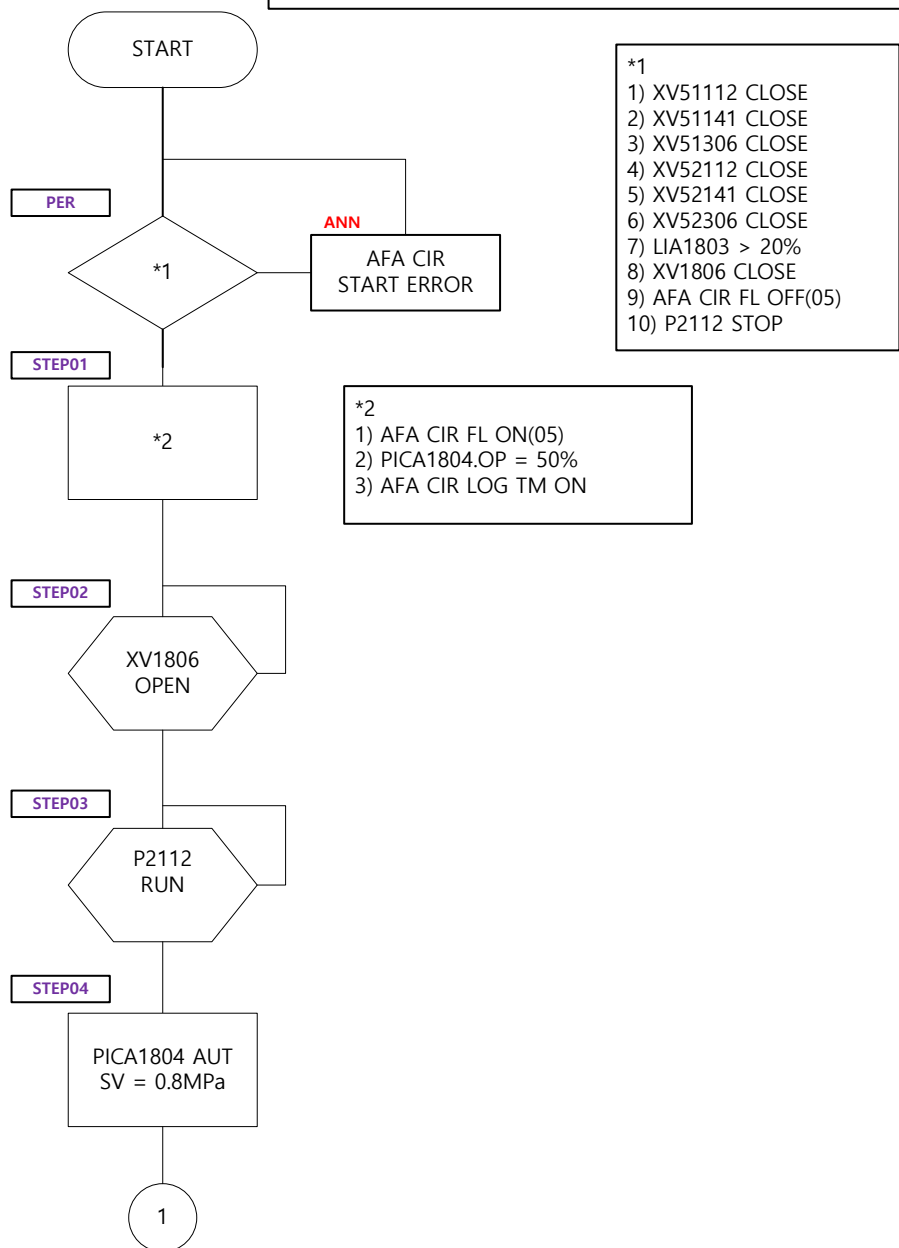
Antiform helps suppress foam in the Blowdown Vessels and Stripping columns.

1108 AFA MAKE UP

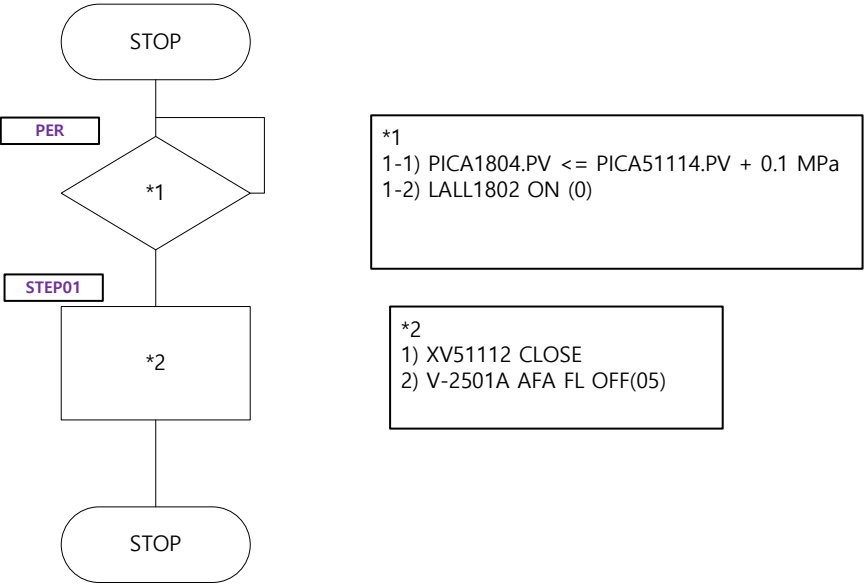
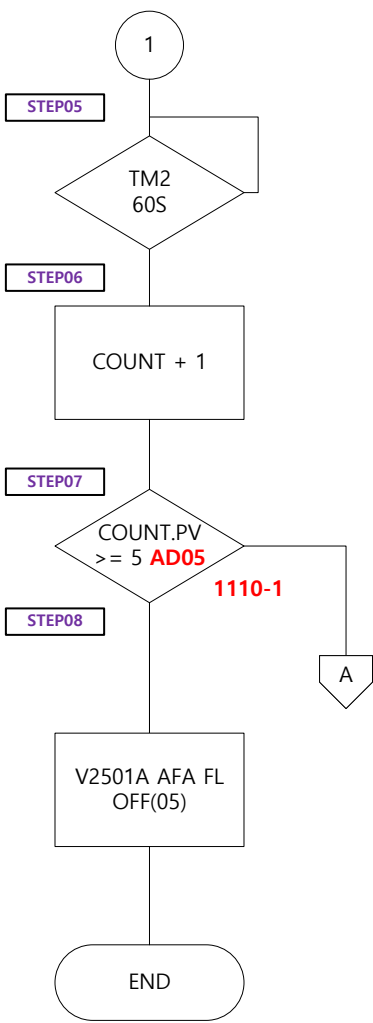
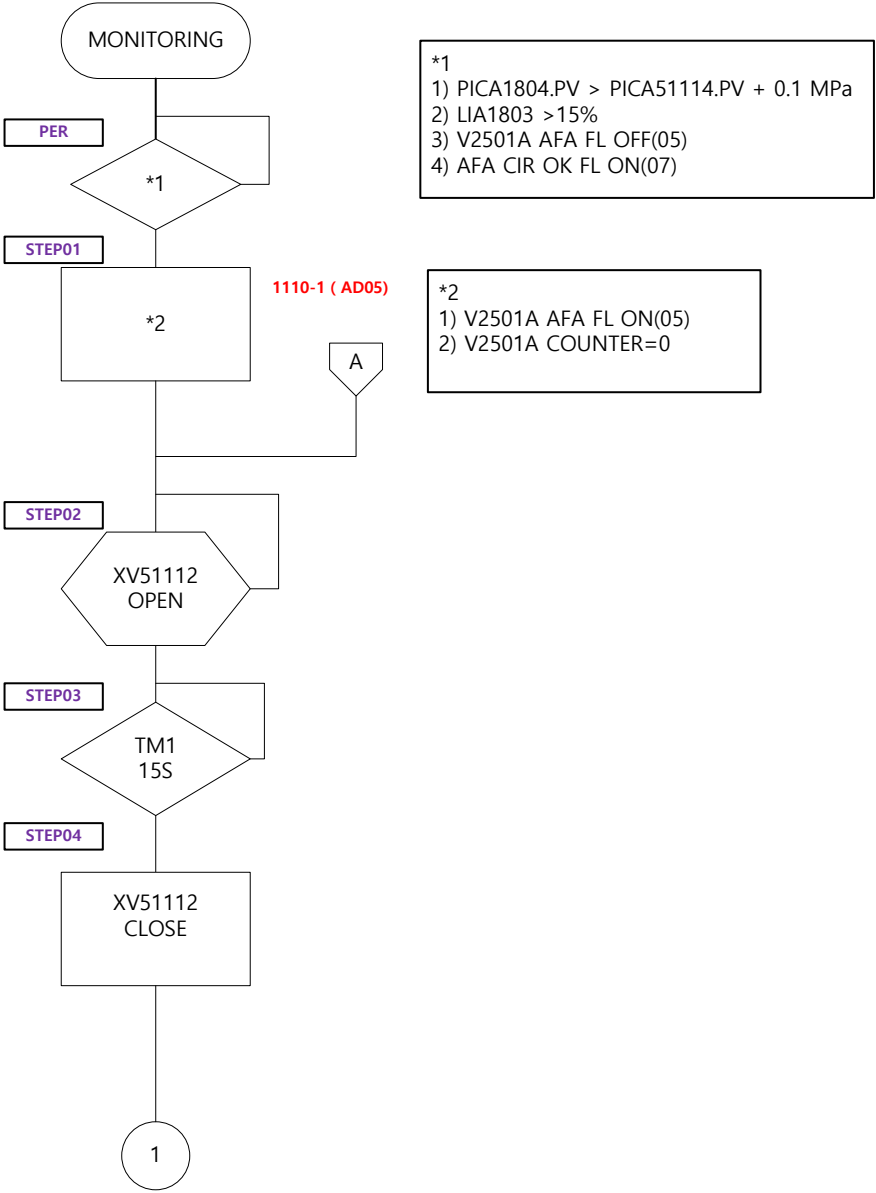


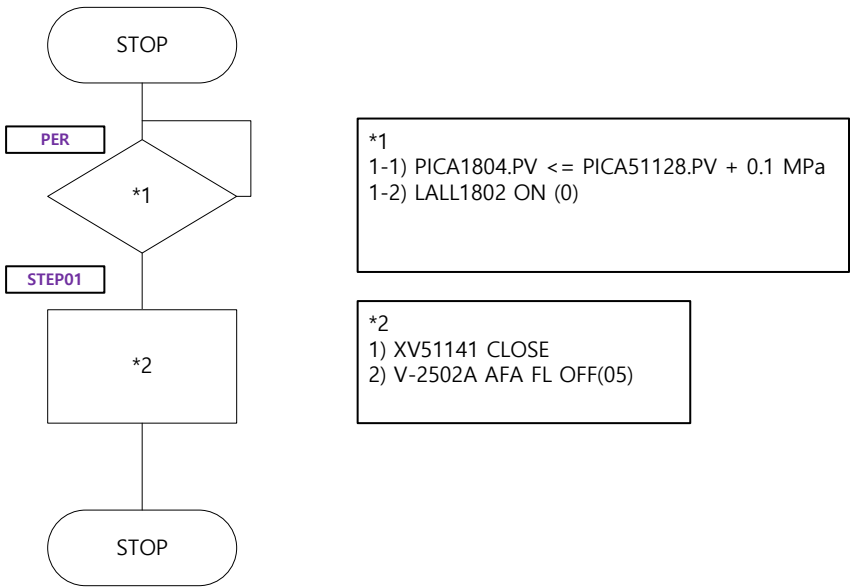
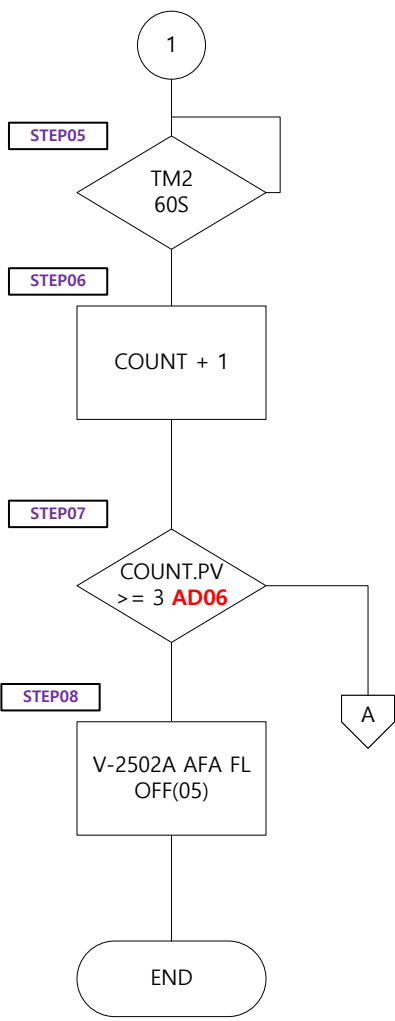
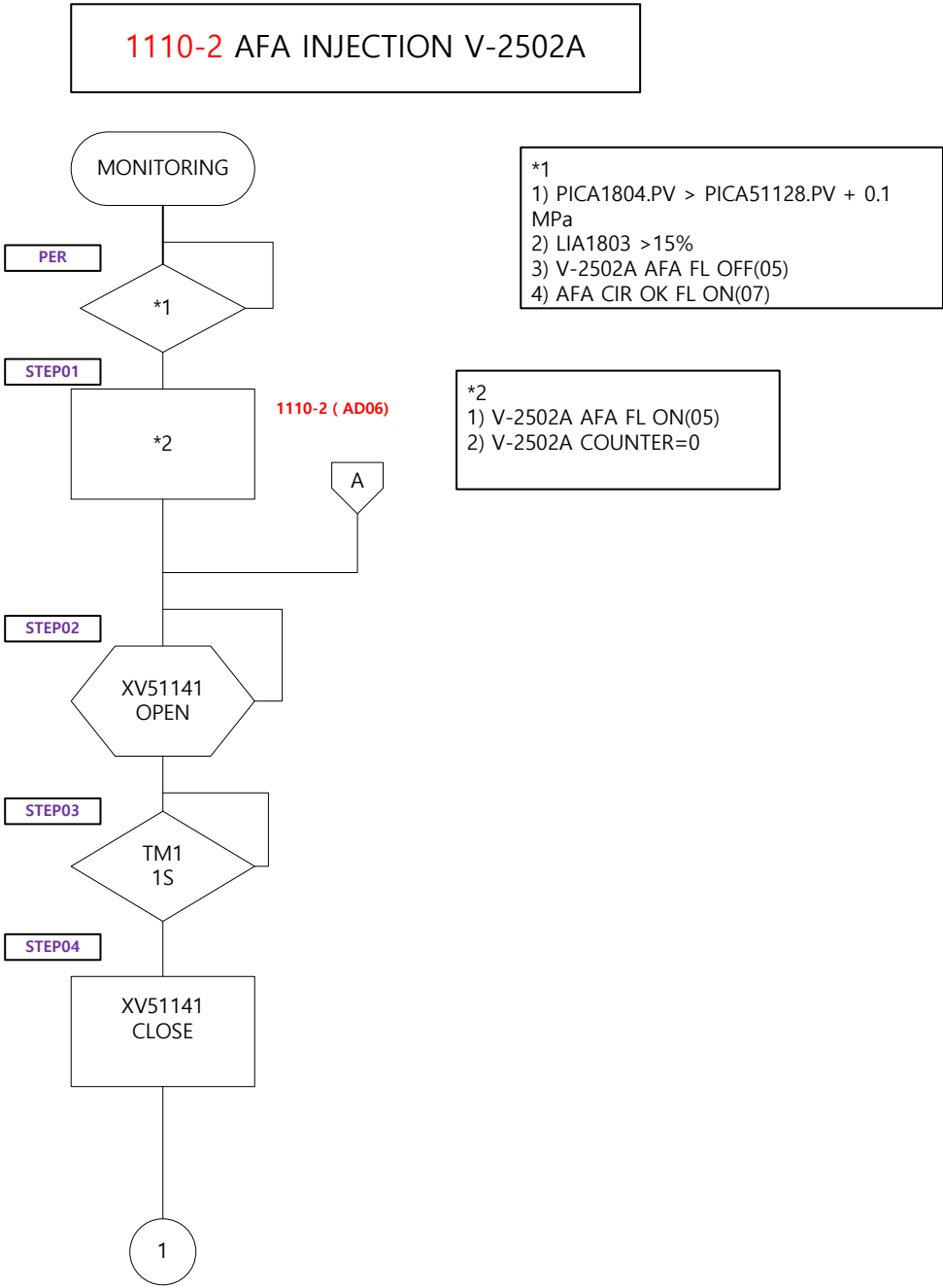


1109 AFA CIR

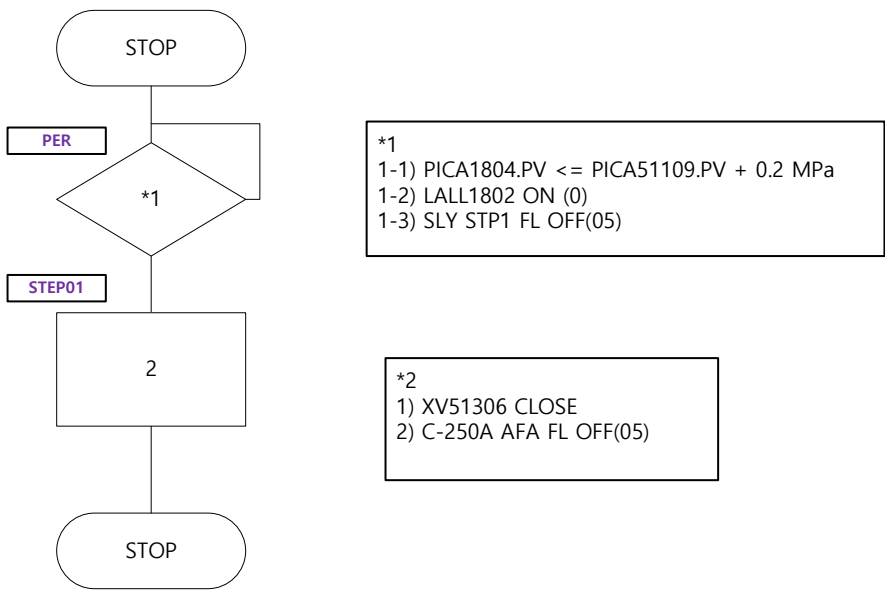
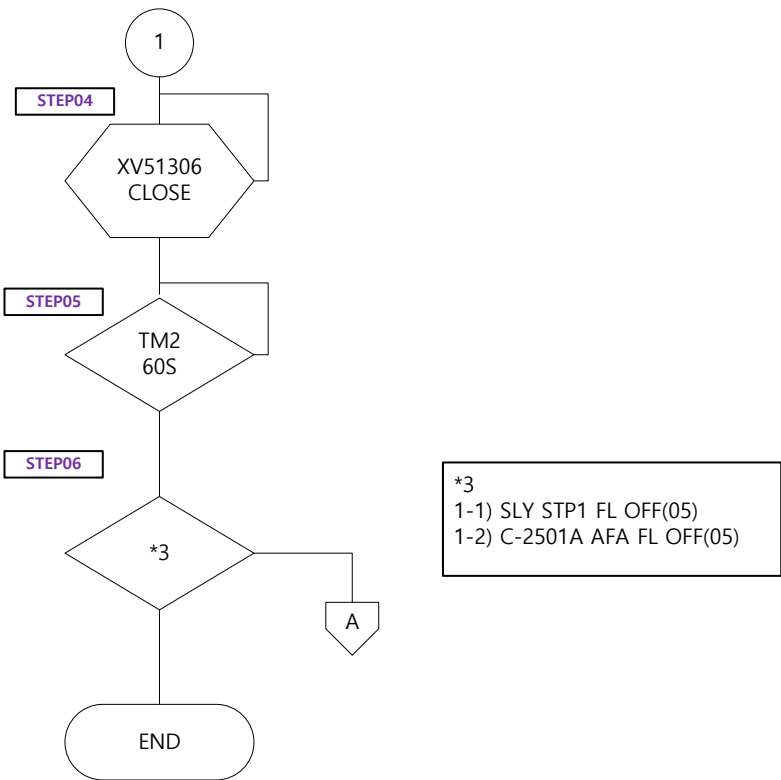
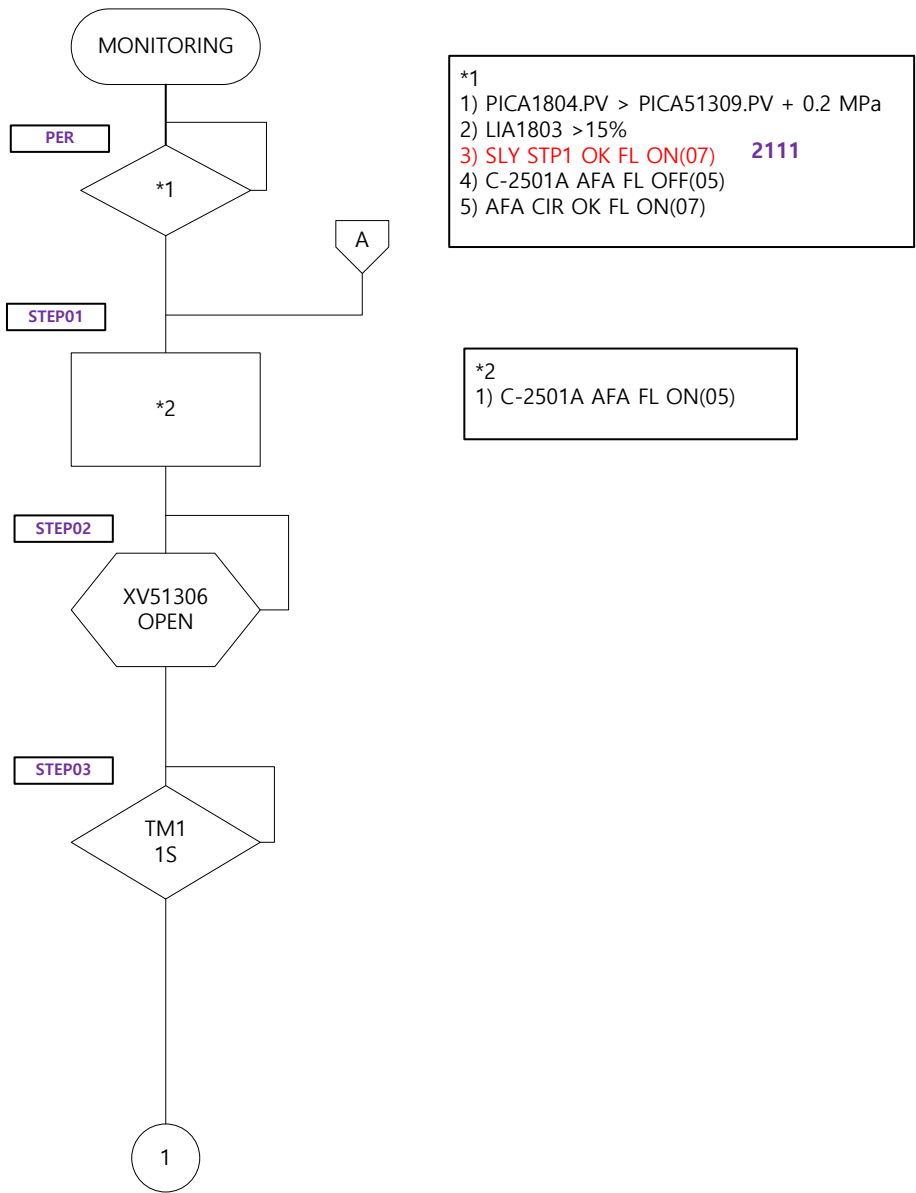


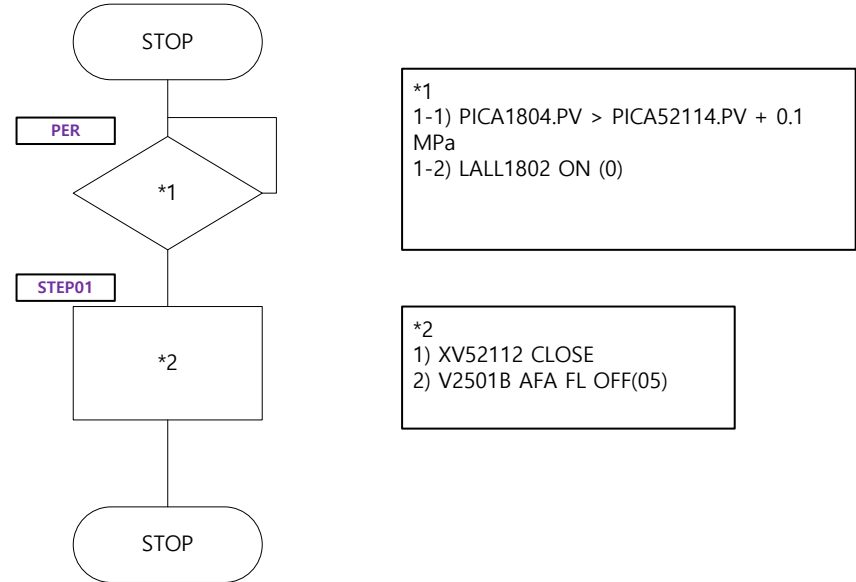
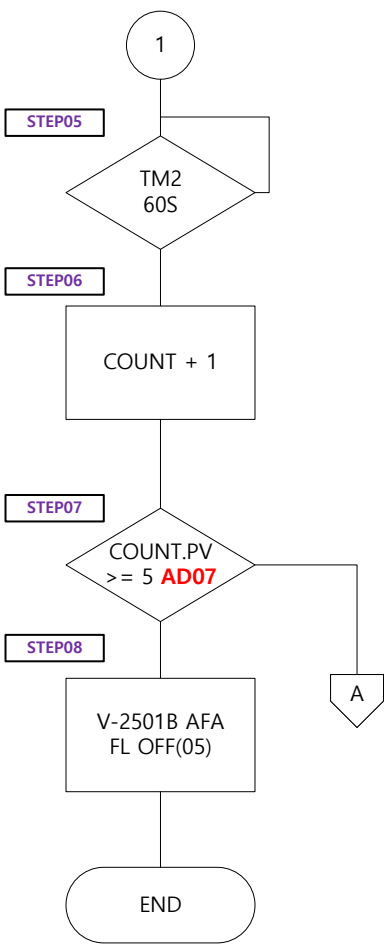
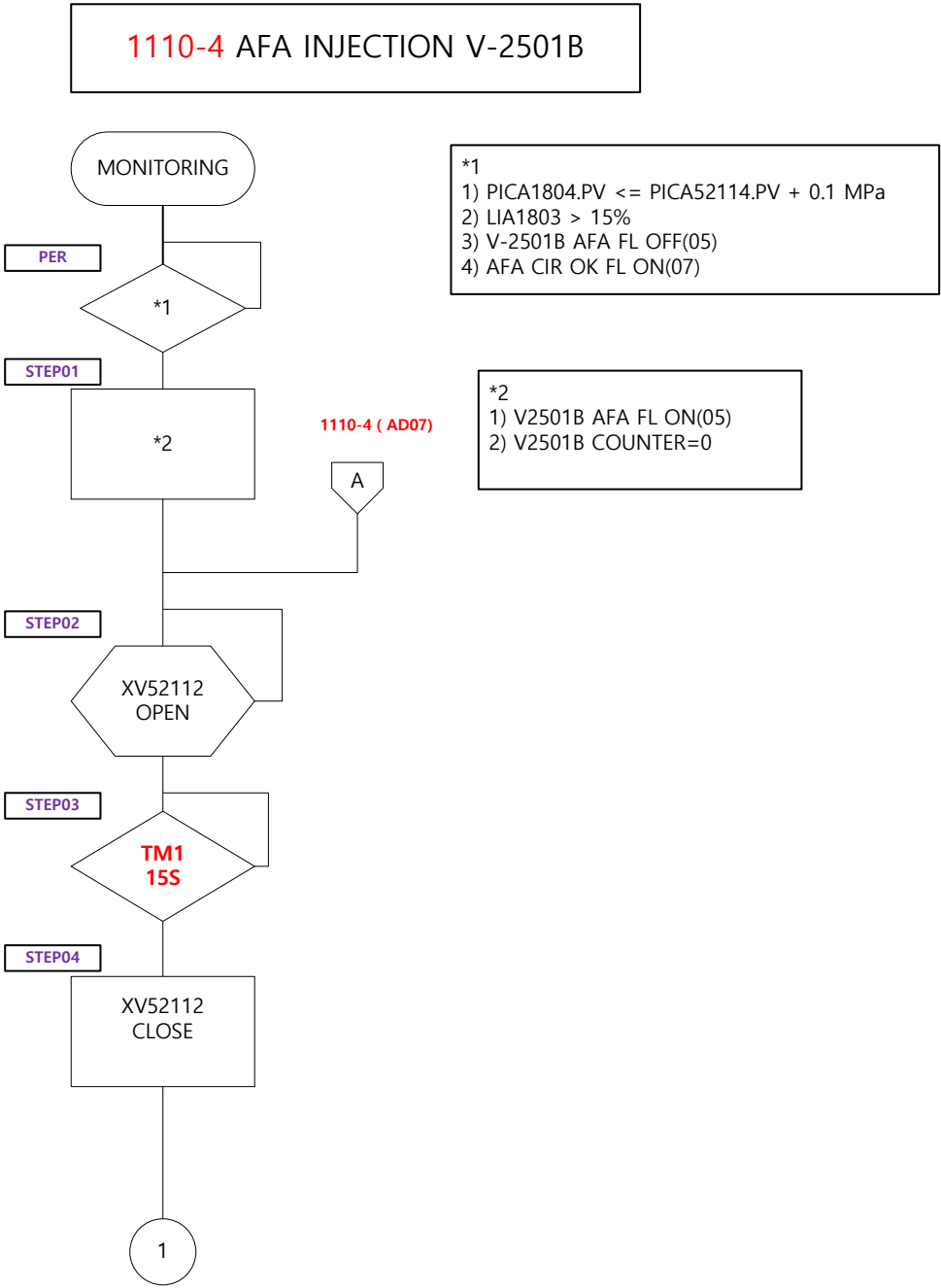
1110-1 AFA INJECTION V-2501A





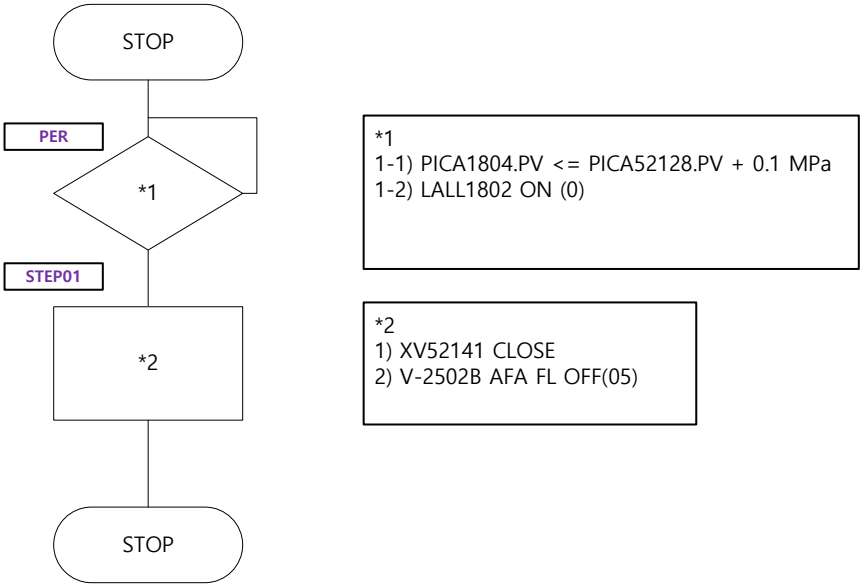
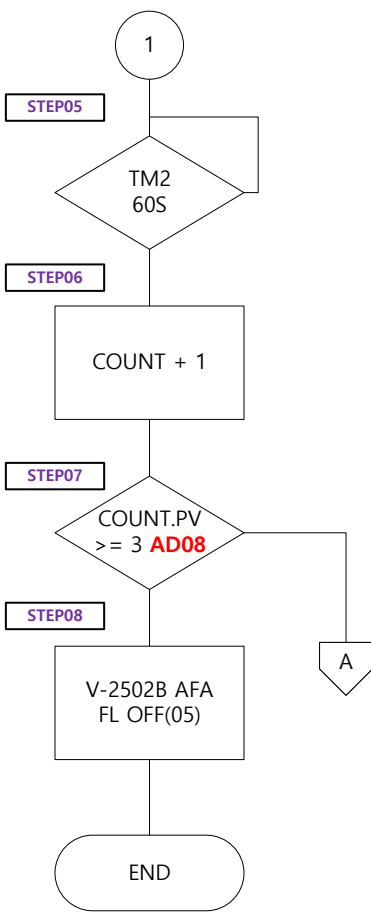
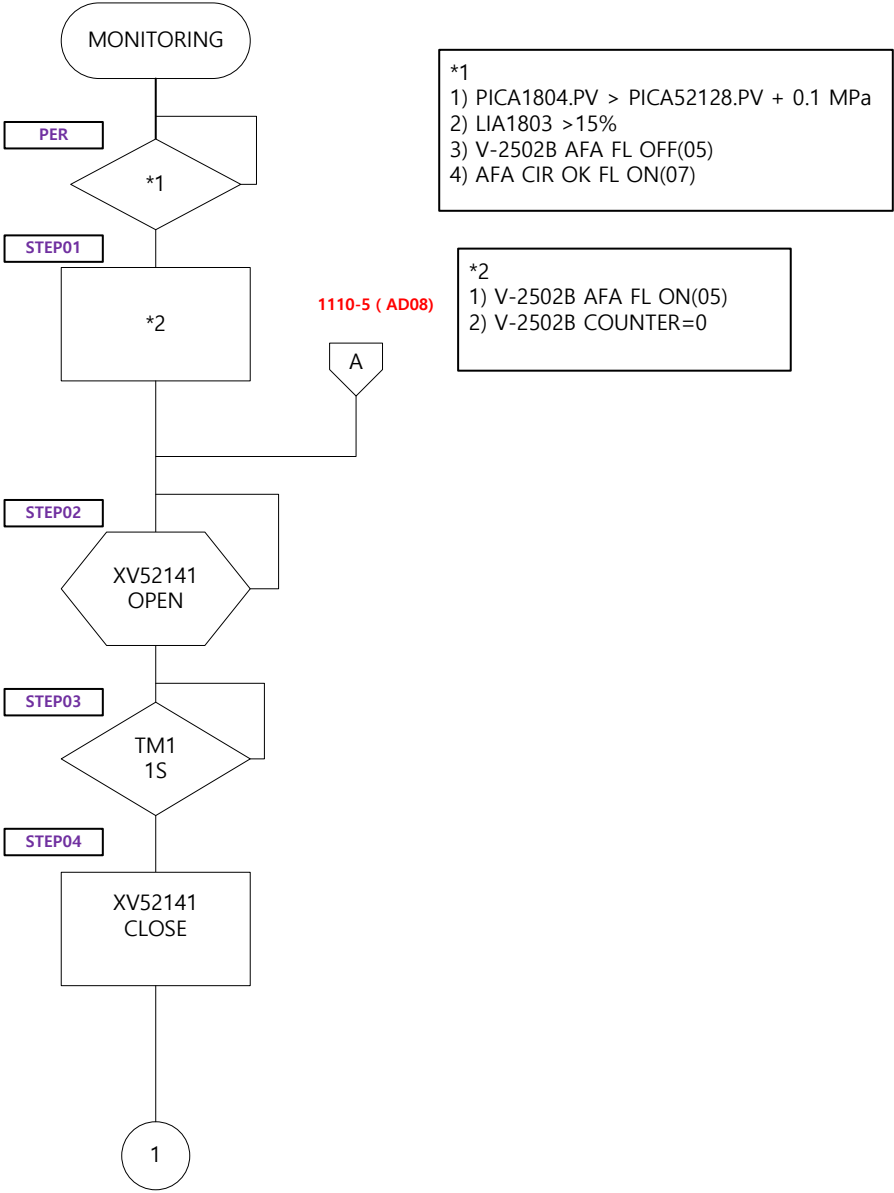
1110-3 AFA INJECTION C-2501A



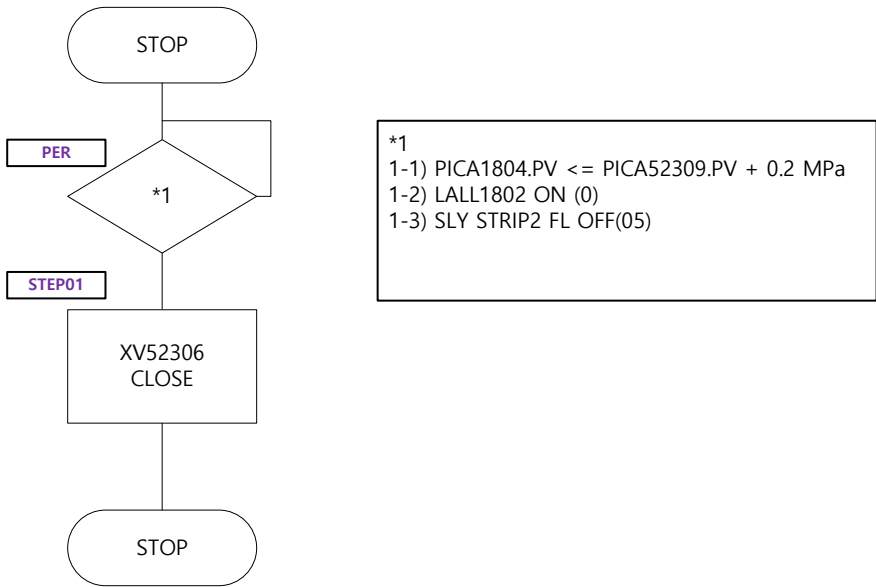
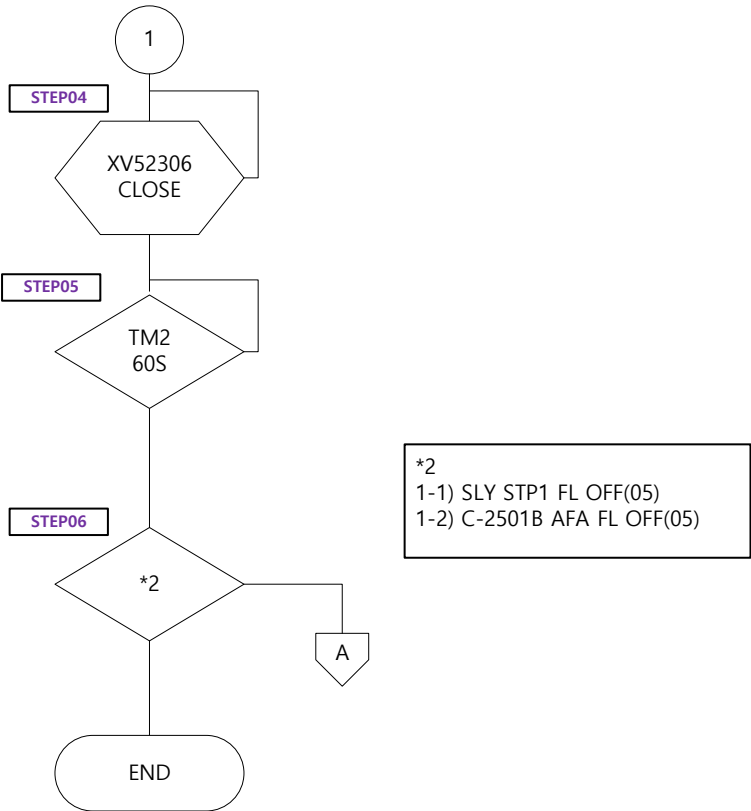
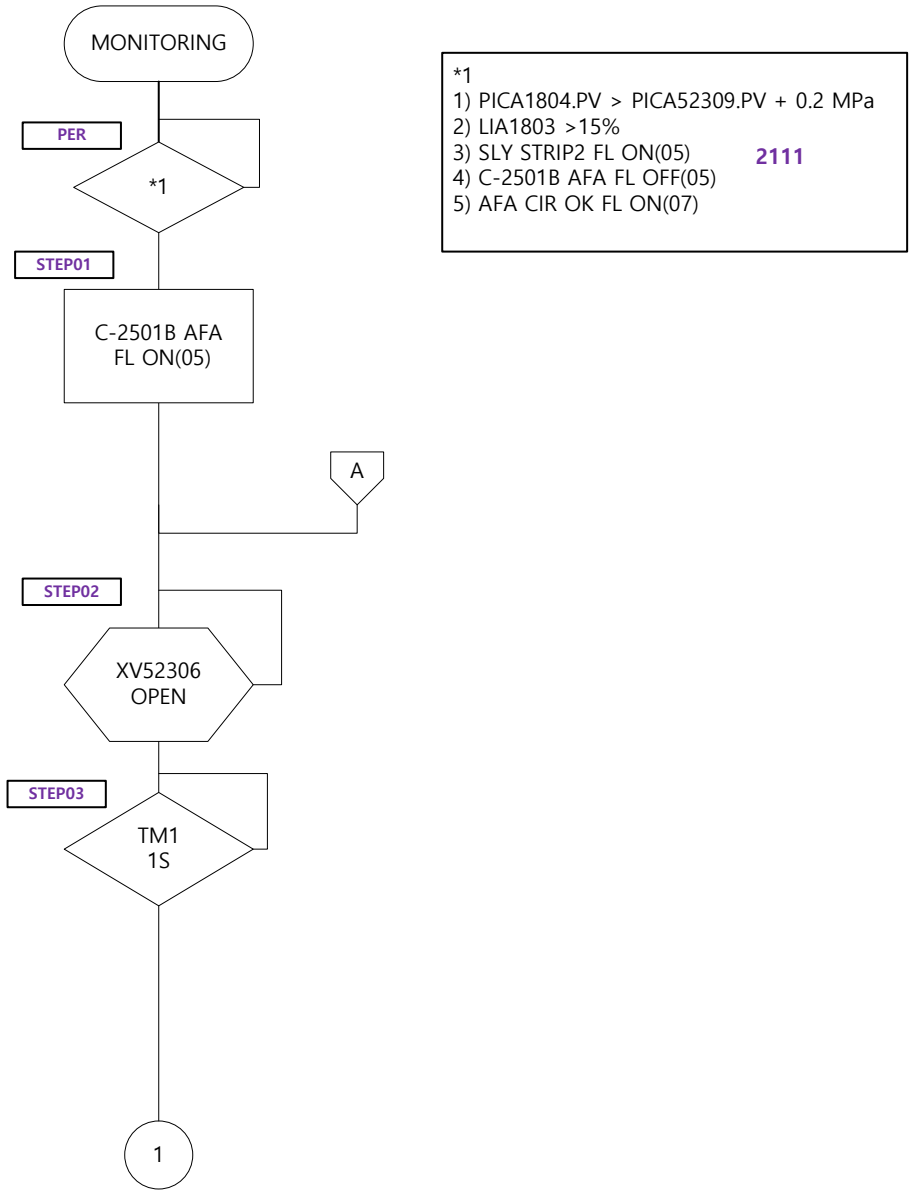




1110-5 AFA INJECTION V-2502B



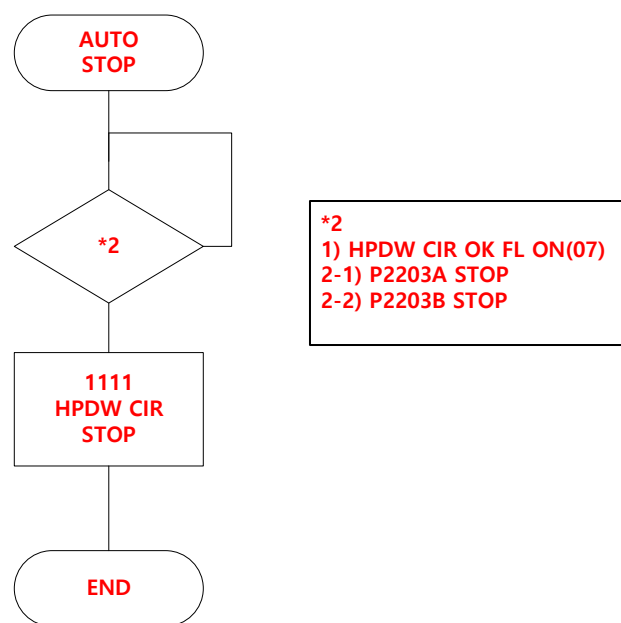
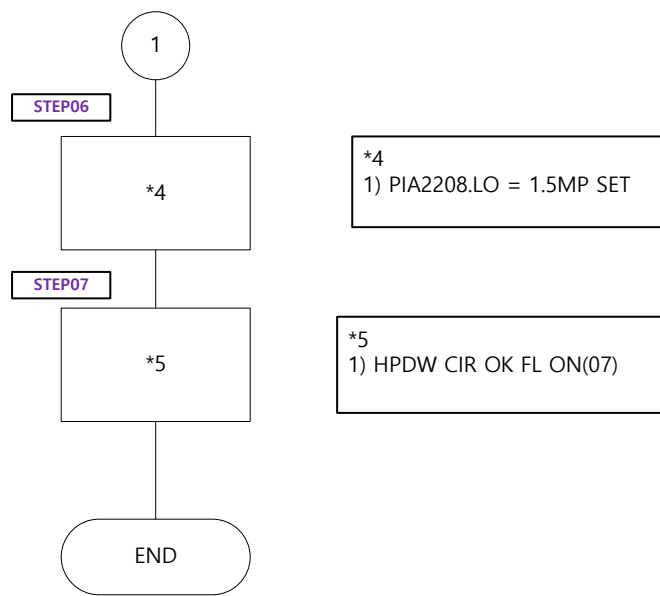
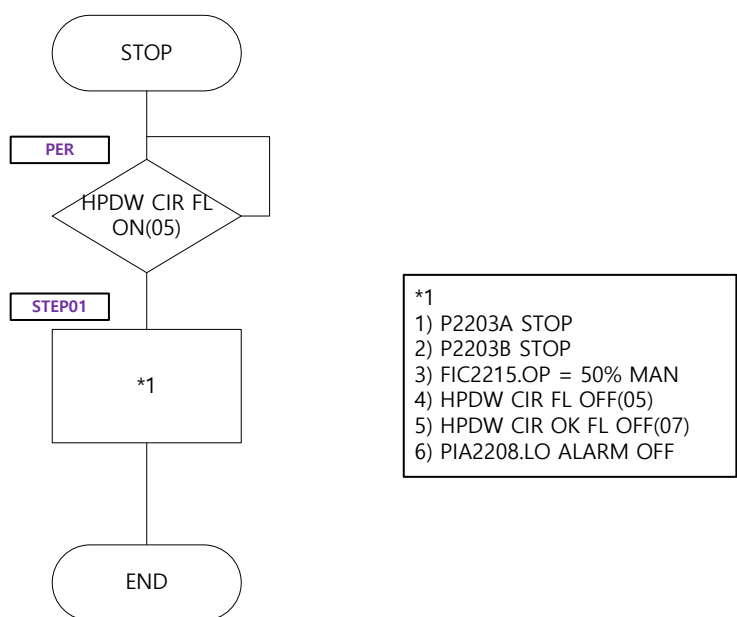
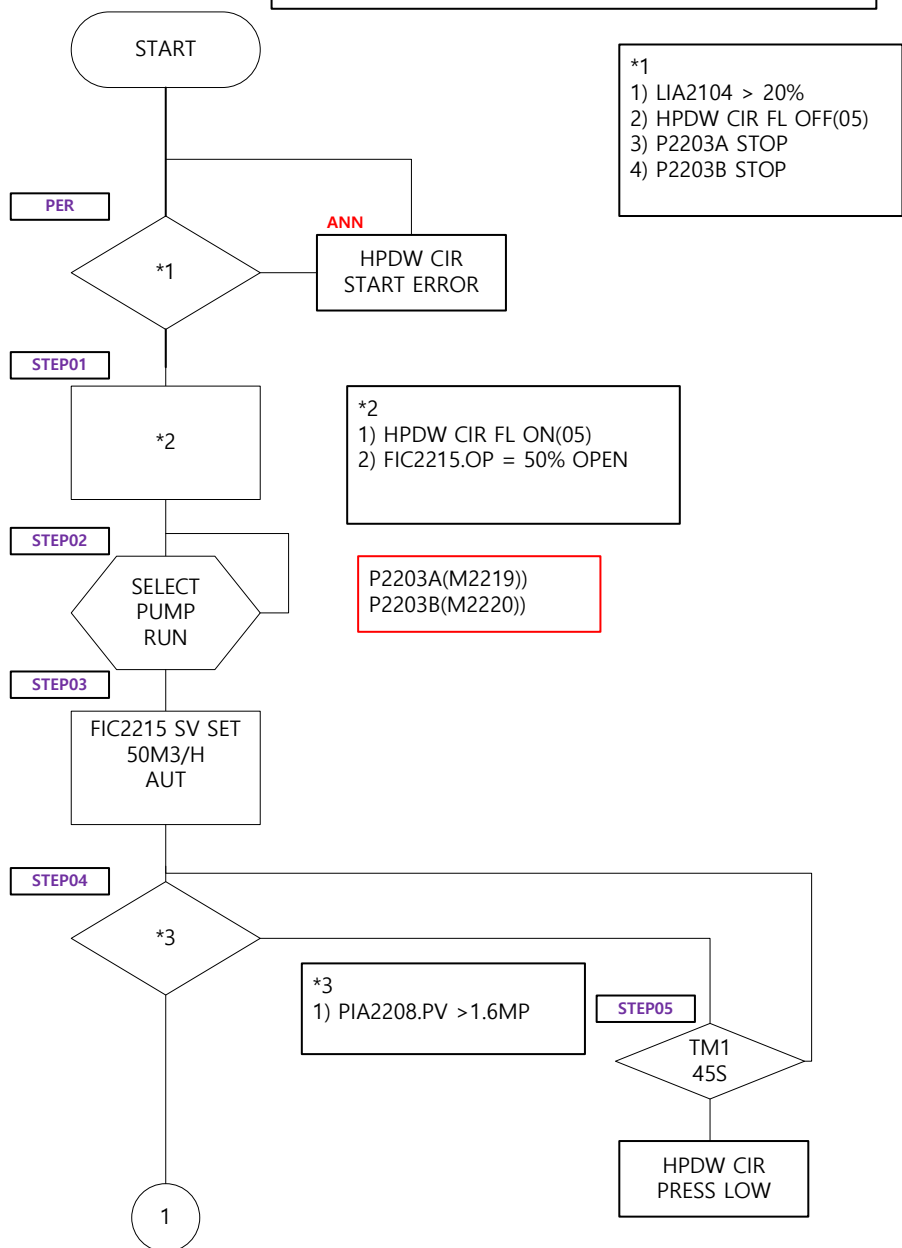
1110-6 AFA INJECTION C-2501B



The HP injection Water Pumps P2203 A/B supply water for injection into the reactor , for reactor rinse and for seal water for reactor agitator seals. The reactor seals require seal water at 1.8MPa.

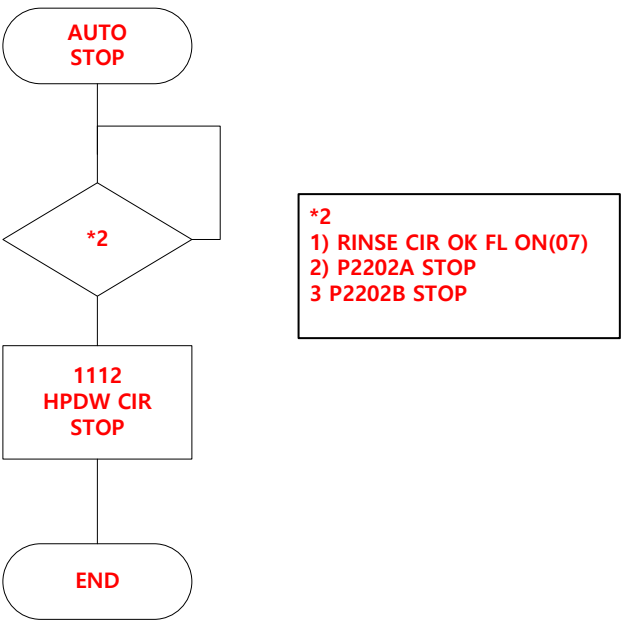
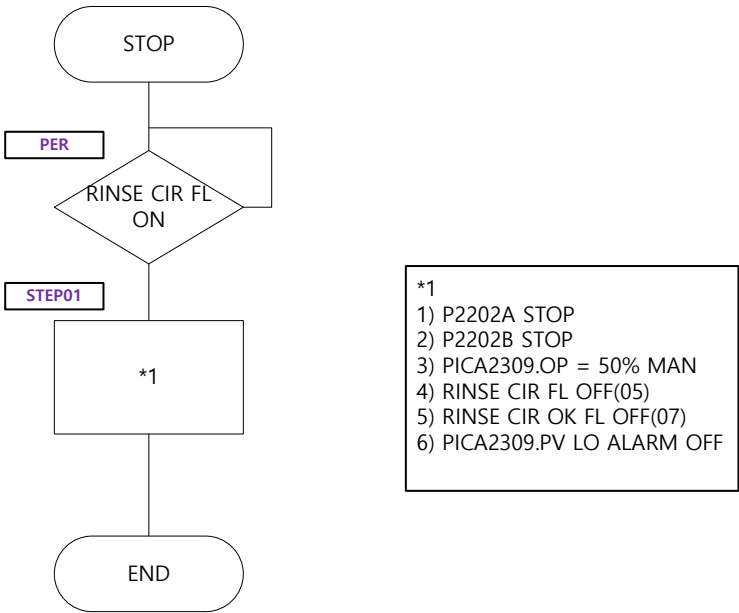
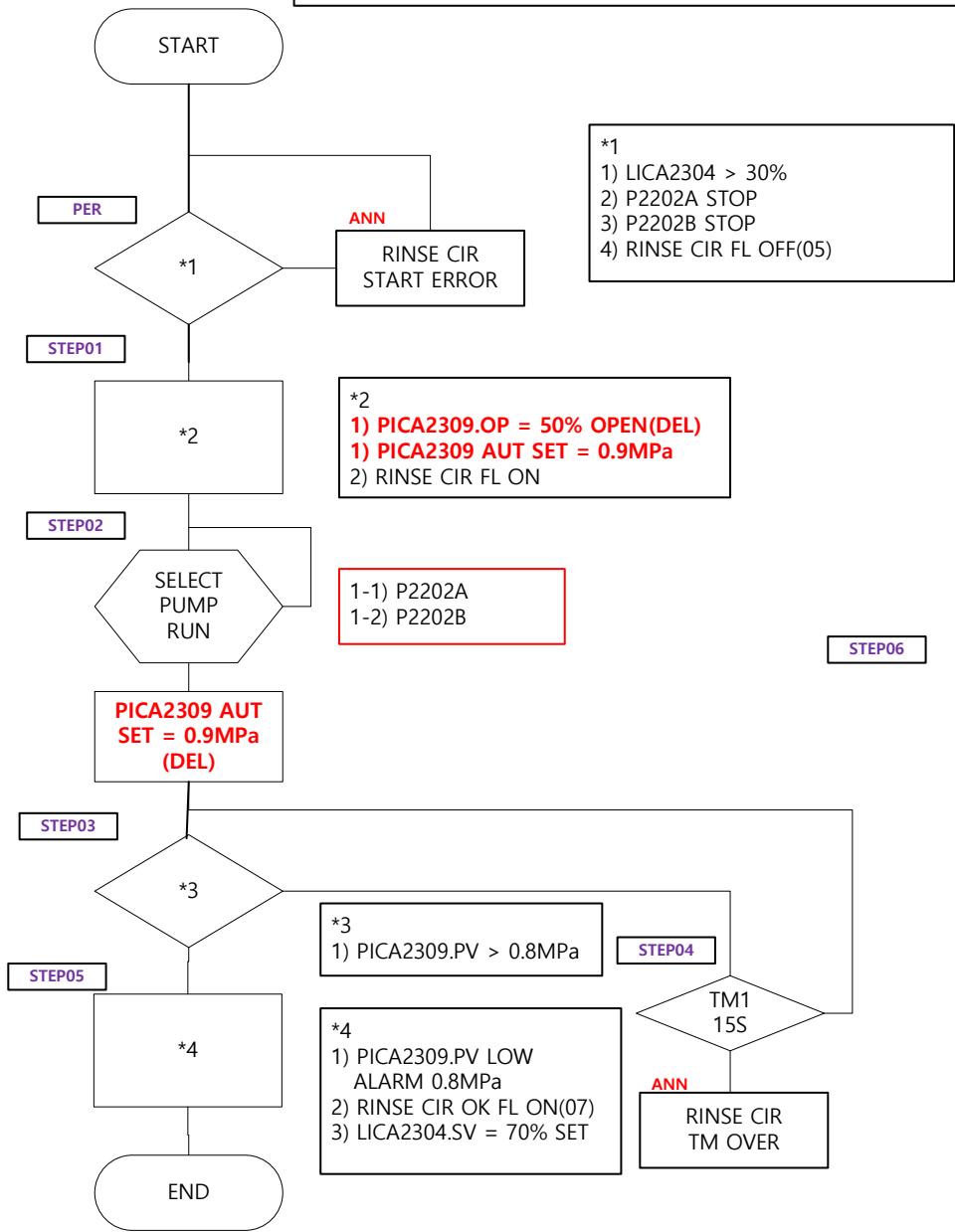
## 1111 HPDW CIR

- \*1  
1) LIA2104 > 20%  
2) HPDW CIR FL OFF(05)  
3) P2203A STOP  
4) P2203B STOP



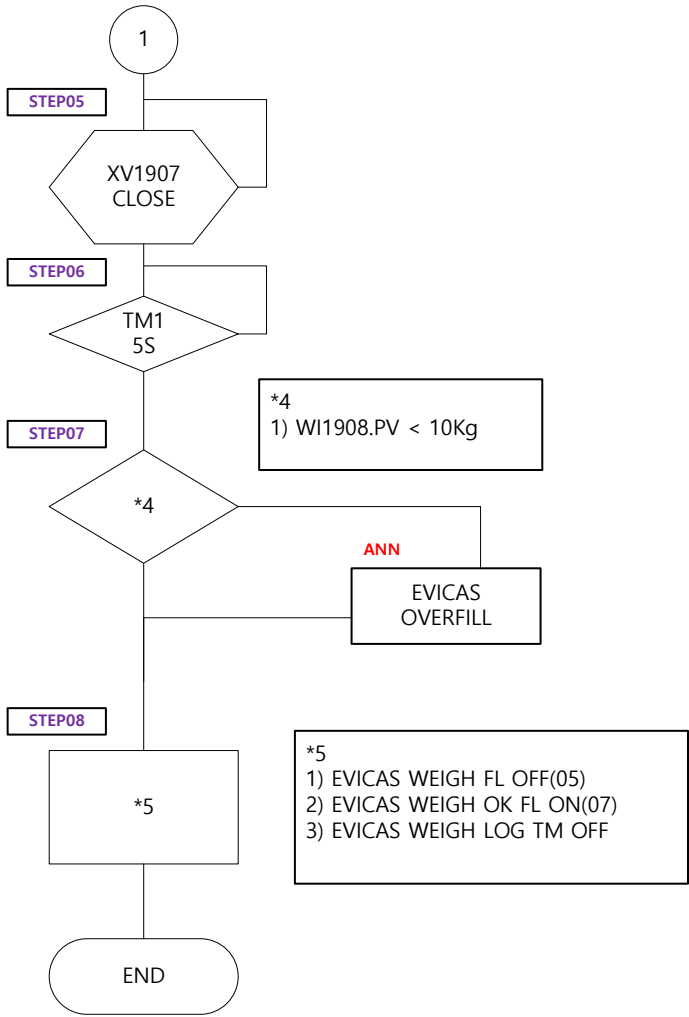
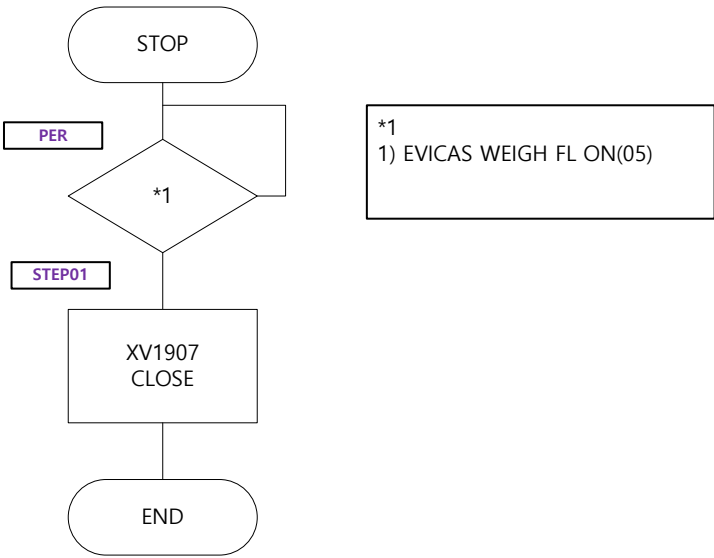
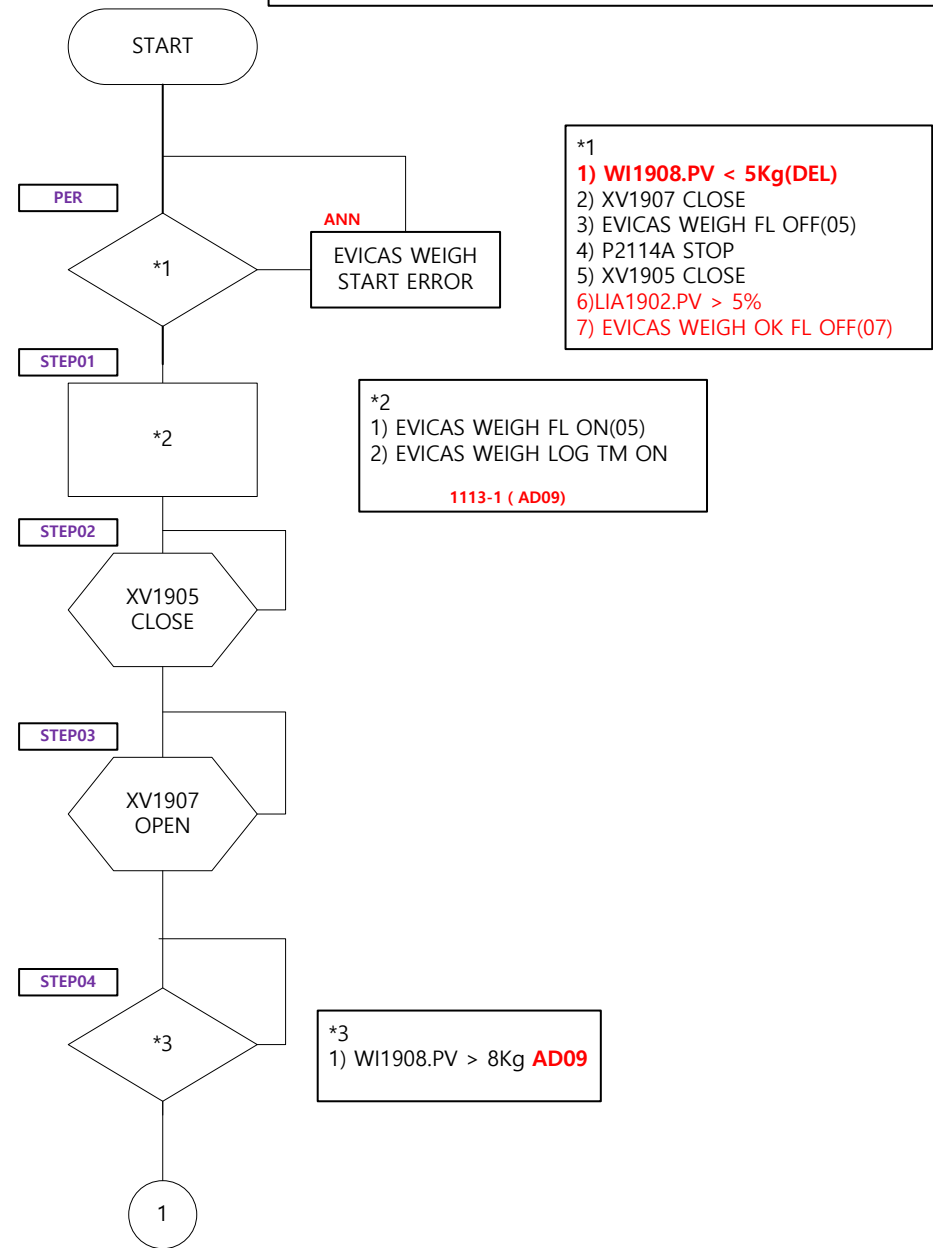
The rinse water pumps P2202A/B supply rinse water to the Blowdown vessel, stripper feed vessel, stripping Column and Slurry tanks, and seal water to slurry pumps and VC compressors.

1112 RINSE CIR

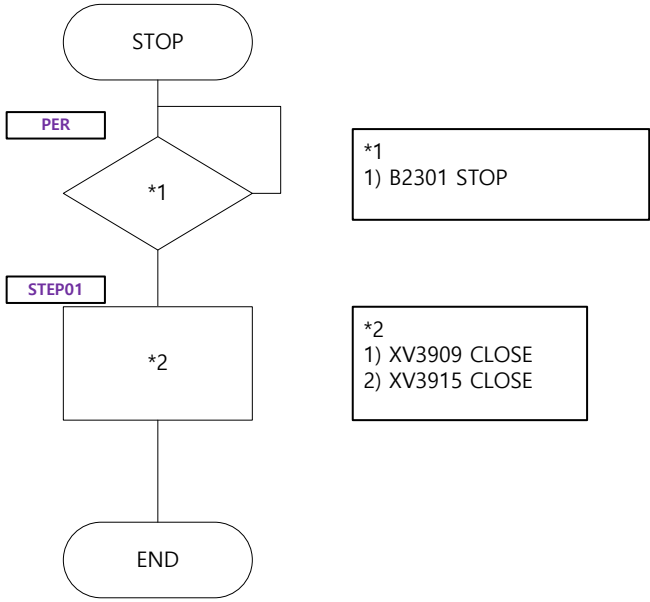
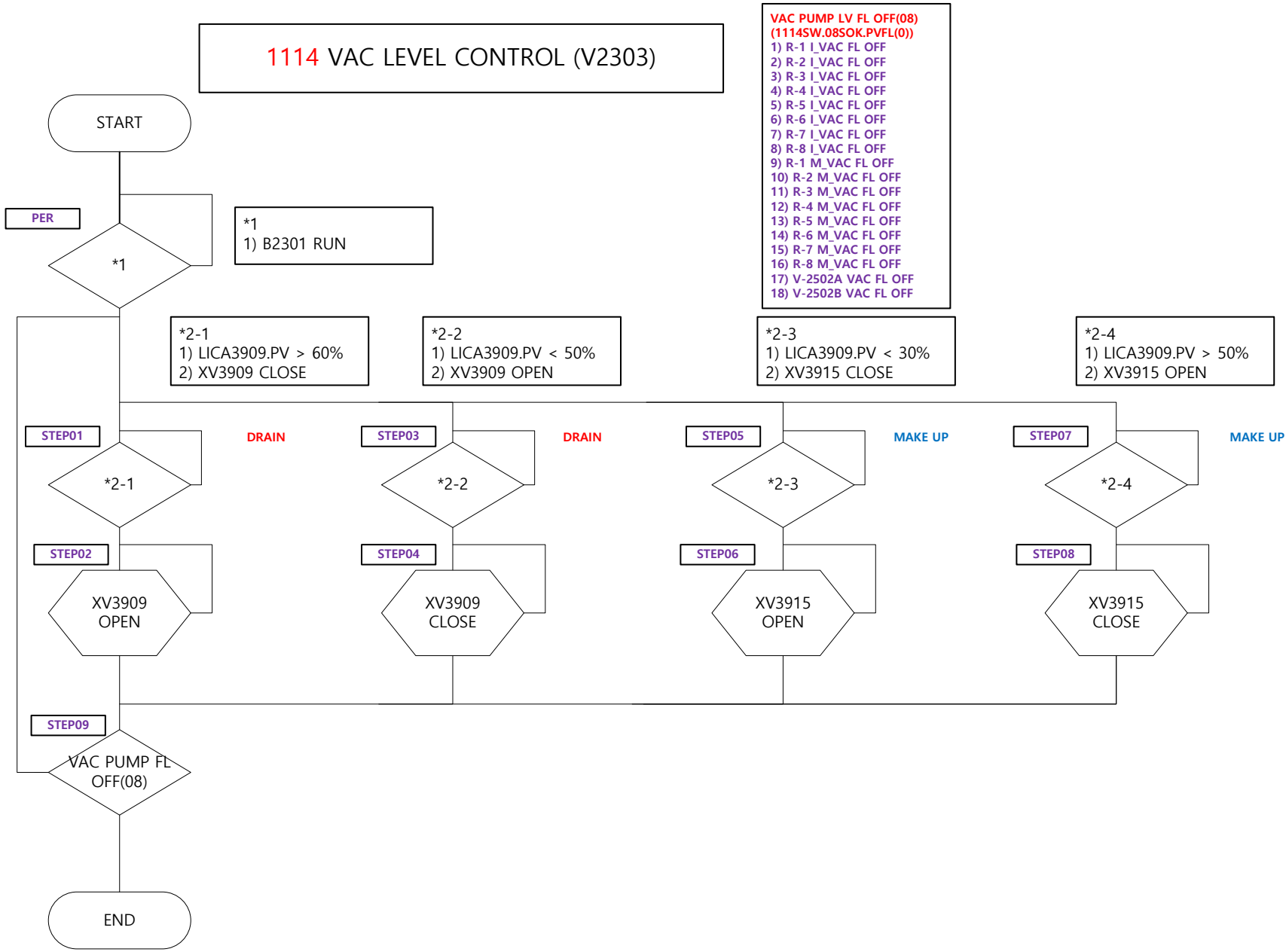


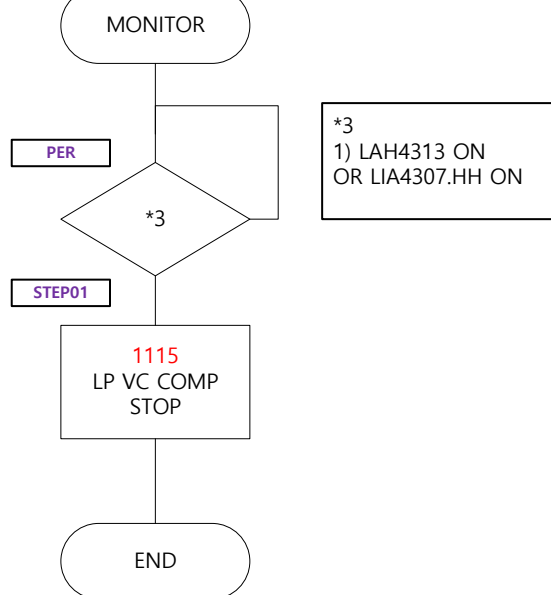
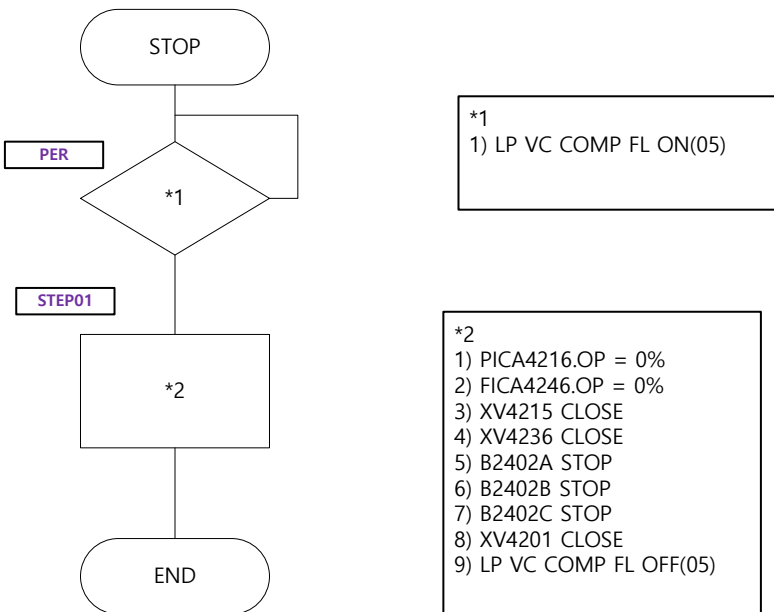
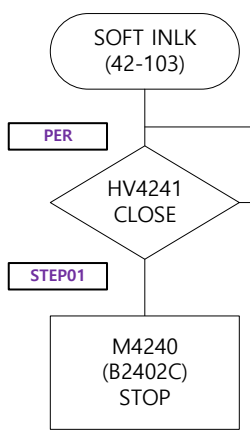
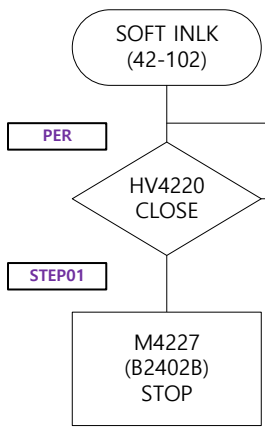
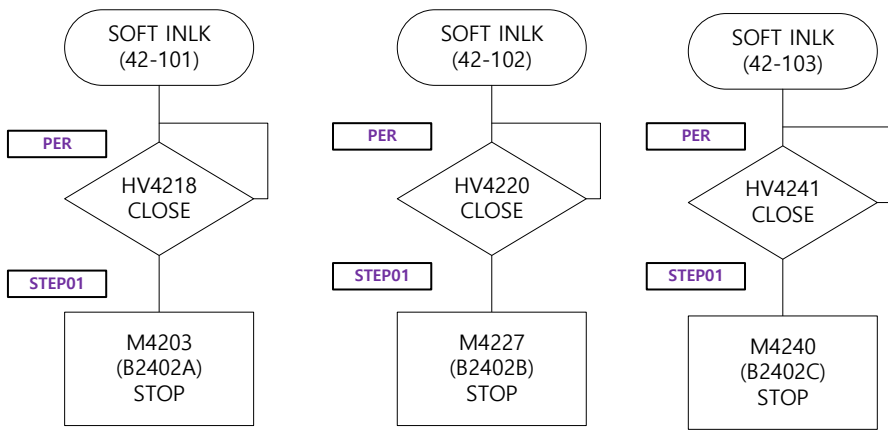
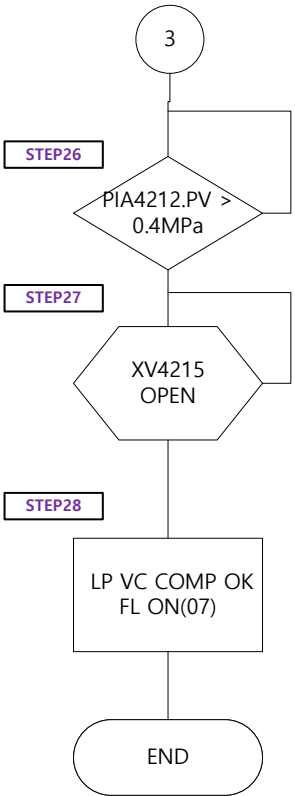
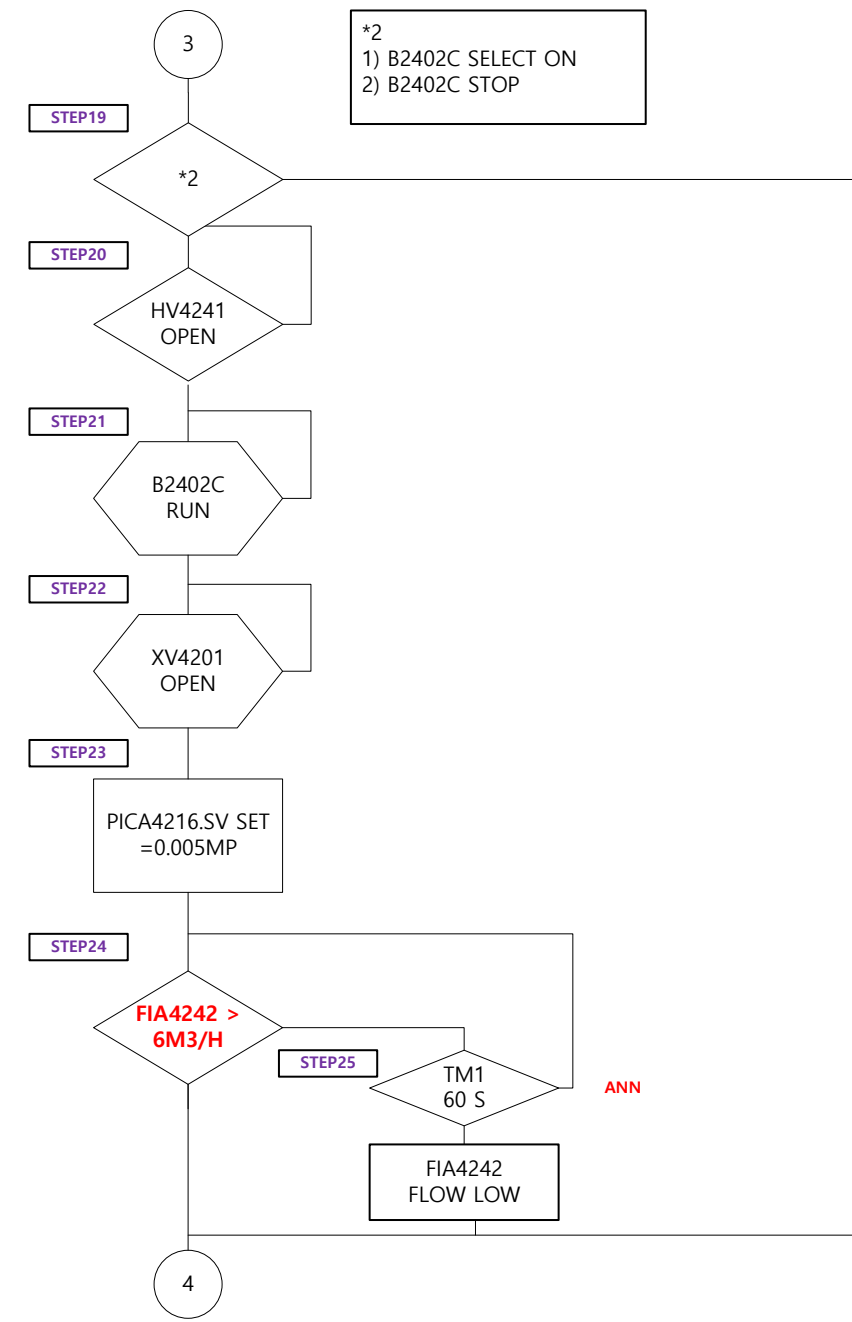
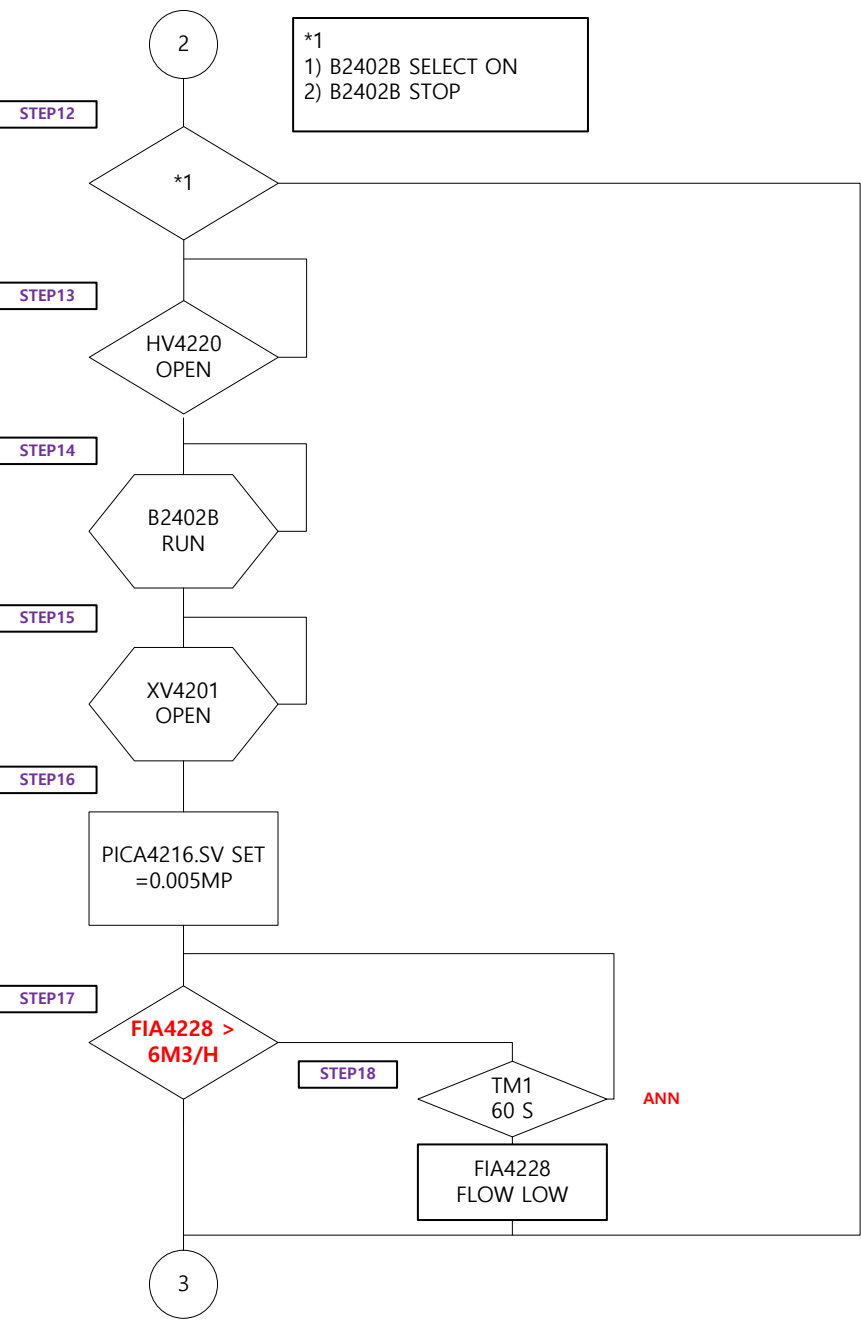
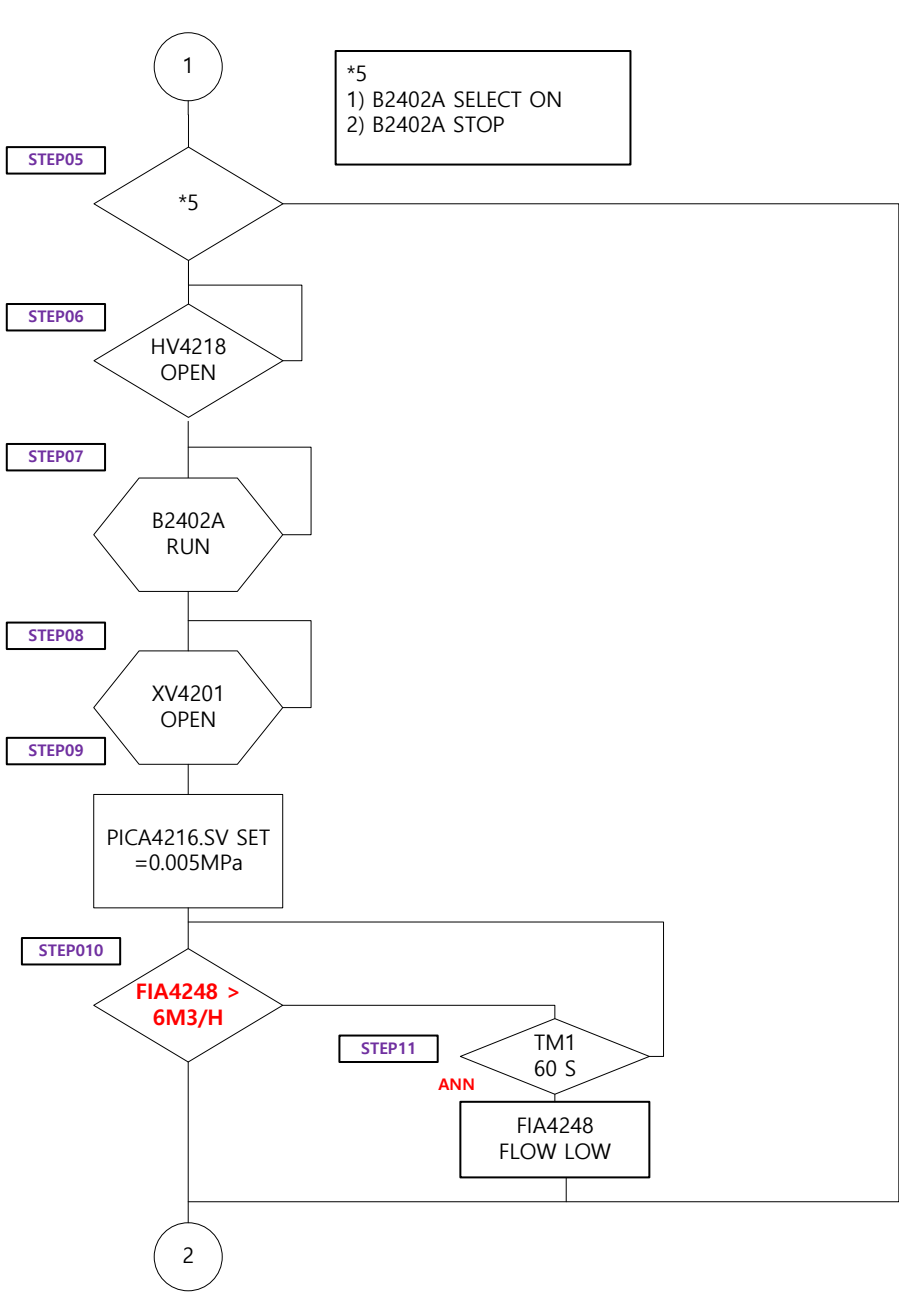
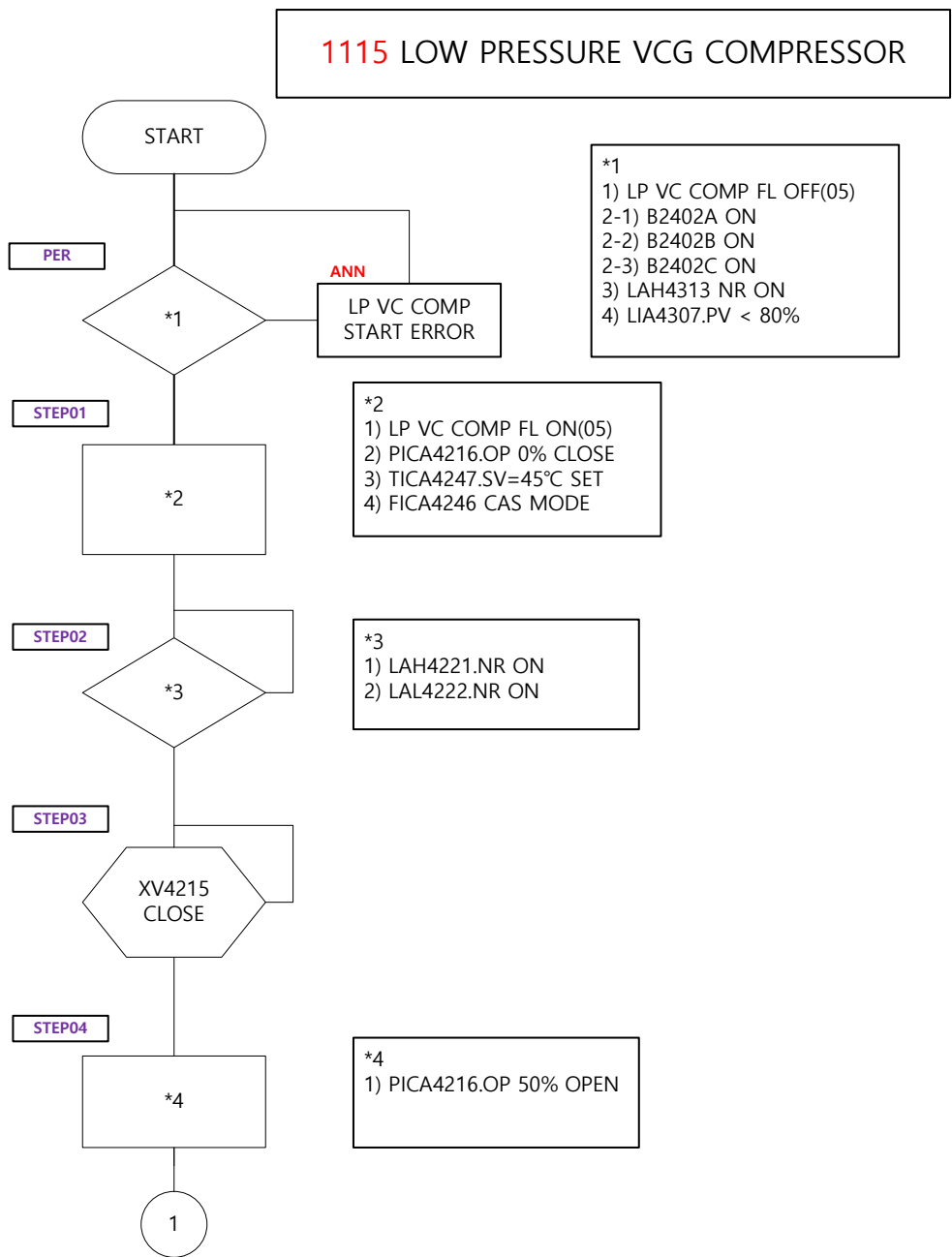
Evicas is a critical part of the process. It is used to coat the reactor inside wall to prevent build-up and ensure high output and good quality

1113 EVICAS WEIGH

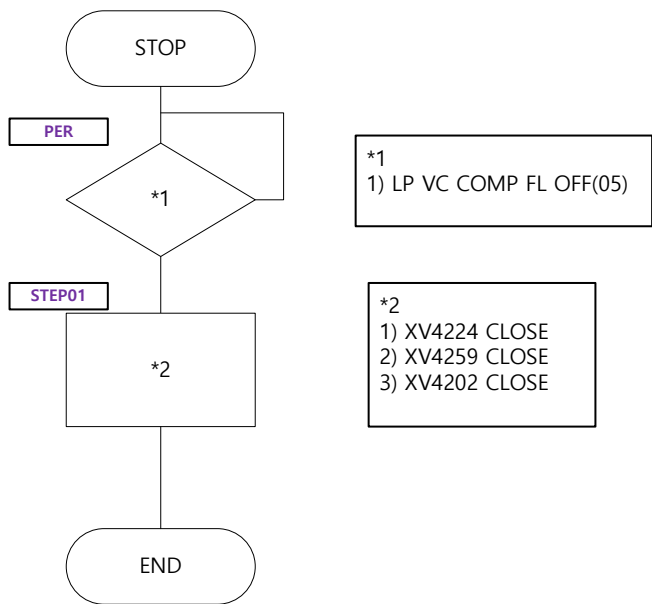
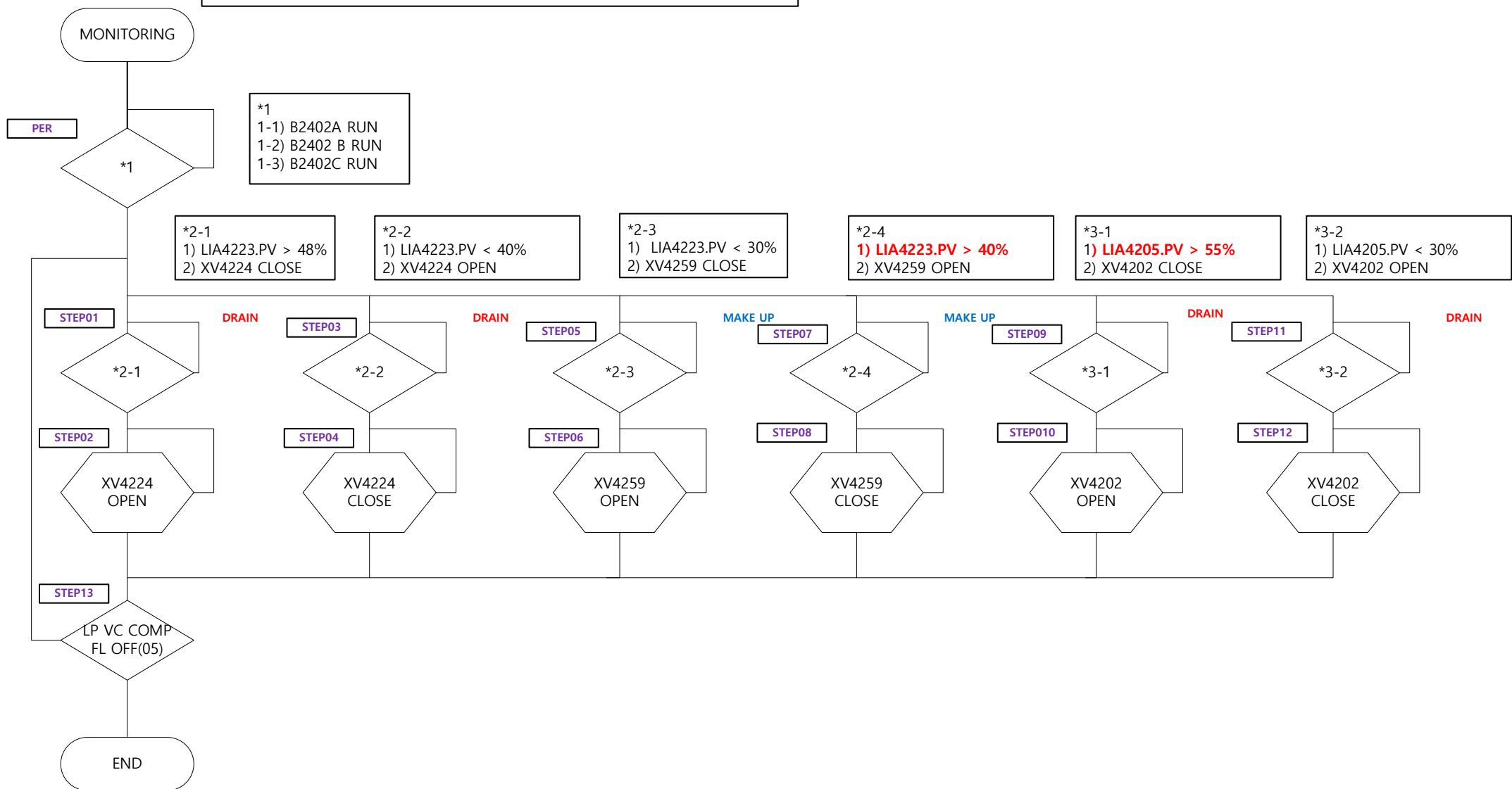




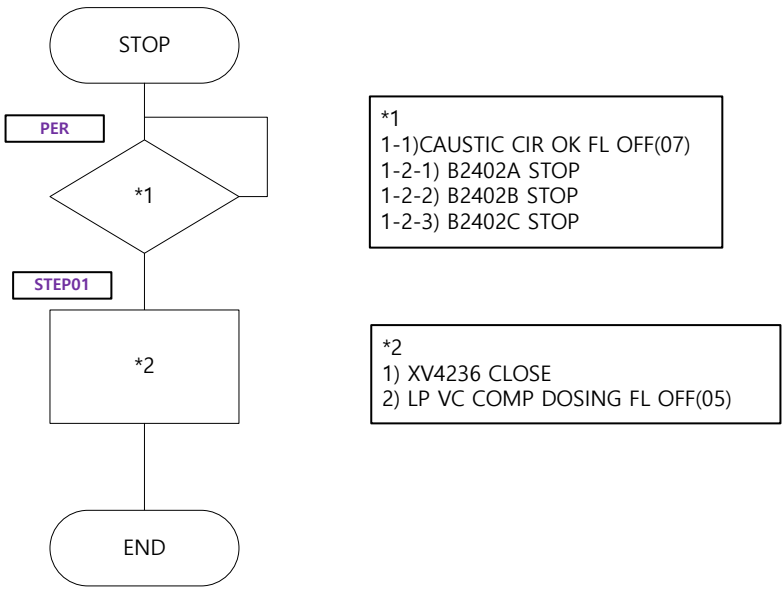
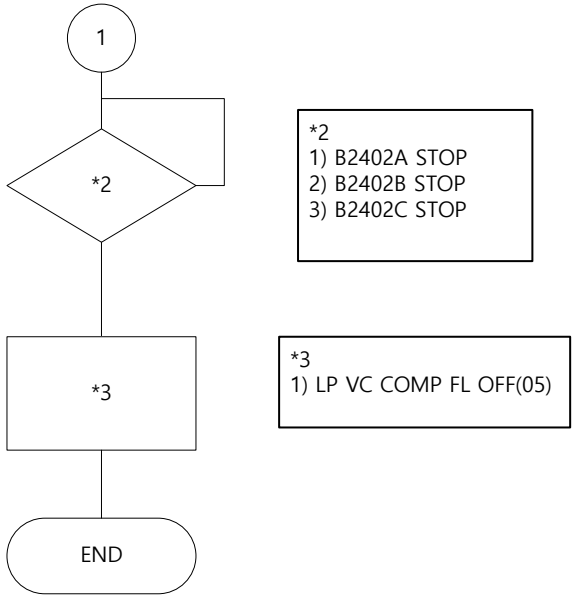
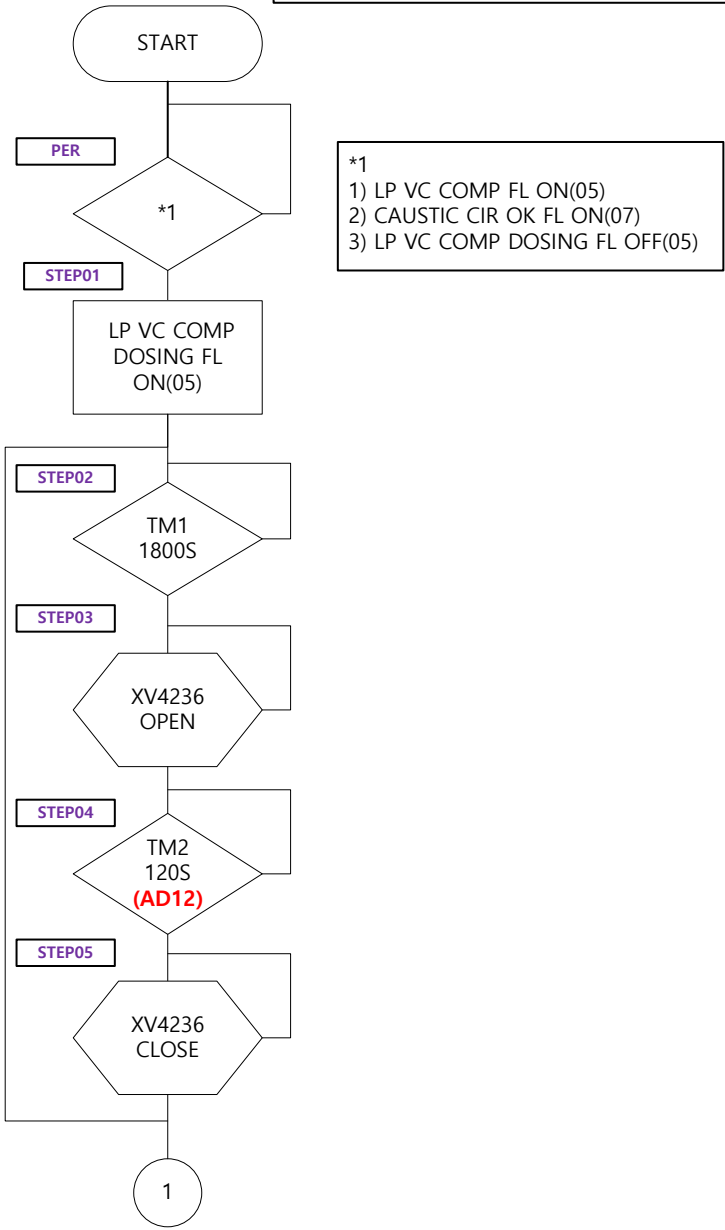




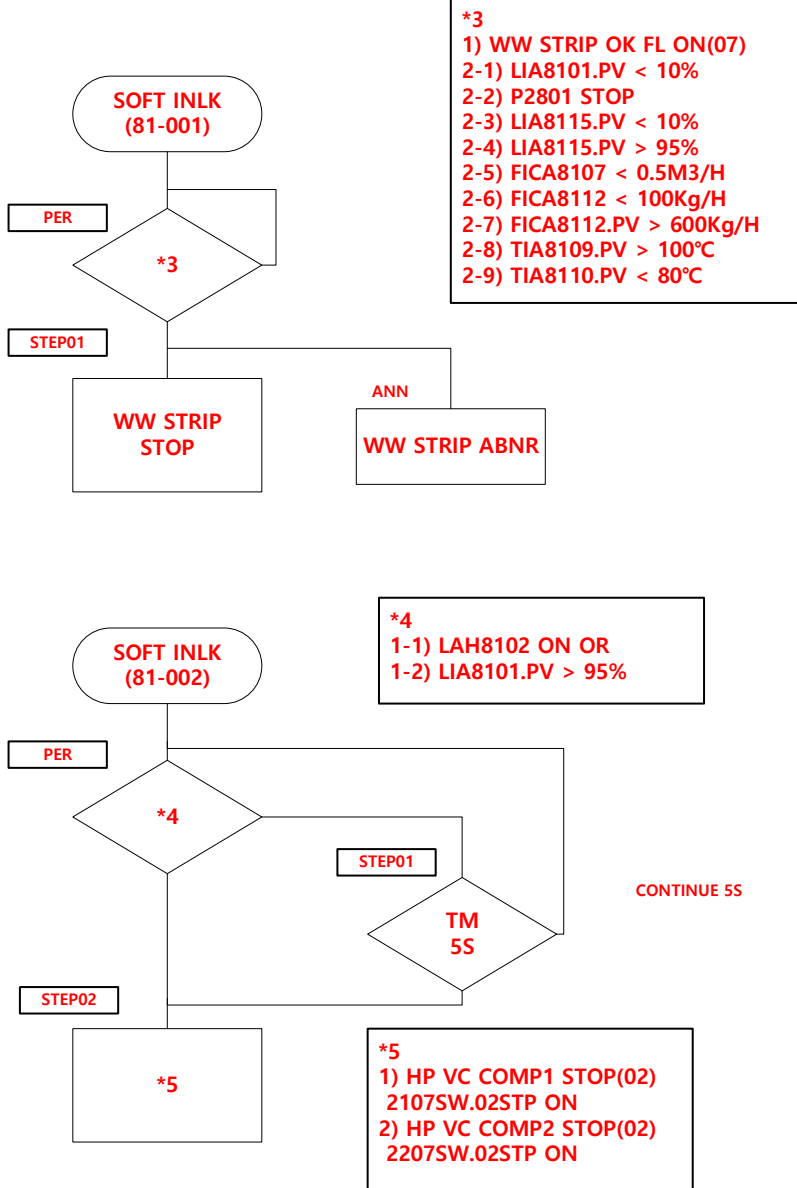
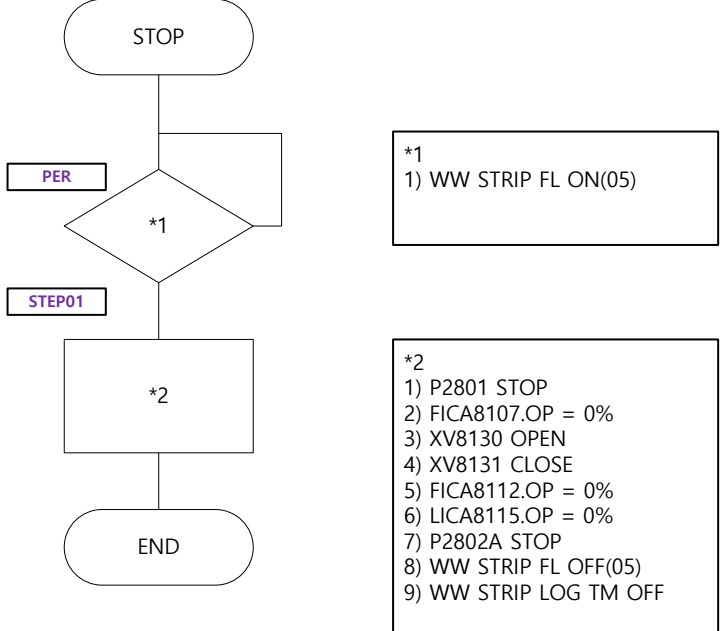
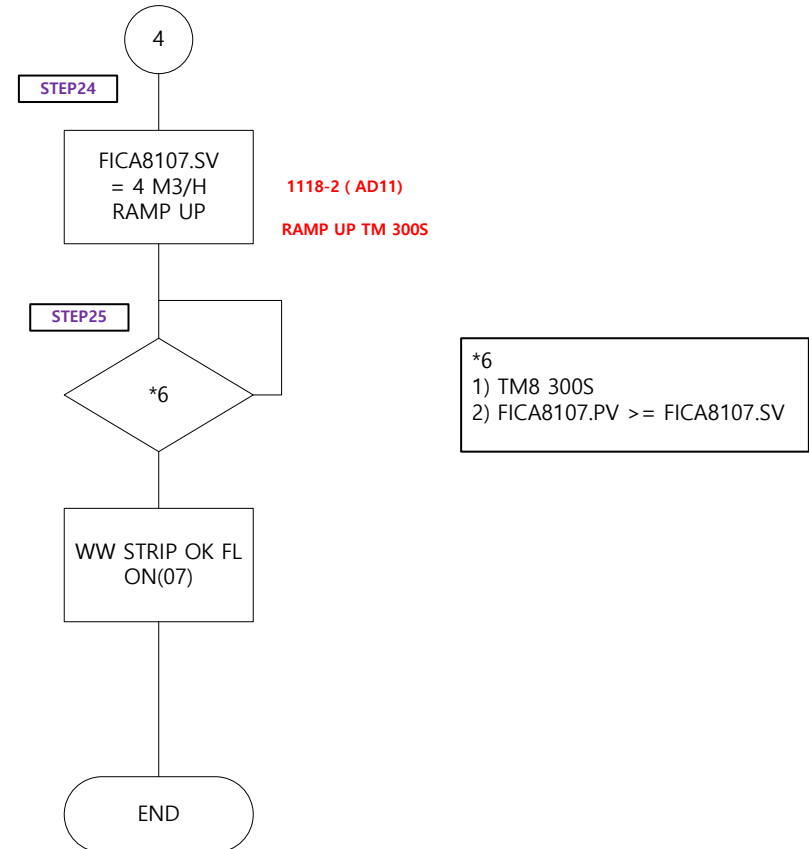
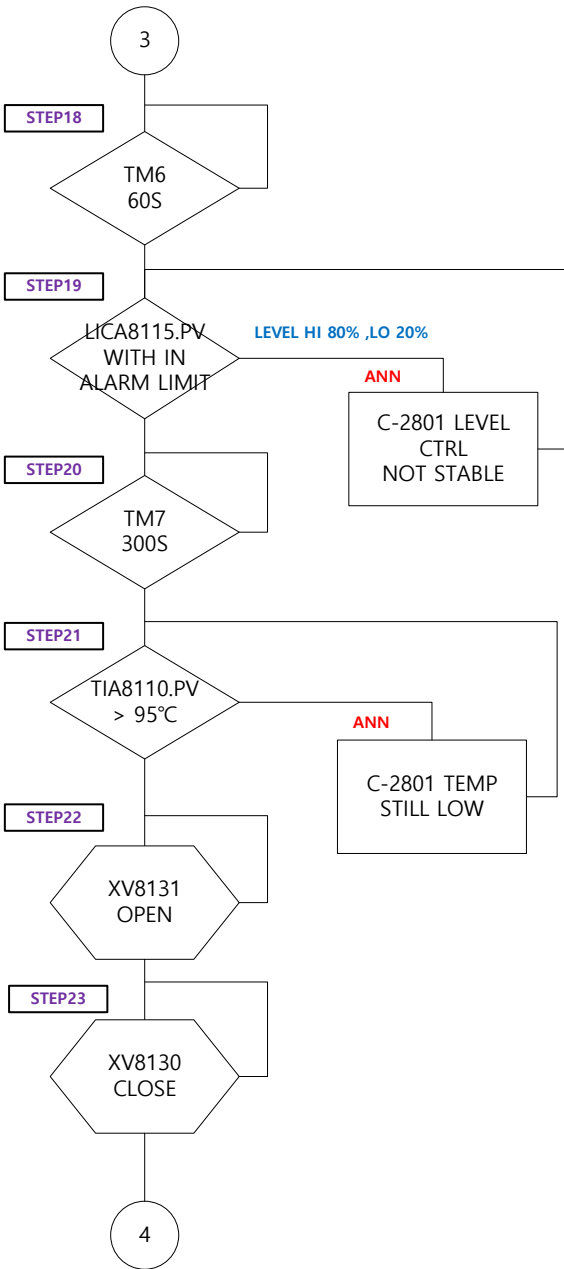
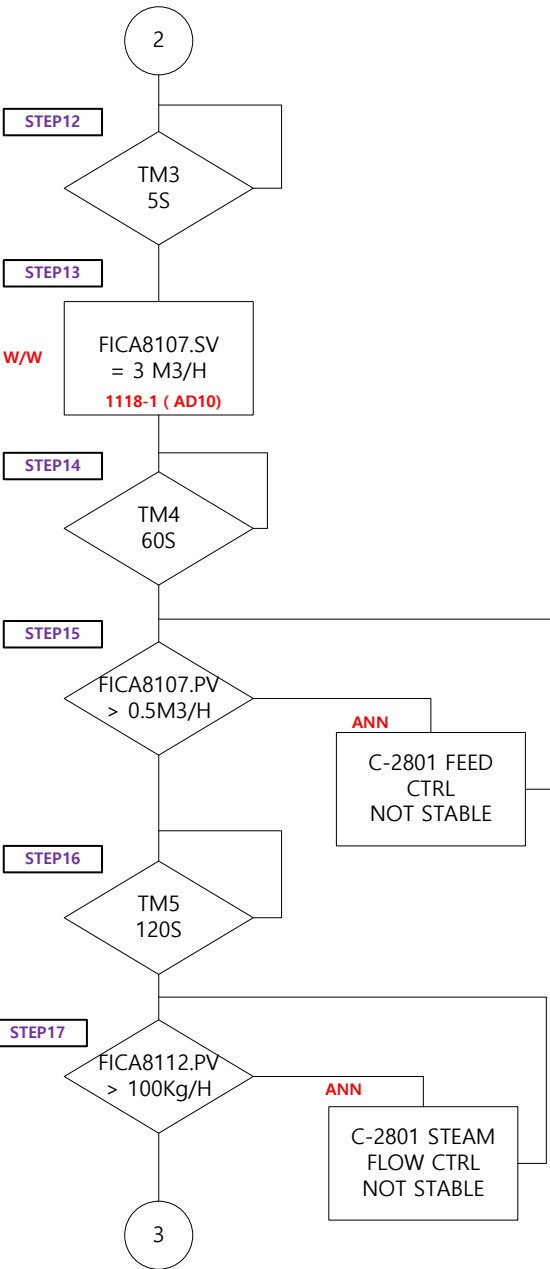
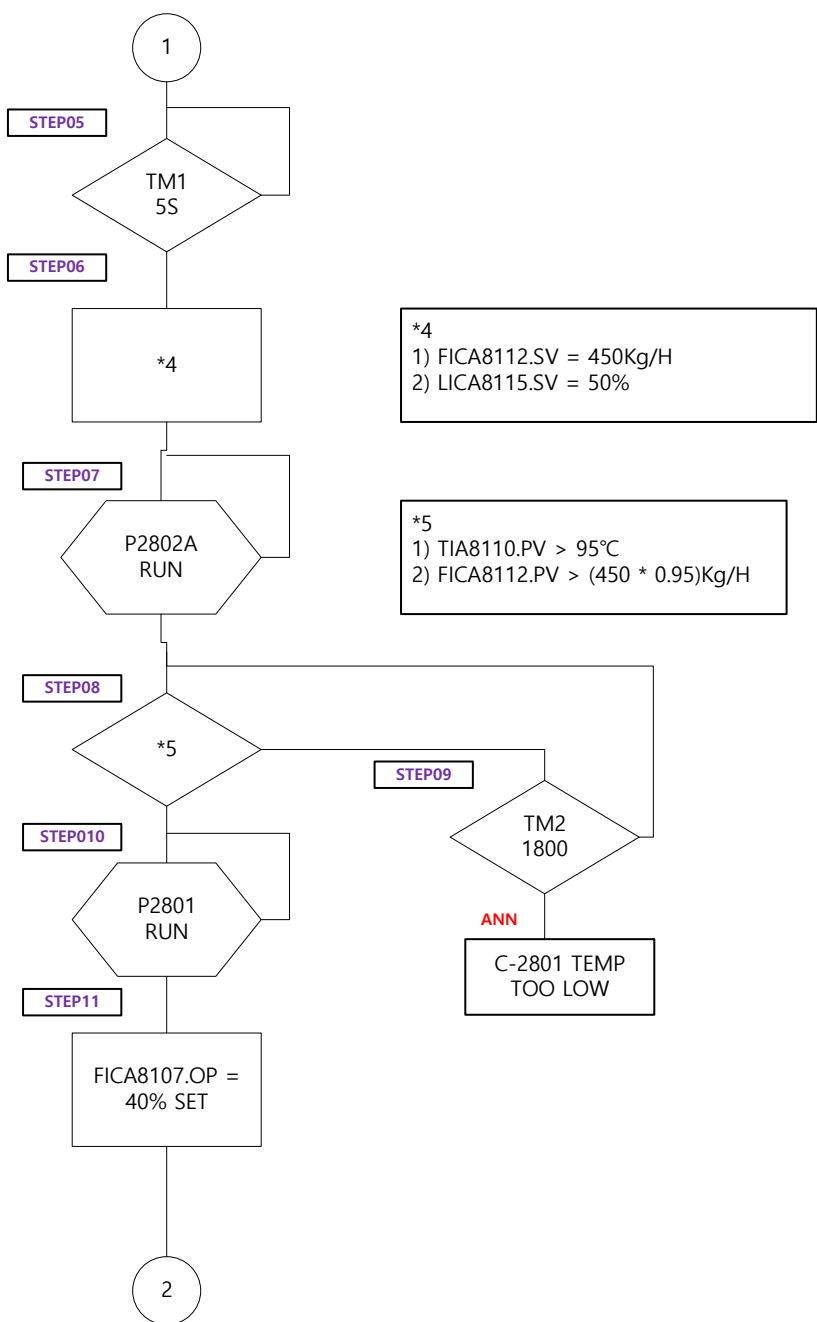
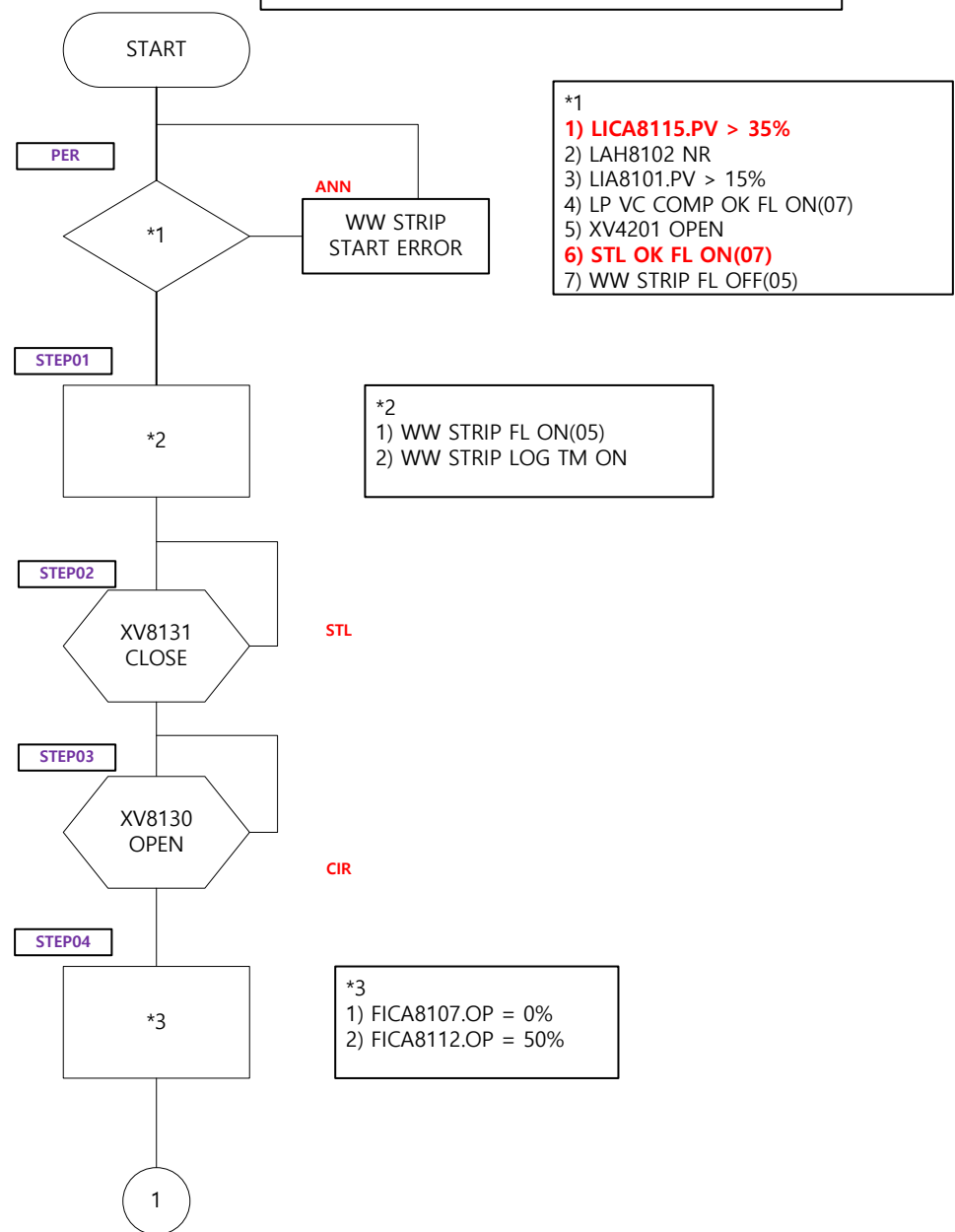
1116 LOW PRESSURE VCG COMP 1 LEVEL CONTROL



1117 LOW PRESSURE VC COMP DOSING

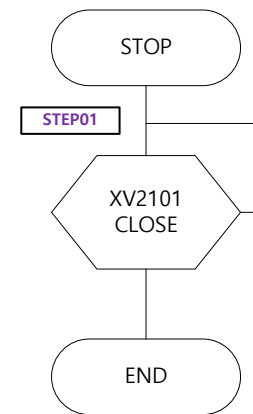
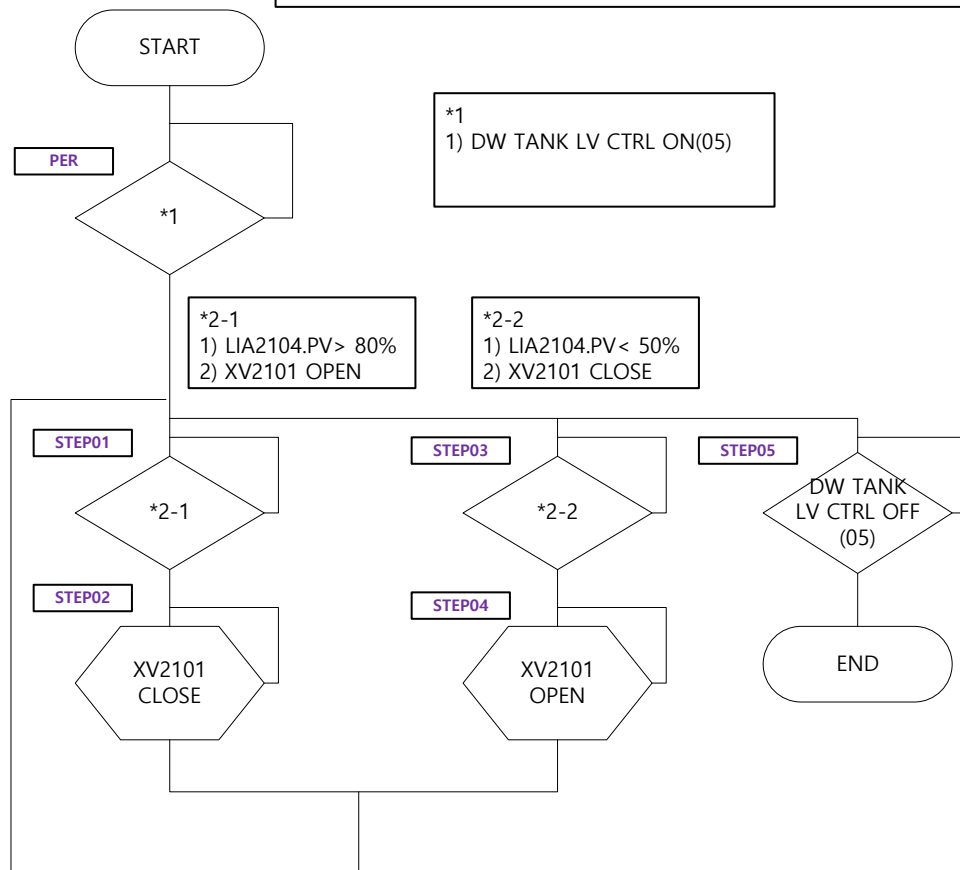


1118 WASTE WATER STRIPPING

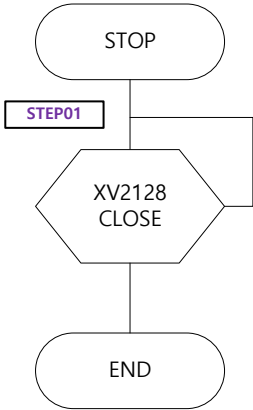
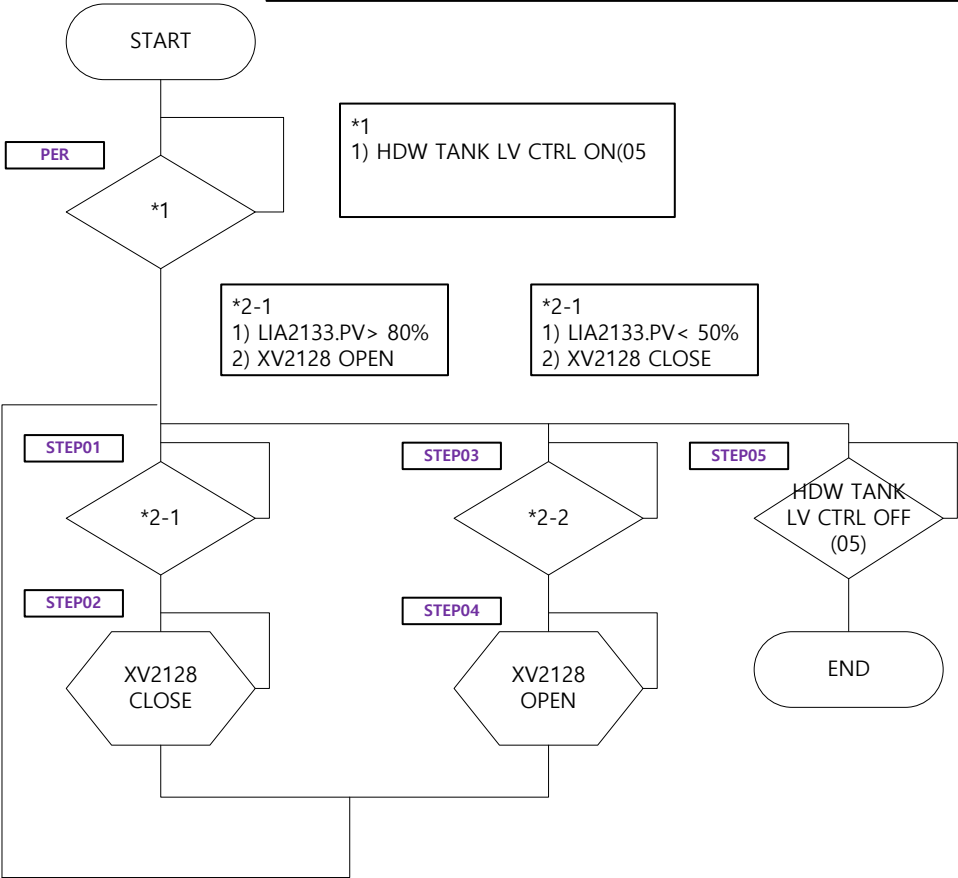




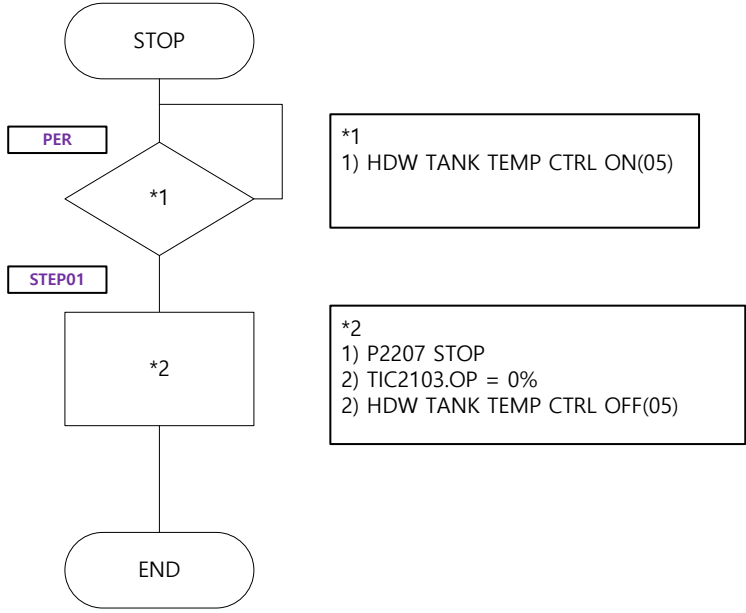
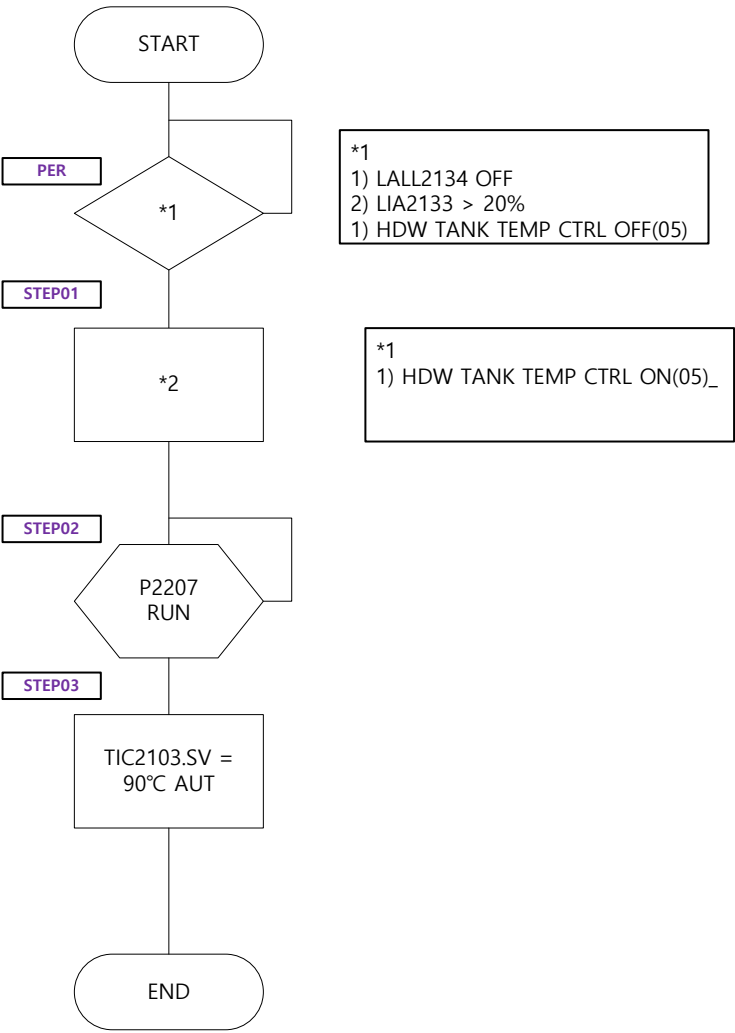
## 1119 DW TANK LEVEL CONTROL



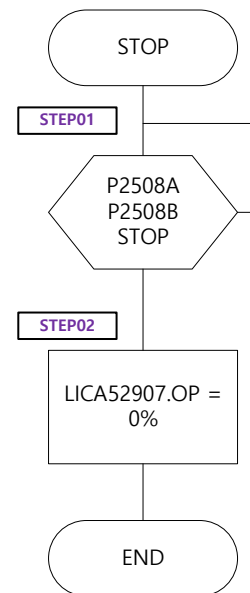
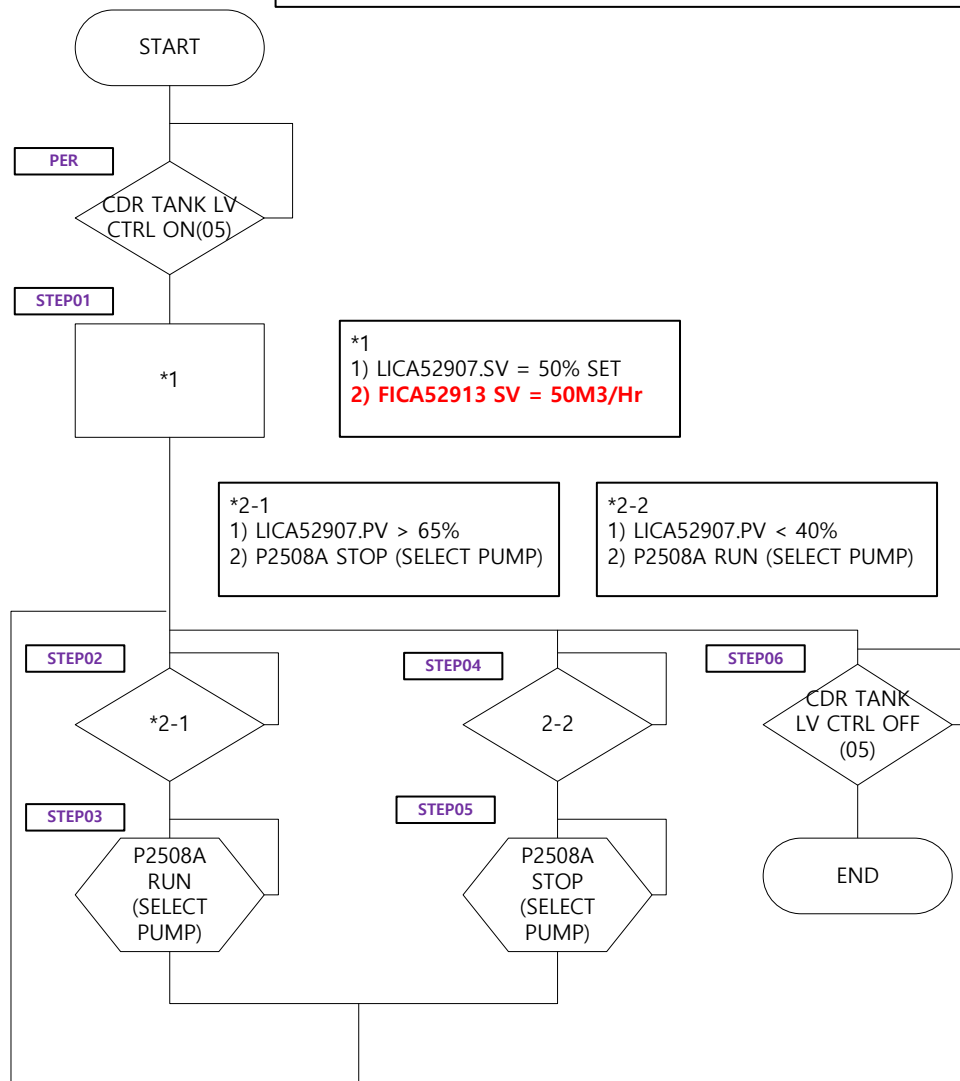
## 1120 HDW TANK LEVEL CONTROL



1121 HDW TANK TEMP CONTROL

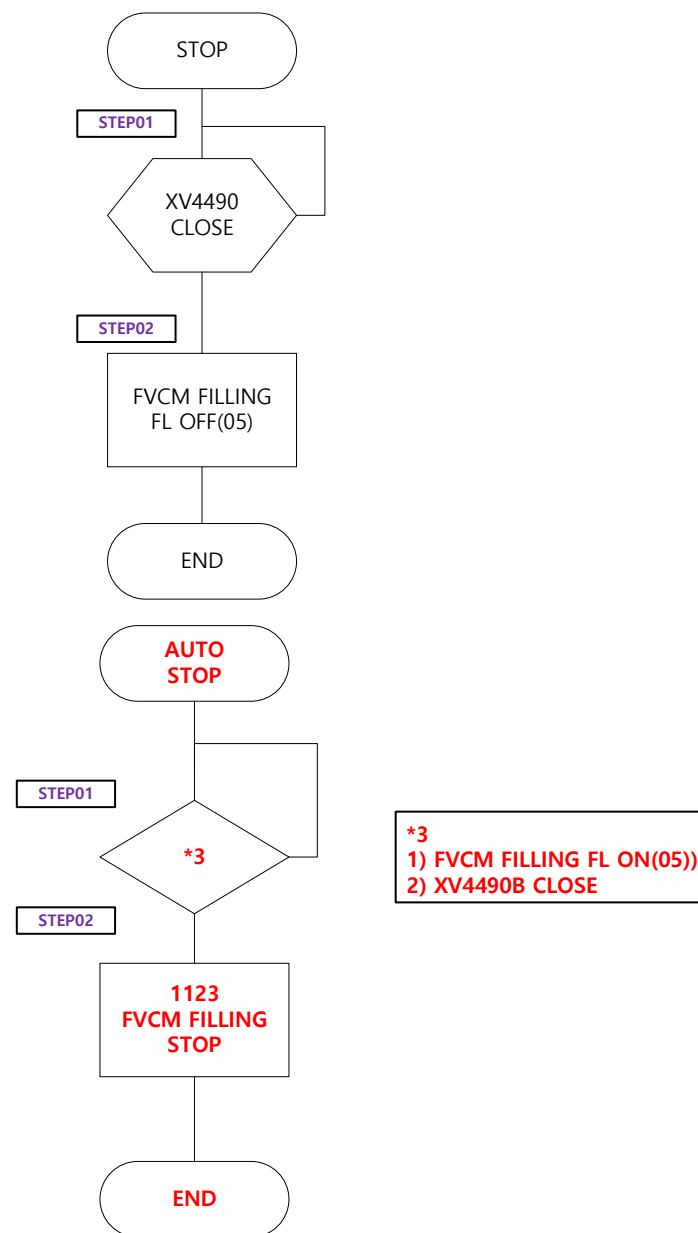
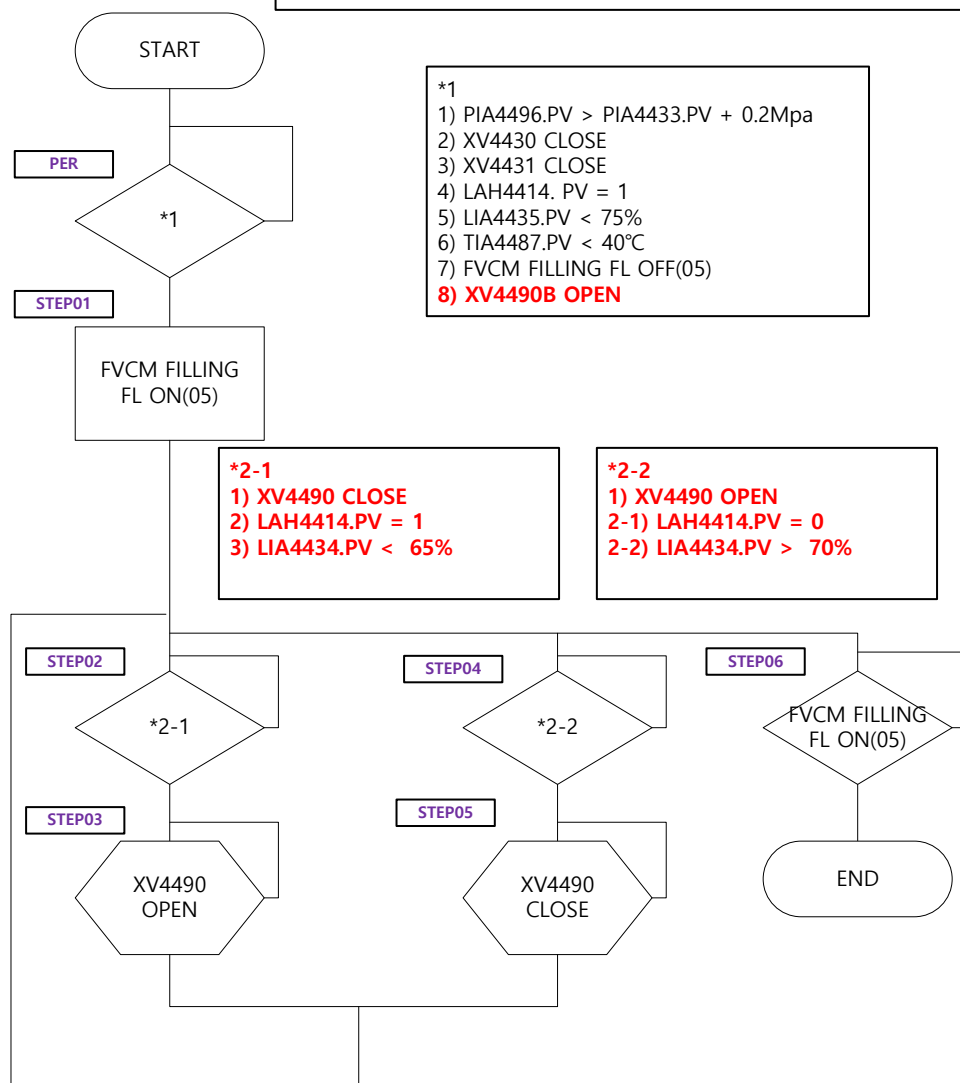


## 1122 CDR TANK LEVEL CONTROL



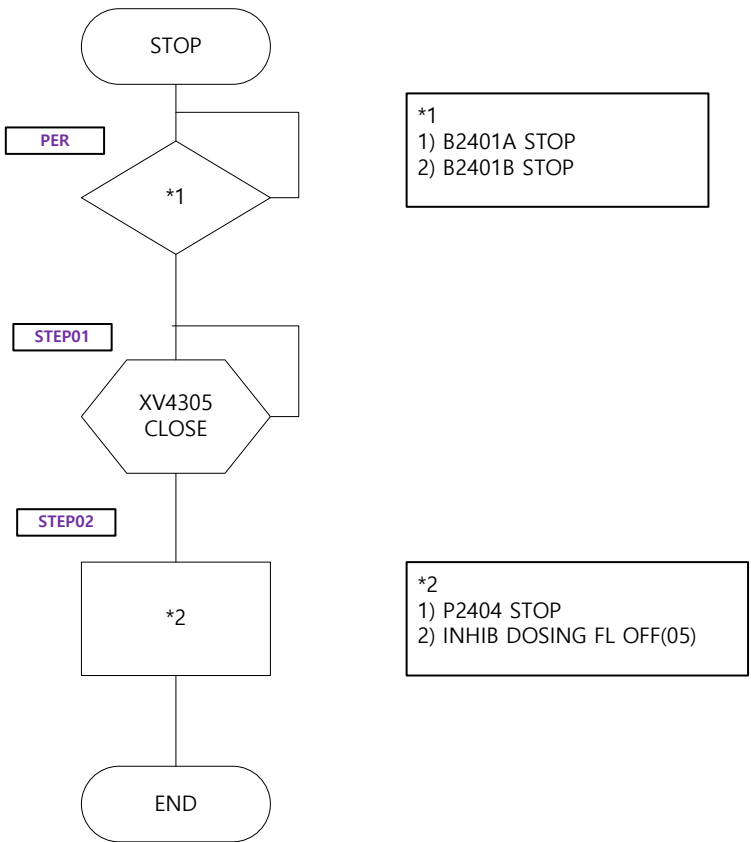
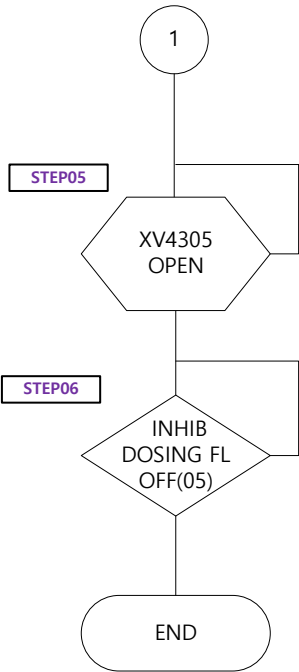
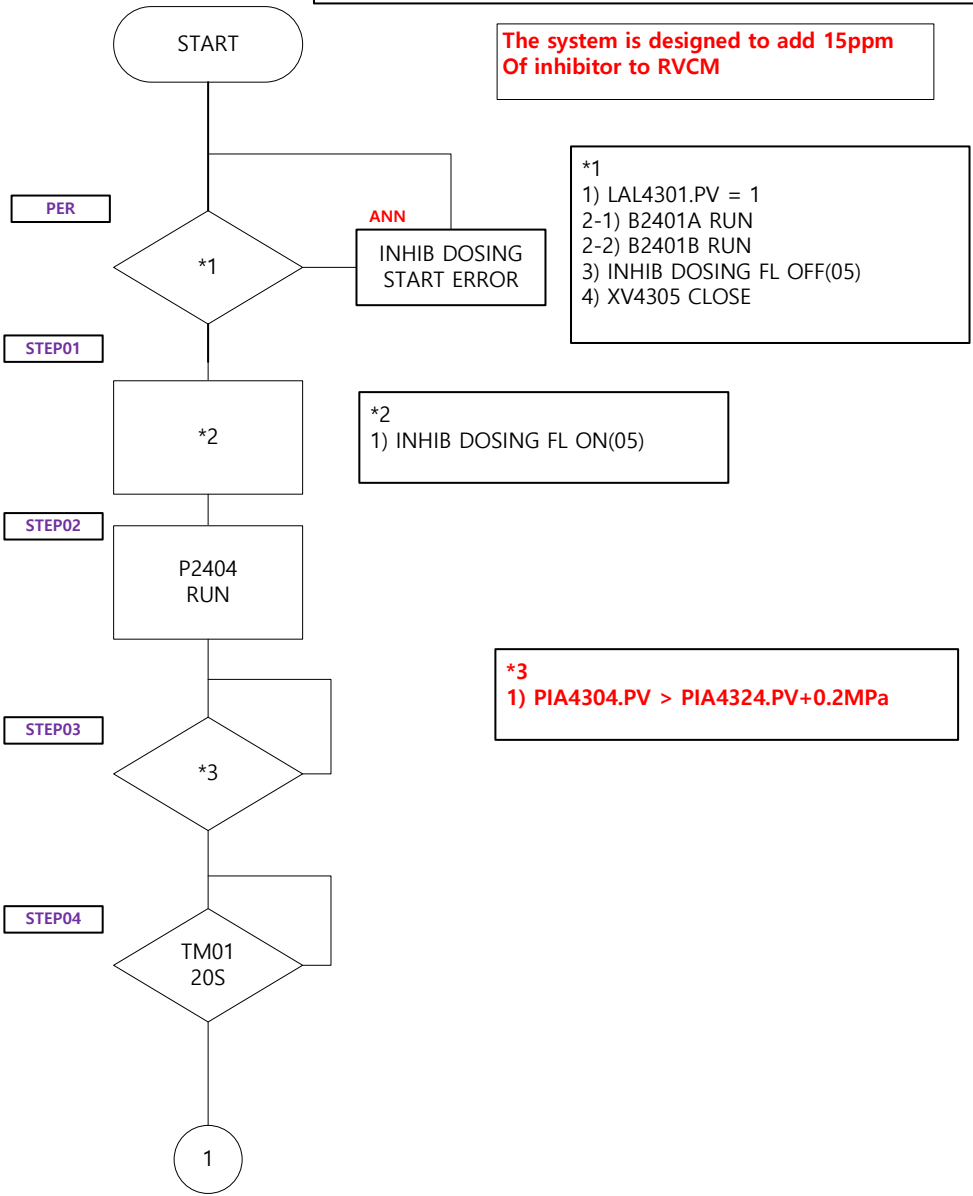
\*1  
1) LICA52907.OP = 0%  
2) FICA52913.OP = 0%  
3) CDR TANKLV CTRL OFF(05)

## 1123 FVCM FILLING

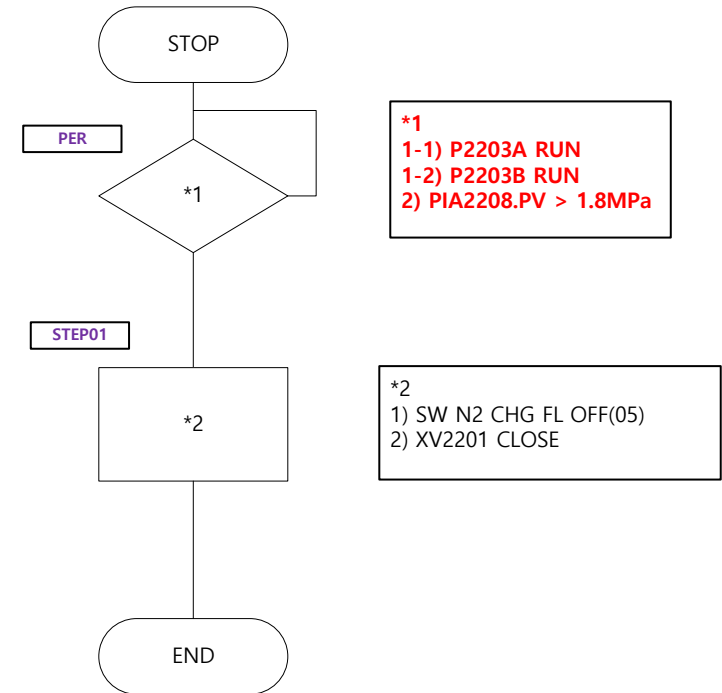
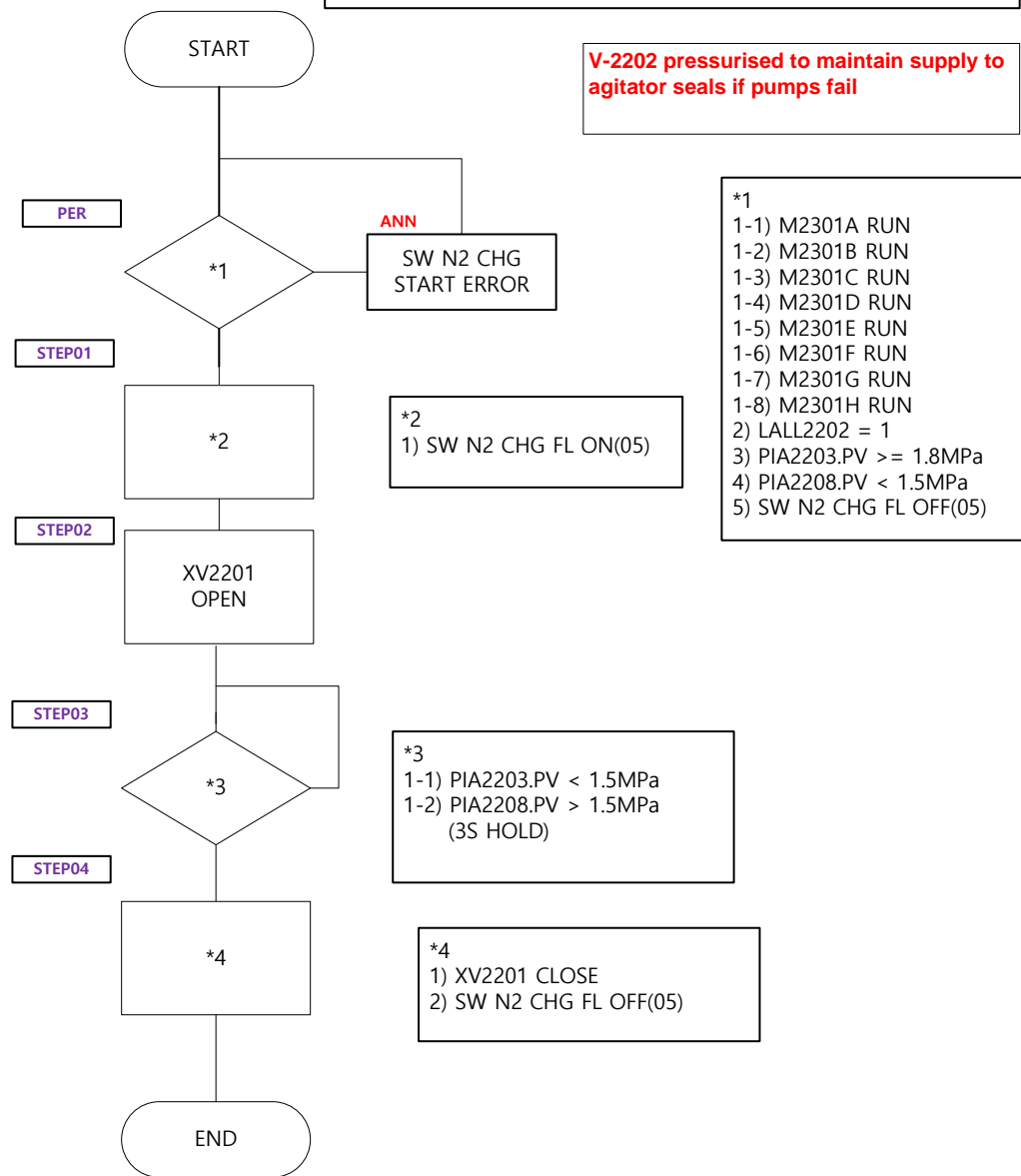


1124 INHIBITOR DOSING

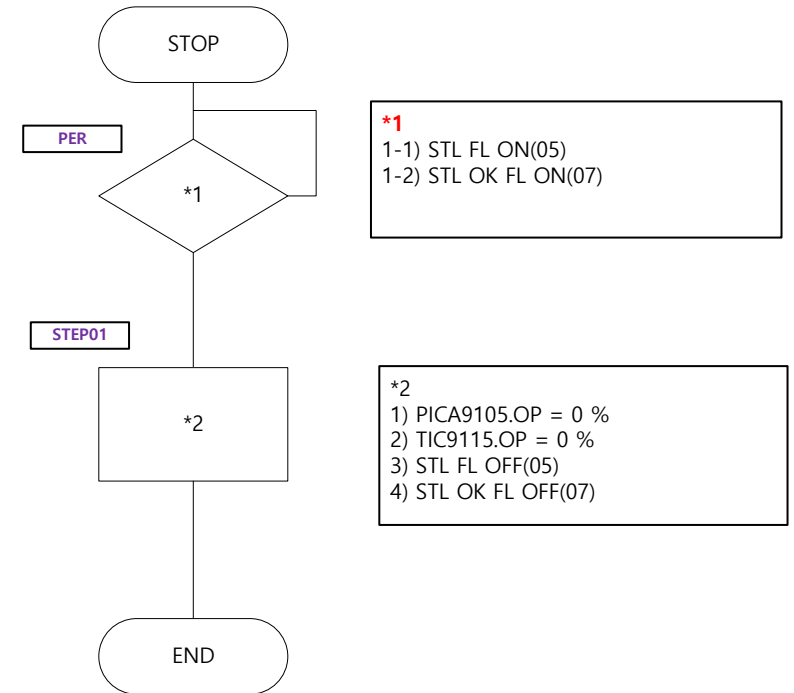
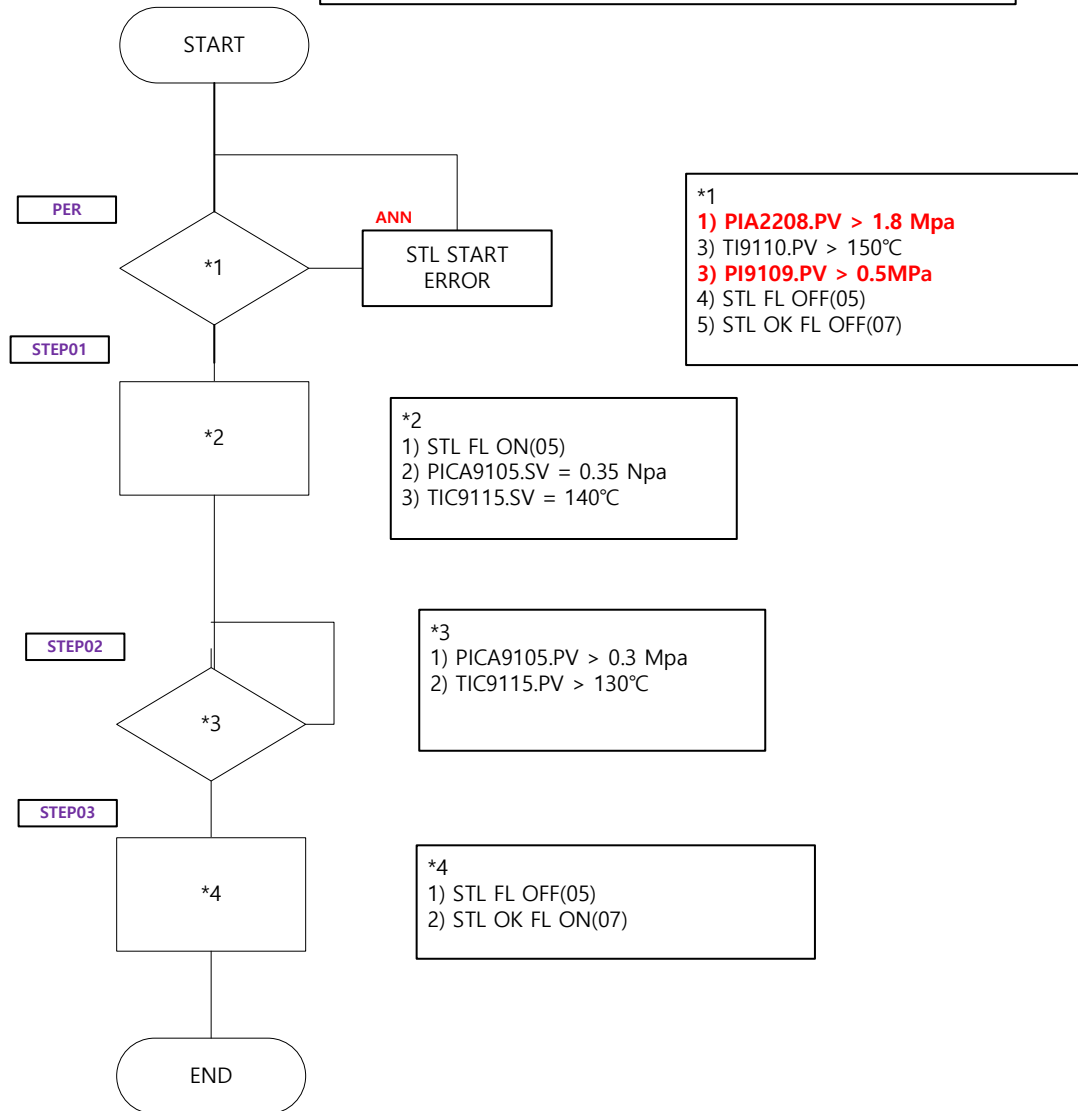
The system is designed to add 15ppm  
Of inhibitor to RVCM



## 1125 SEAL WATER N2 CHARGE

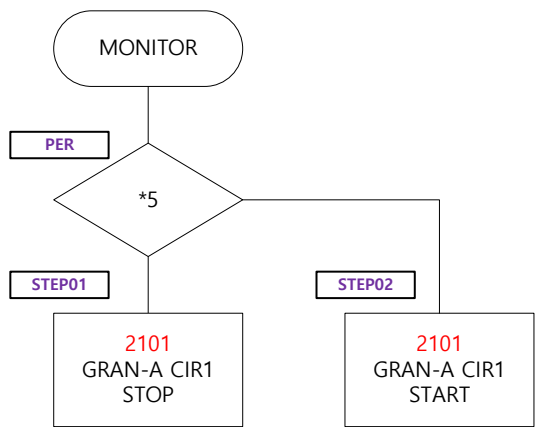
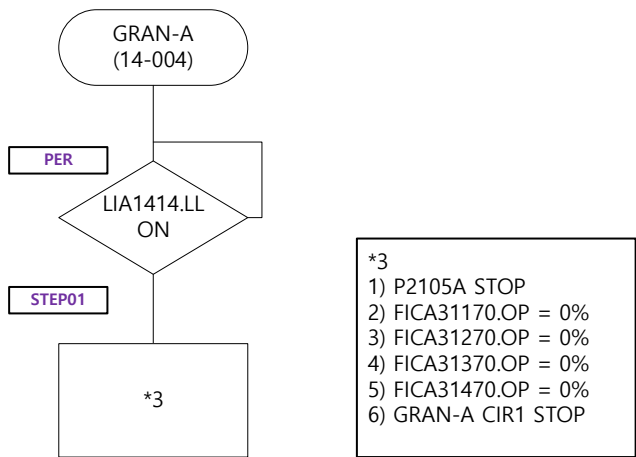
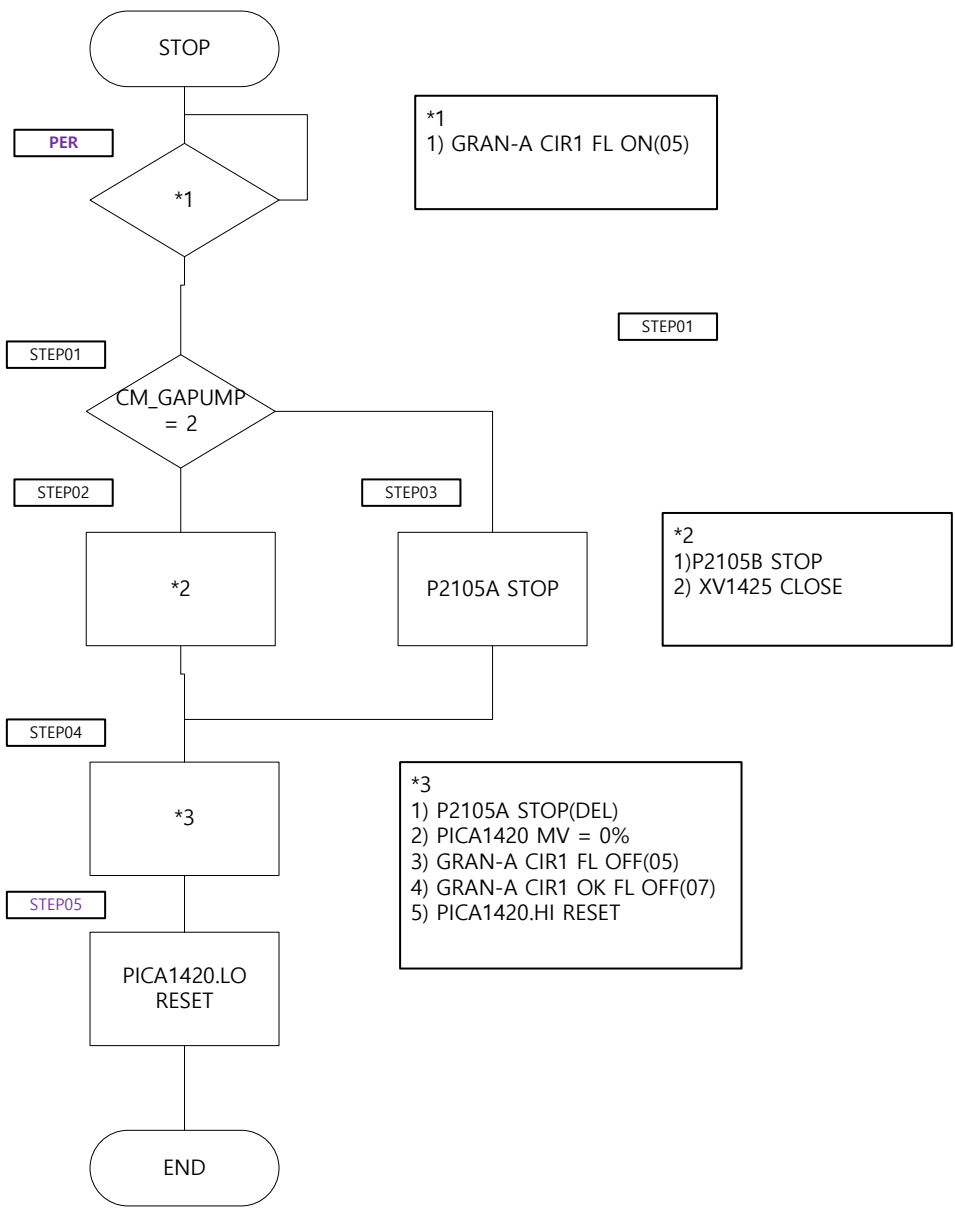
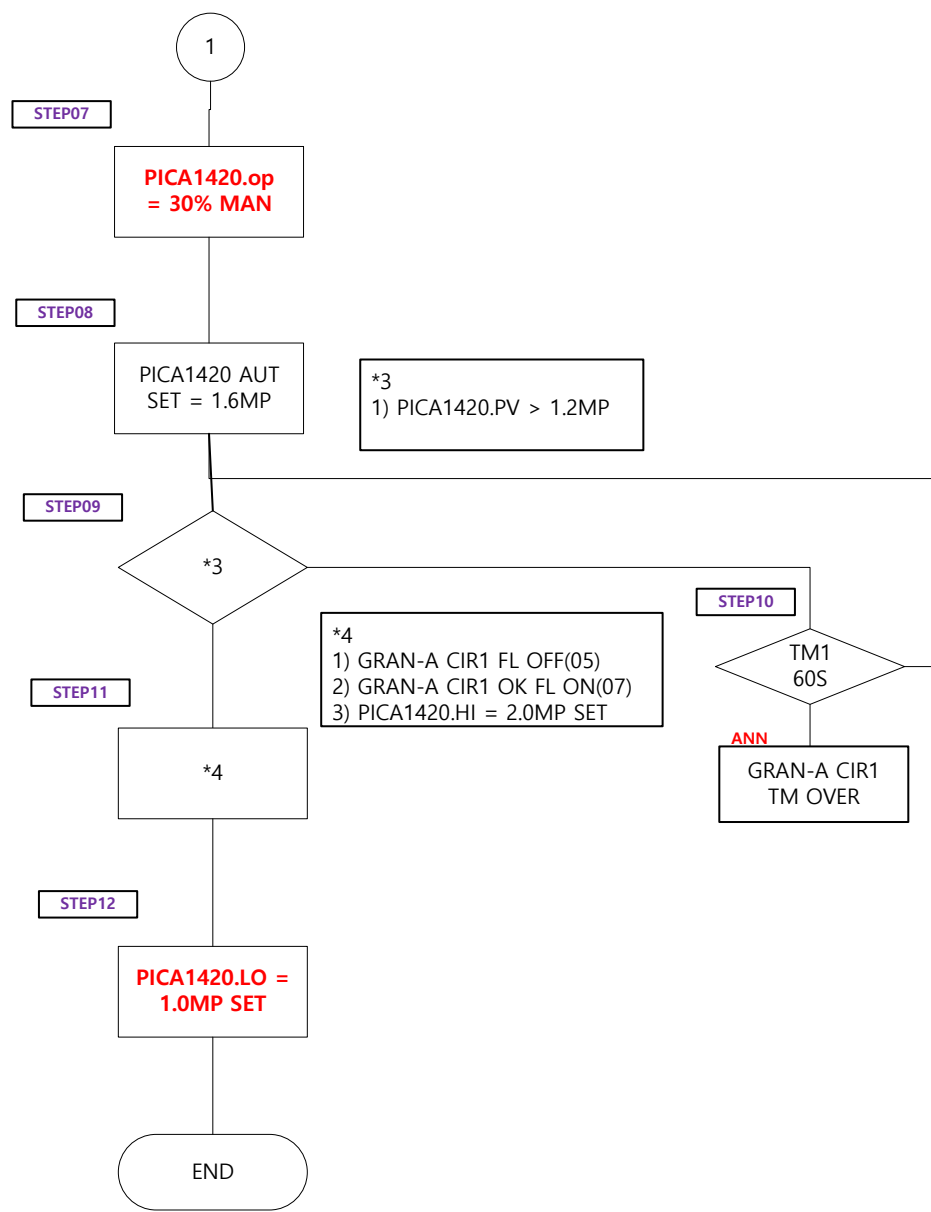
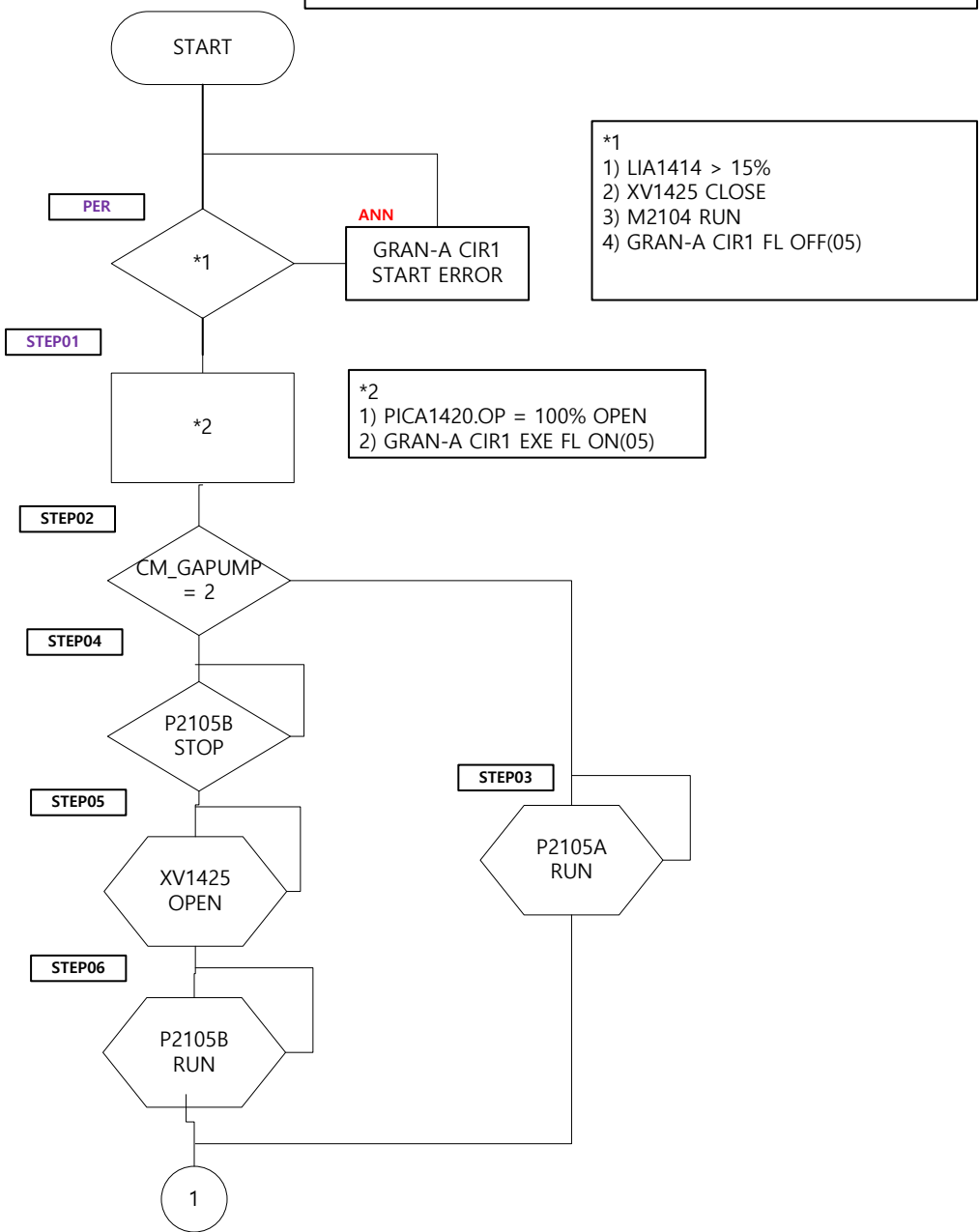


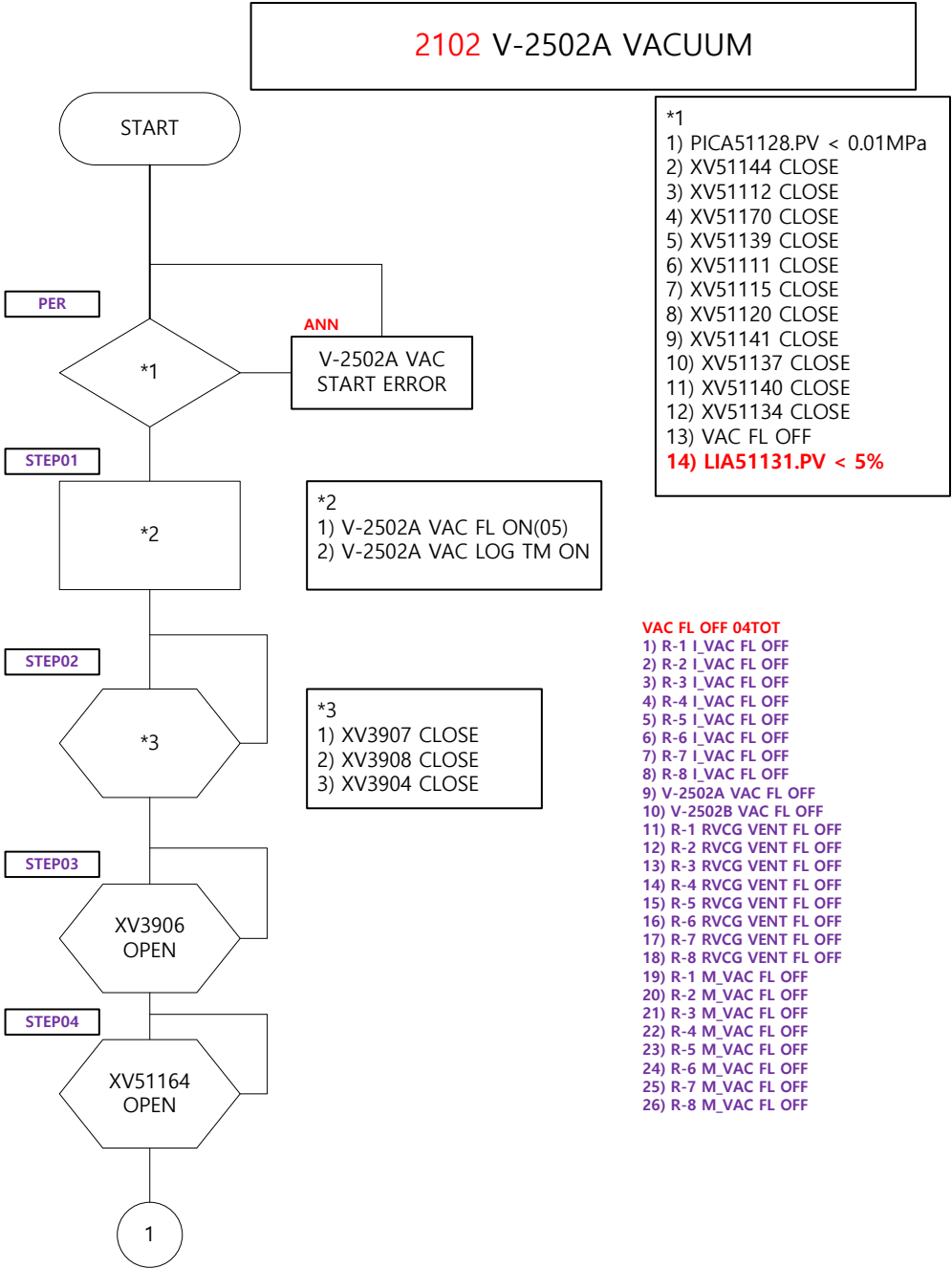
## 1126 STL

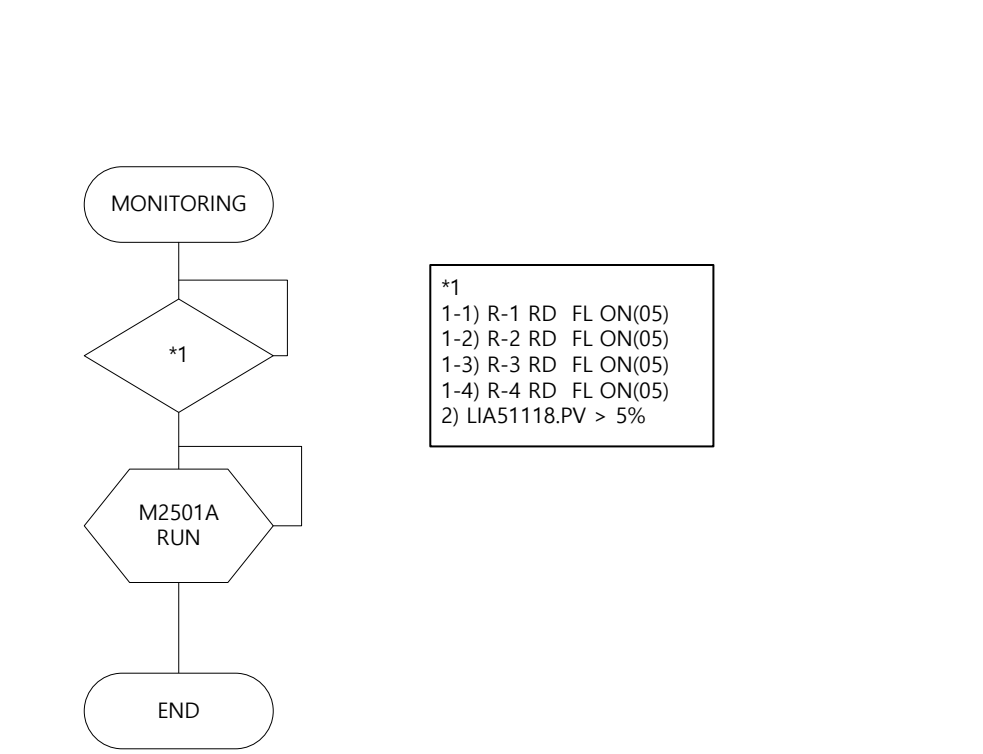
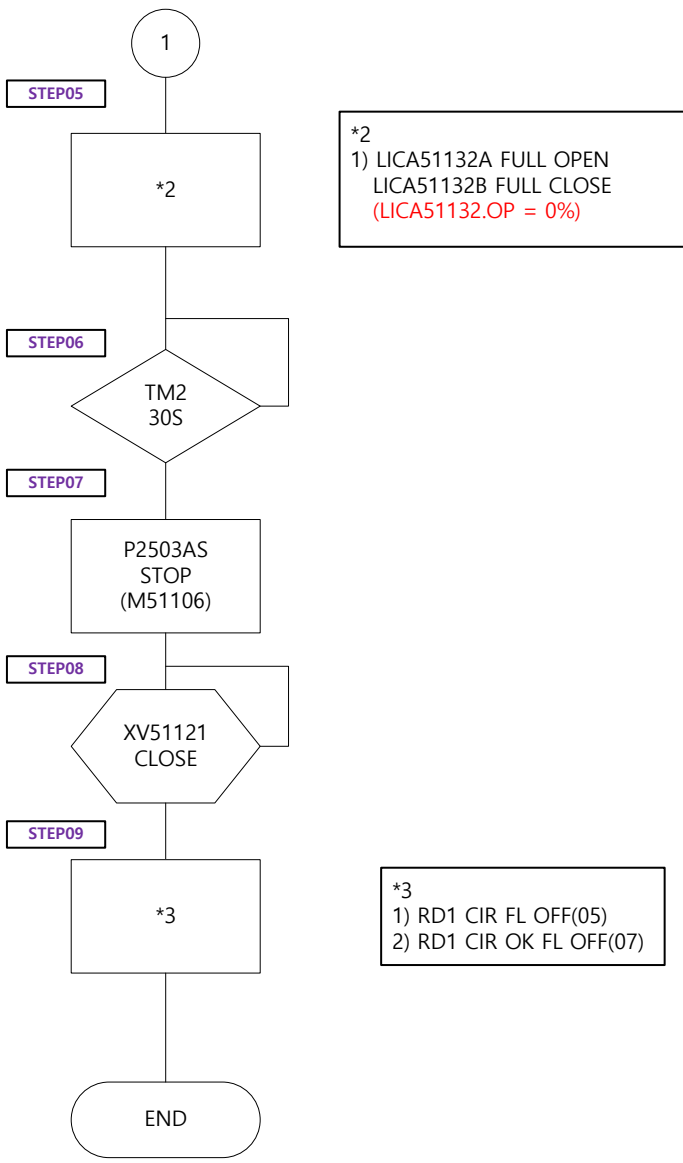
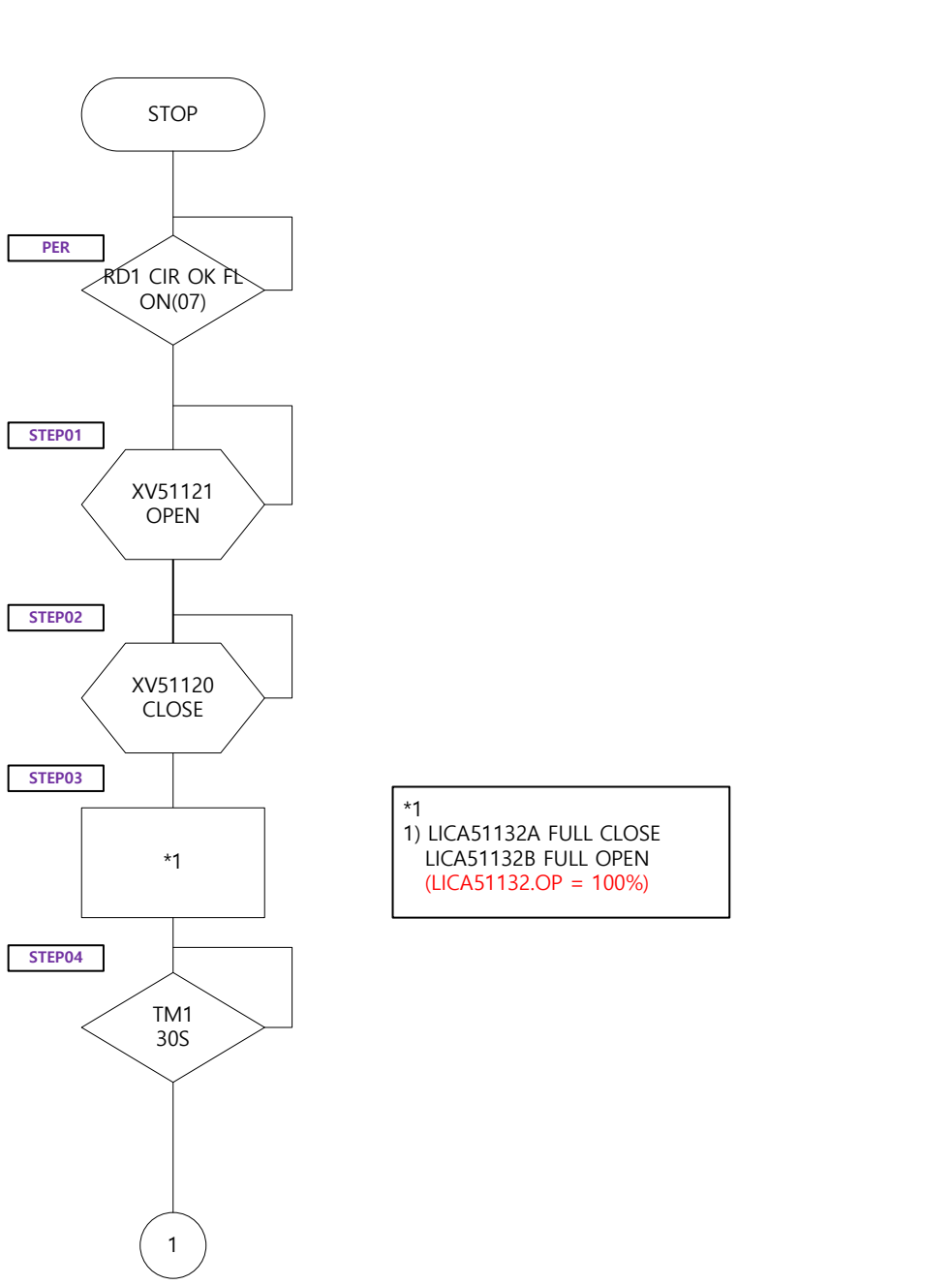
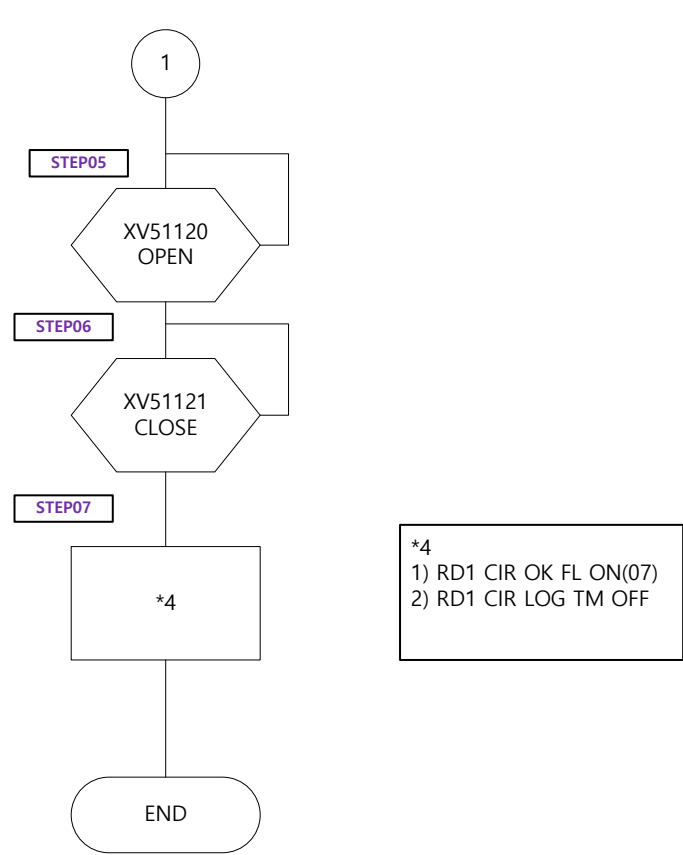
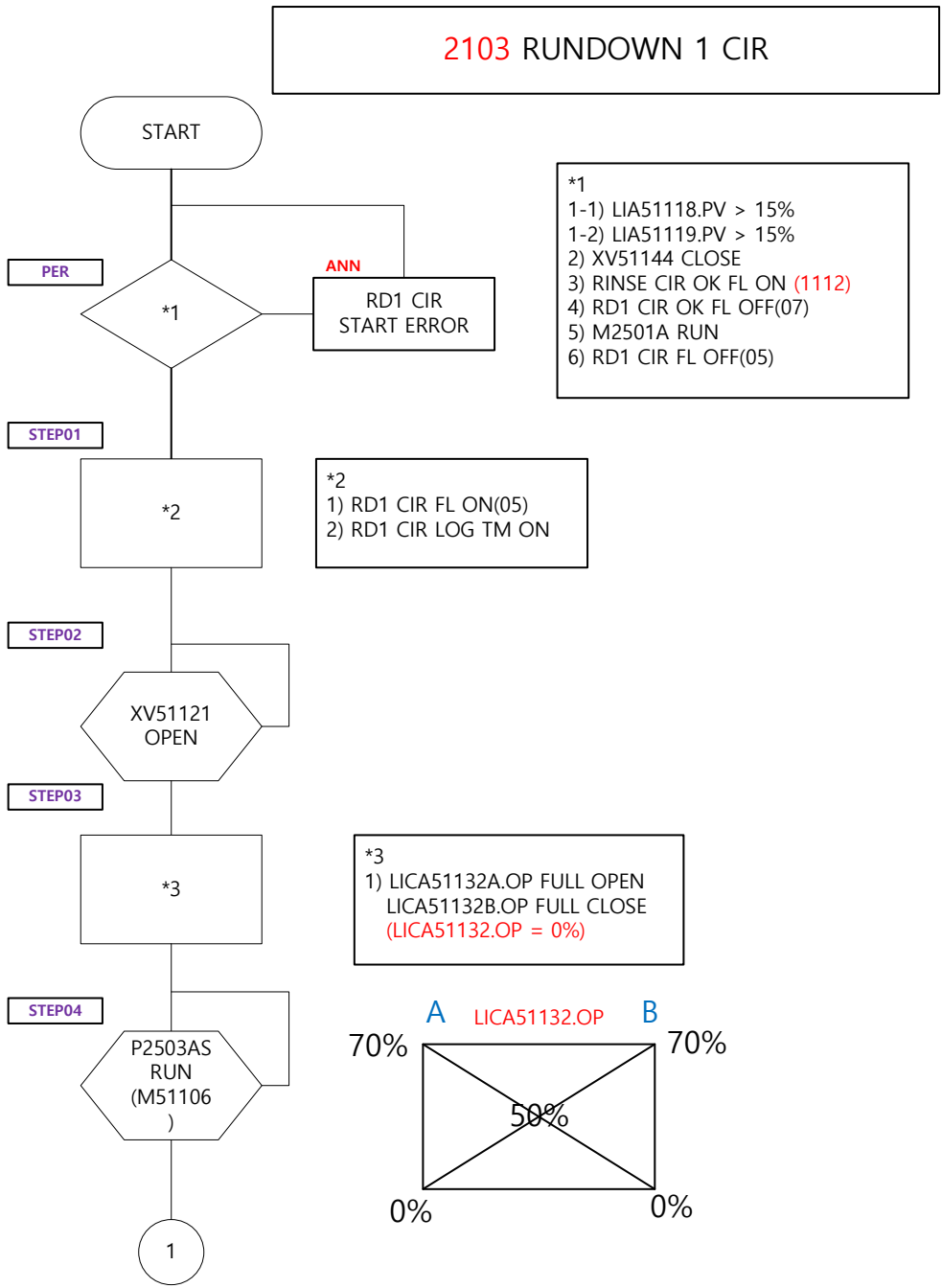


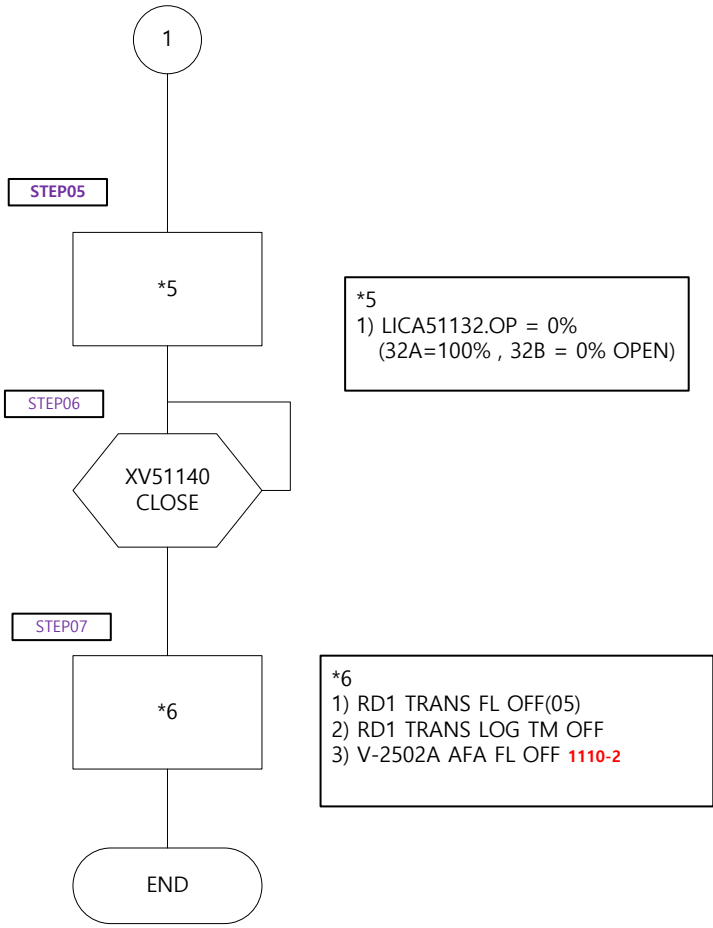
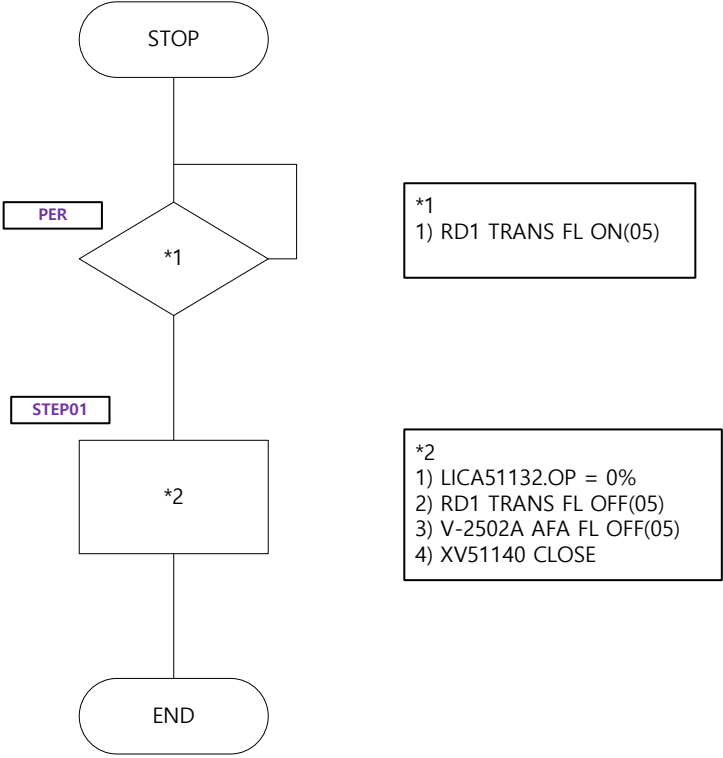
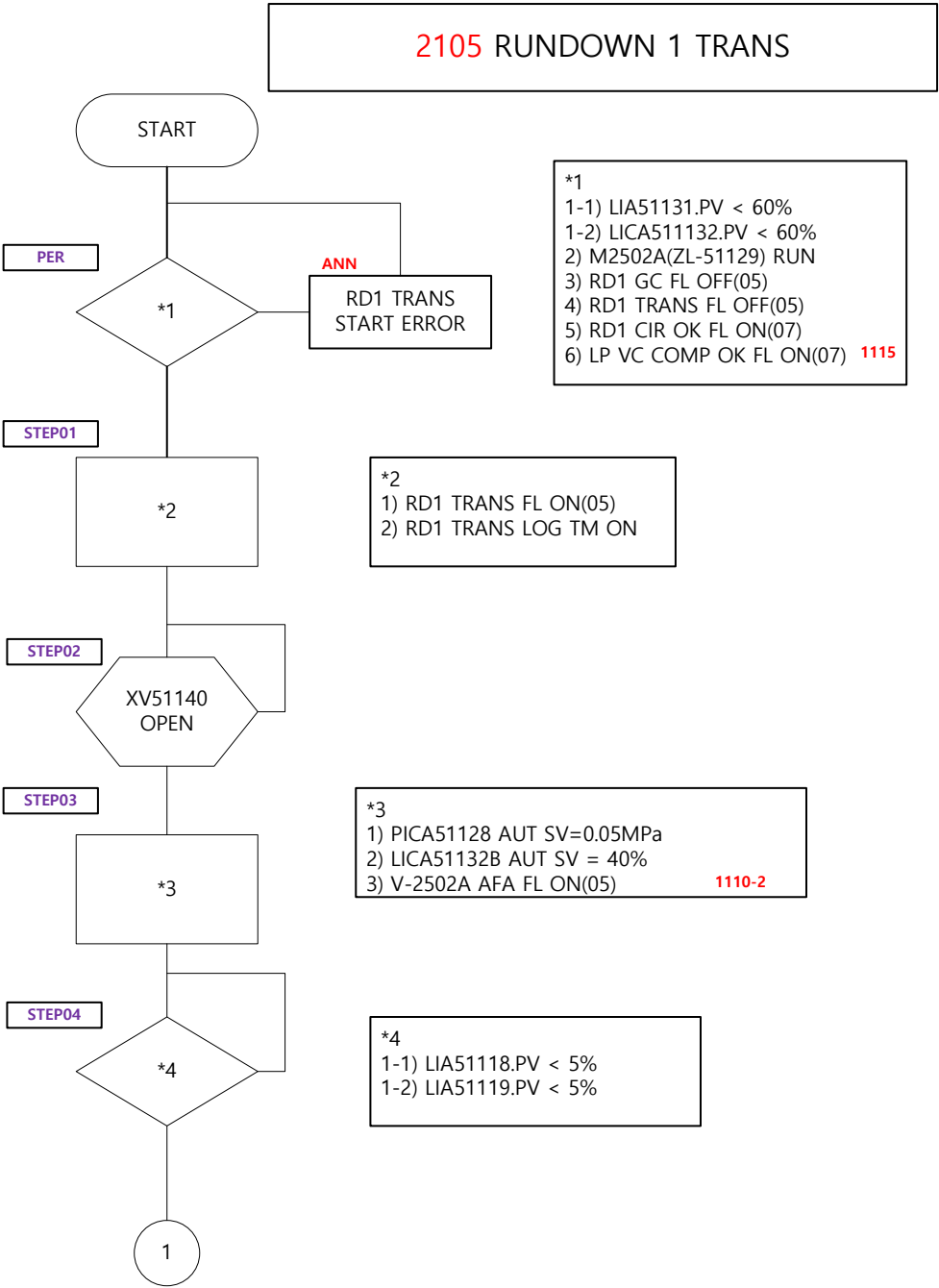


2101 GRAN-A CIR 1

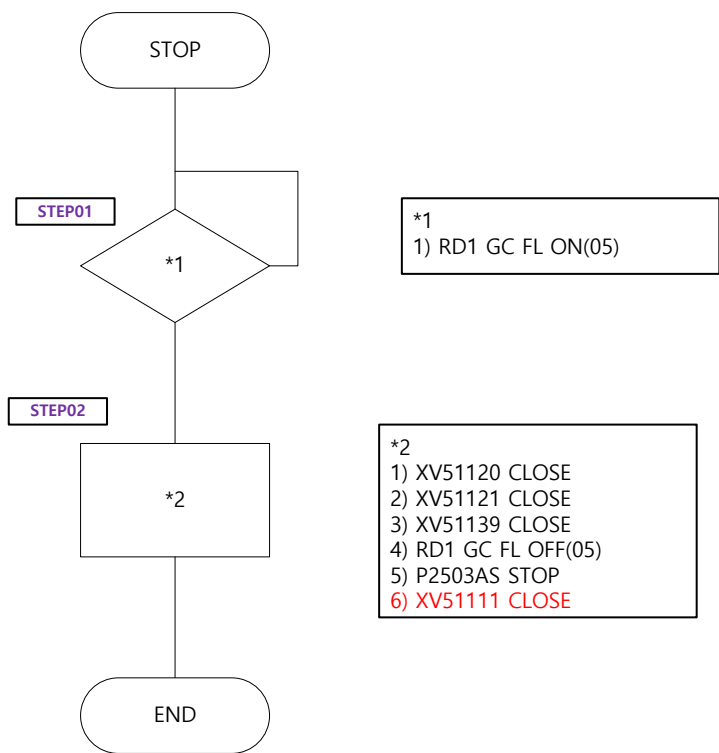
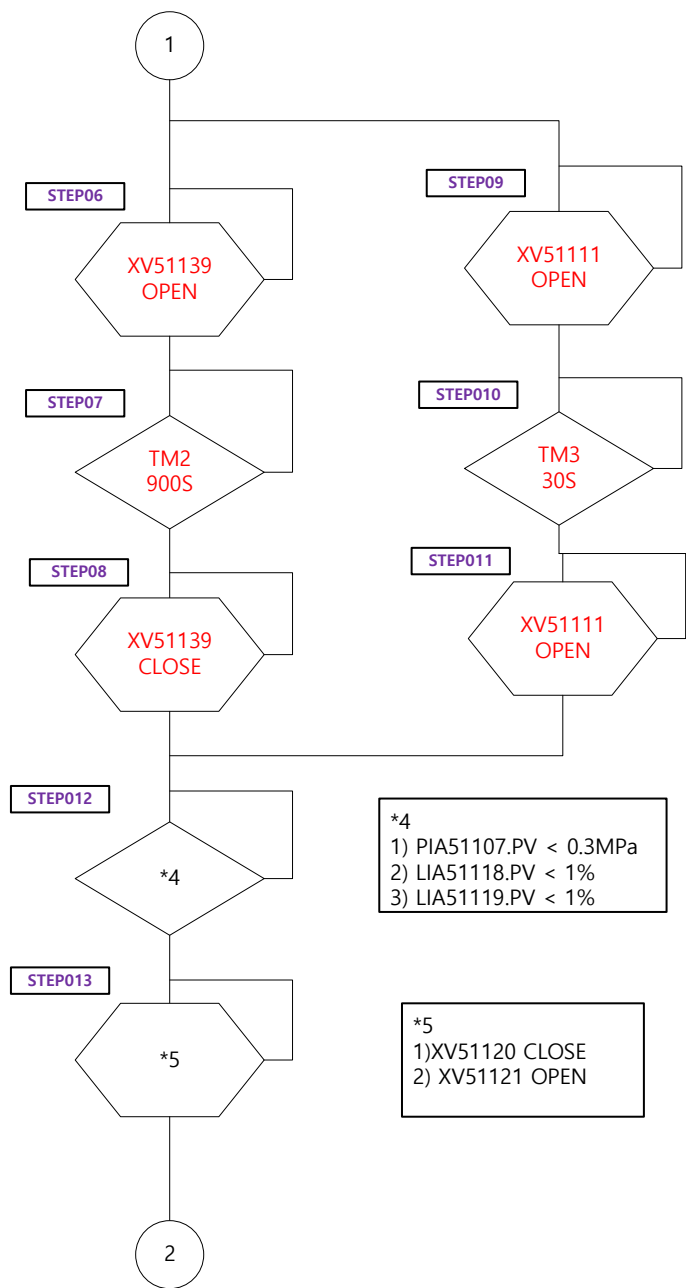
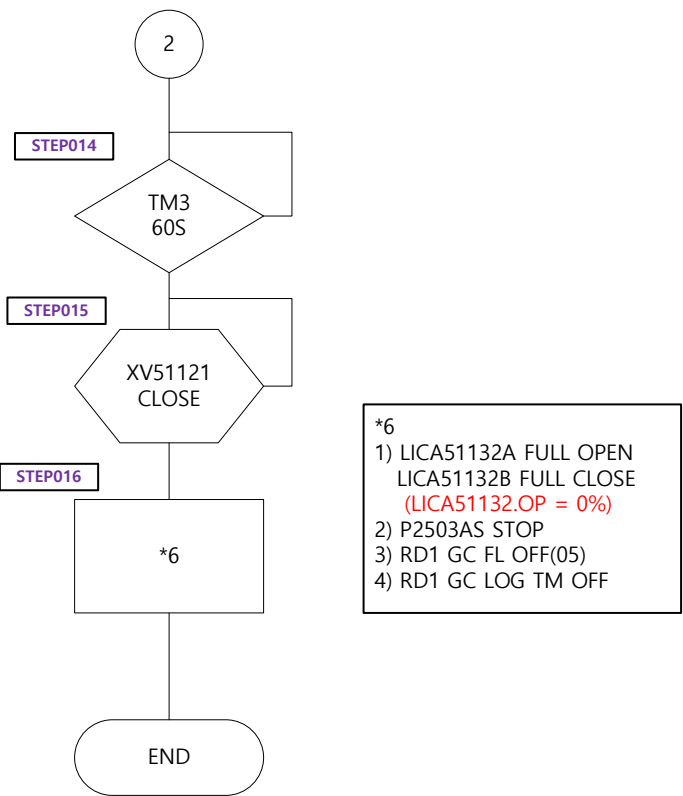
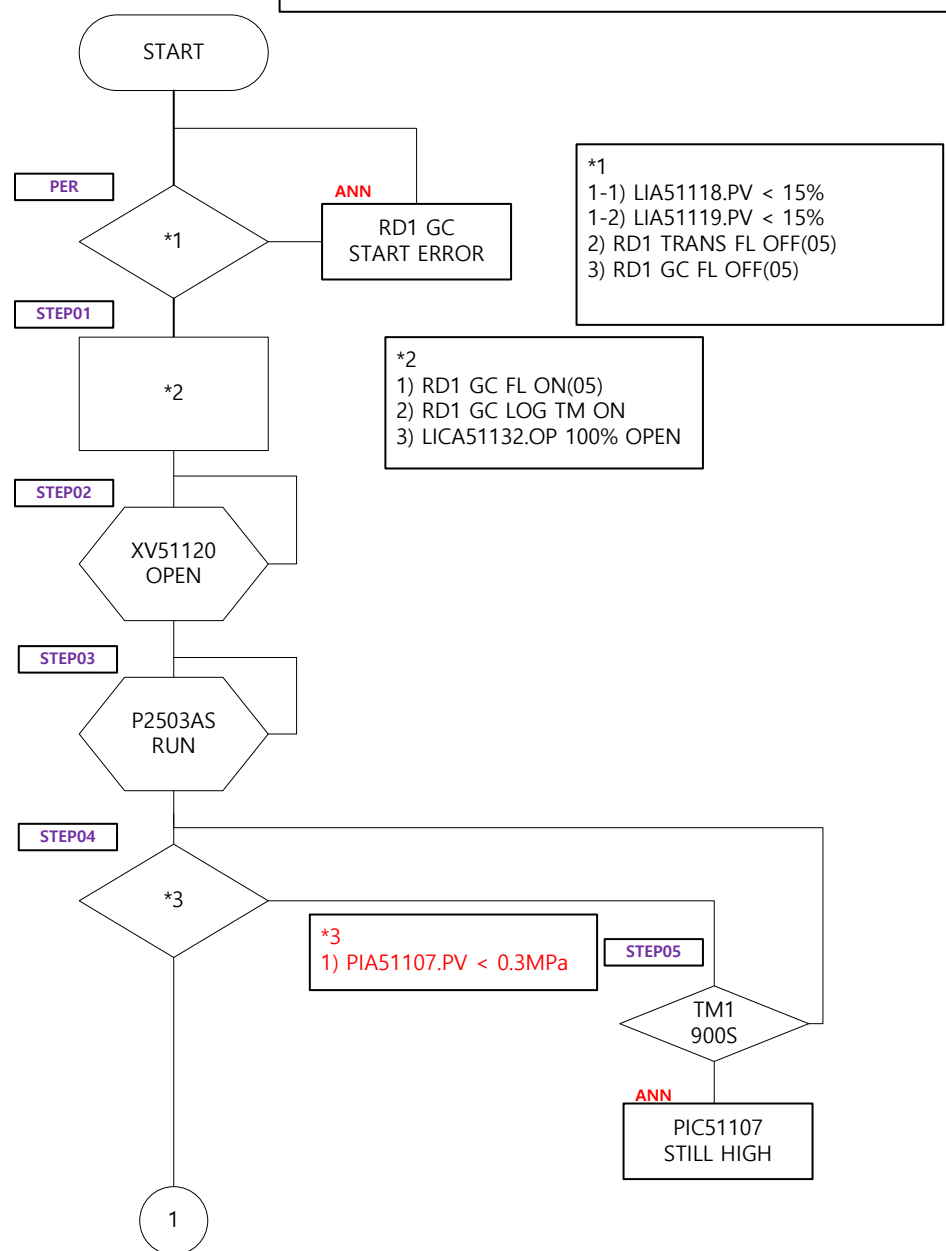




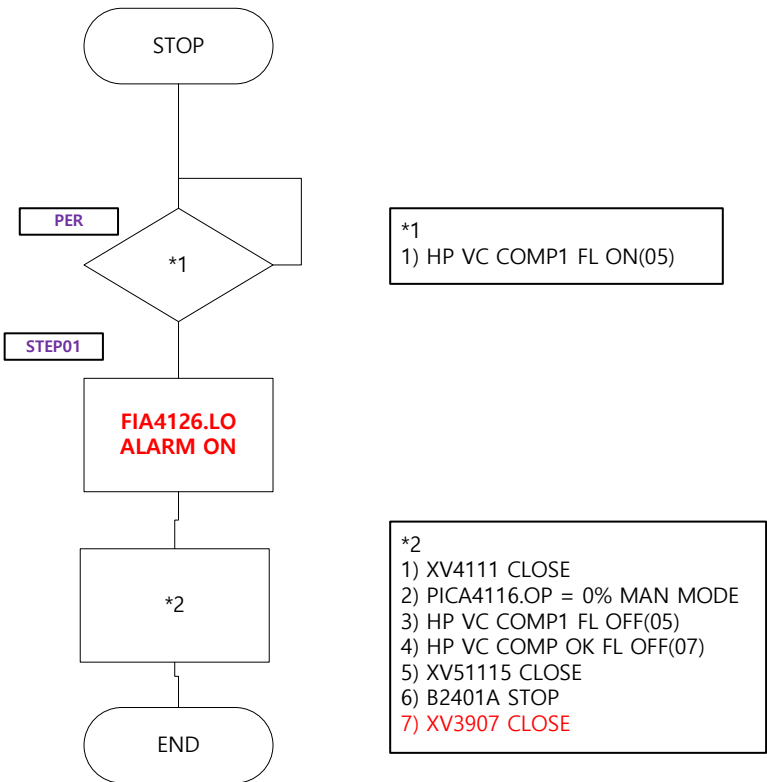
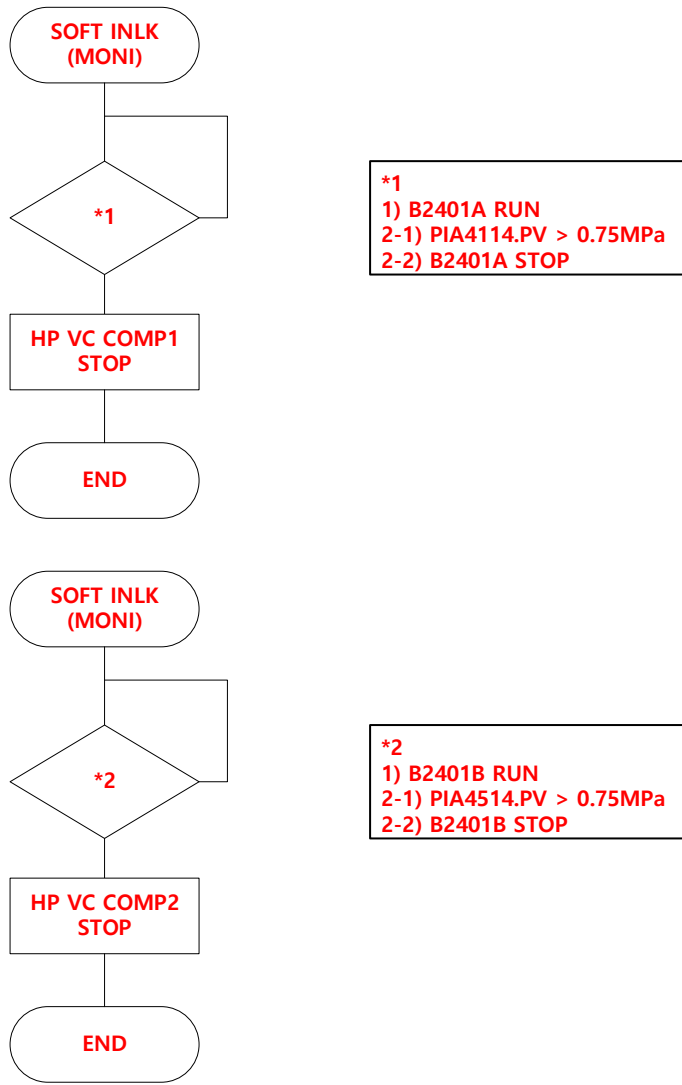
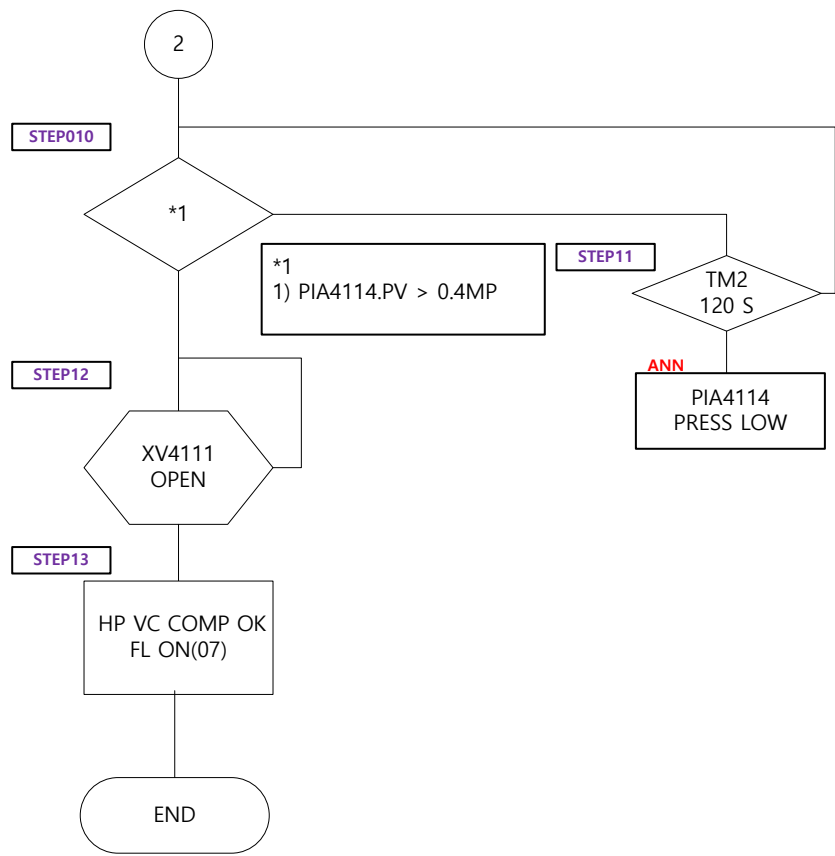
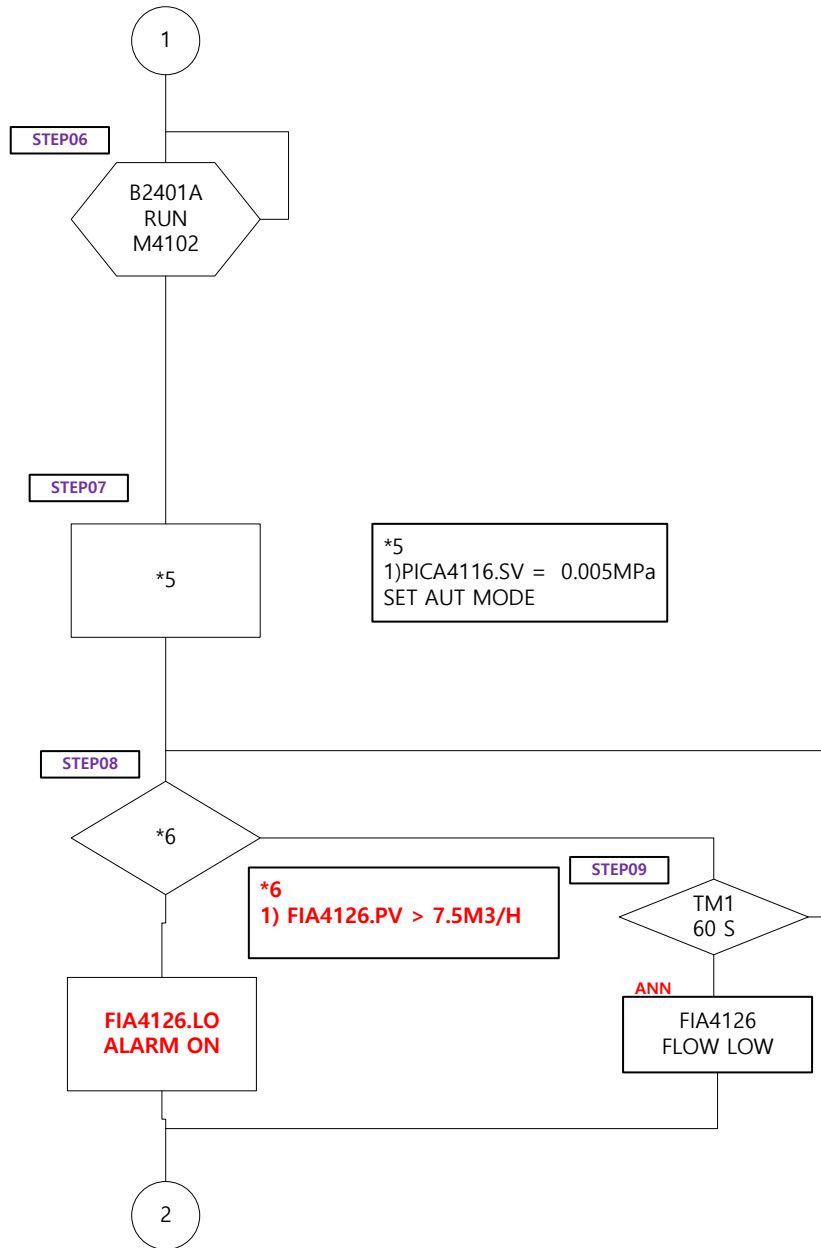
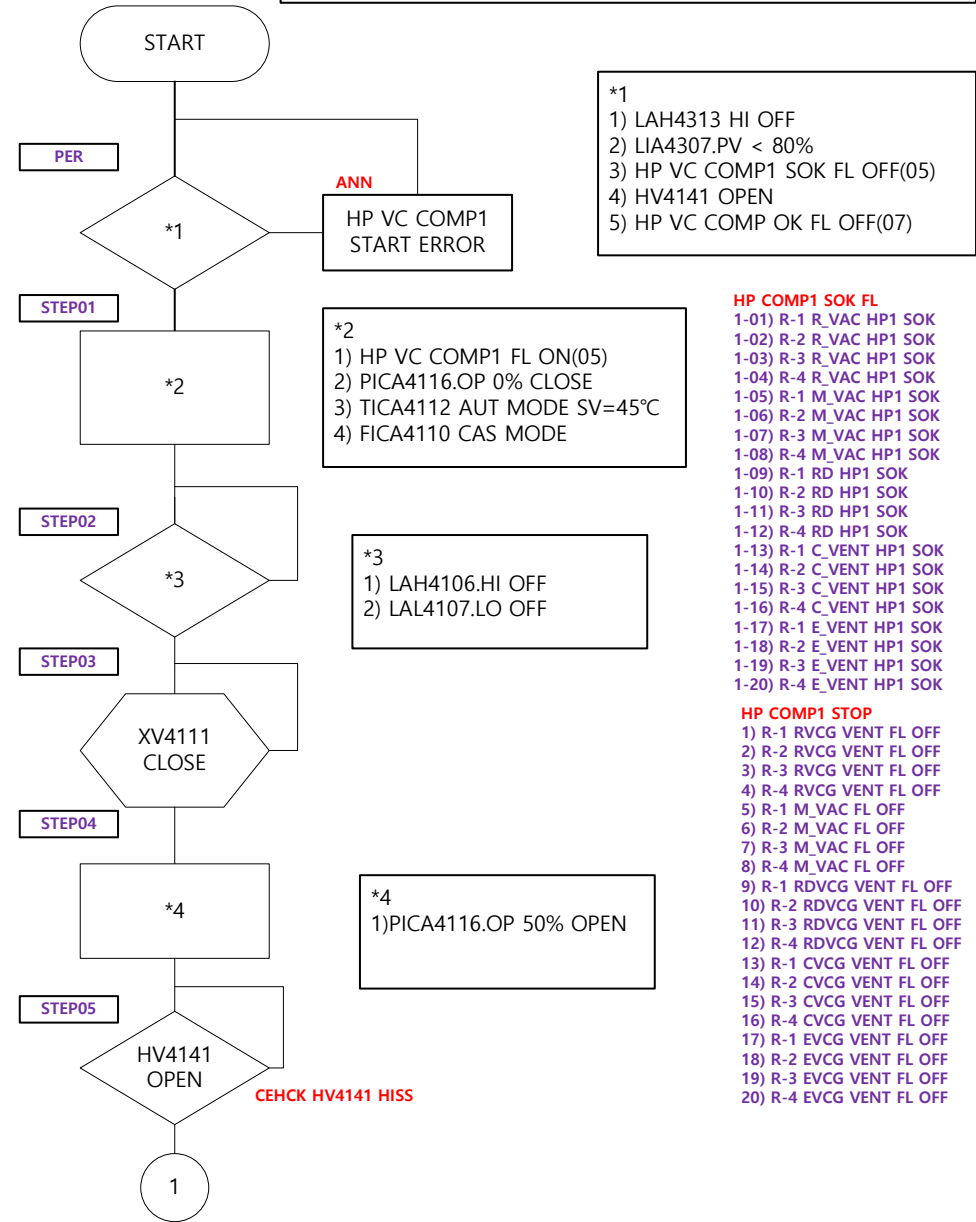




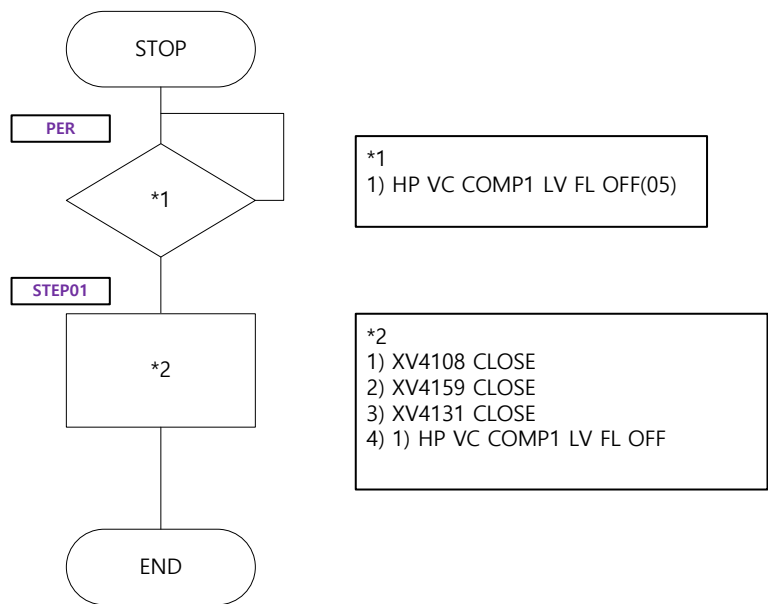
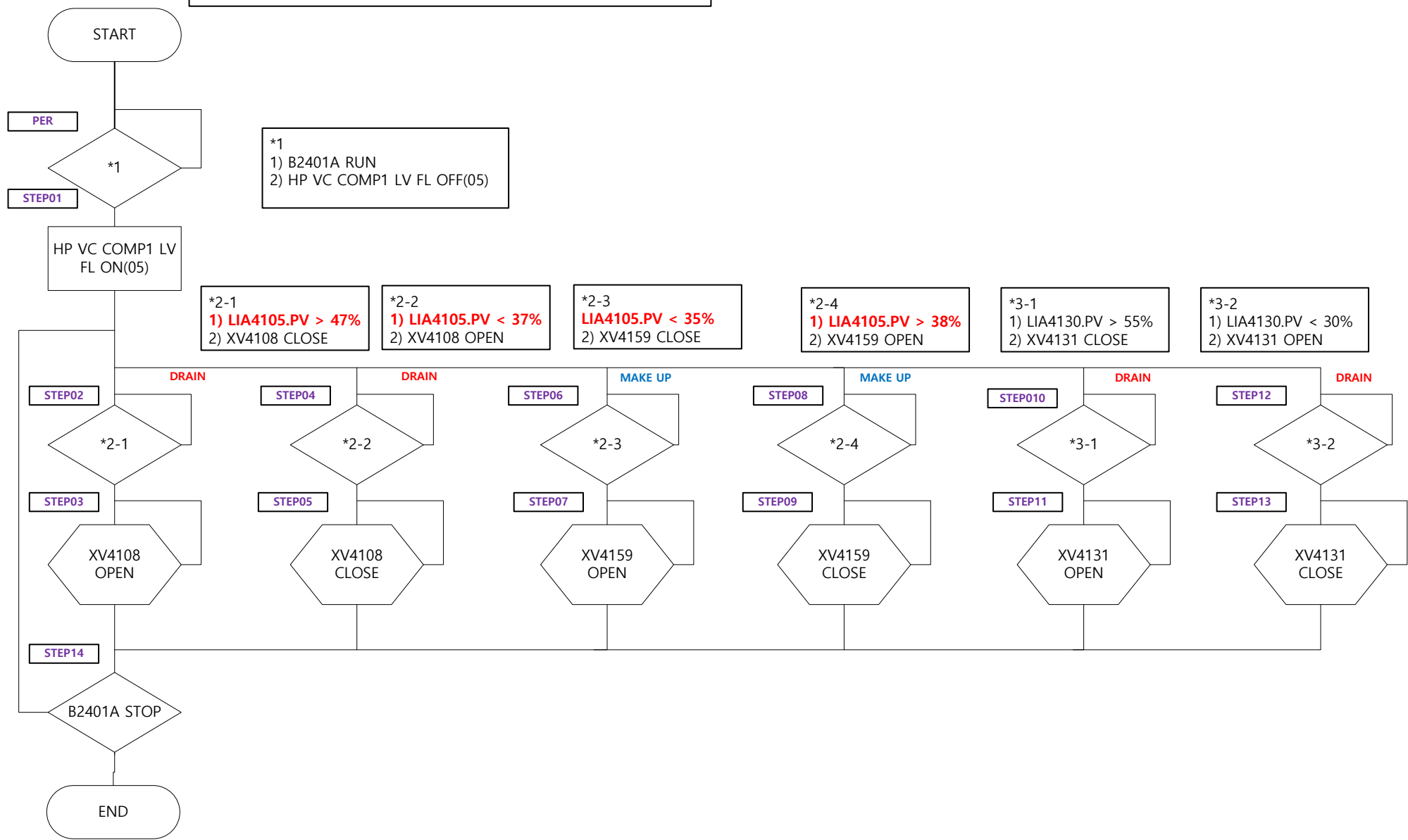
2106 RUNDOWN 1 GRADE CHANGE



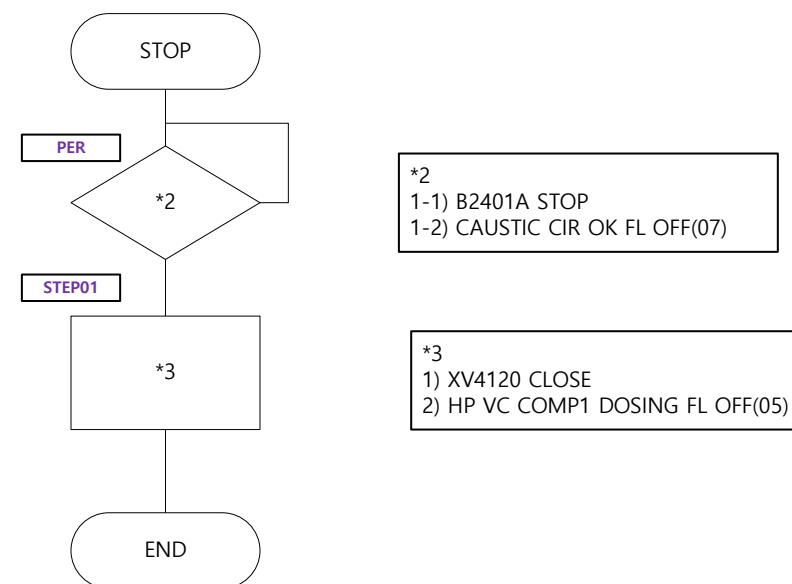
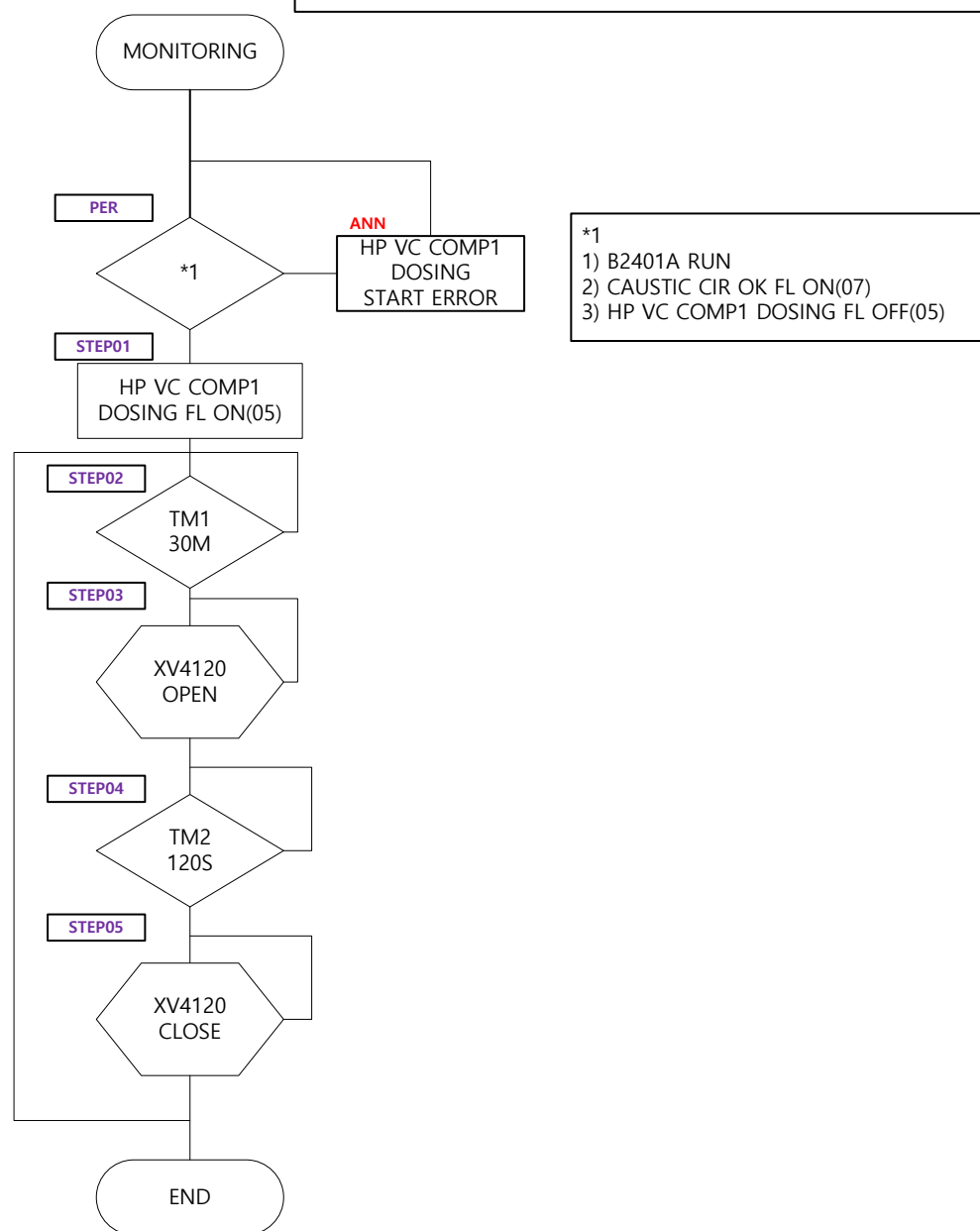
2107 HIGH PRESSURE VCG COMPRESSOR 1



2108 HIGH PRESSURE VCG COMP 1 LEVEL CONTROL

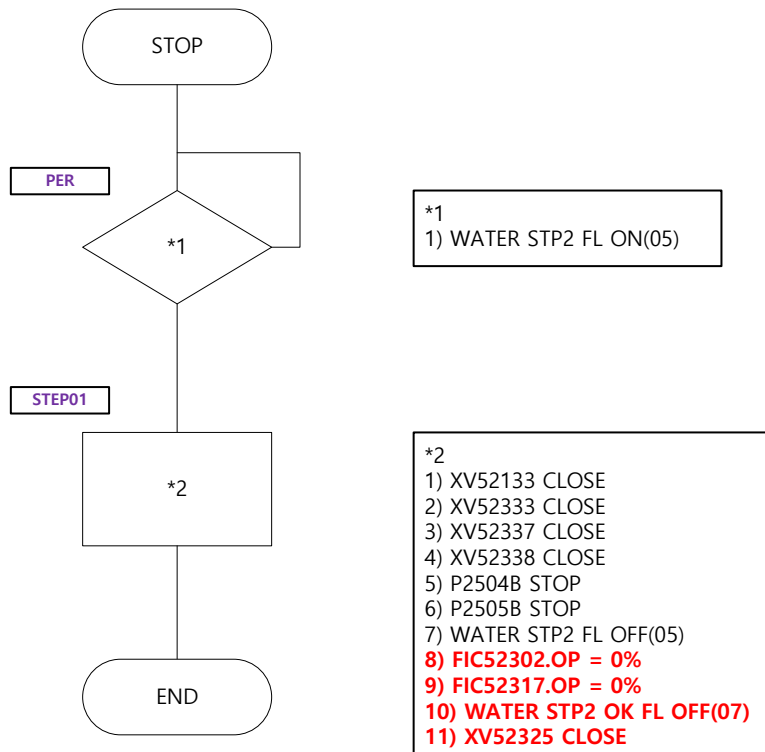
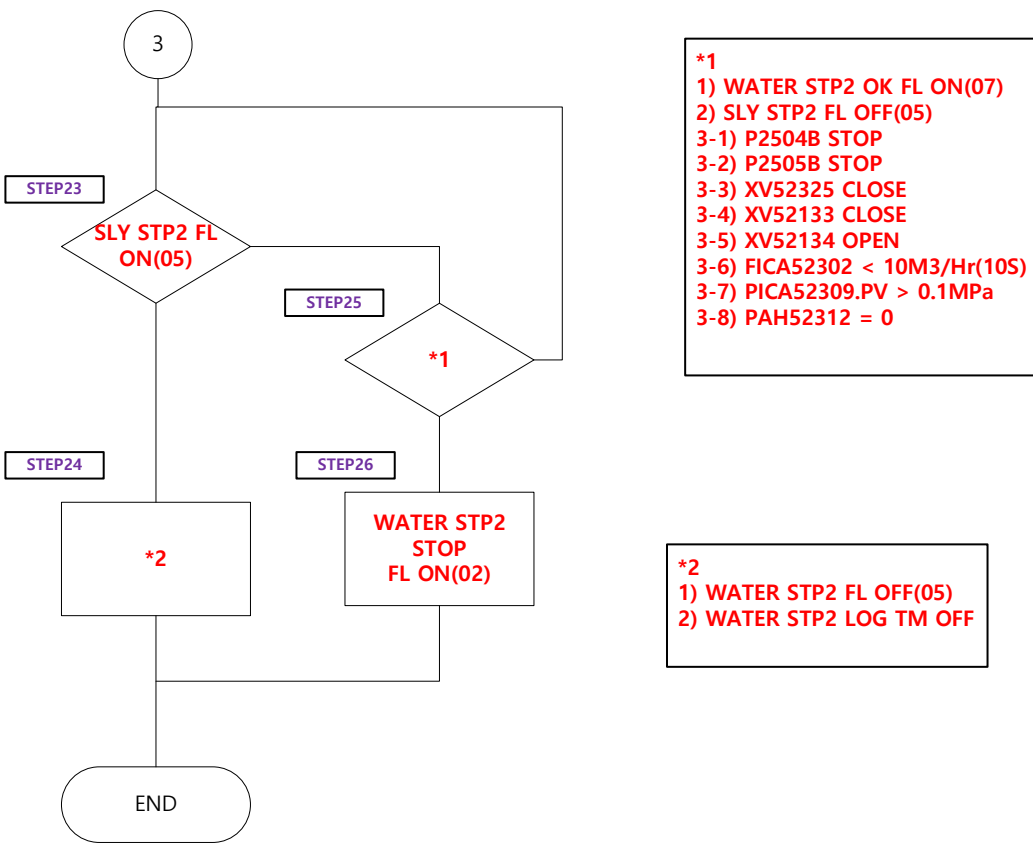
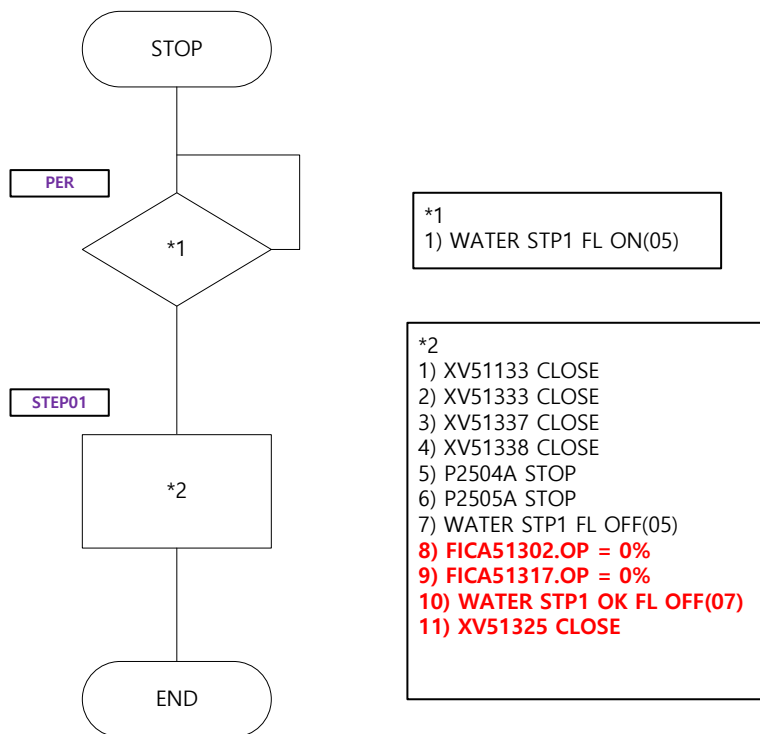
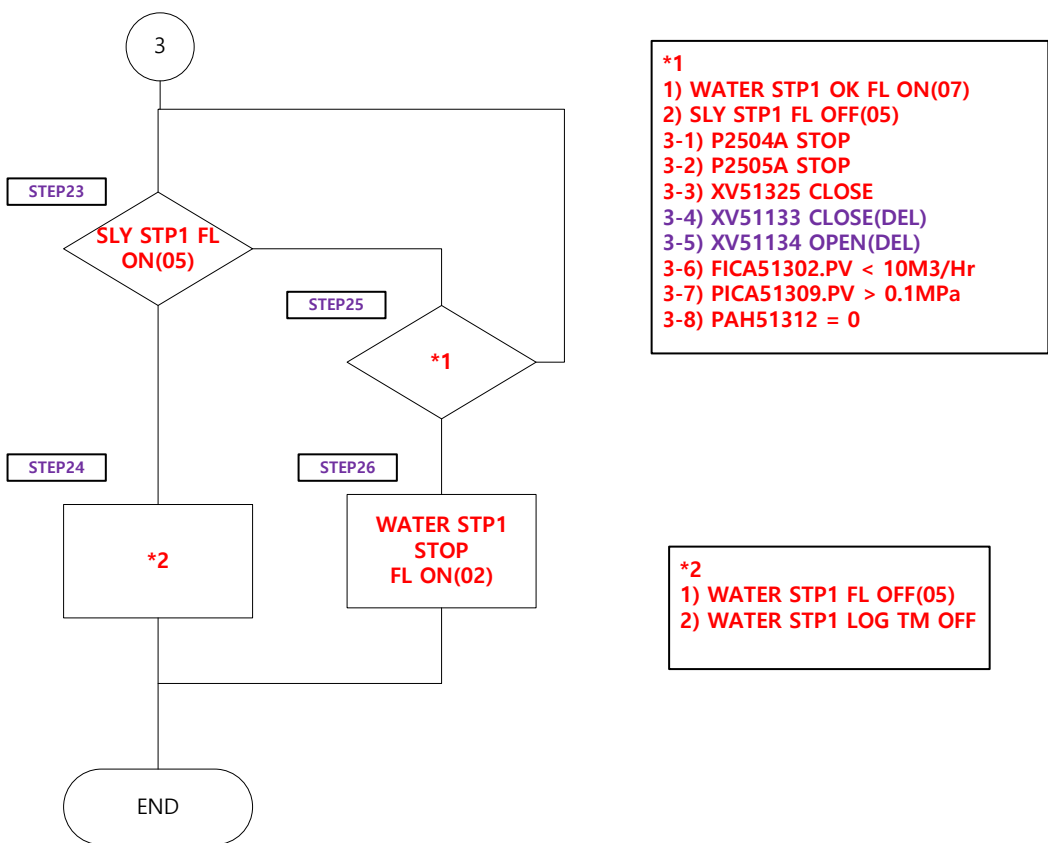
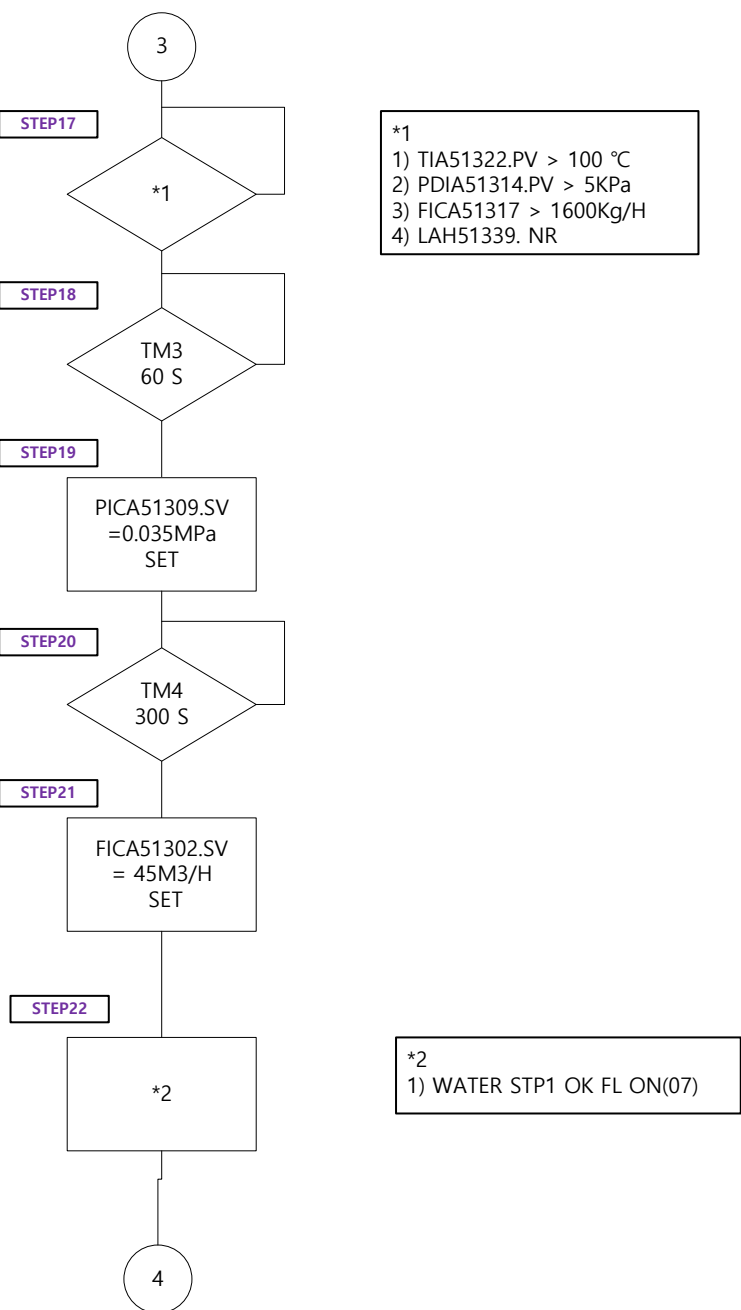
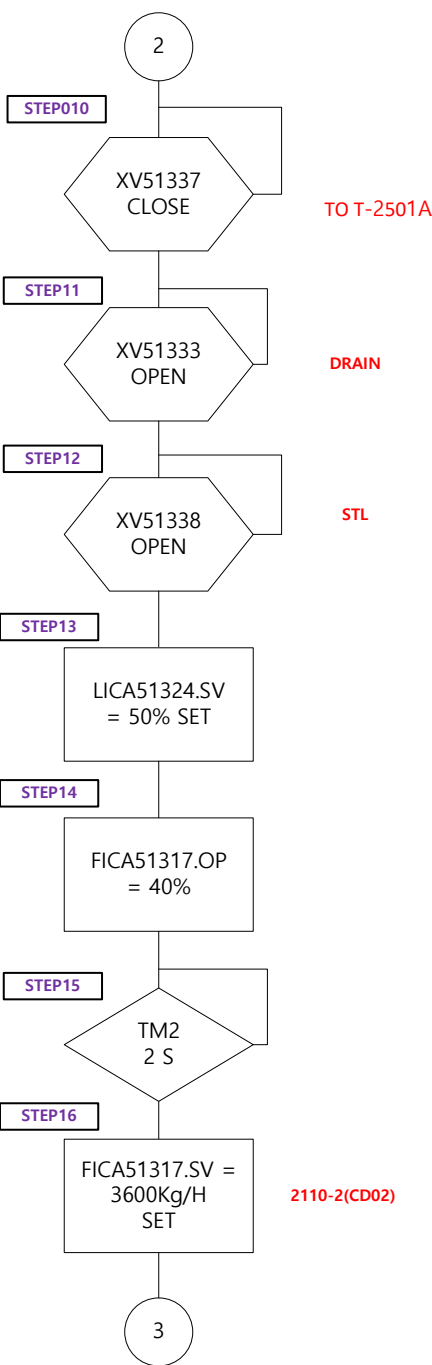
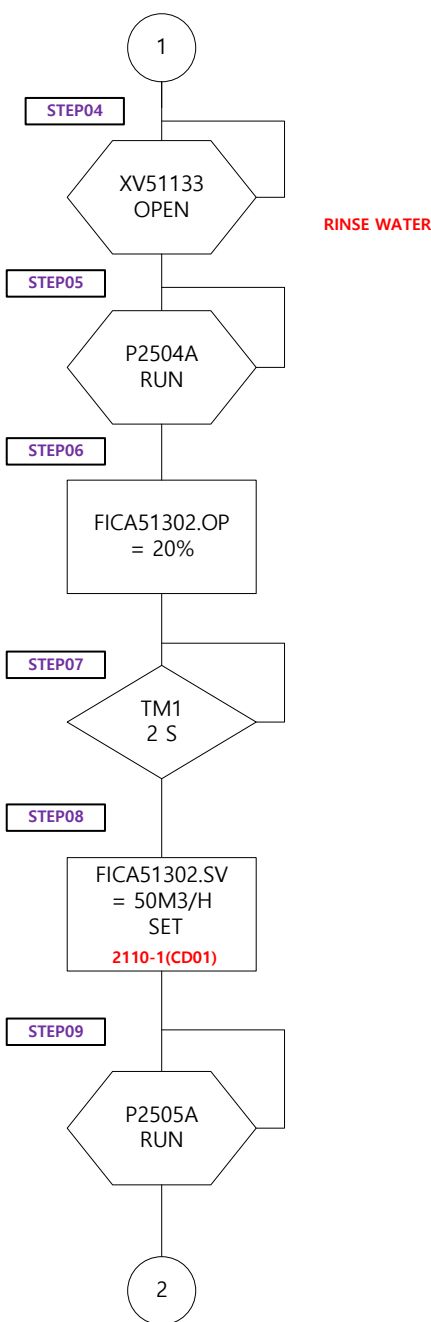
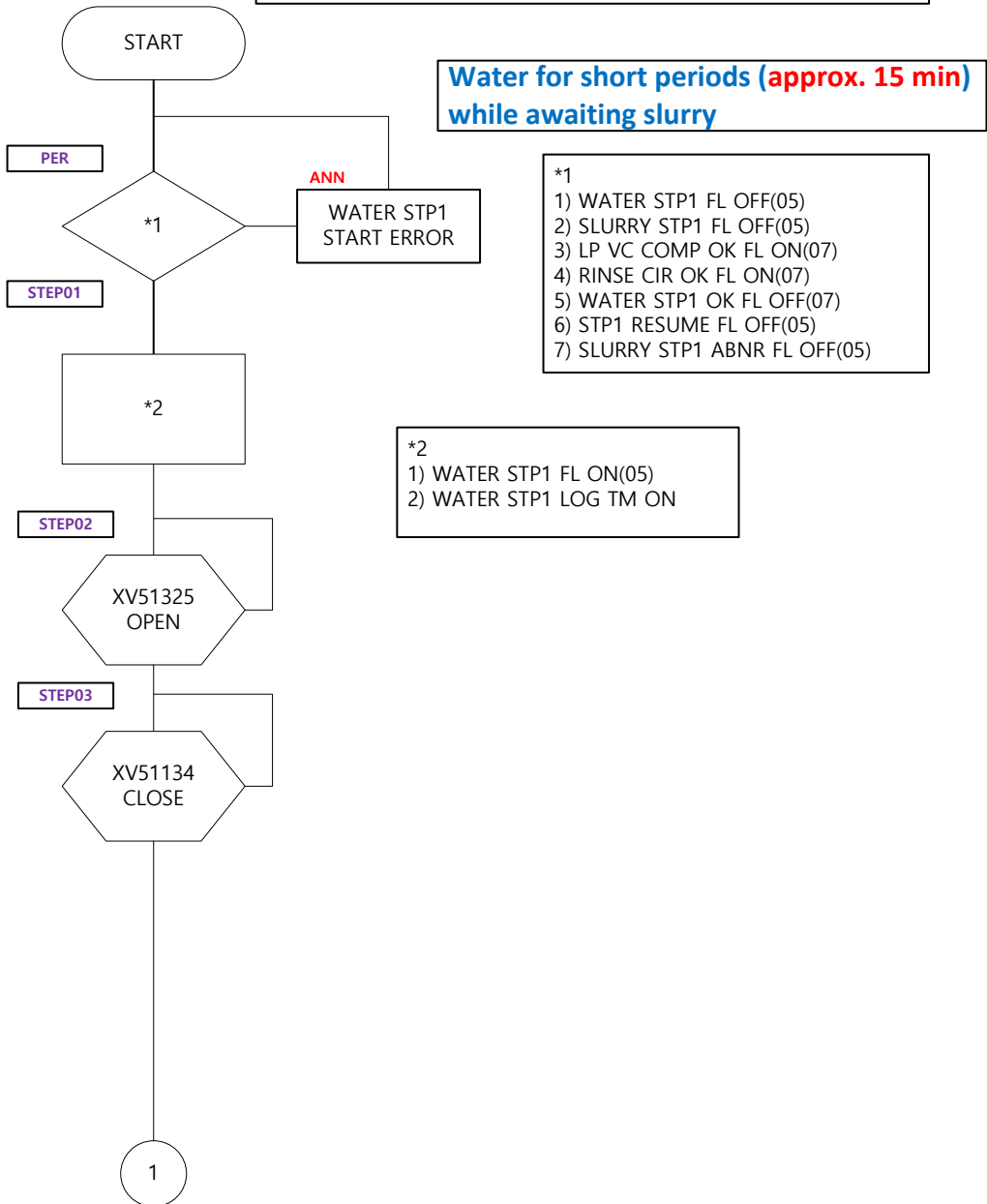


## 2109 HIGH PRESSURE COMP 1 DOSING

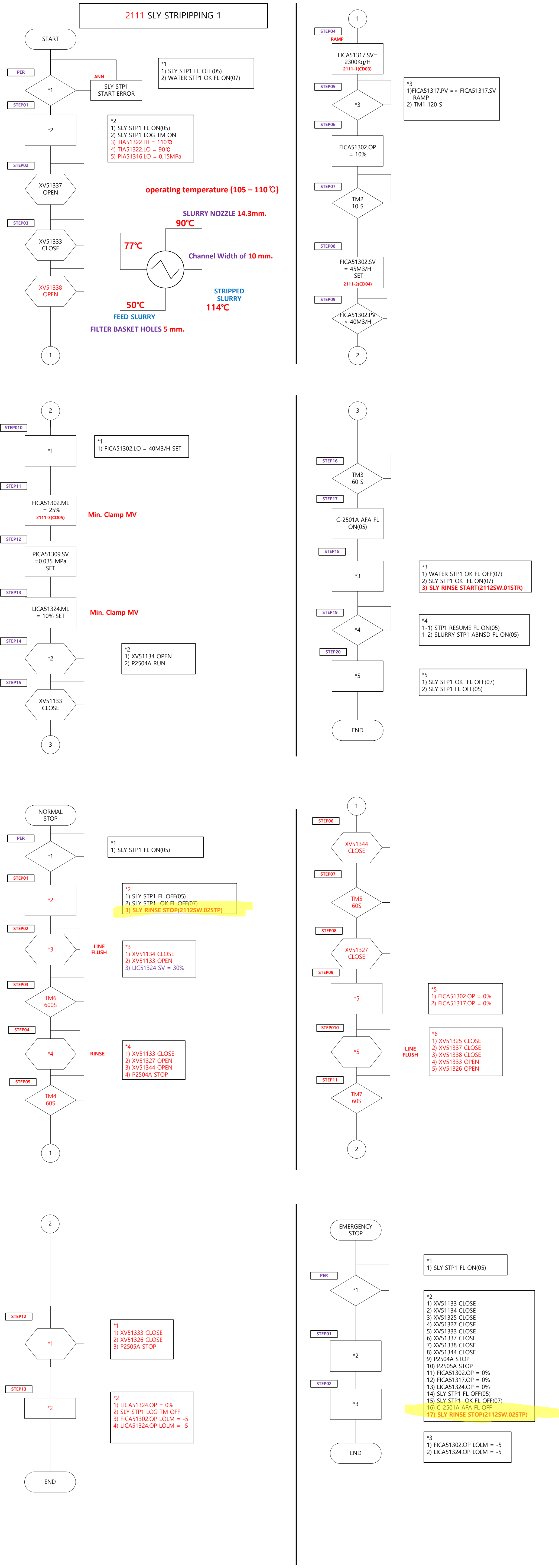




2110 WATER STRIPPING 1







NORMAL STOP

PER

\*1

STEP01

\*2

STEP02

\*3

STEP03

TM6

600S

STEP04

\*4

STEP05

TM4

60S

1

\*1

1) SLY STP1 FL ON(05)

\*2

1) SLY STP1 FL OFF(05)

2) SLY STP1 OK FL OFF(07)

3) SLY RINSE STOP(2112SW.02STP)

LINE FLUSH

\*3

1) XV51134 CLOSE

2) XV51133 OPEN

3) LICA51324 SV = 30%

RINSE

\*4

1) XV51133 CLOSE

2) XV51327 OPEN

3) XV51344 OPEN

4) P2504A STOP

1

STEP06

XV51344  
CLOSE

STEP07

TM5

60S

STEP08

XV51327  
CLOSE

STEP09

\*5

STEP10

\*6

STEP11

TM7

60S

2

\*5

1) FICA51302.OP = 0%

2) FICA51317.OP = 0%

LINE FLUSH

\*6

1) XV51325 CLOSE

2) XV51337 CLOSE

3) XV51338 CLOSE

4) XV51333 OPEN

5) XV51336 OPEN

2

STEP12

\*1

STEP13

\*2

END

\*1

1) XV51333 CLOSE

2) XV51326 CLOSE

3) P2505A STOP

\*2

1) LICA51324.OP = 0%

2) SLY STP1 LOG TM OFF

3) FICA51302.OP LOUM = -5

4) LICA51324.OP LOUM = -5

EMERGENCY STOP

PER

\*1

STEP01

\*2

STEP02

\*3

END

\*1

1) SLY STP1 FL ON(05)

\*2

1) XV51133 CLOSE

2) XV51134 CLOSE

3) XV51325 CLOSE

4) XV51327 CLOSE

5) XV51333 CLOSE

6) XV51337 CLOSE

7) XV51338 CLOSE

8) XV51344 CLOSE

9) P2504A STOP

10) P2505A STOP

11) FICA51302.OP = 0%

12) FICA51317.OP = 0%

13) LICA51324.OP = 0%

14) SLY STP1 FL OFF(05)

15) SLY STP1 OK FL OFF(07)

16) C-2501A.AFA.FL OFF

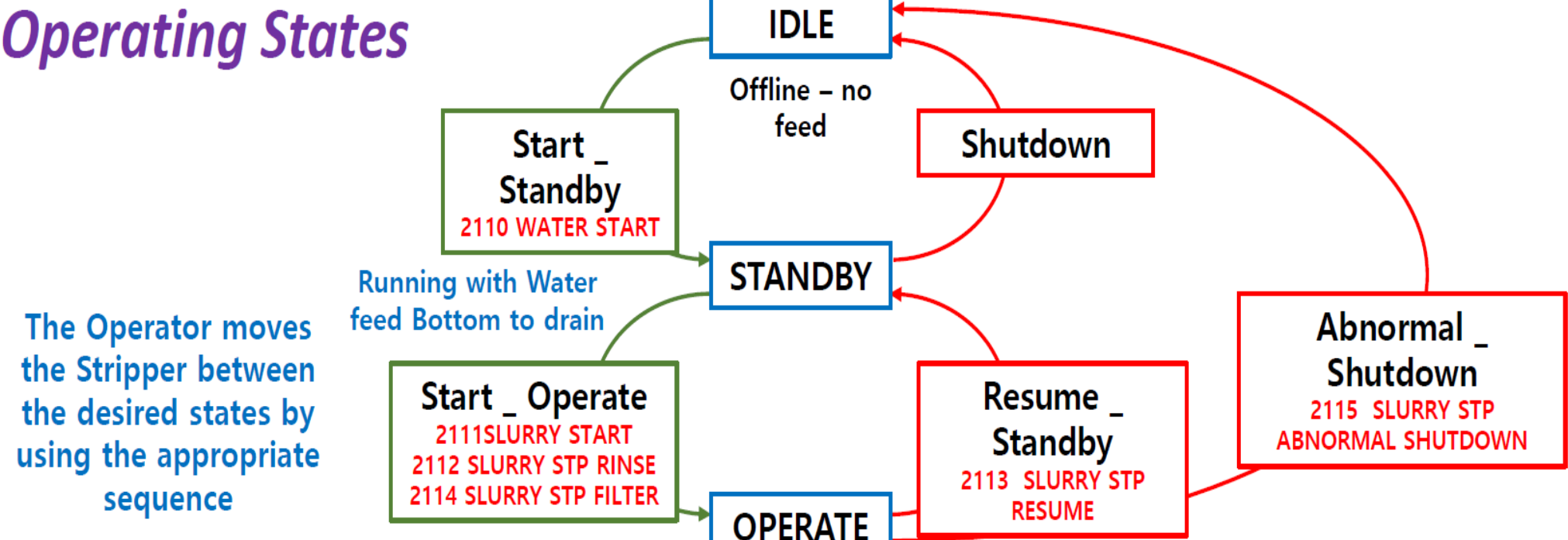
17) SLY RINSE STOP(2112SW.02STP)

\*3

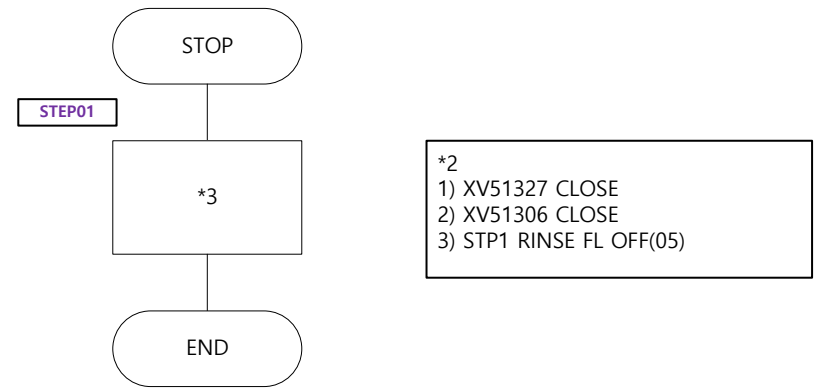
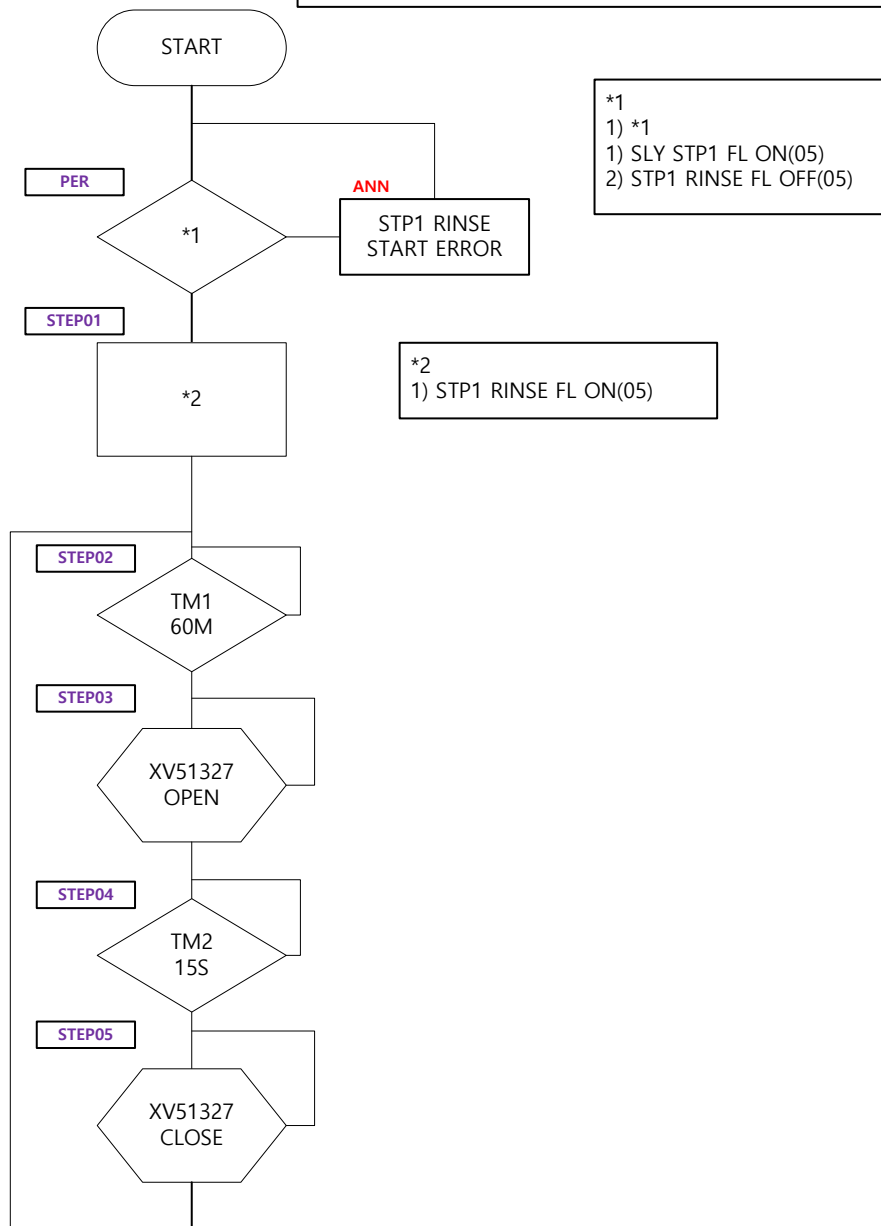
1) FICA51302.OP LOUM = -5

2) LICA51324.OP LOUM = -5

STRIPPING COLUMN OPERATION

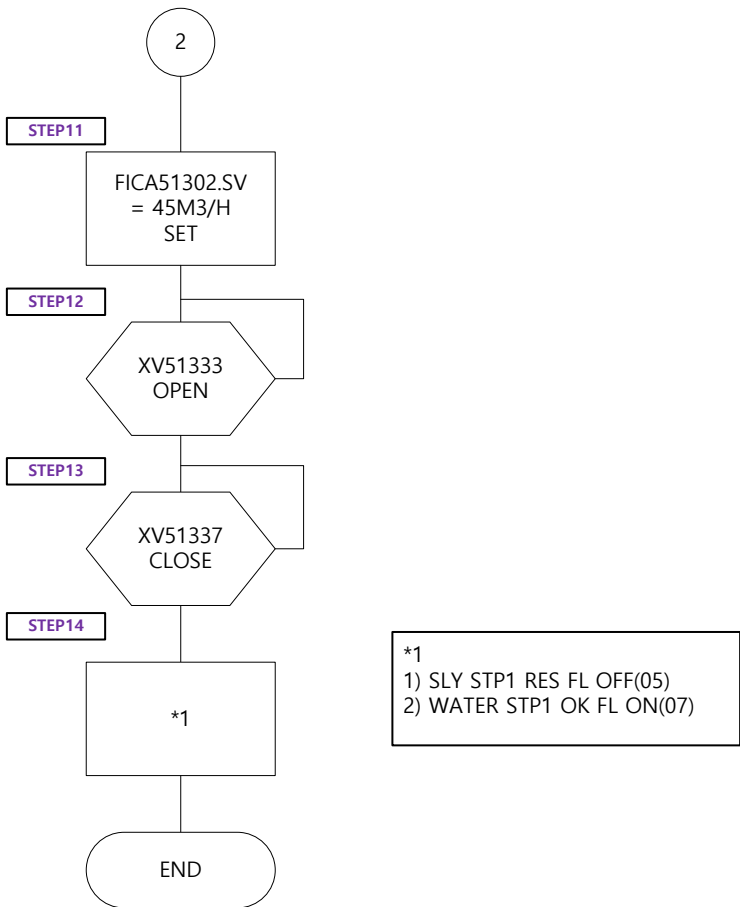
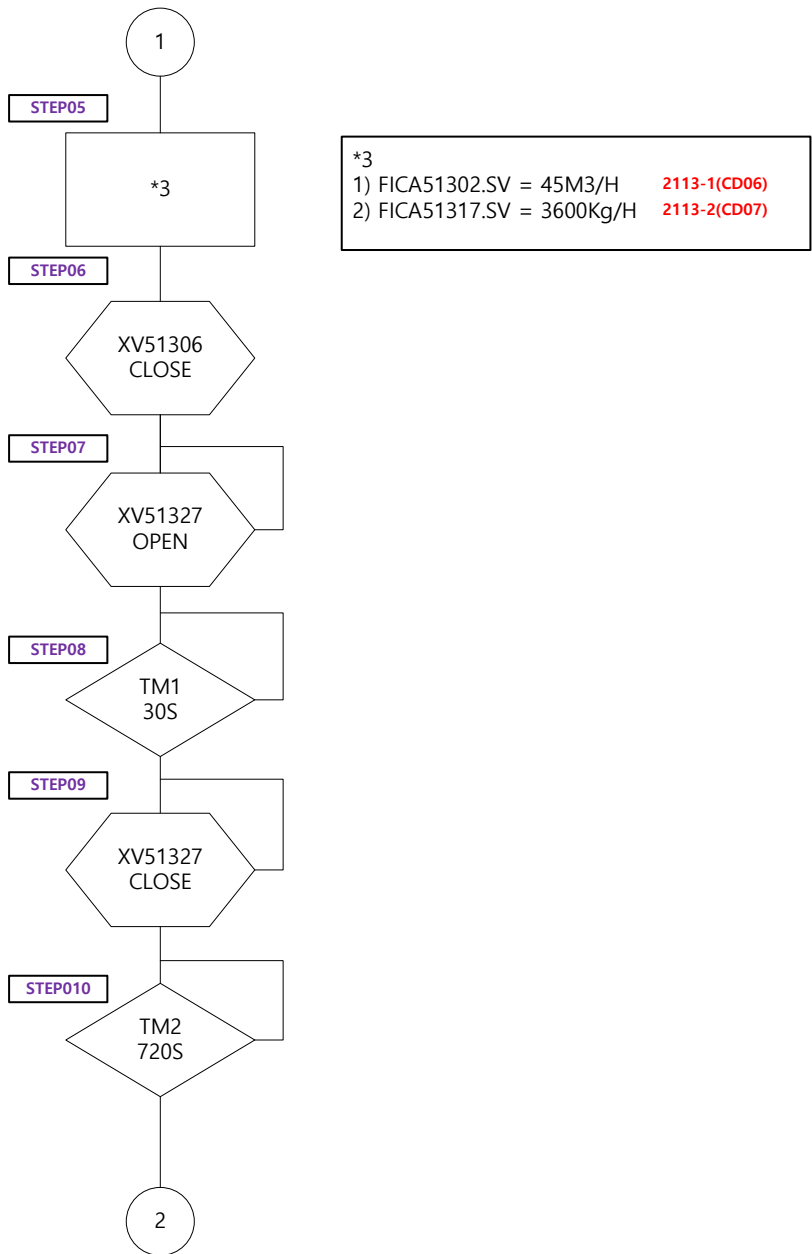
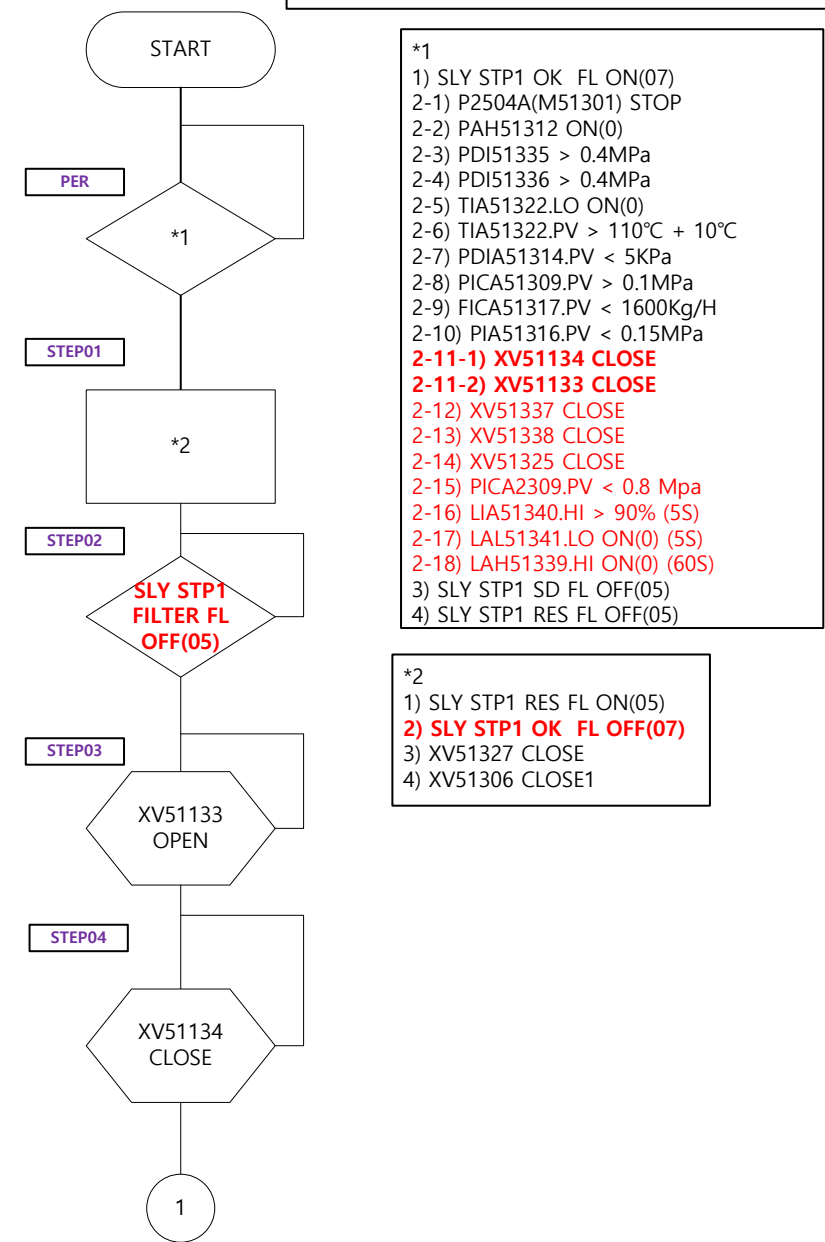


## 2112 SLURRY STP1 RINSE

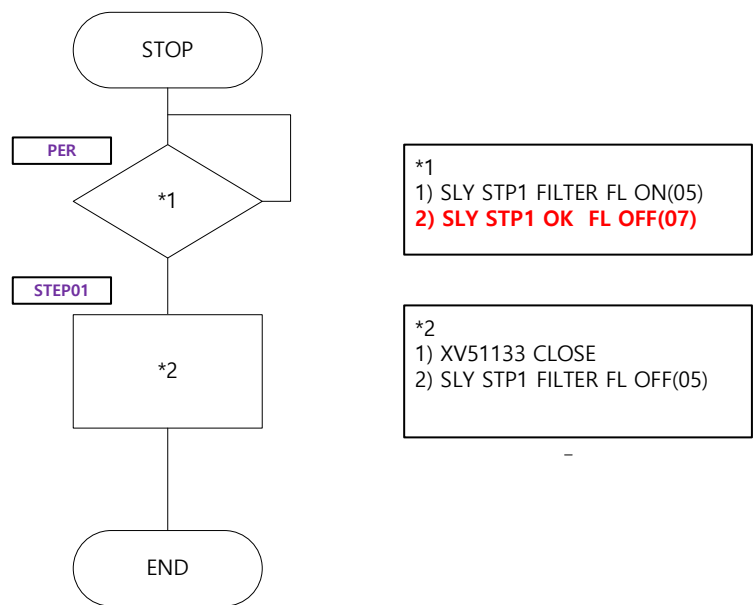
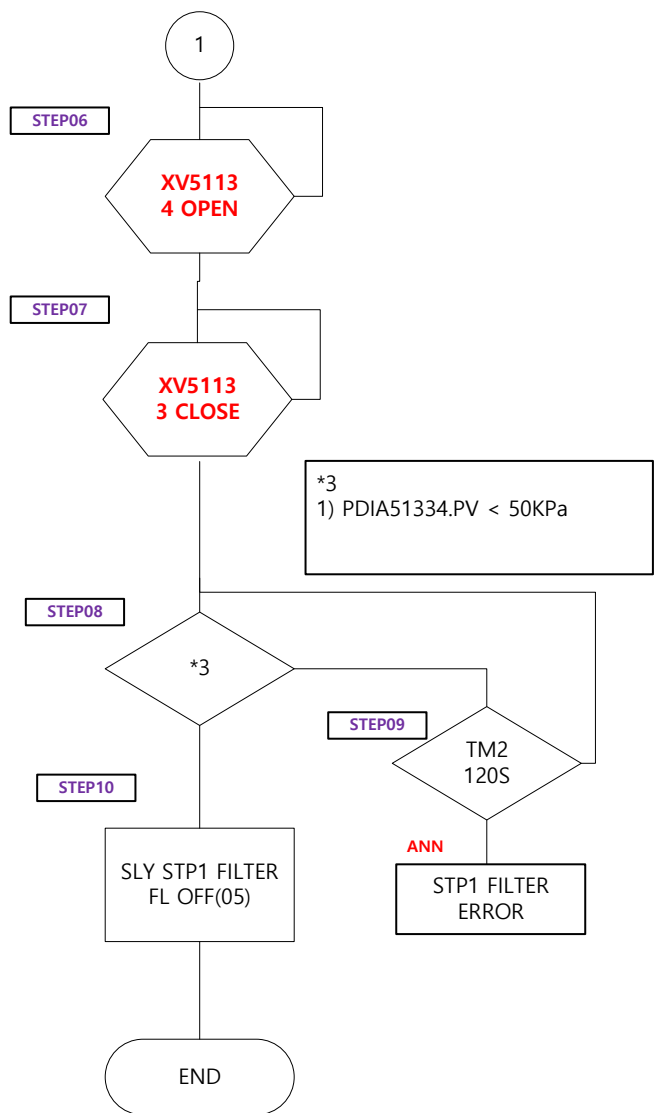
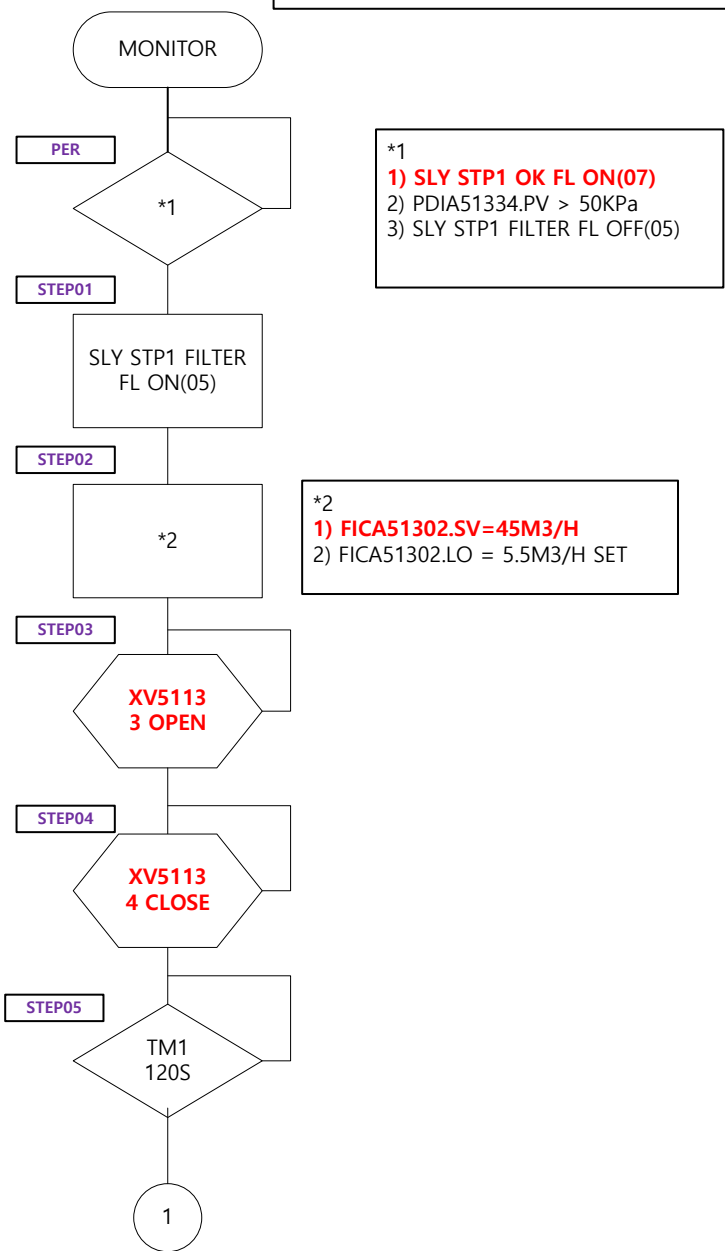




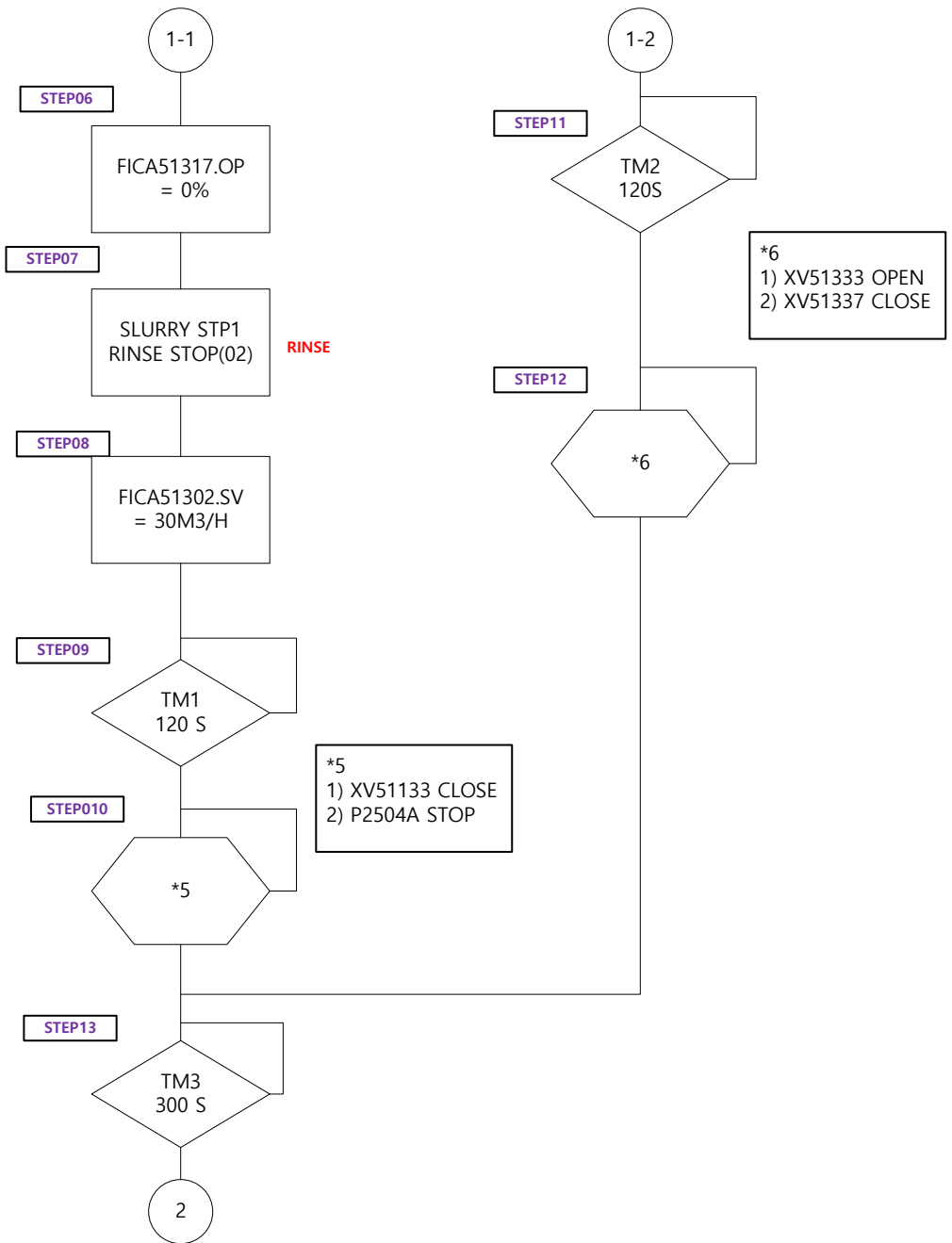
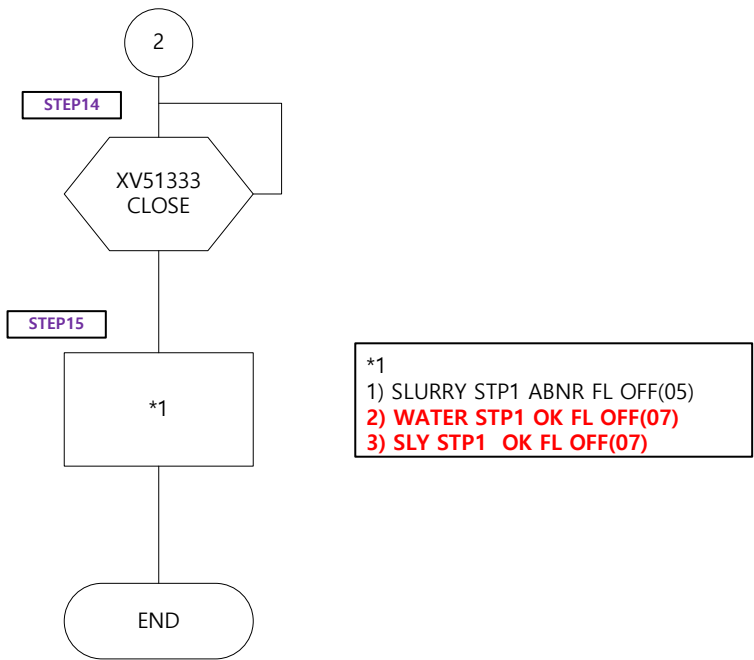
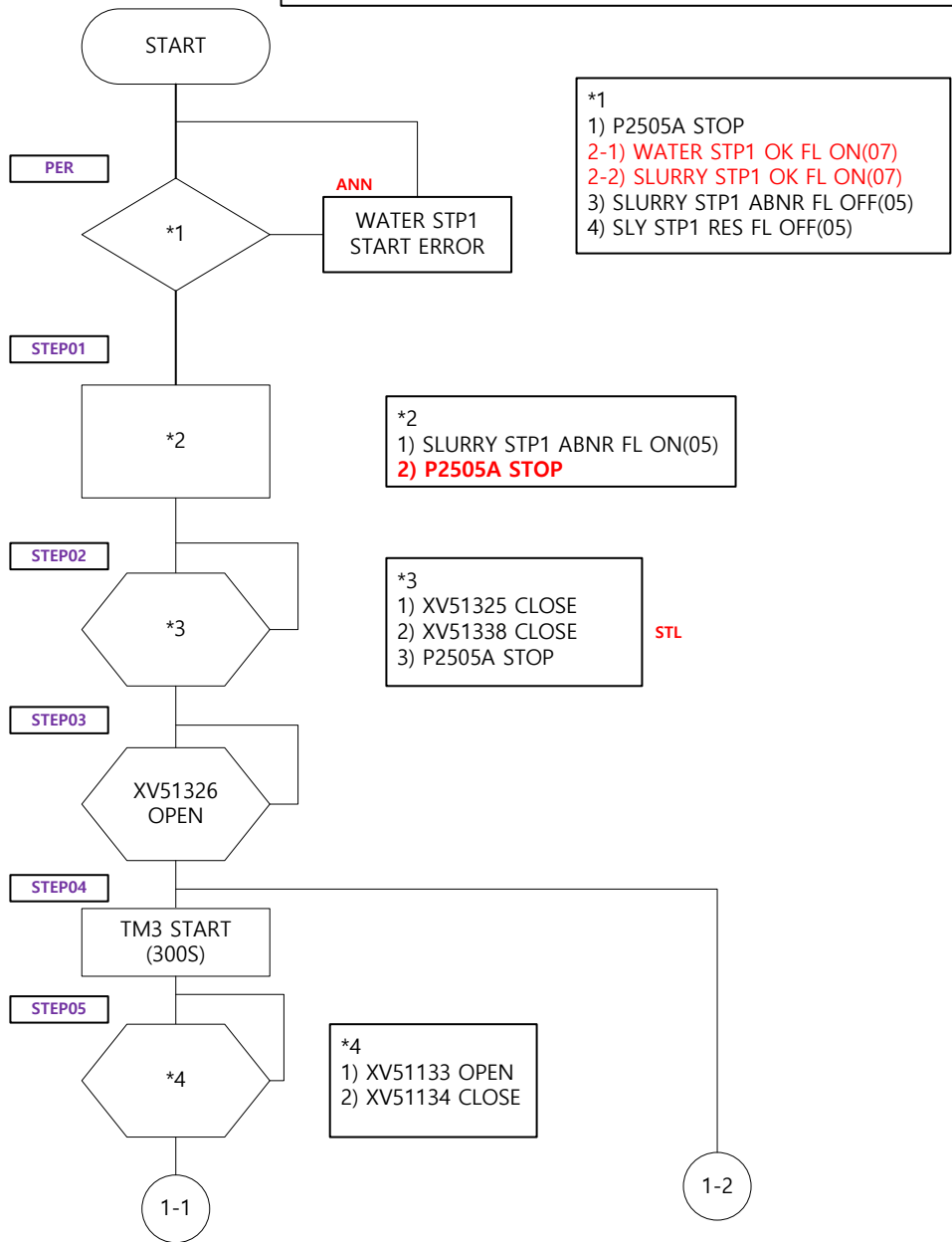
2113 SLURRY STP1 RESUME



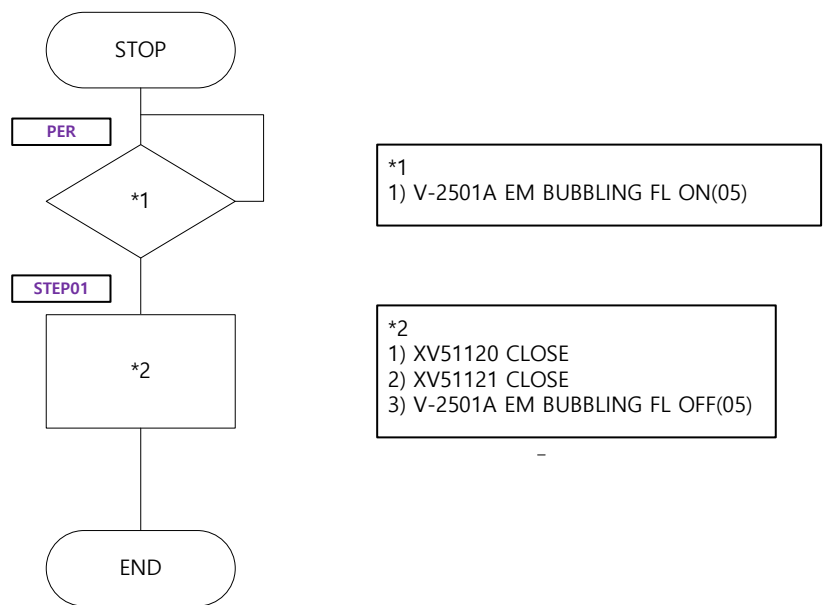
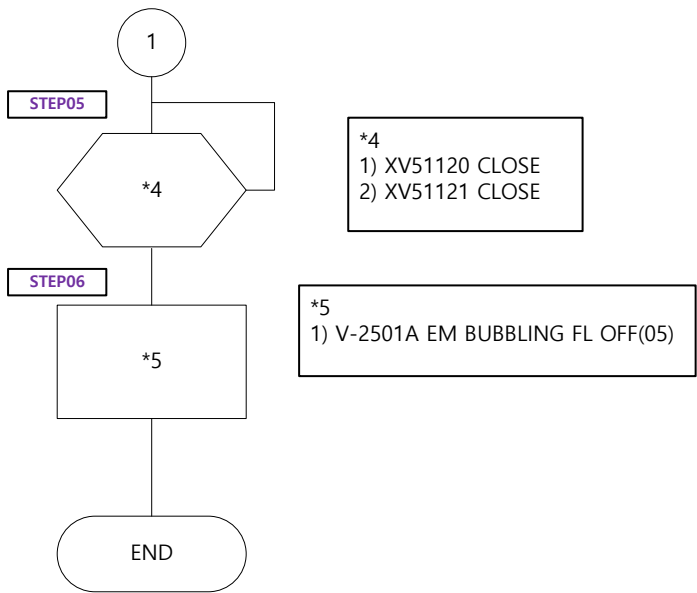
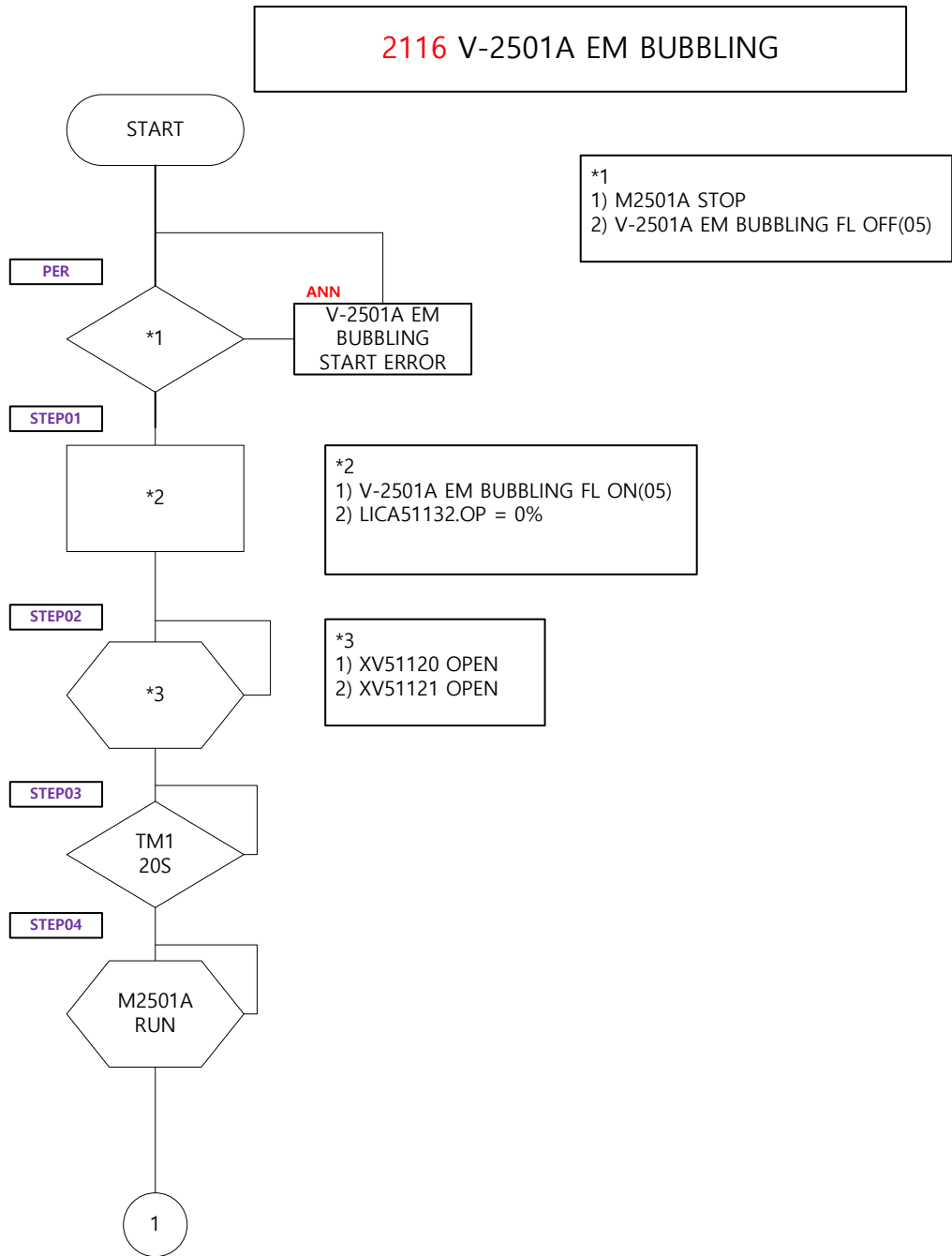
2114 SLURRY STP1 FILTER

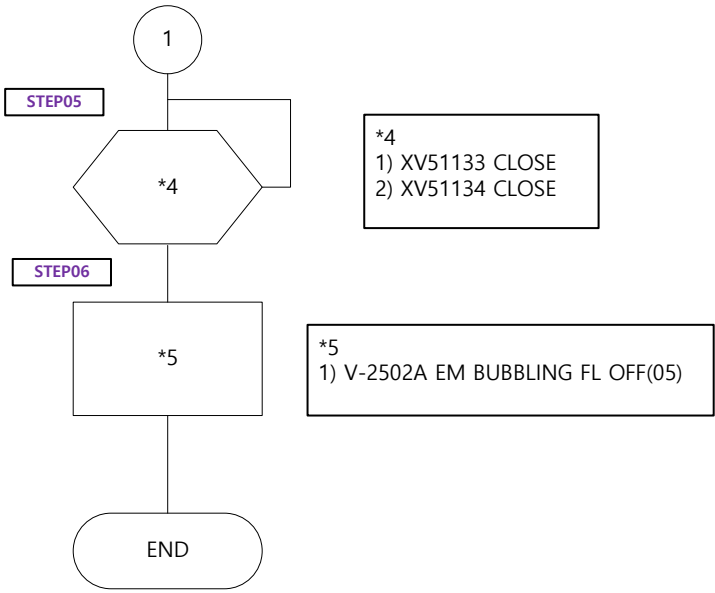
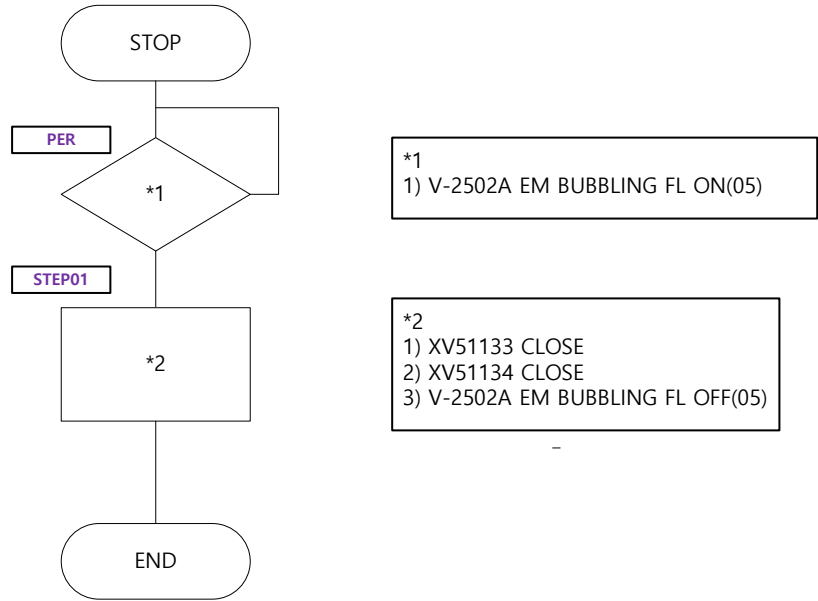
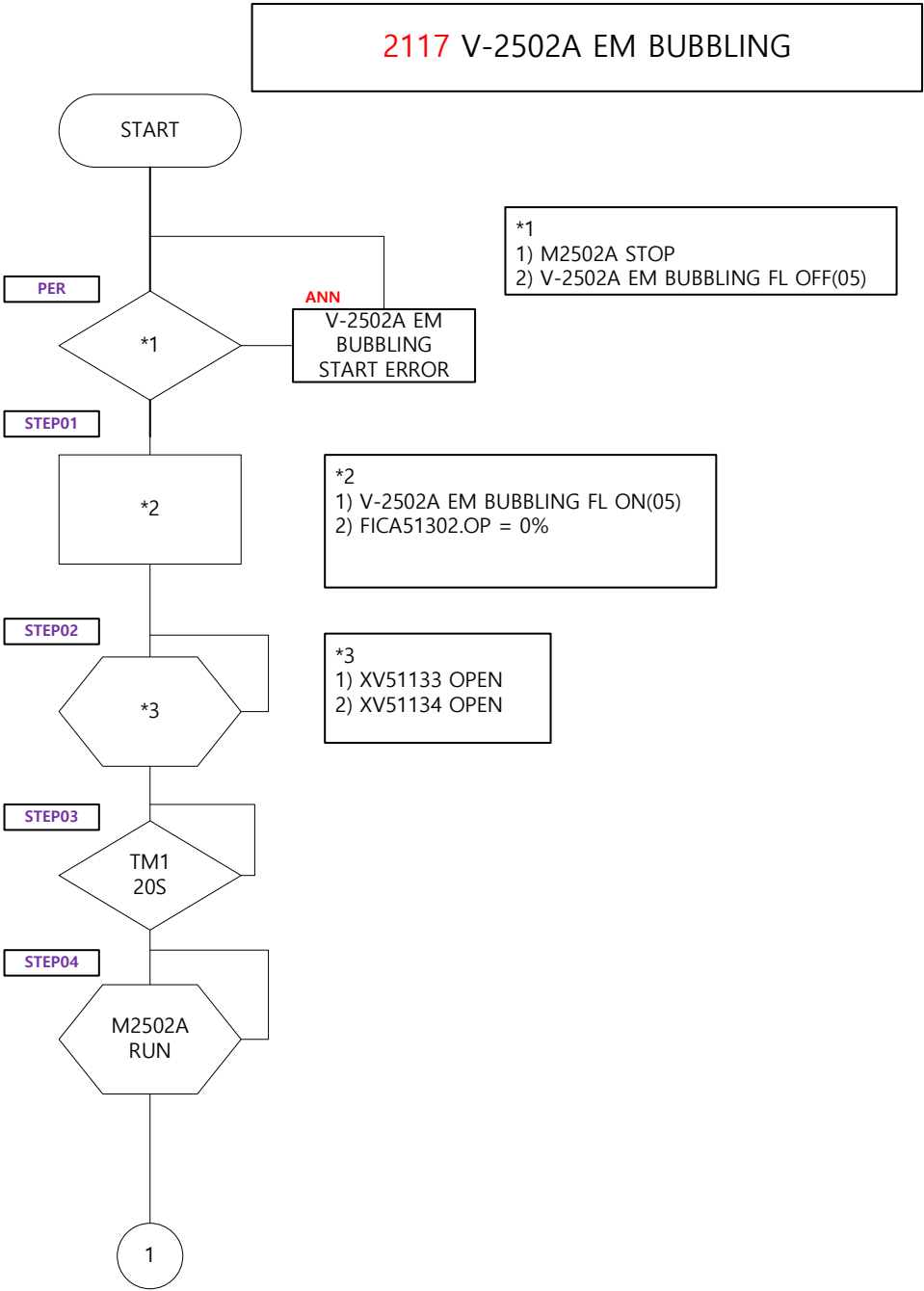


2115 SLURRY STP1 ABNORMAL SHUTDOWN



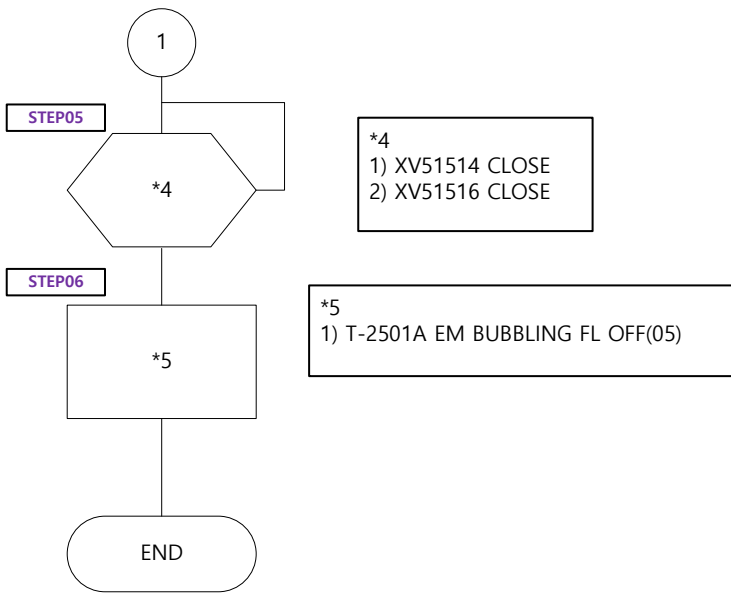
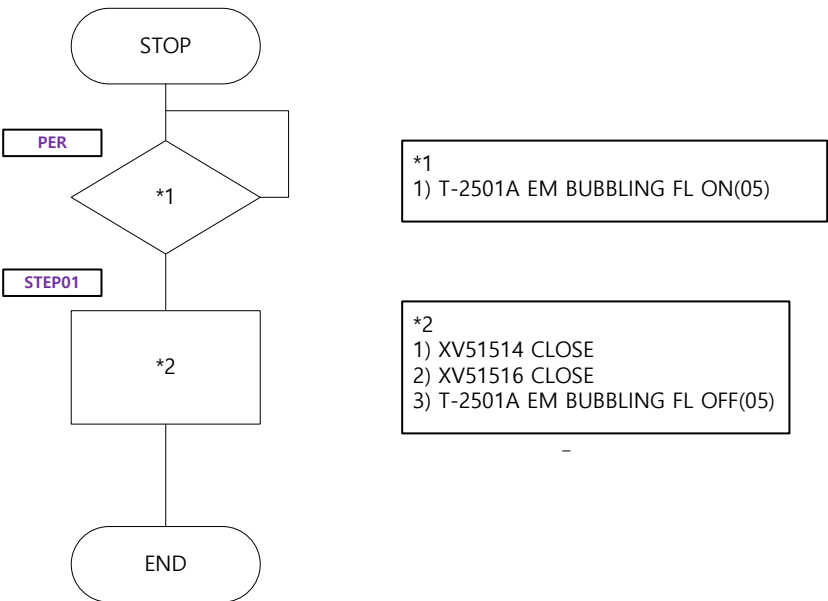
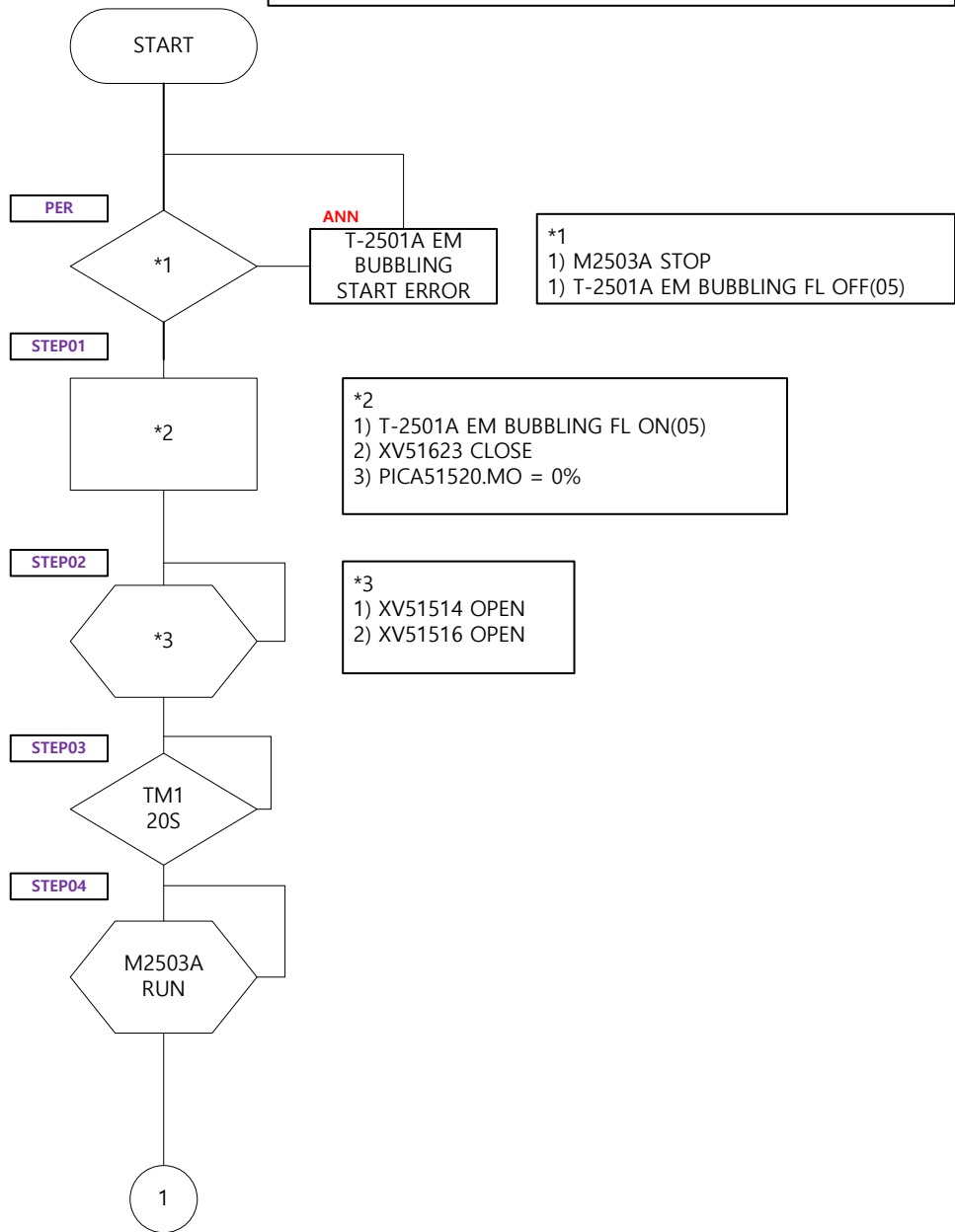
2116 V-2501A EM BUBBLING





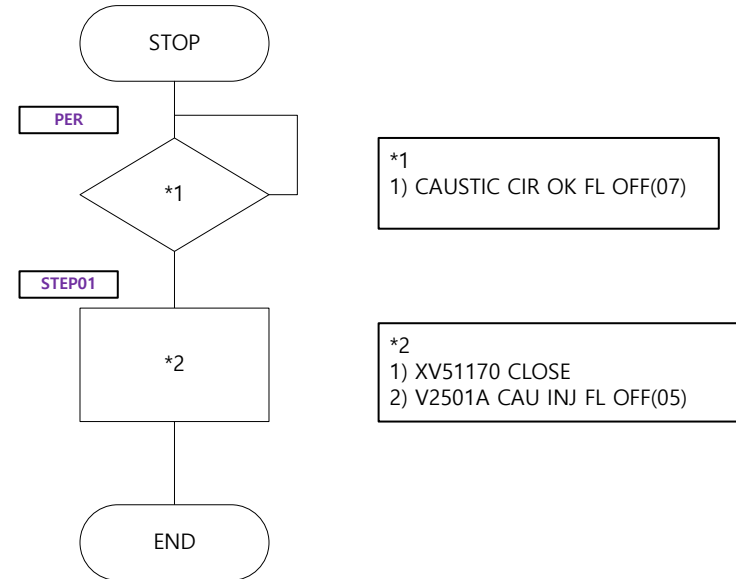
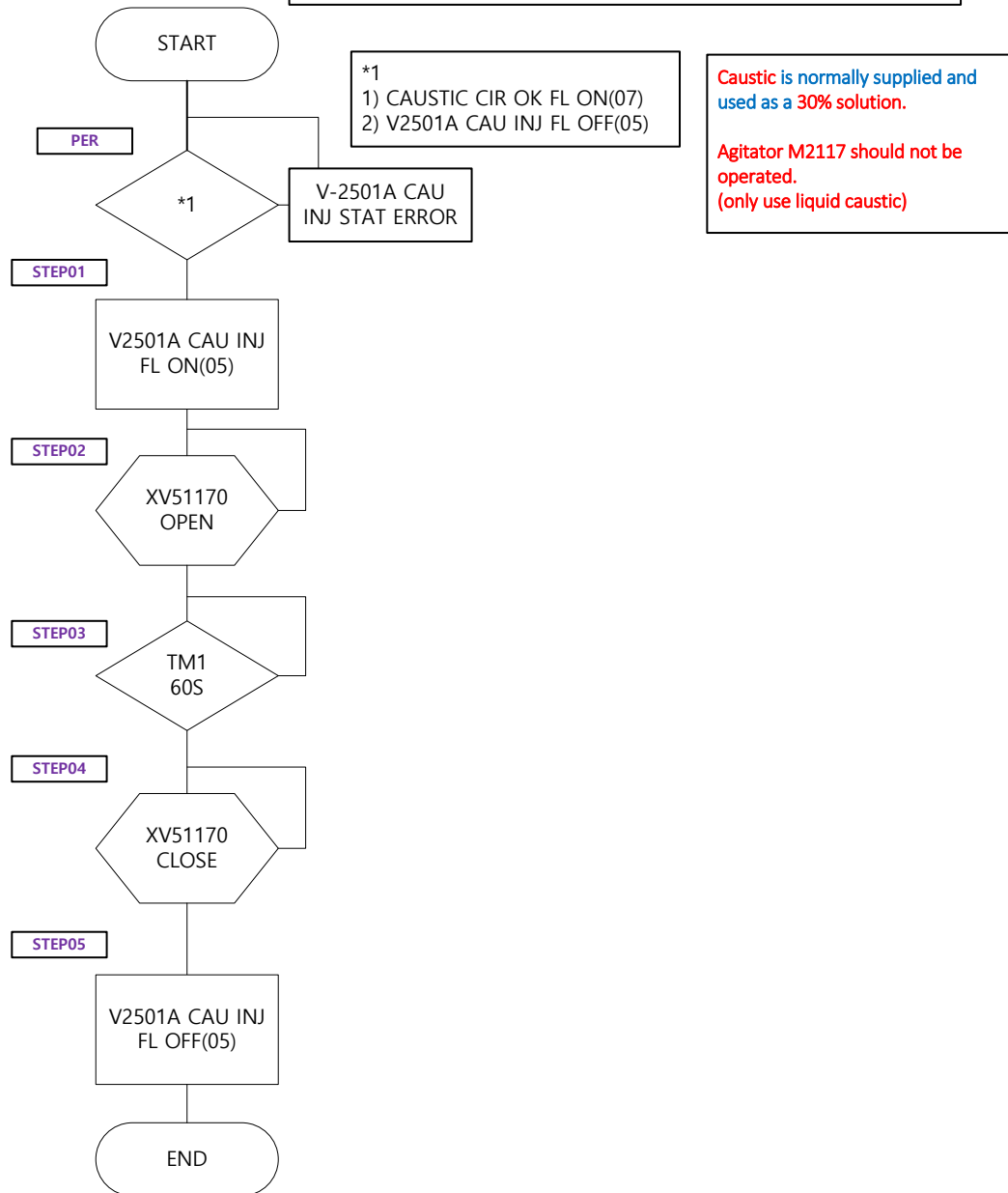


2118 T-2501A EM BUBBLING

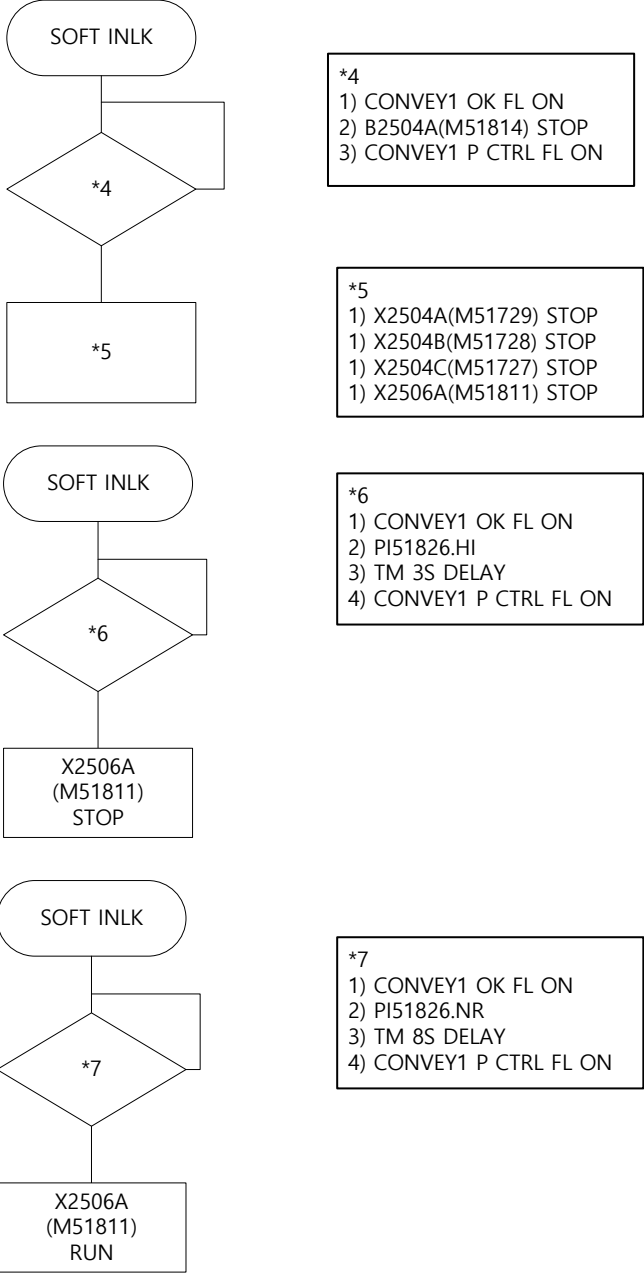
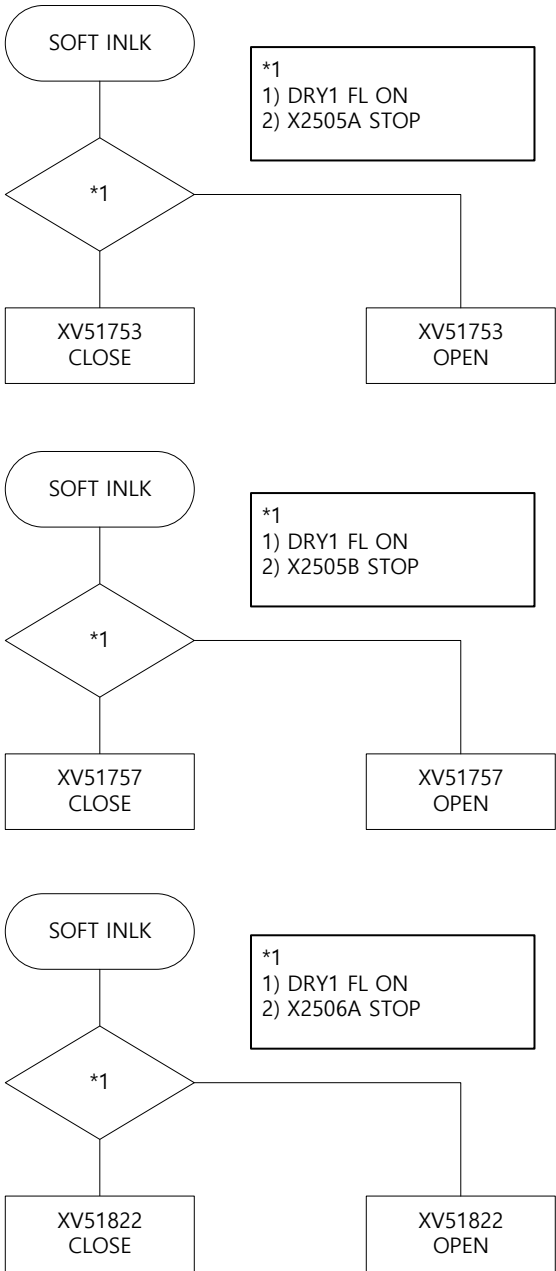
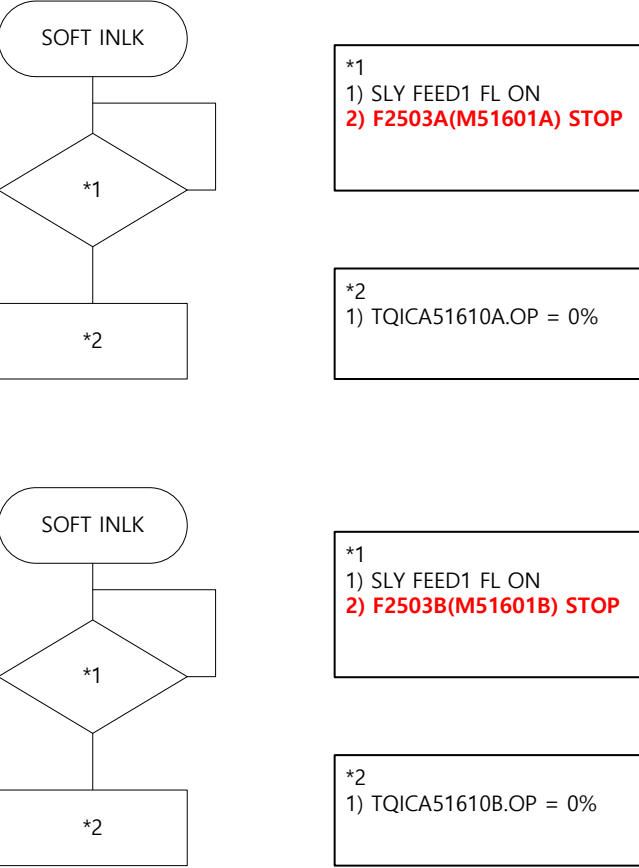
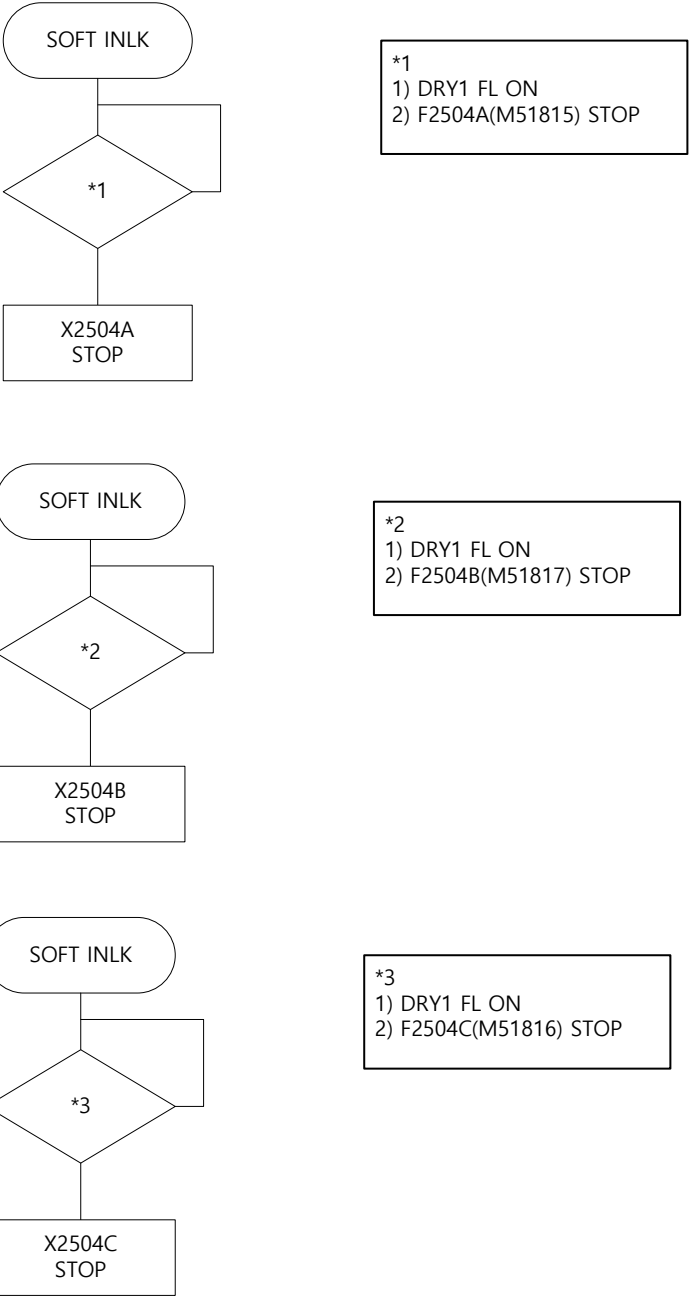
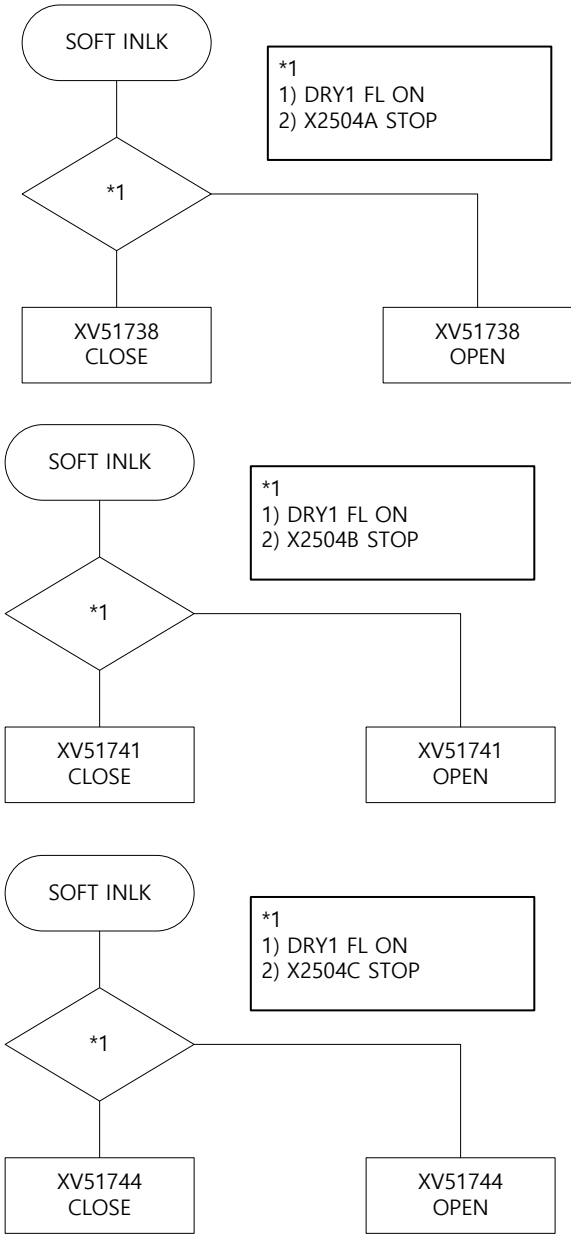


Caustic is used for slurry pH control and dosing of liquid ring compressors , also for pH control

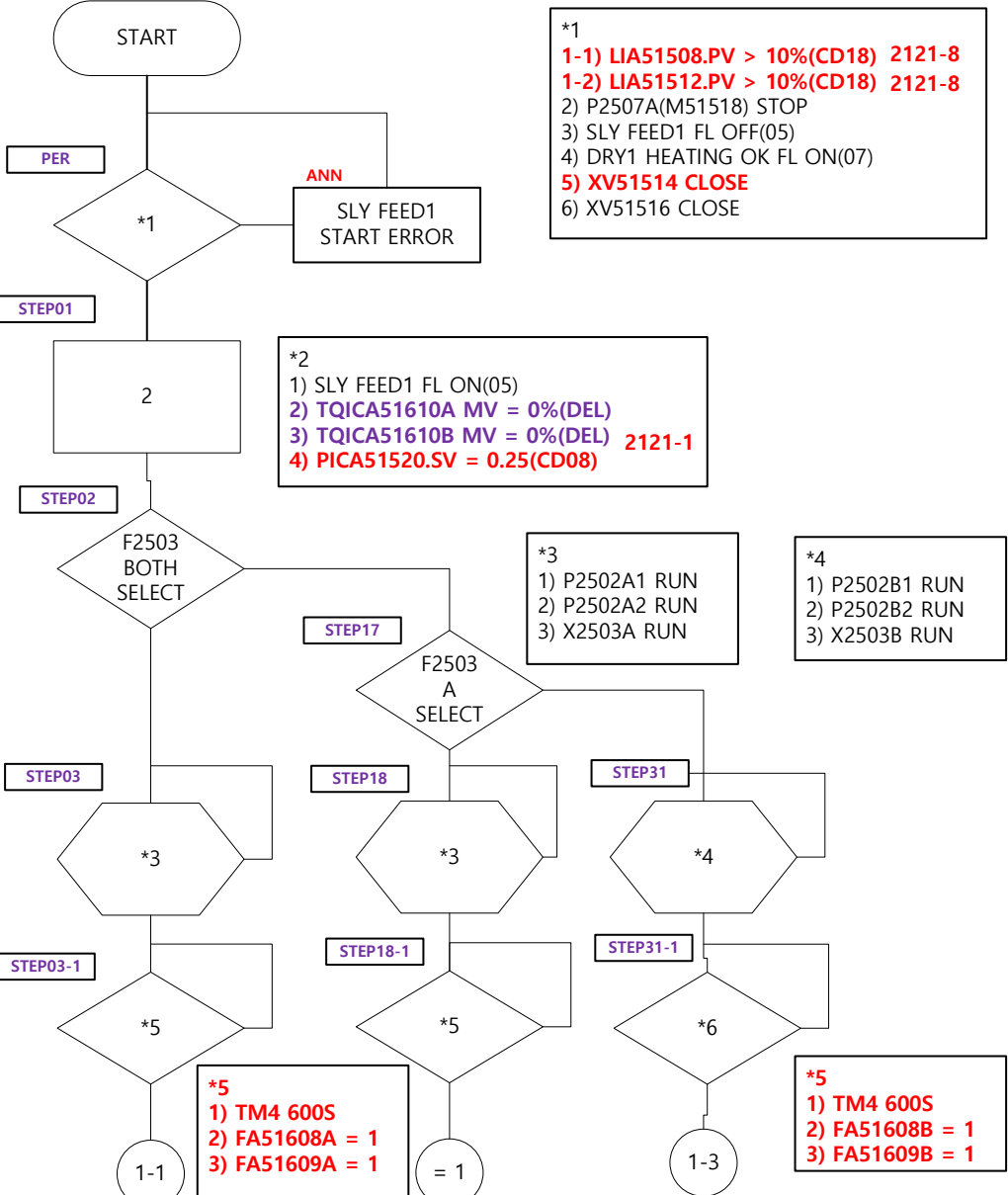
## 2119 V-2501A CAUSTIC INJ



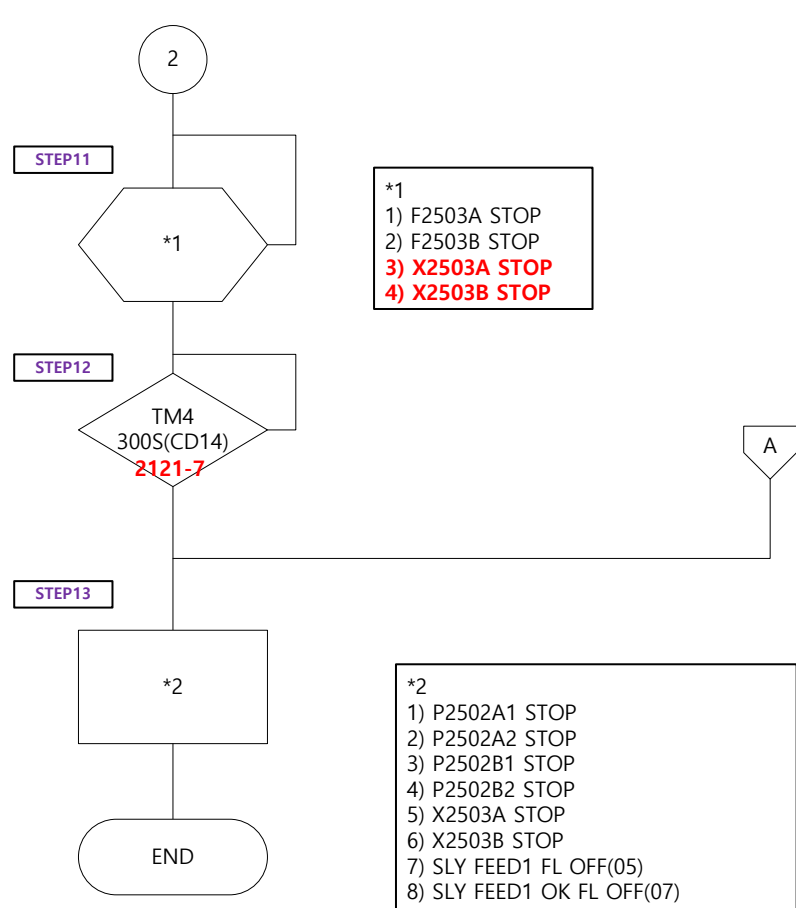
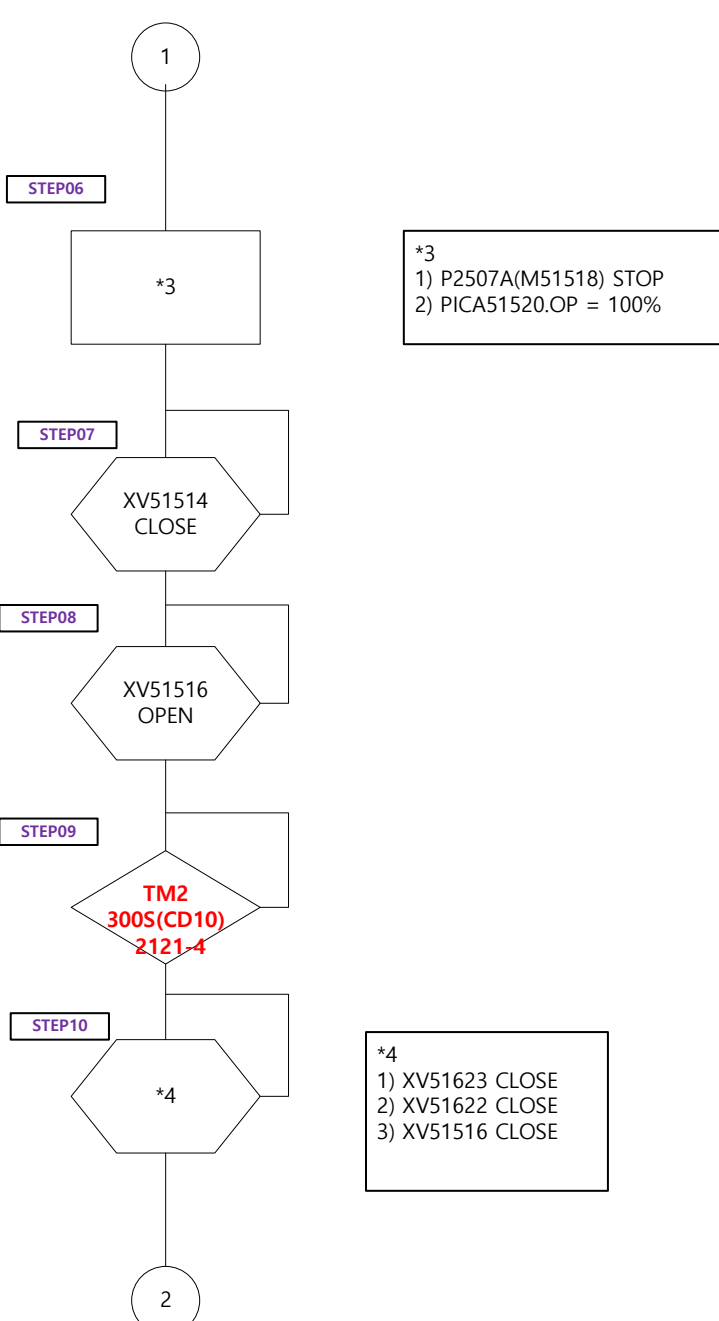
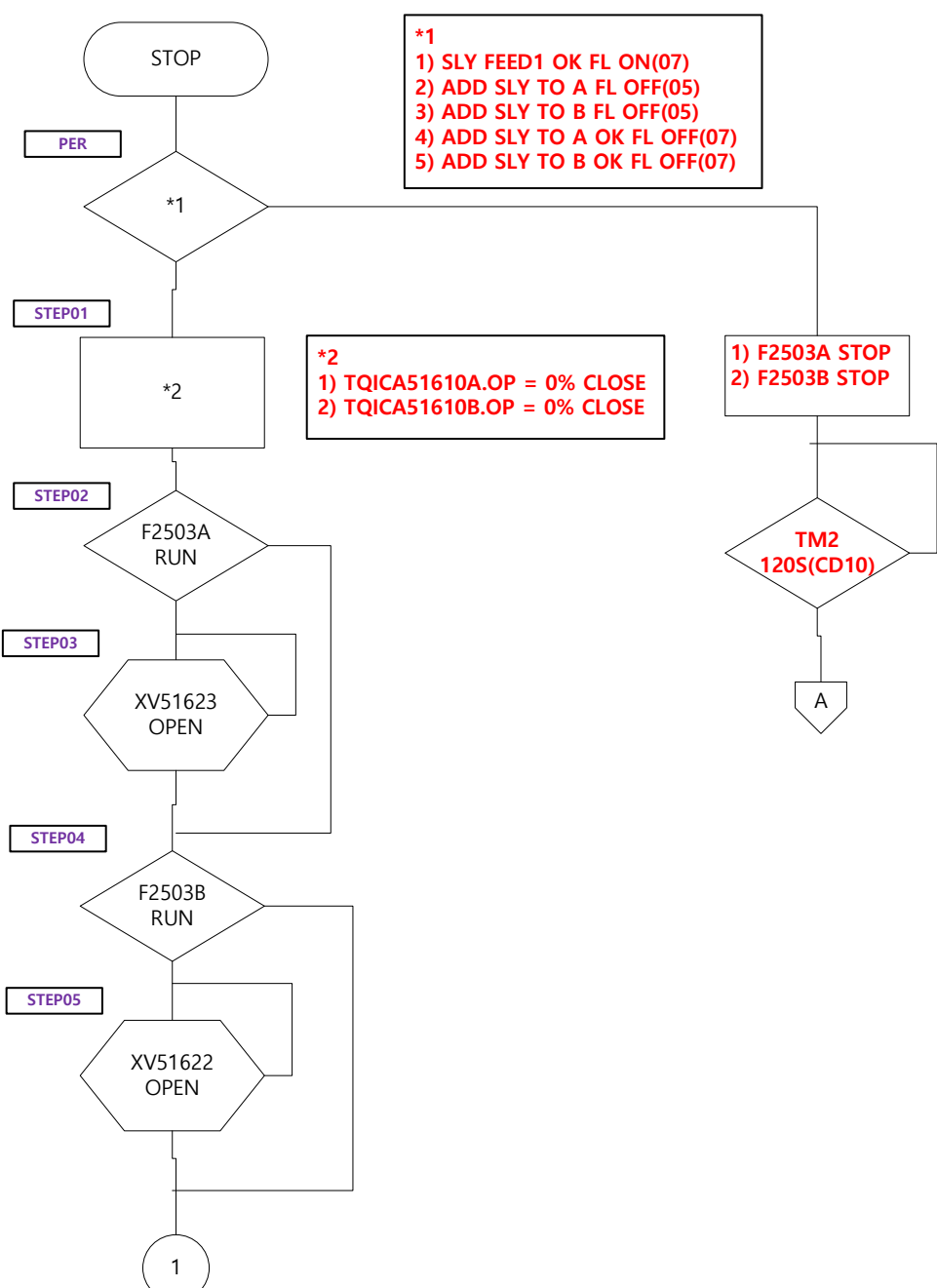
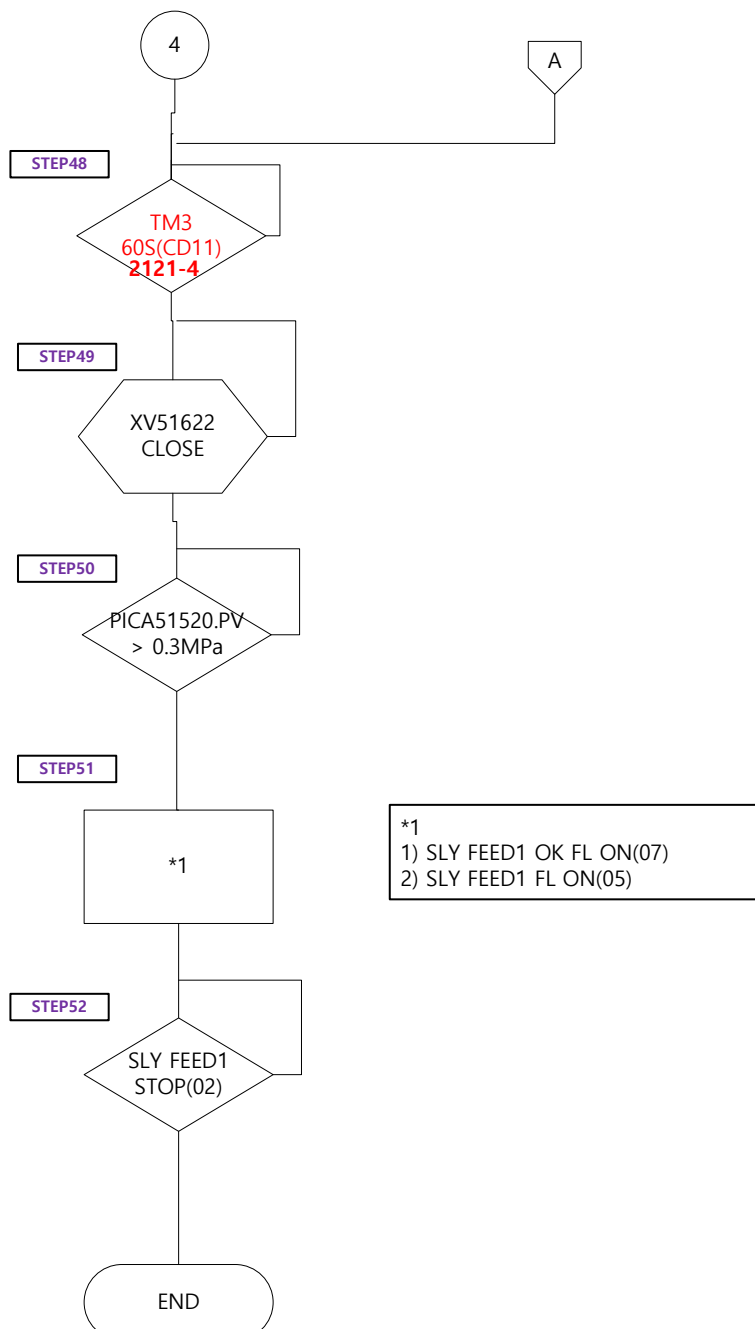
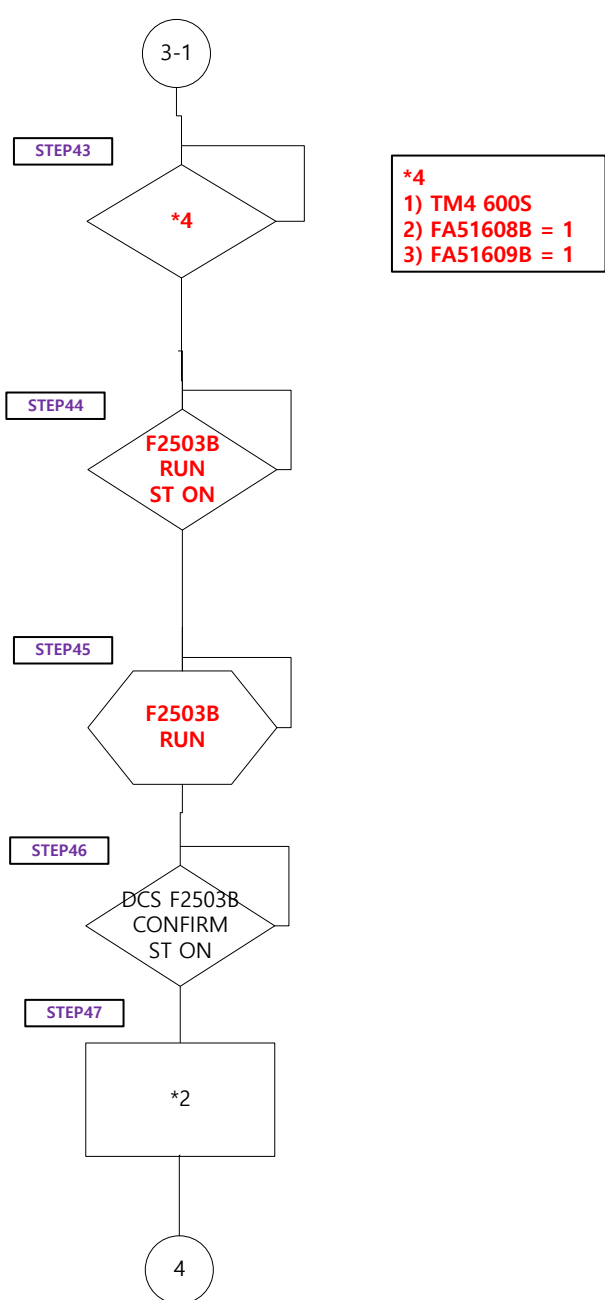
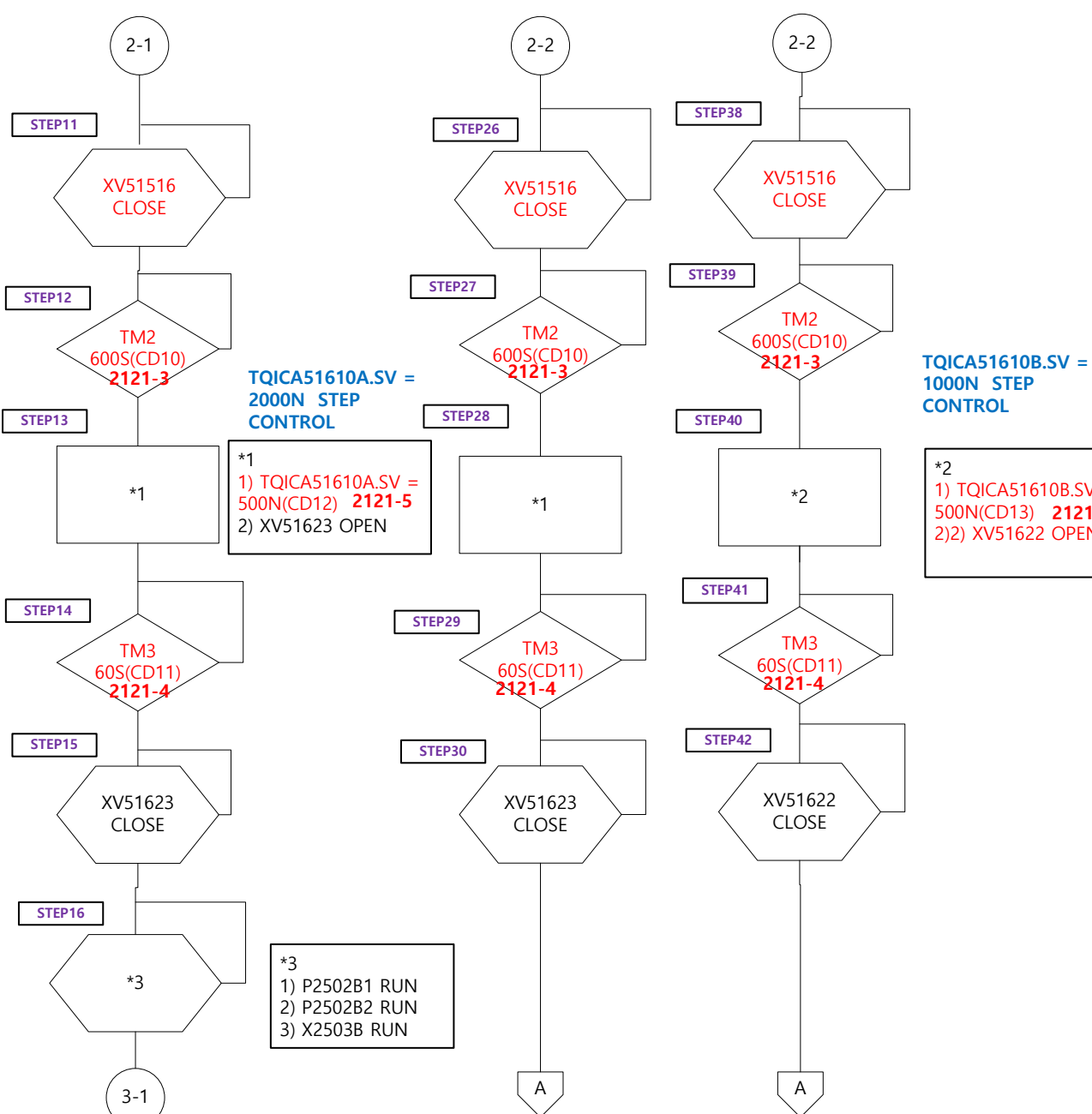
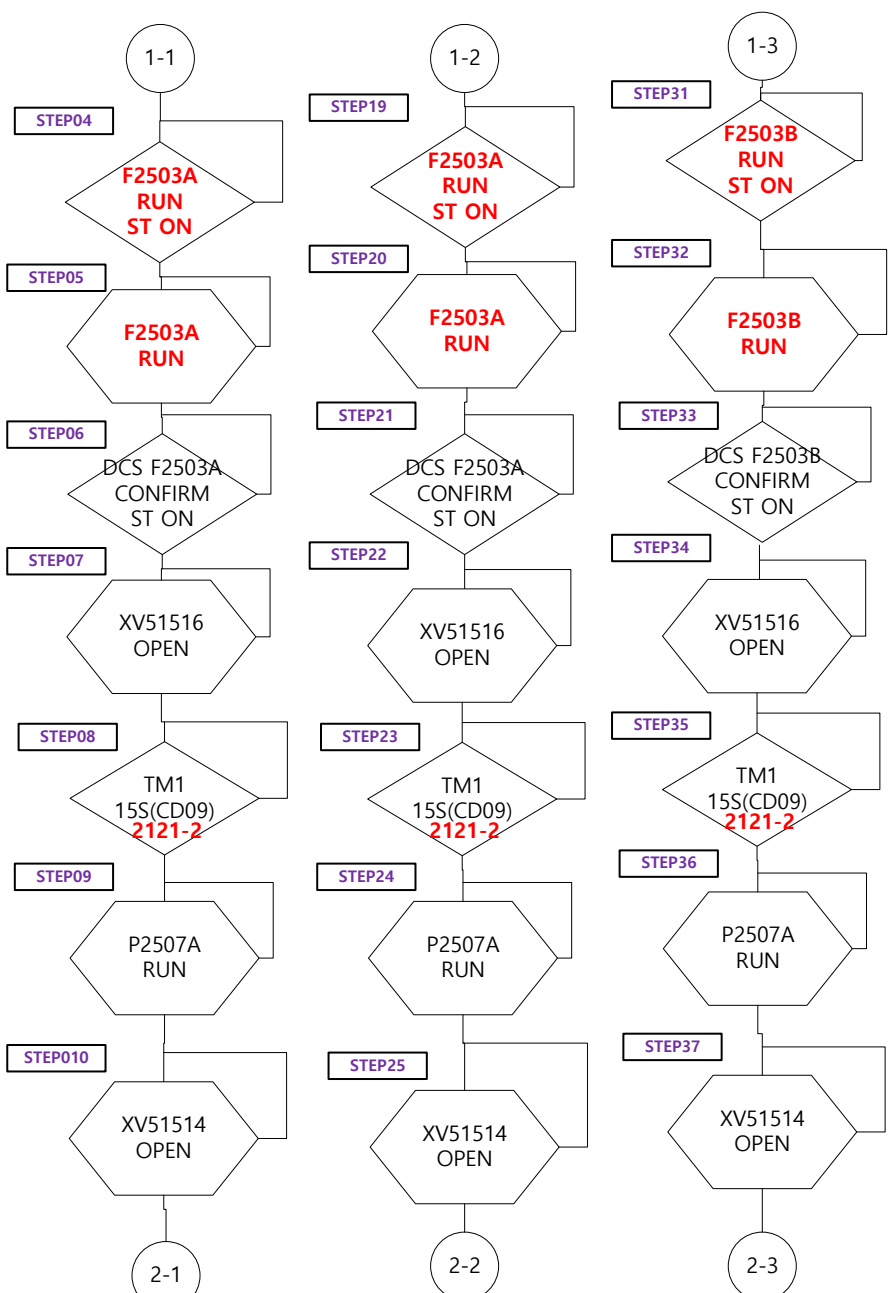
2100 DRY1 INTERLOCK (ALL PULSE)

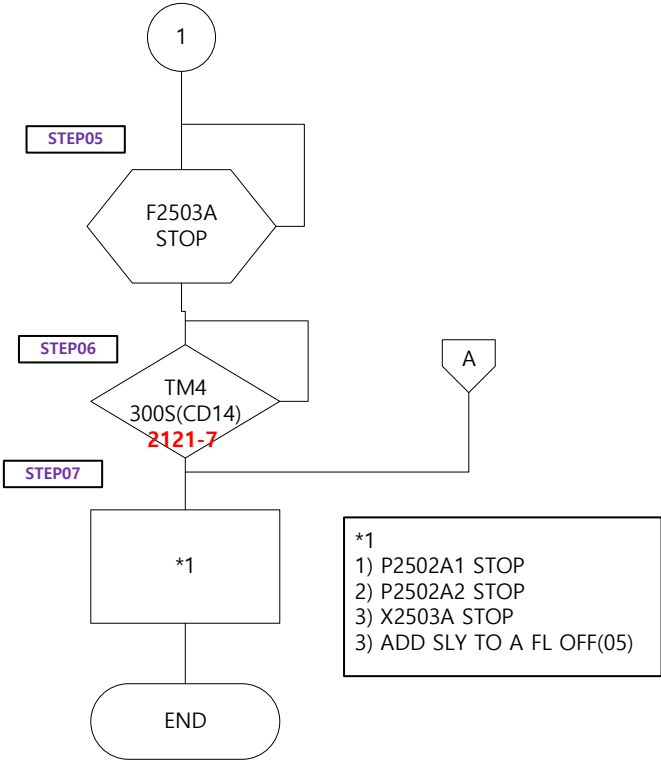
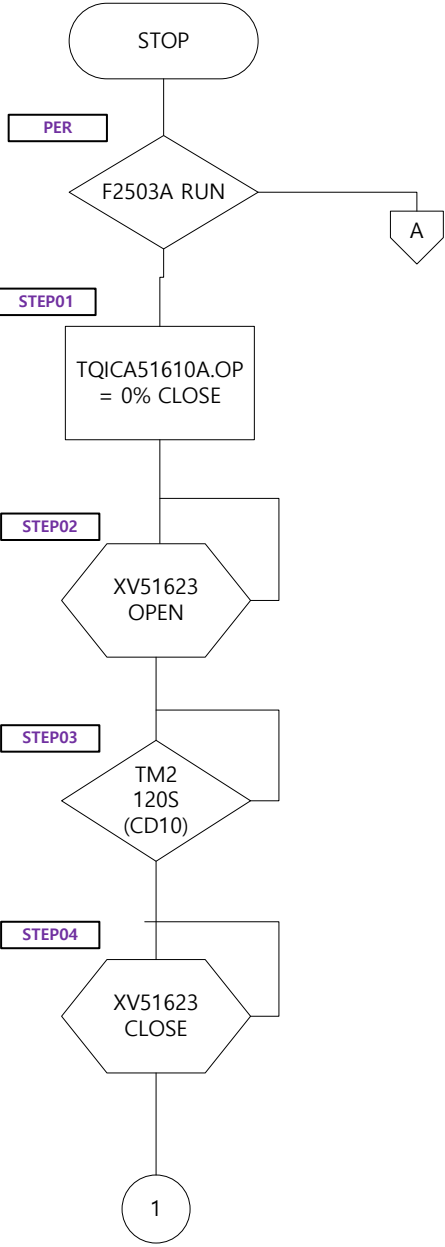
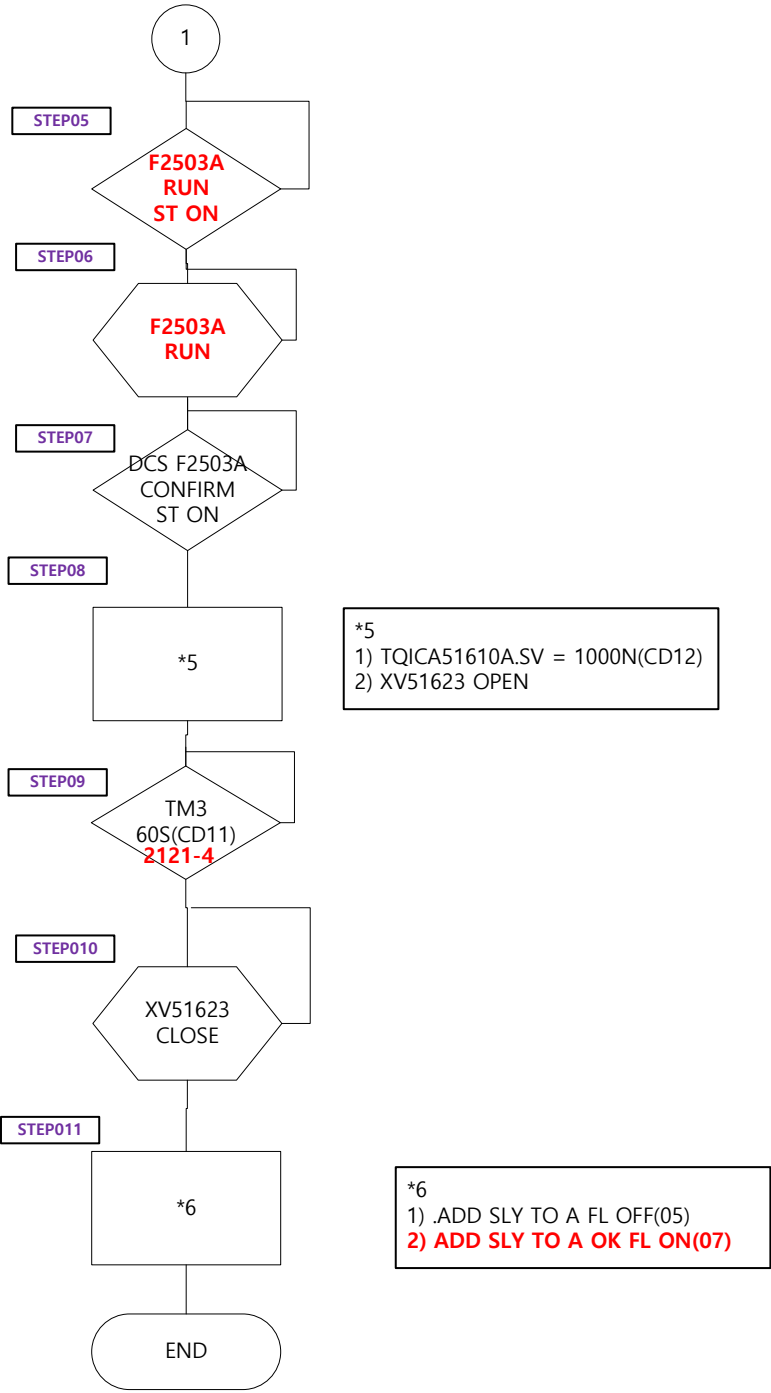
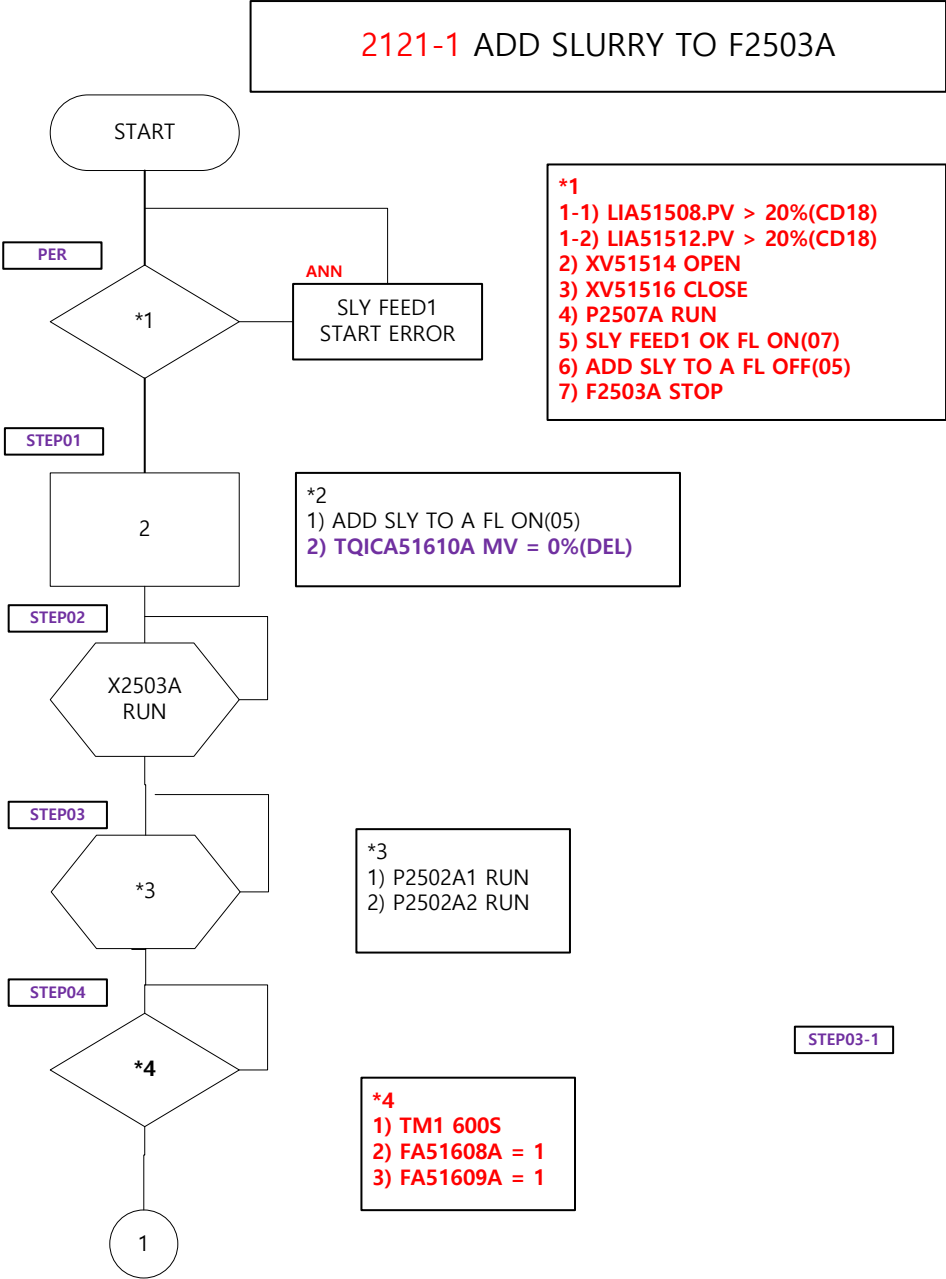


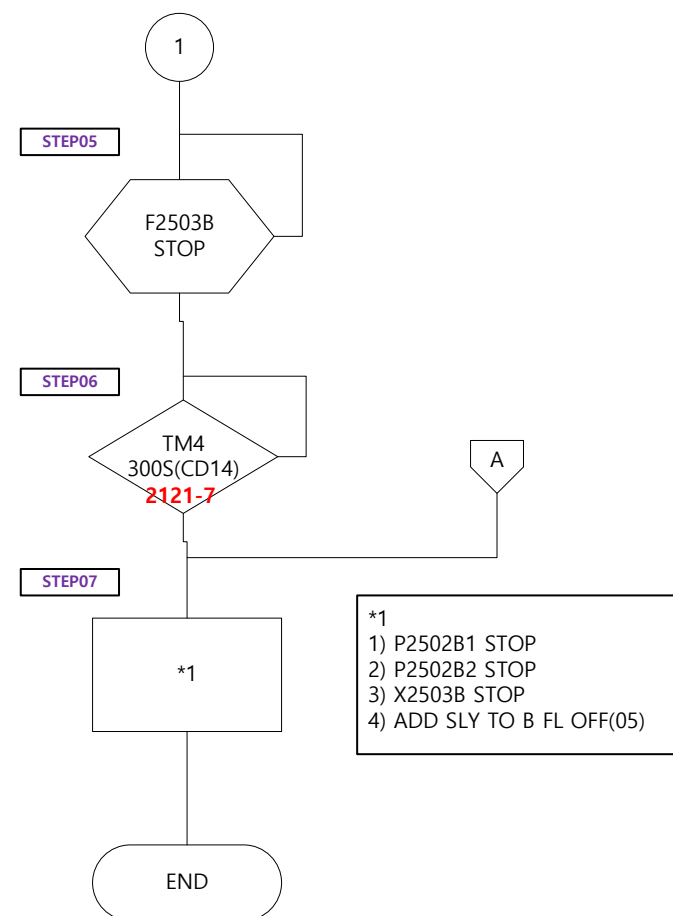
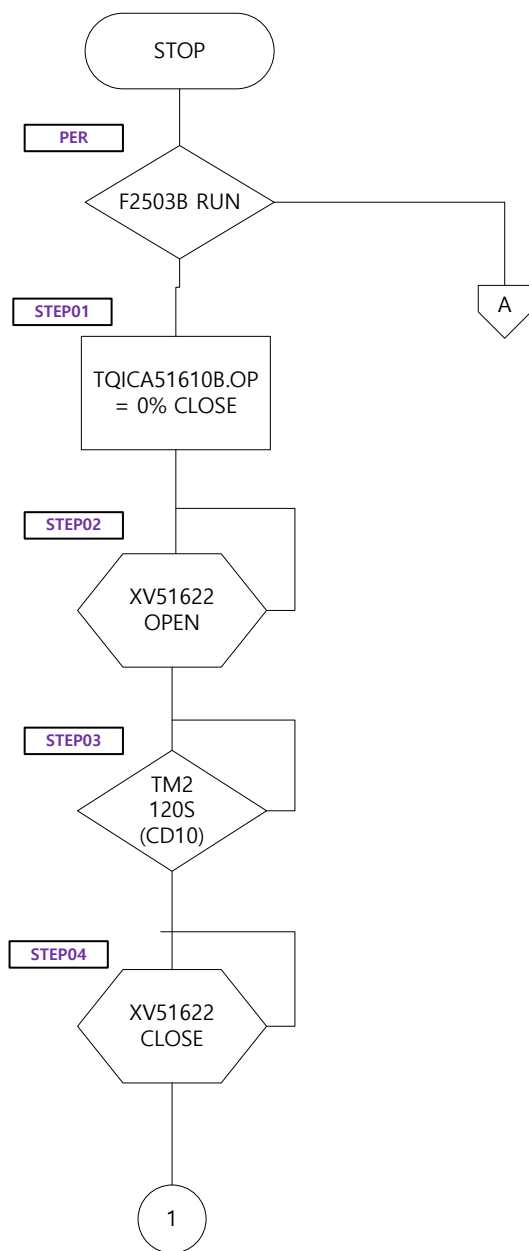
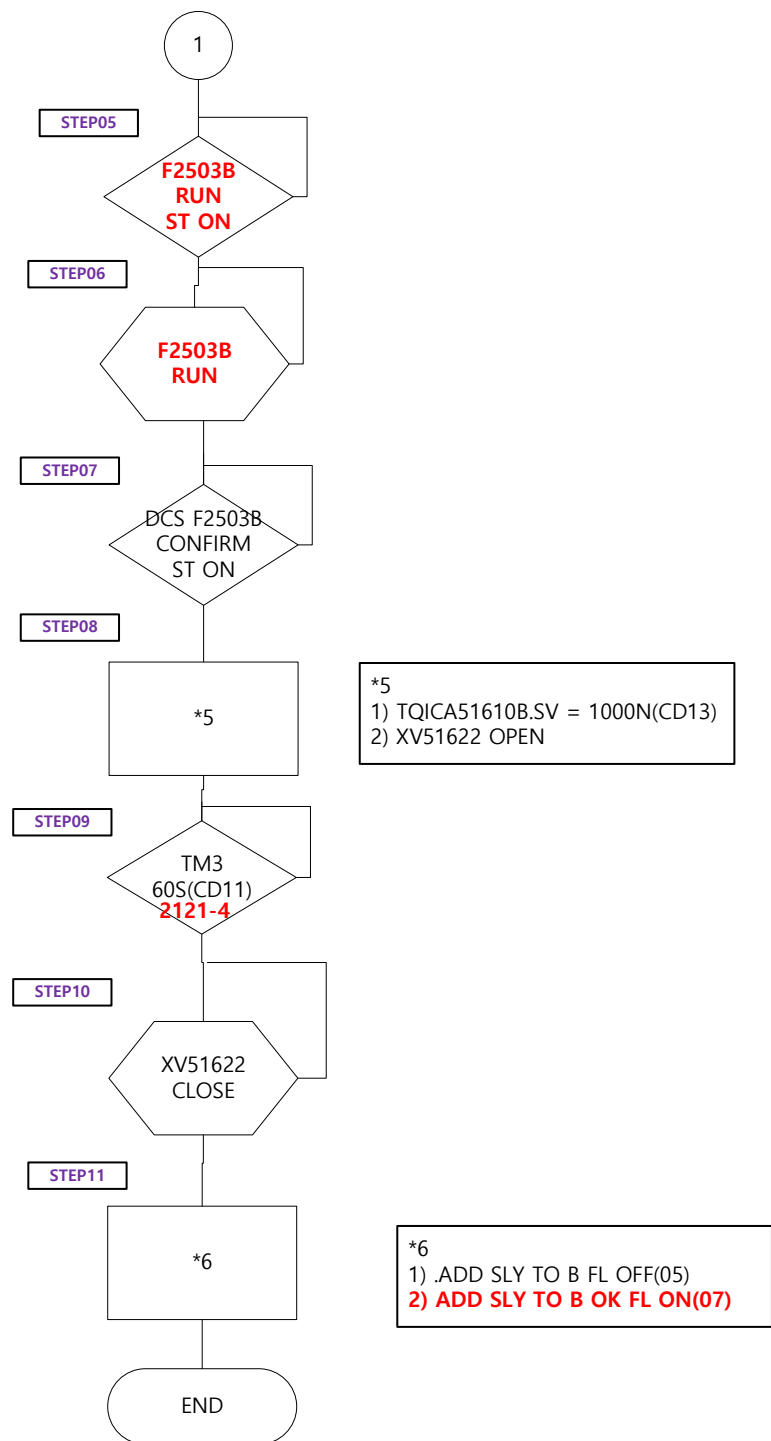
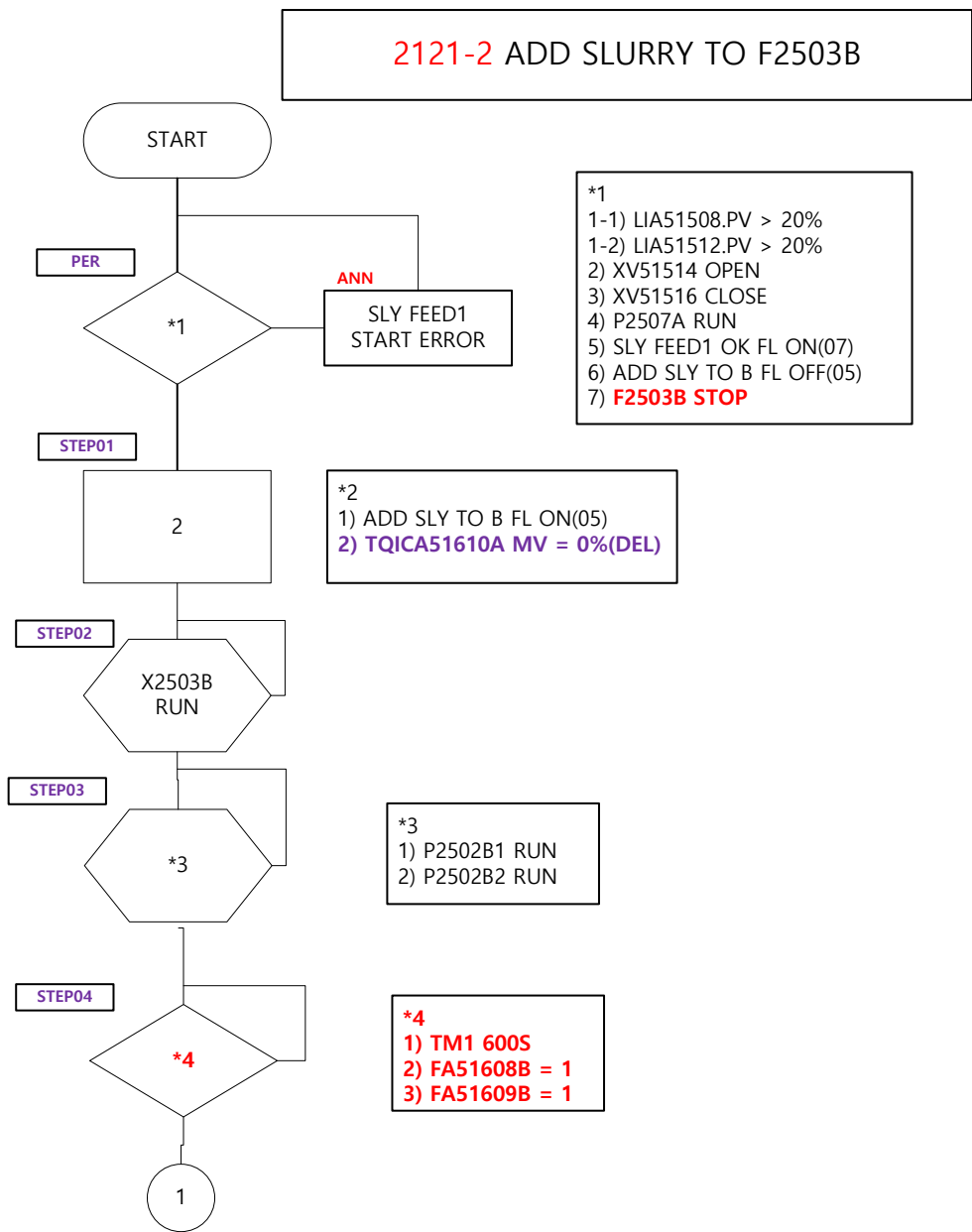
2121 SLURRY FEED 1

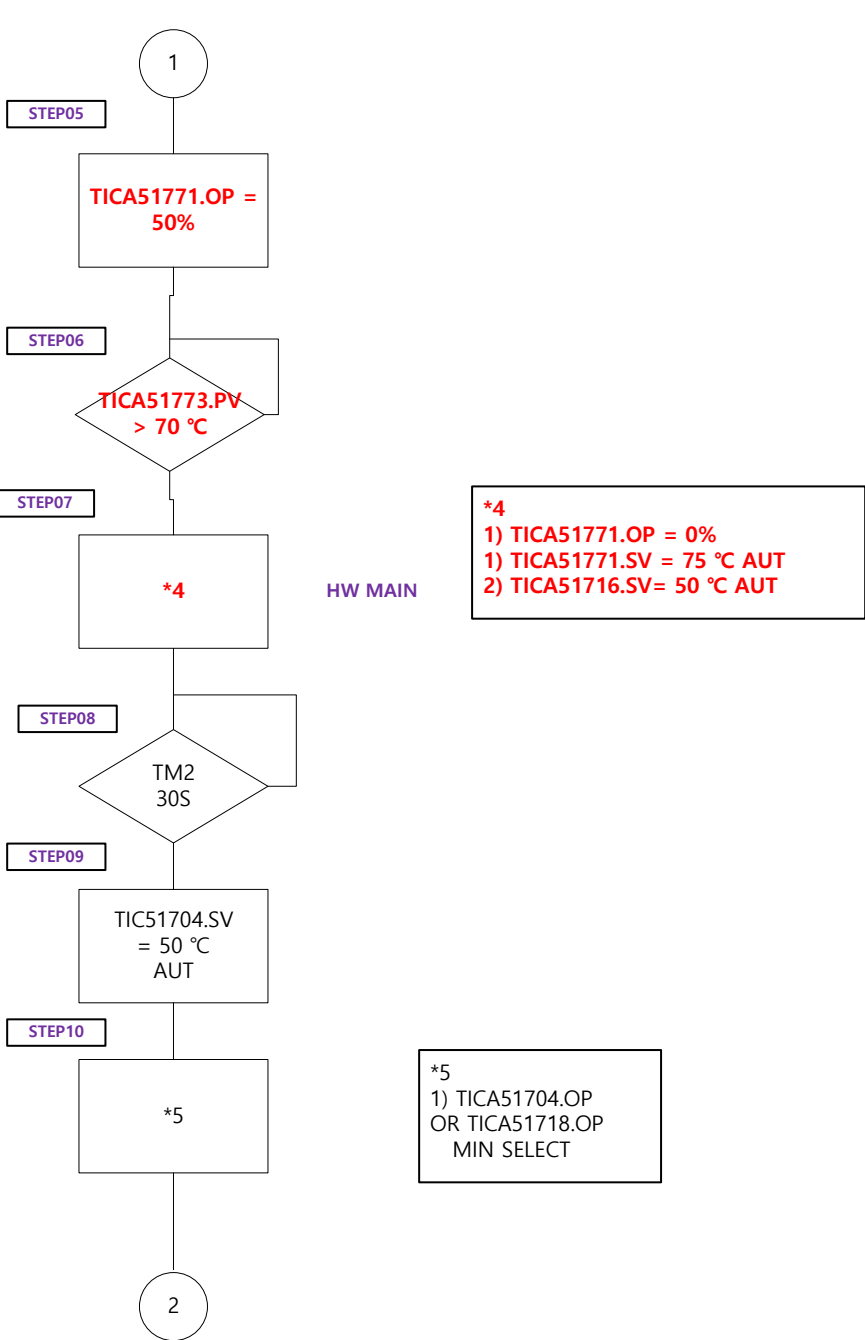
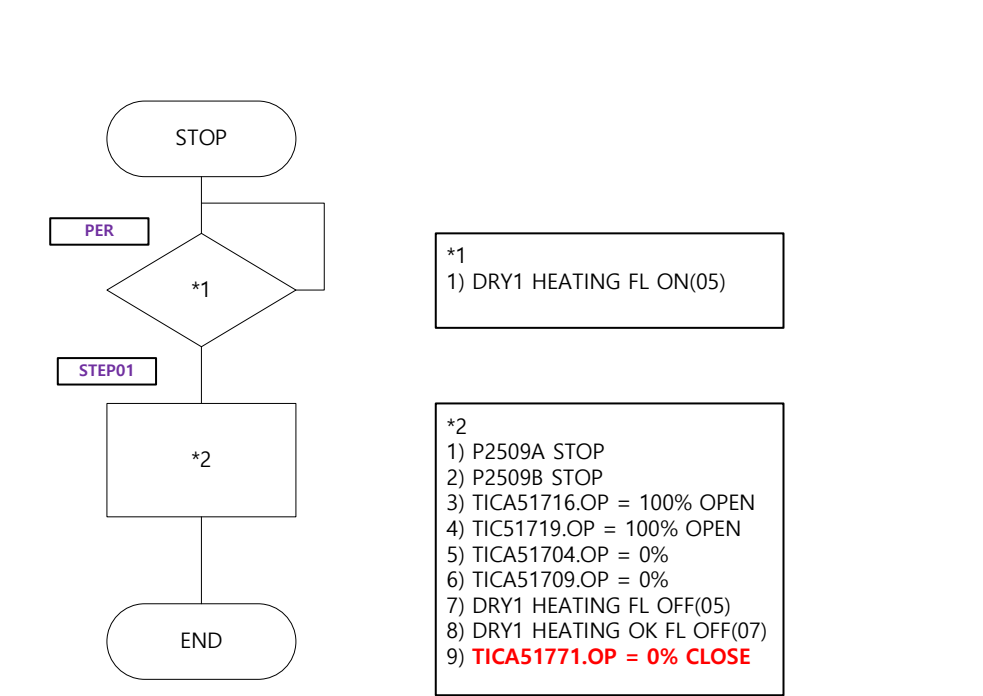
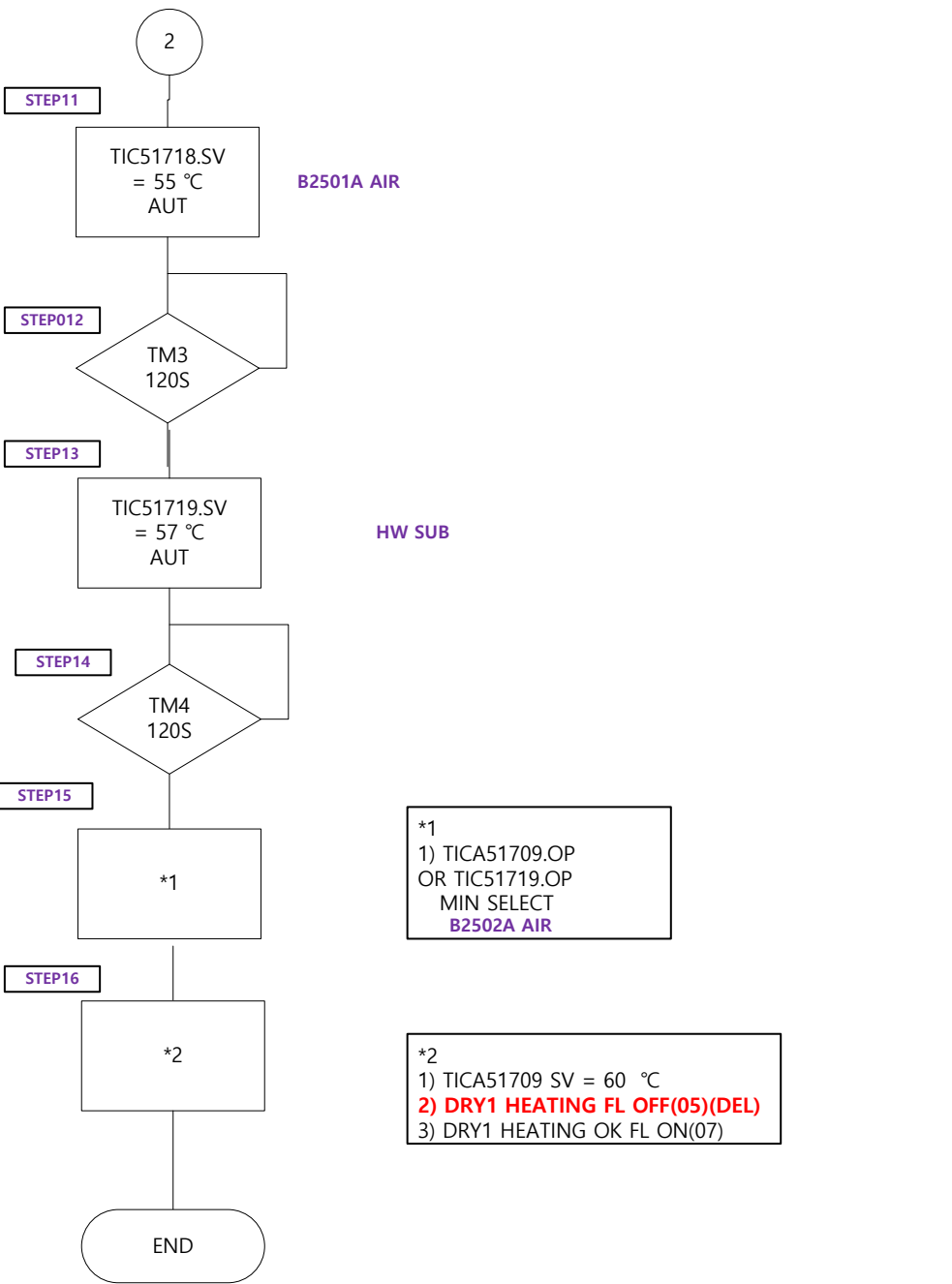
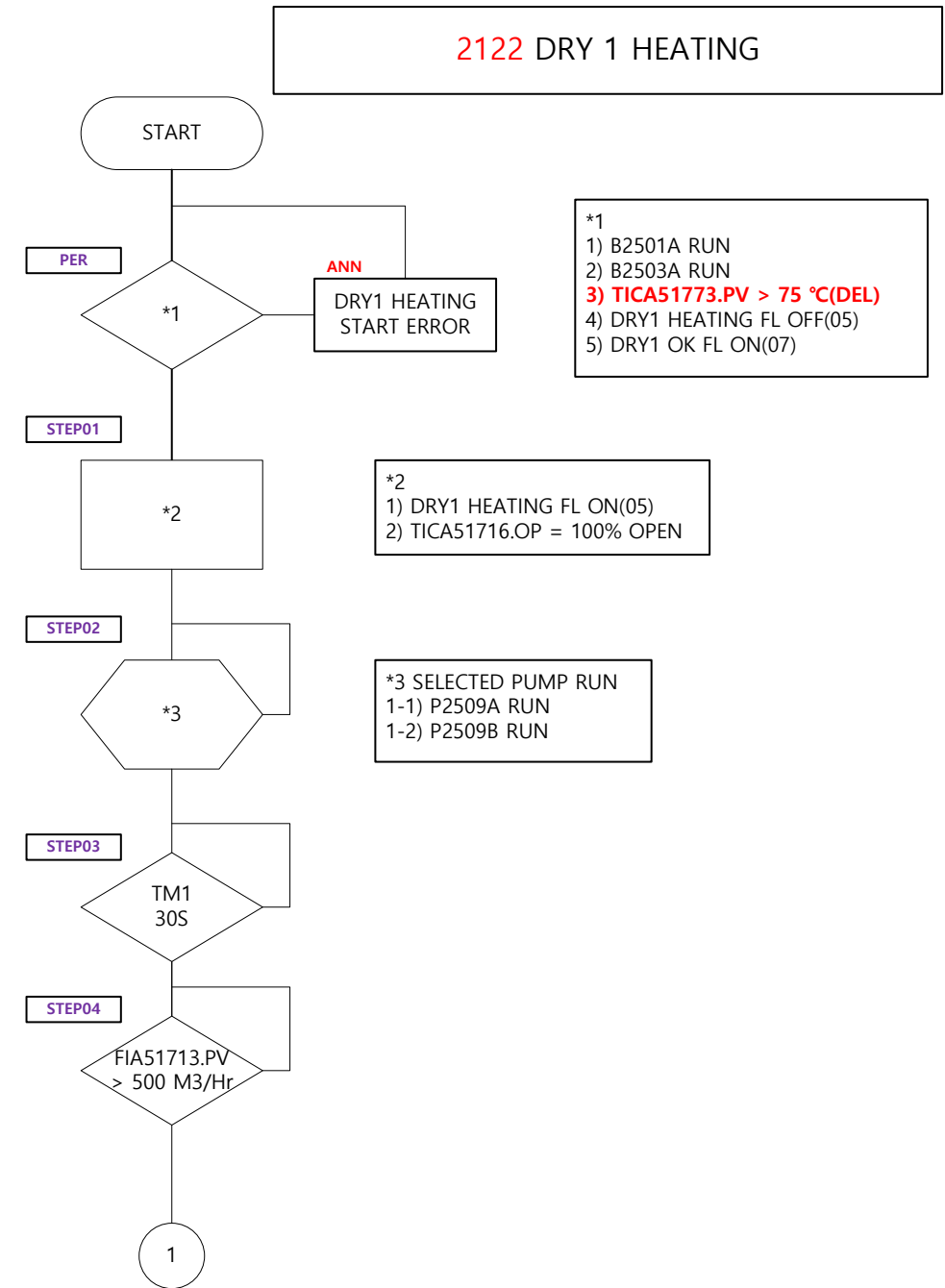


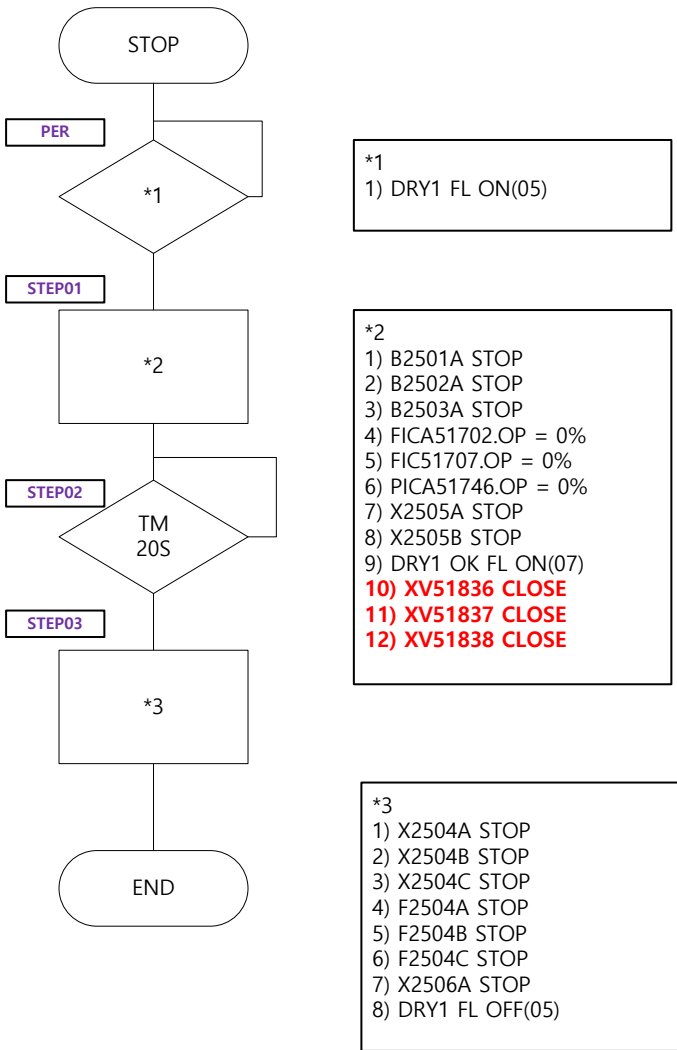
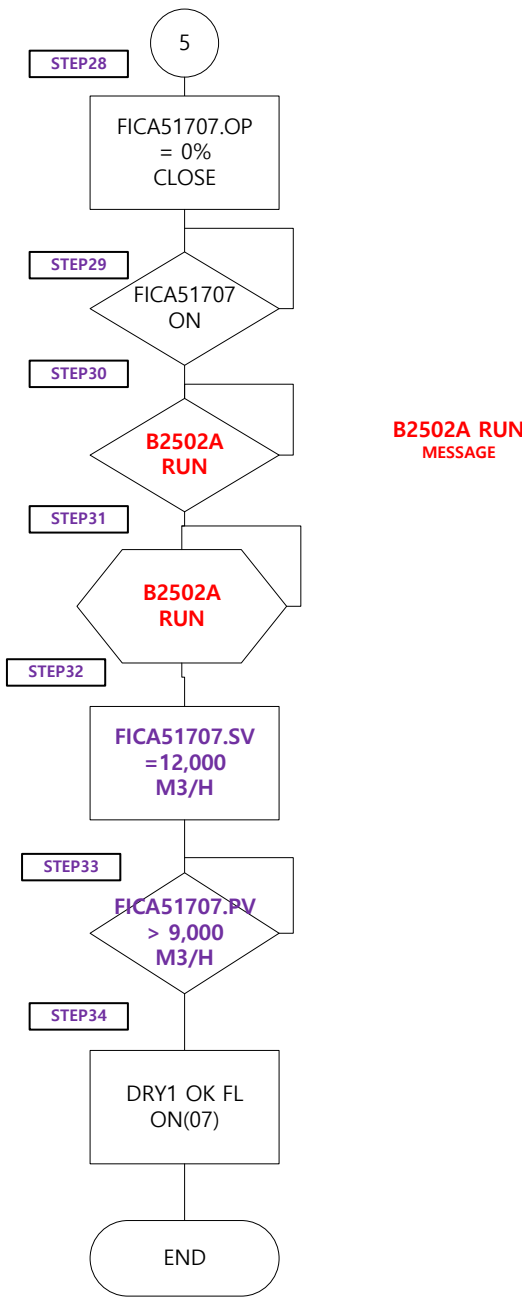
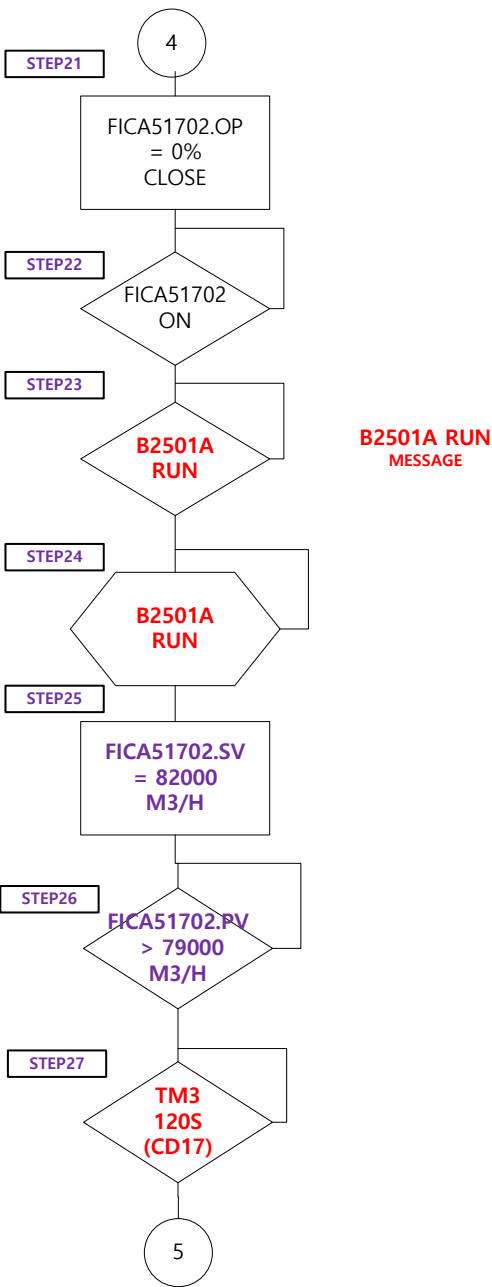
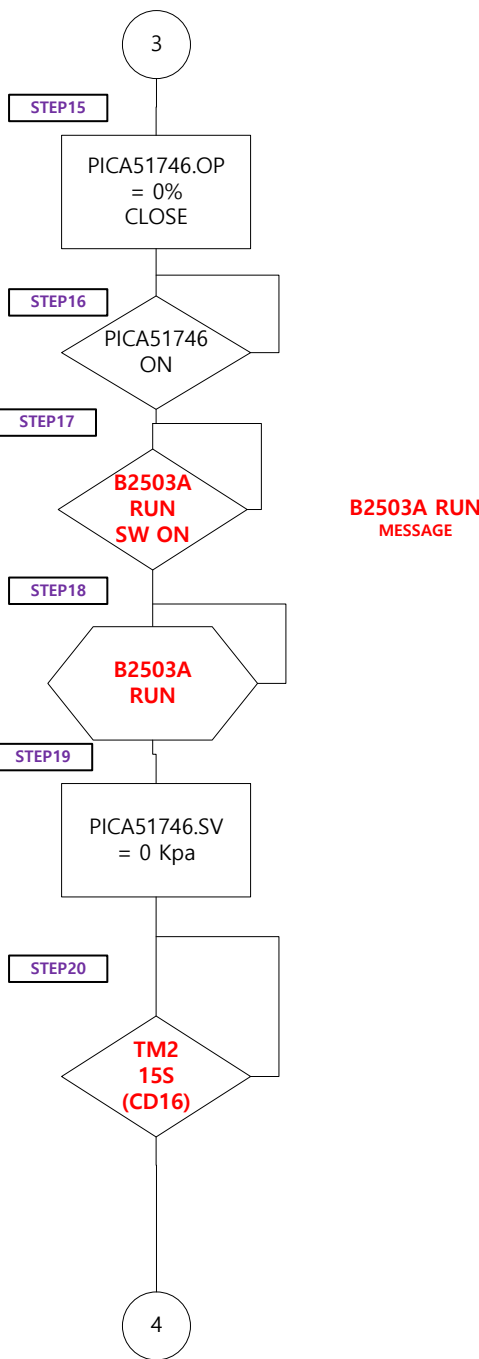
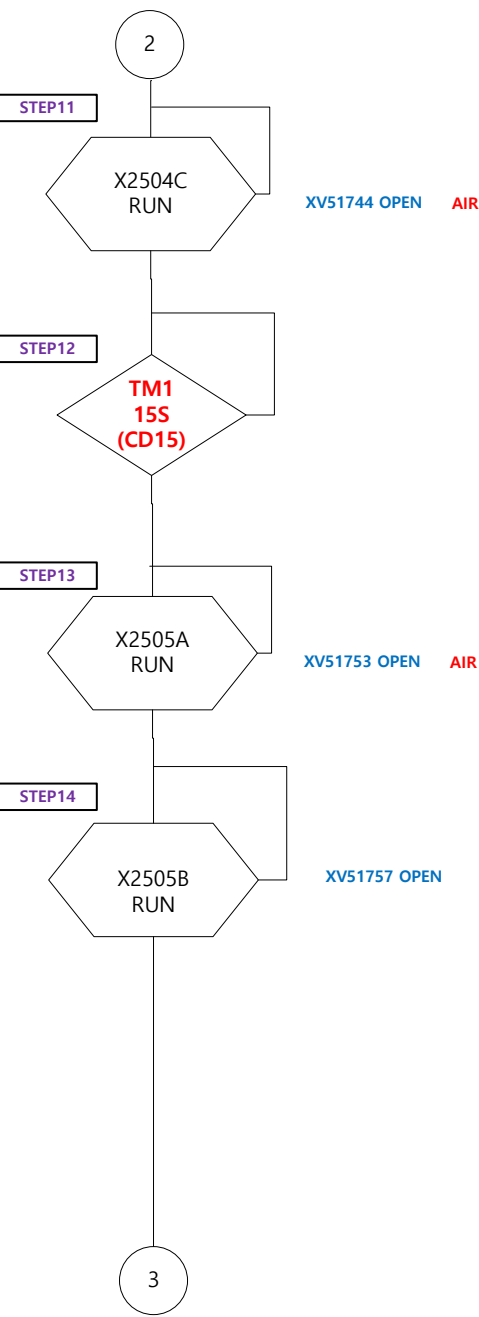
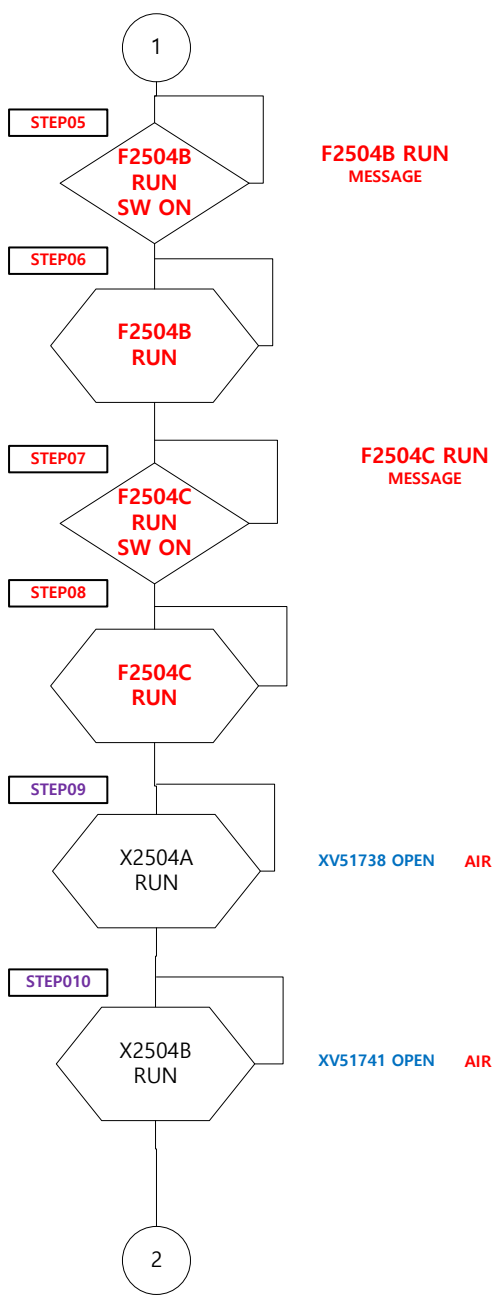
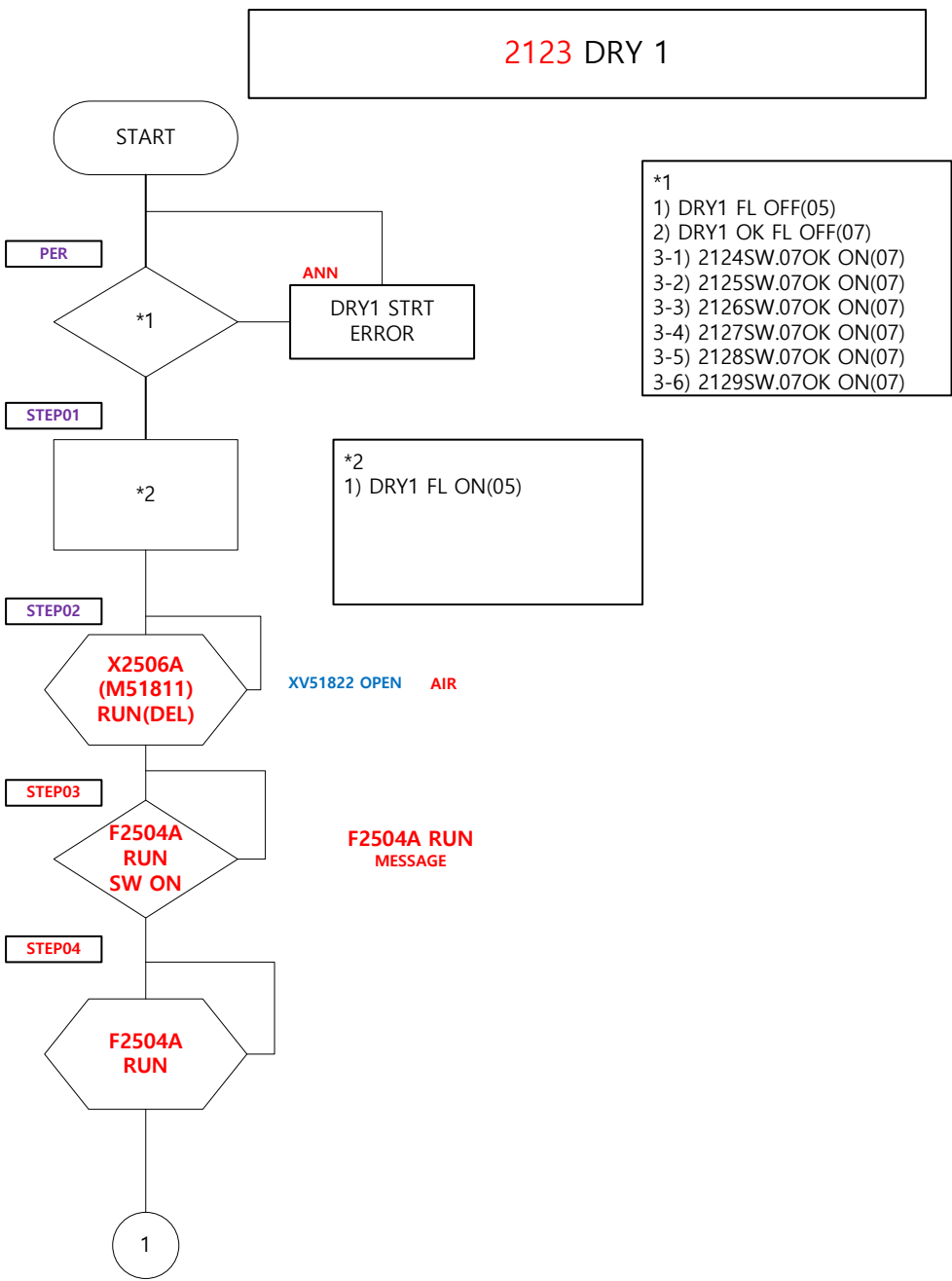
VI51607A , VI51606A HI:20mm/s HH:40mm/s  
VI51607B , VI51606B



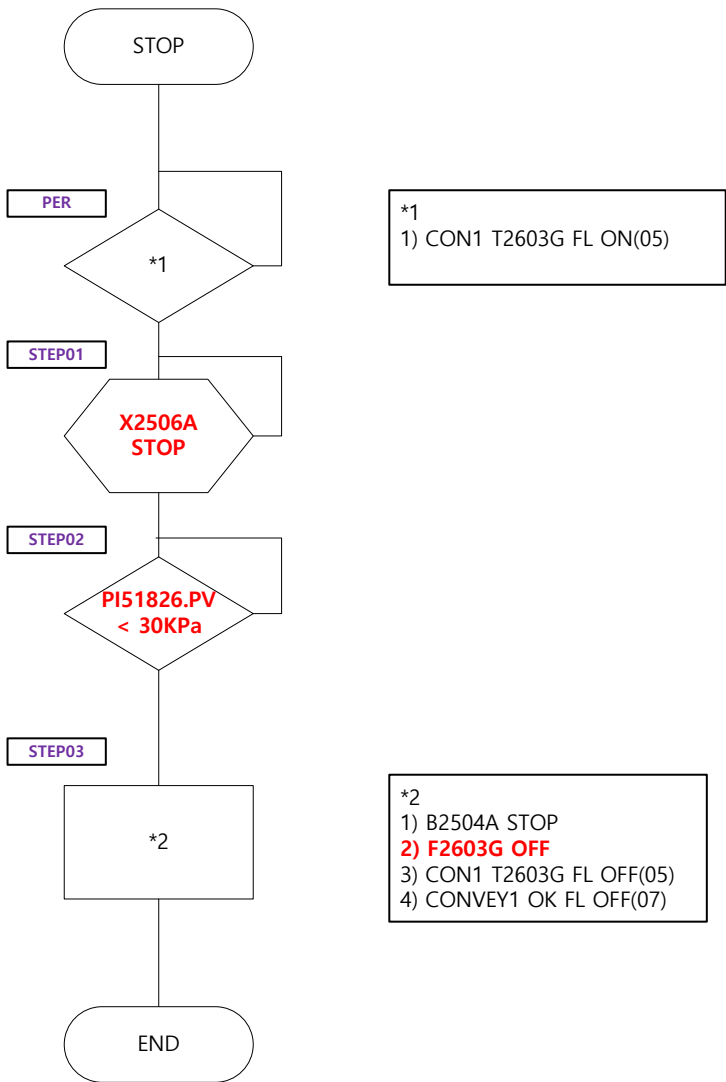
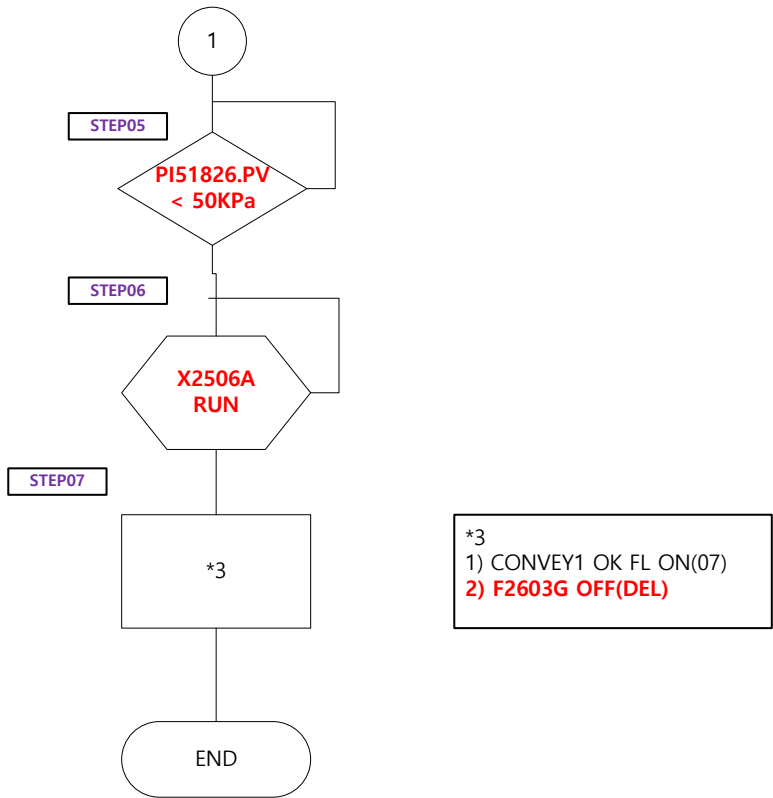
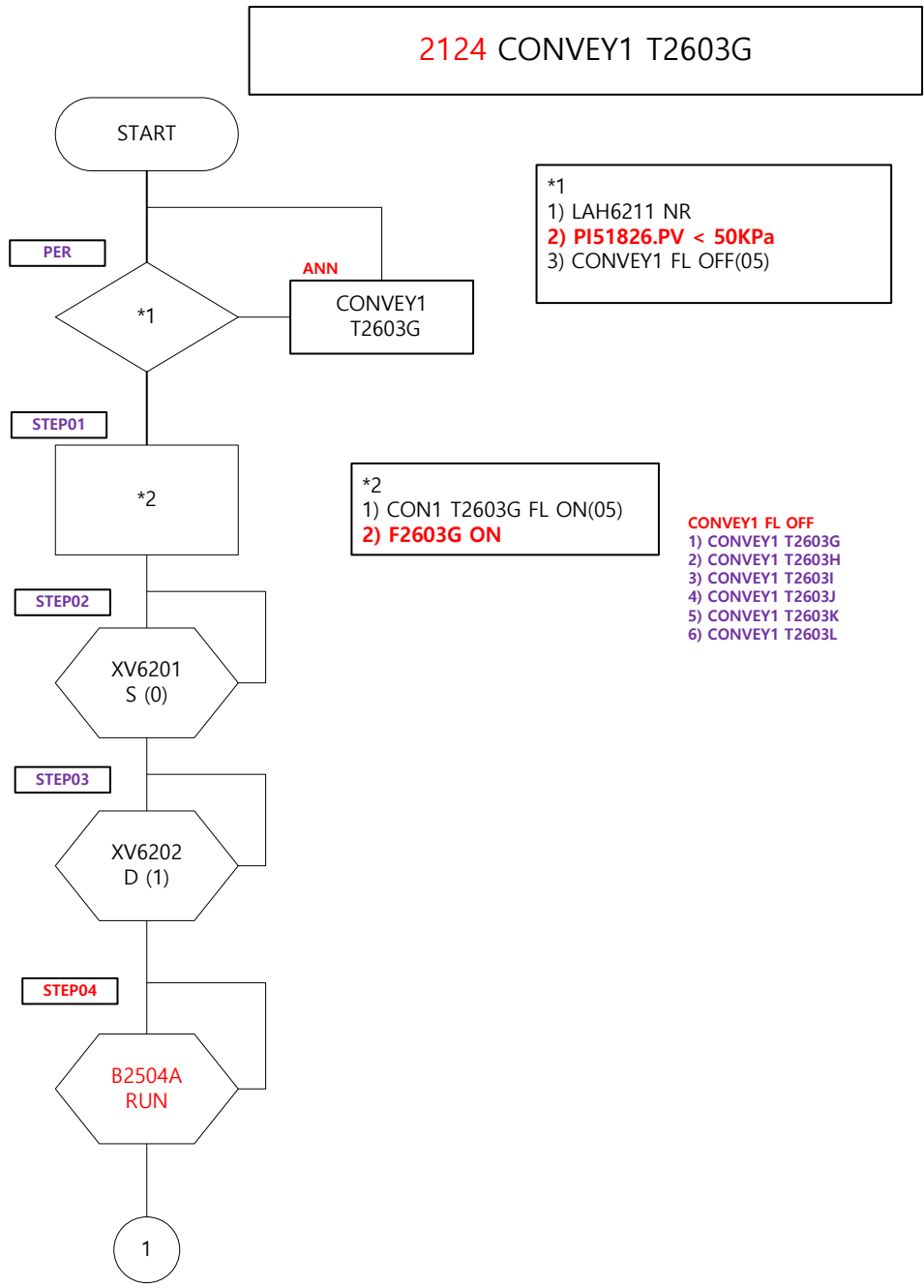


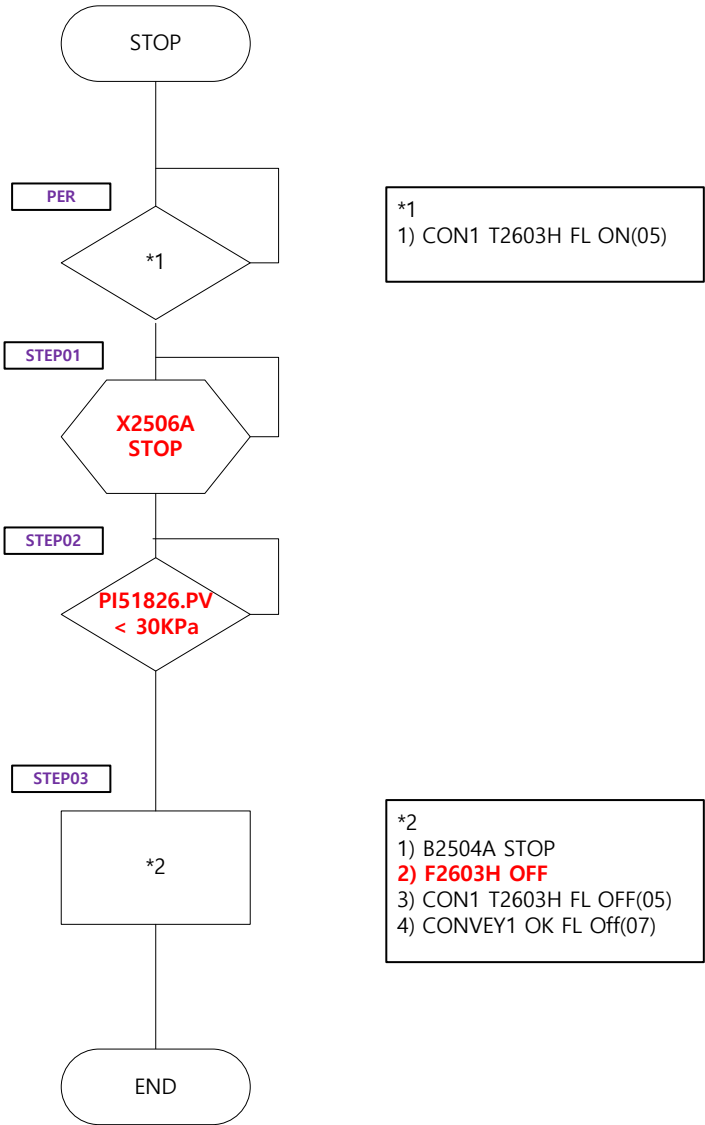
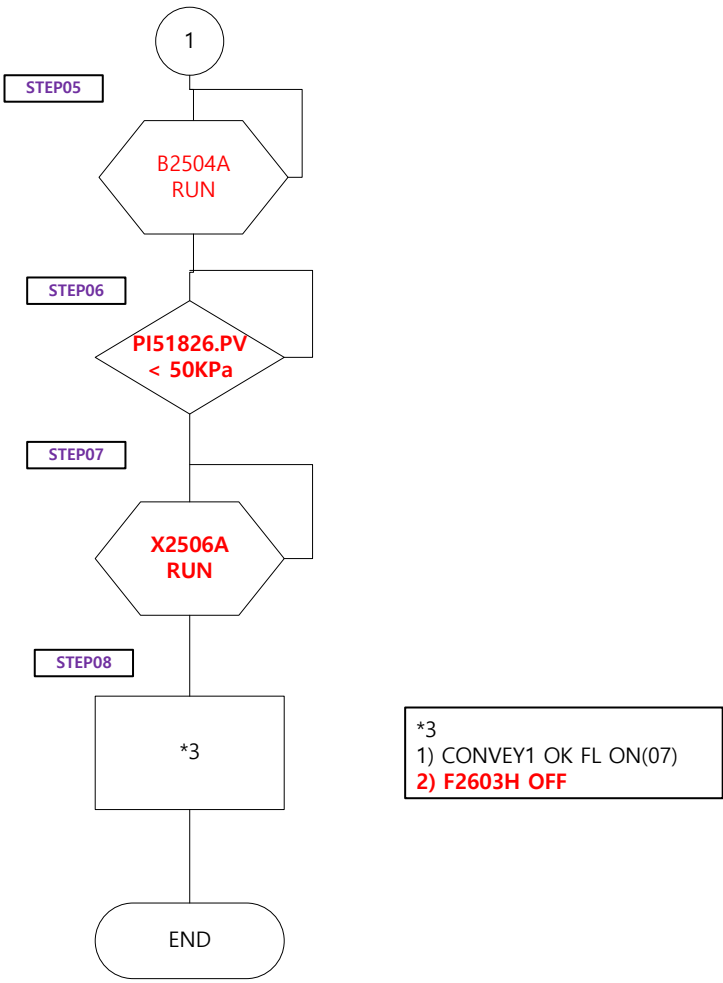
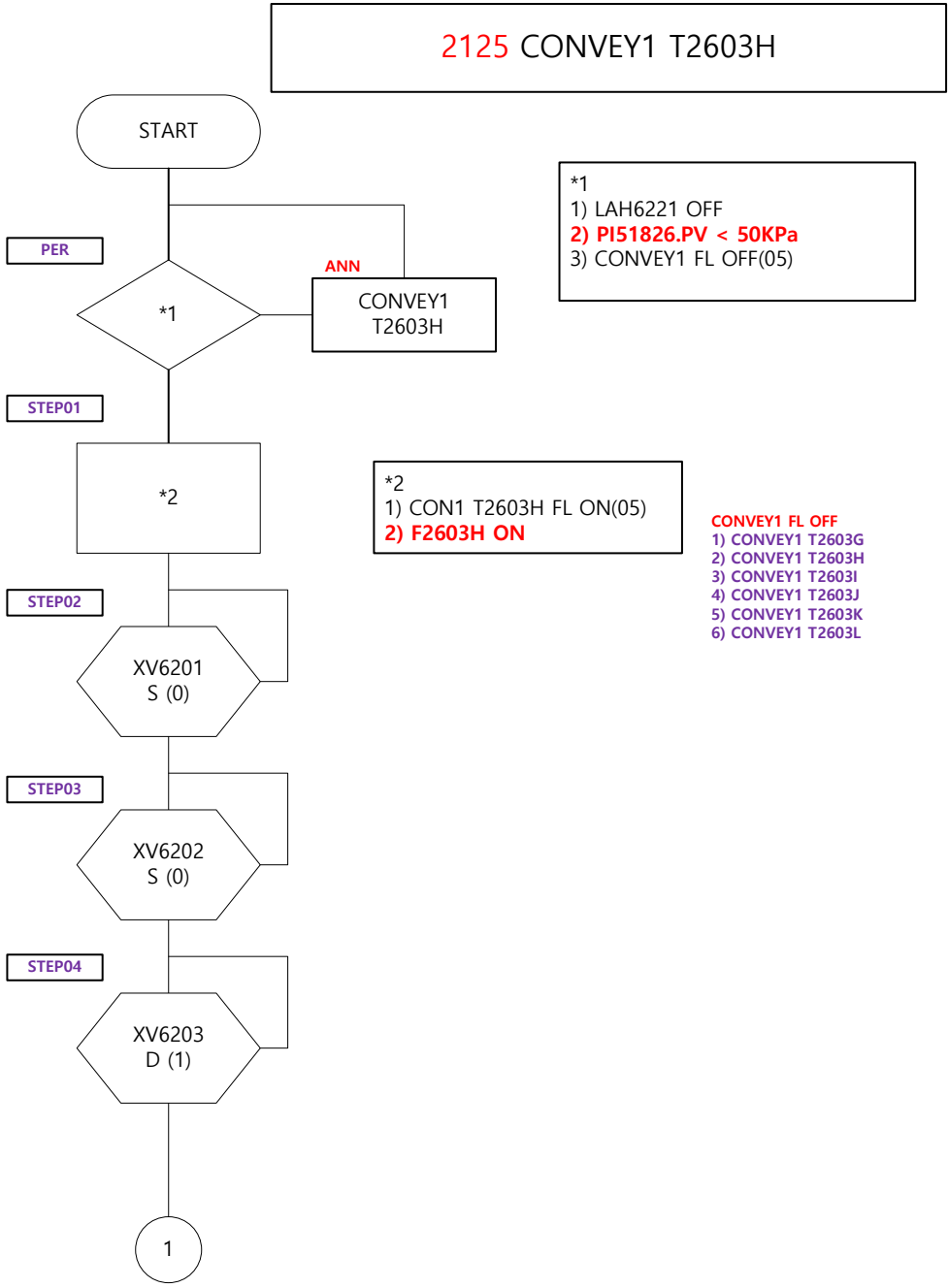


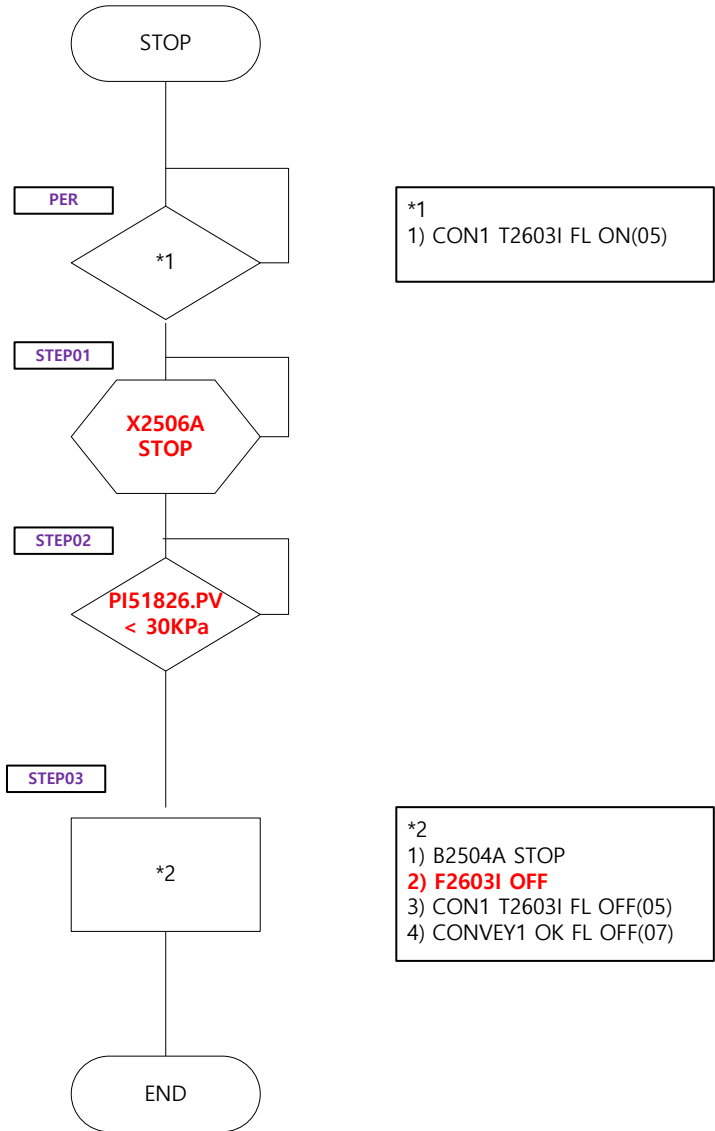
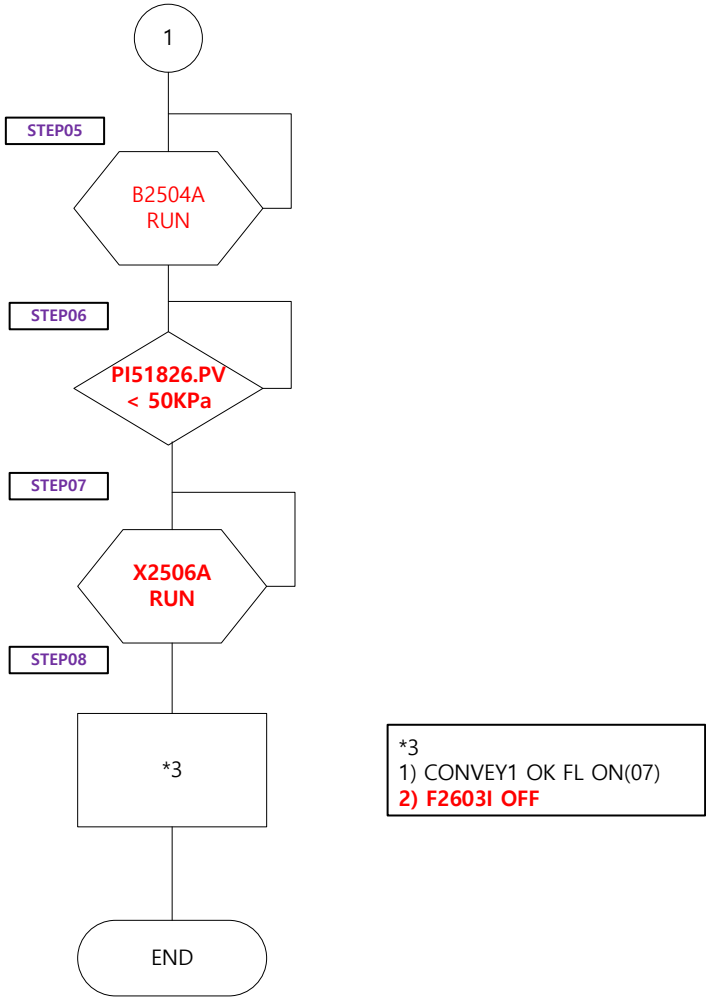
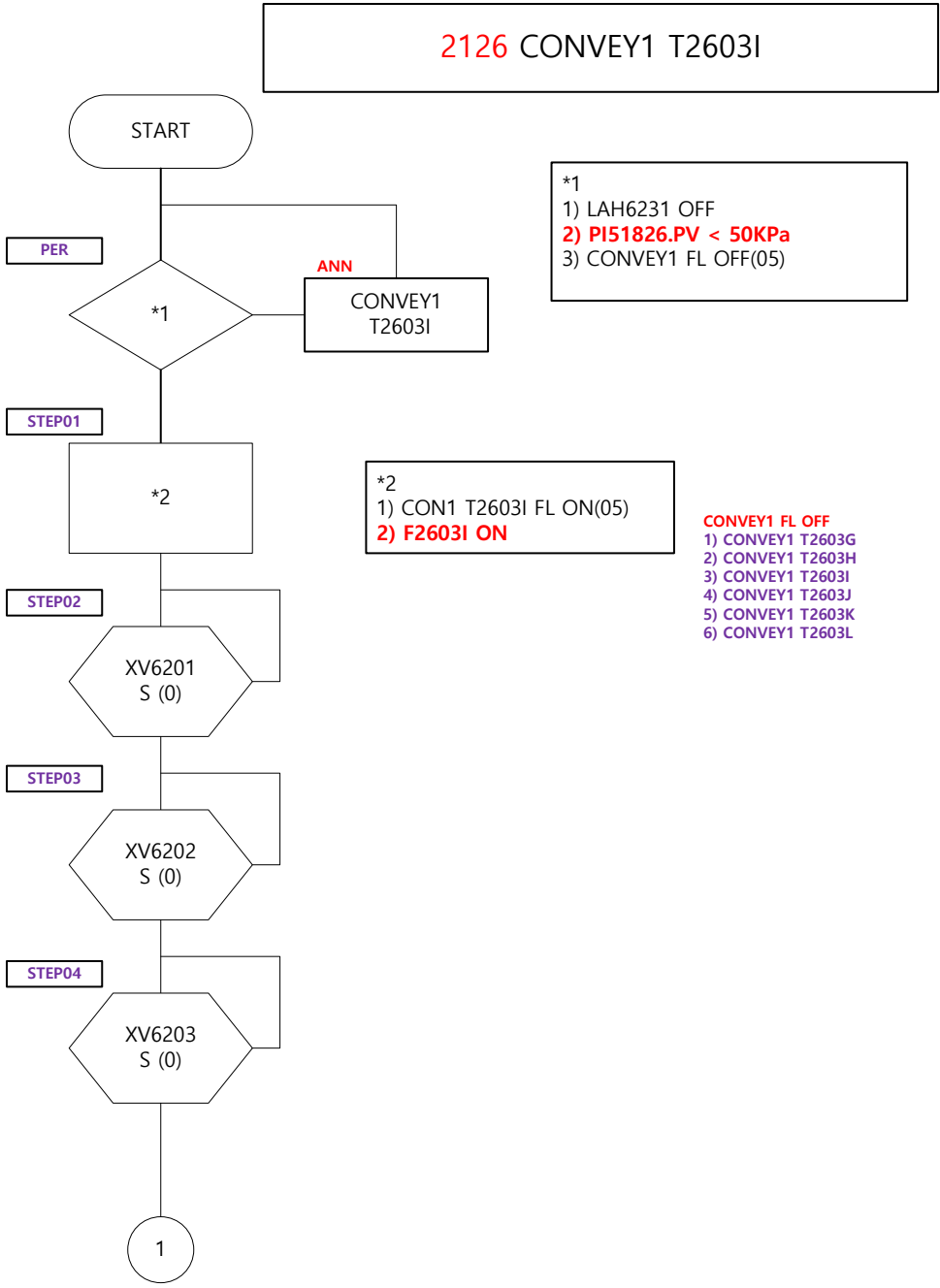


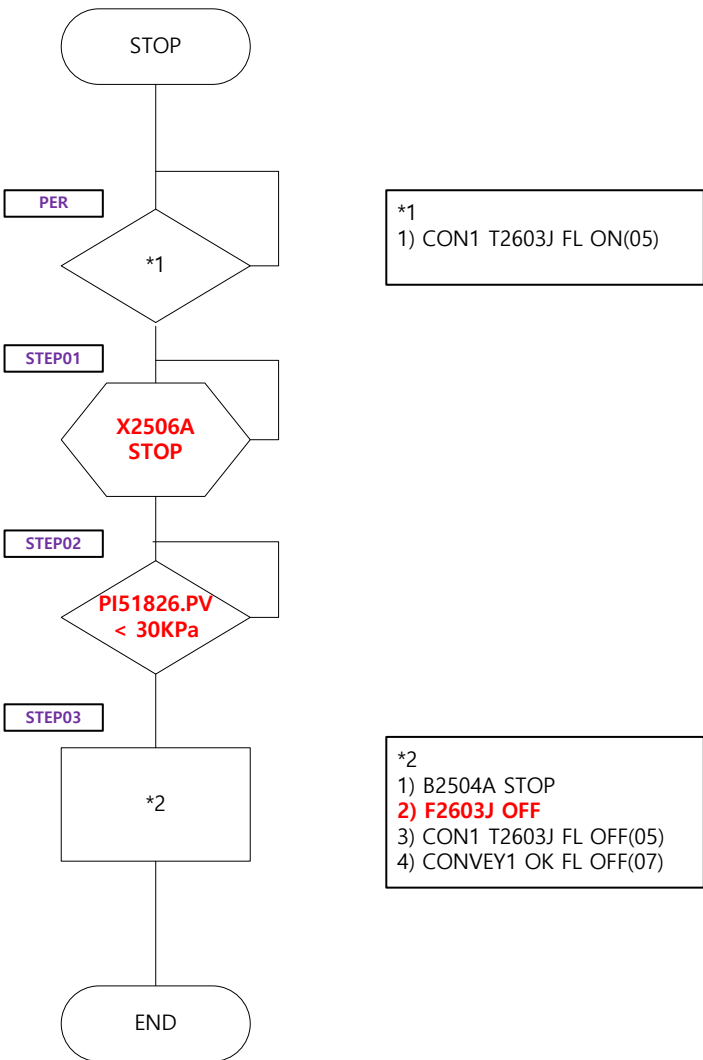
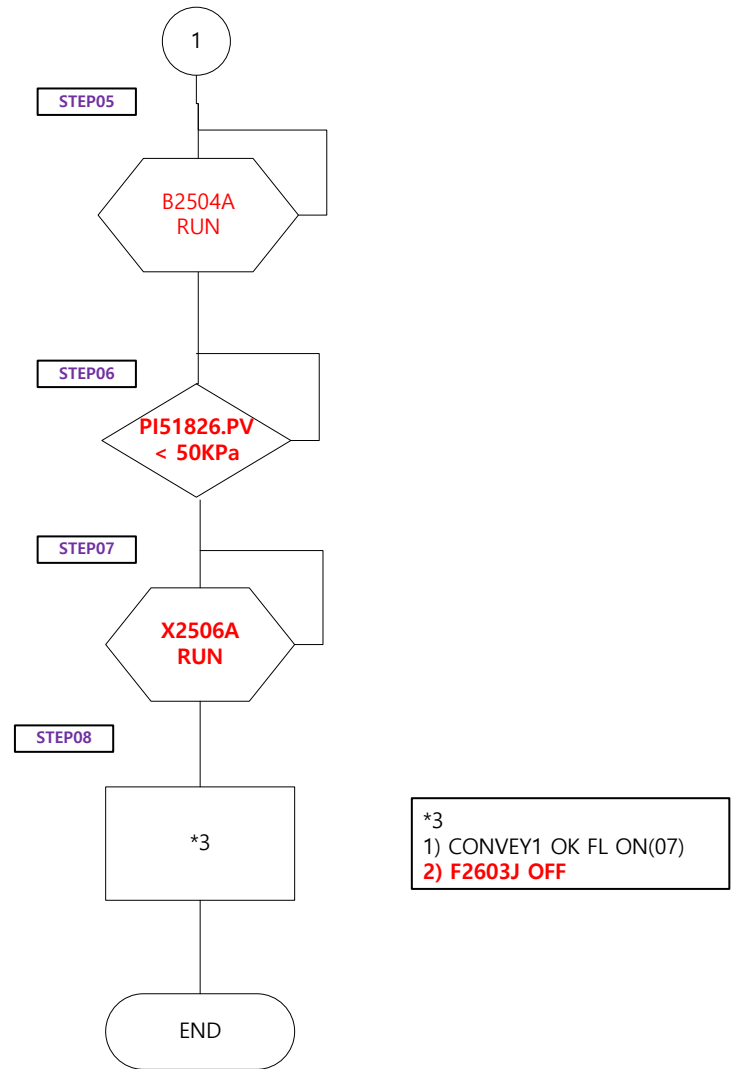
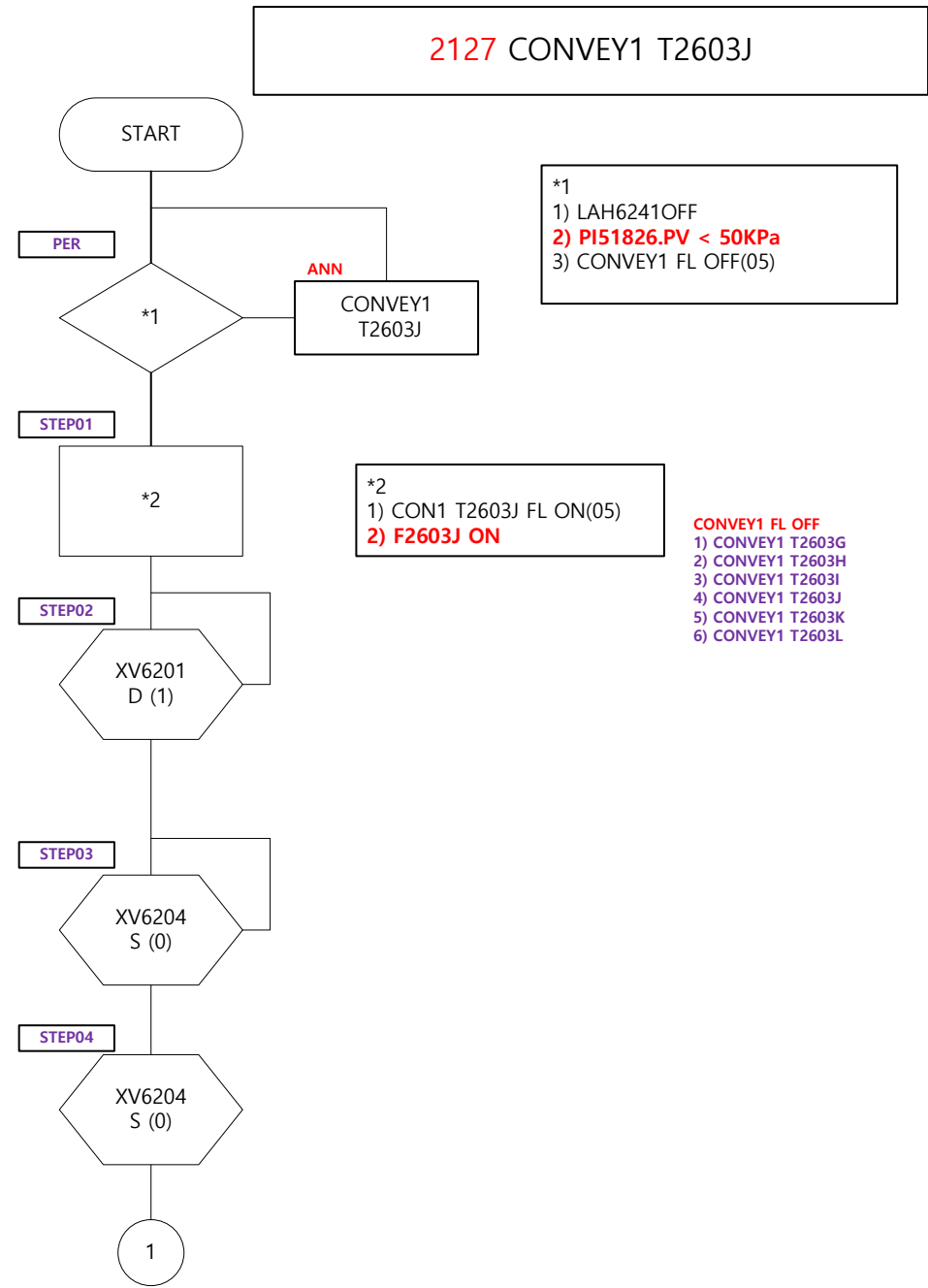


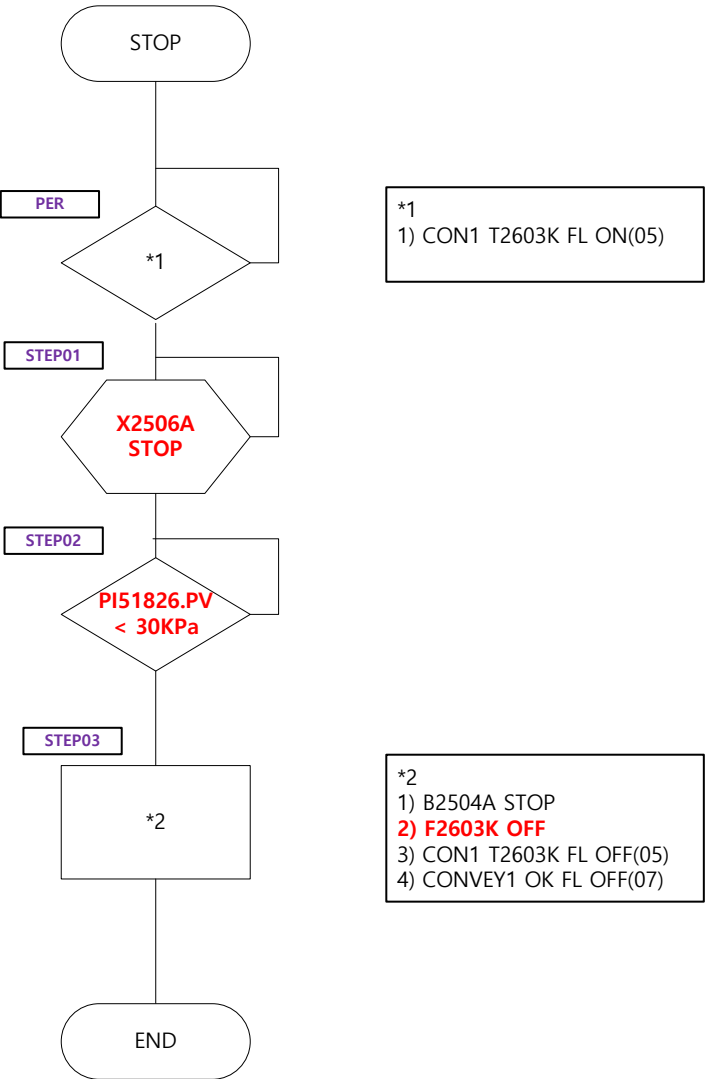
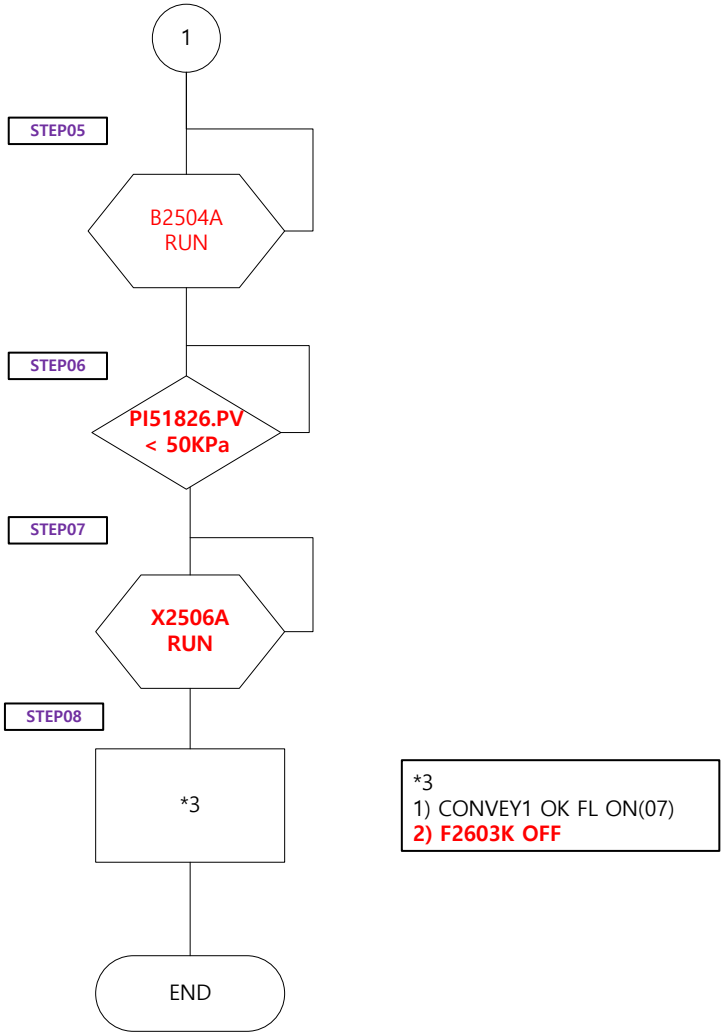
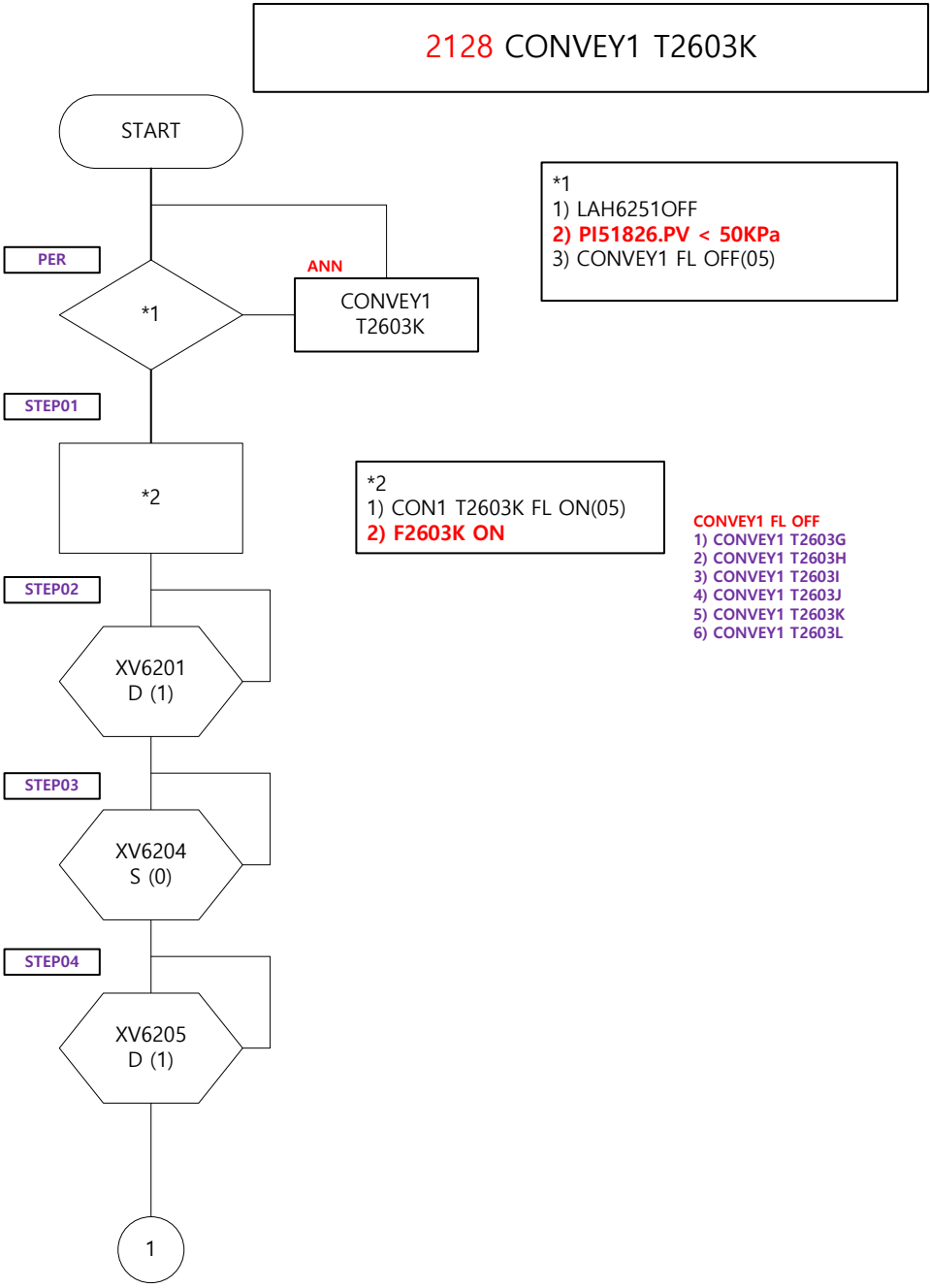


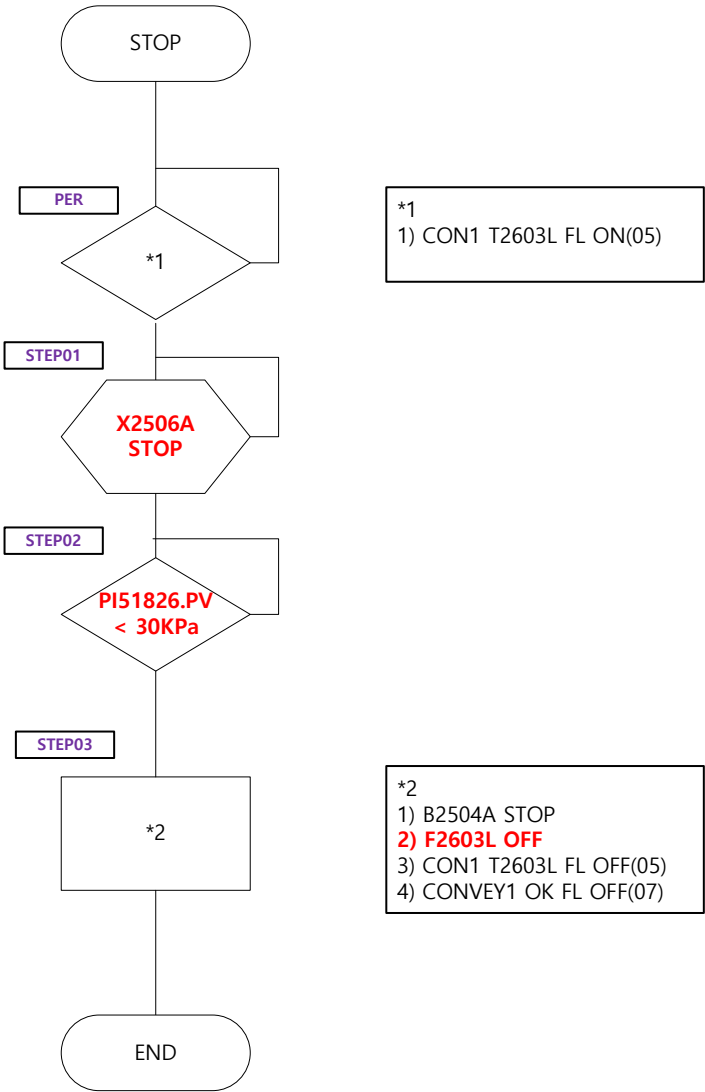
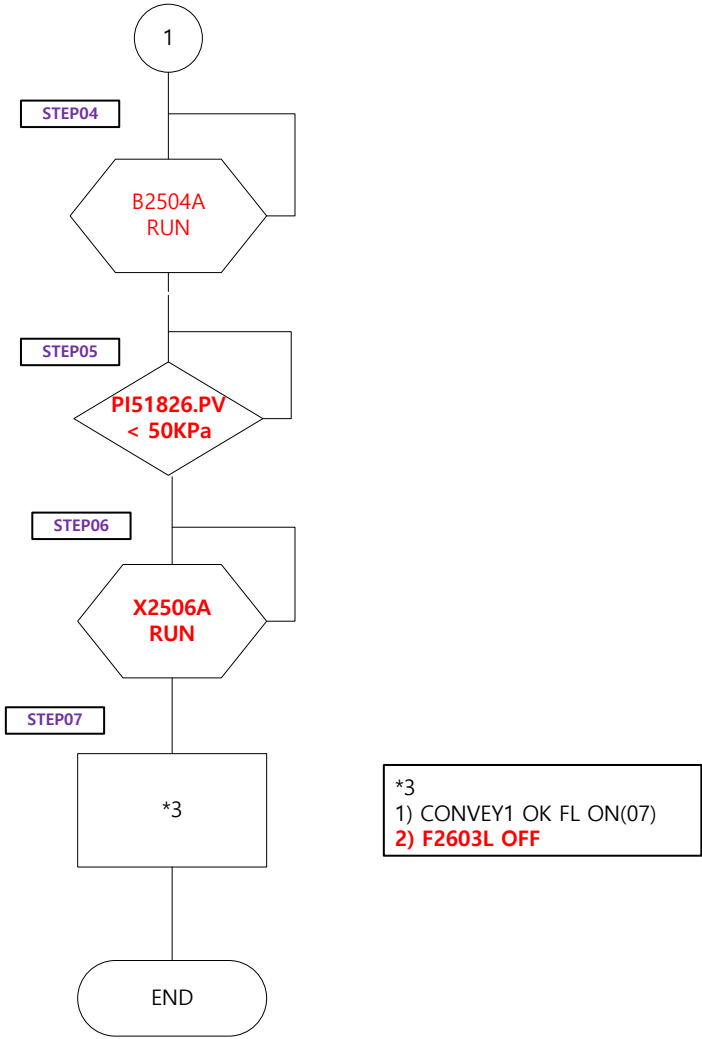
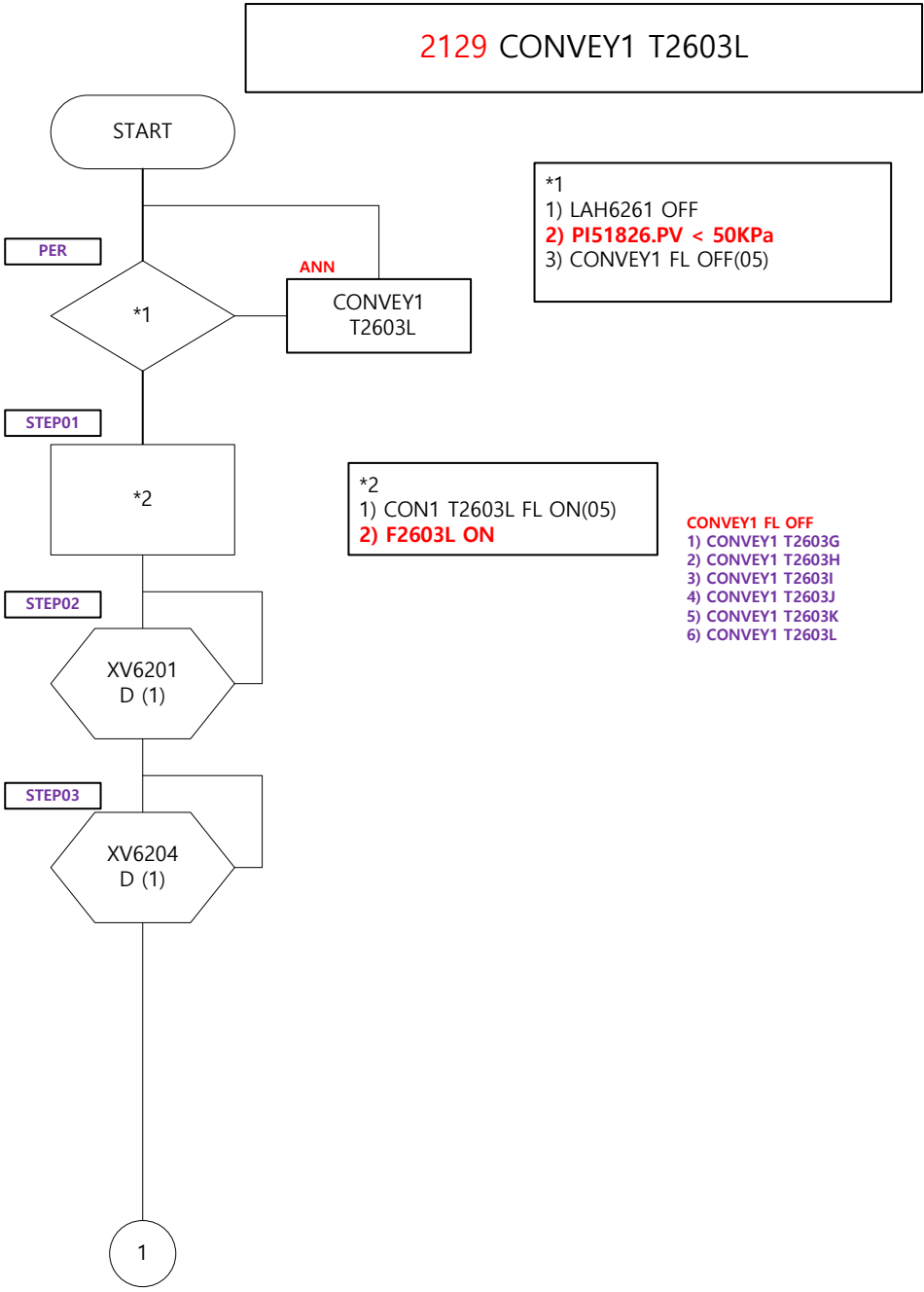




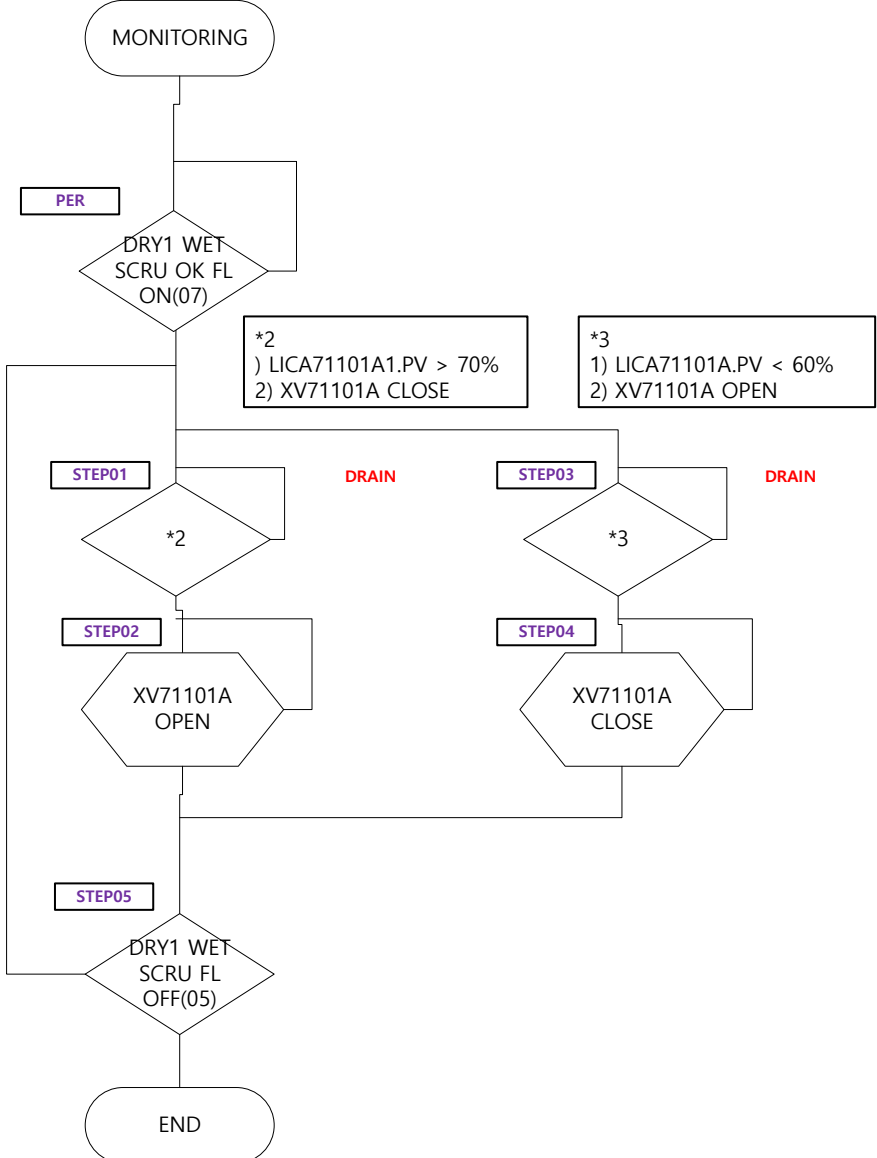
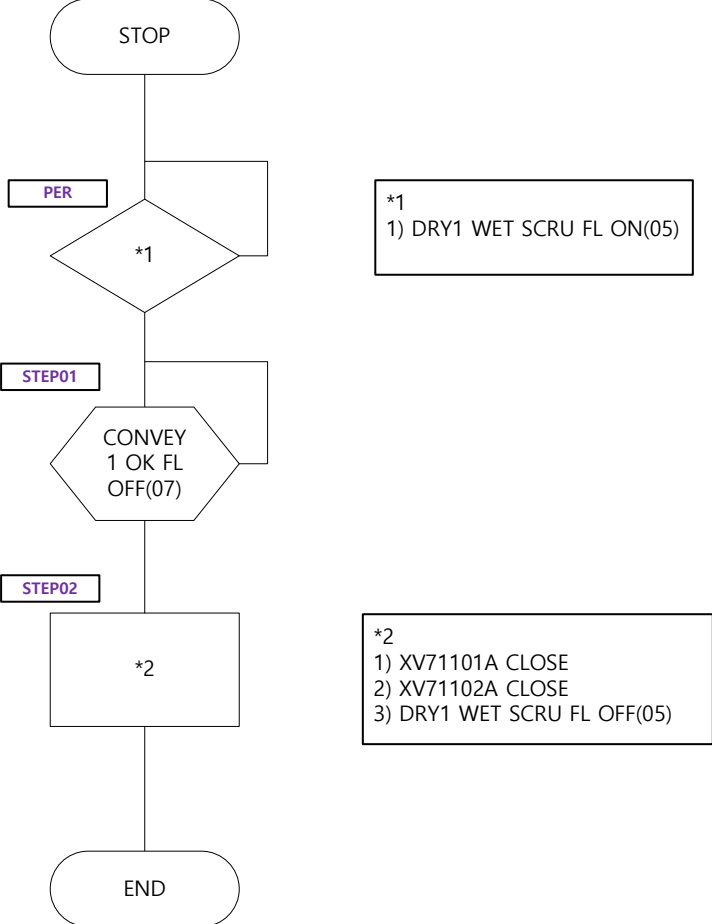
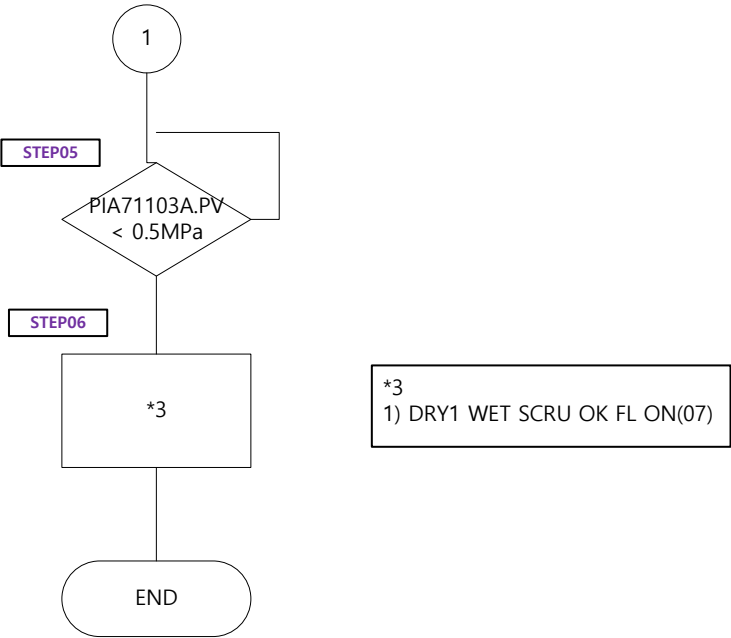
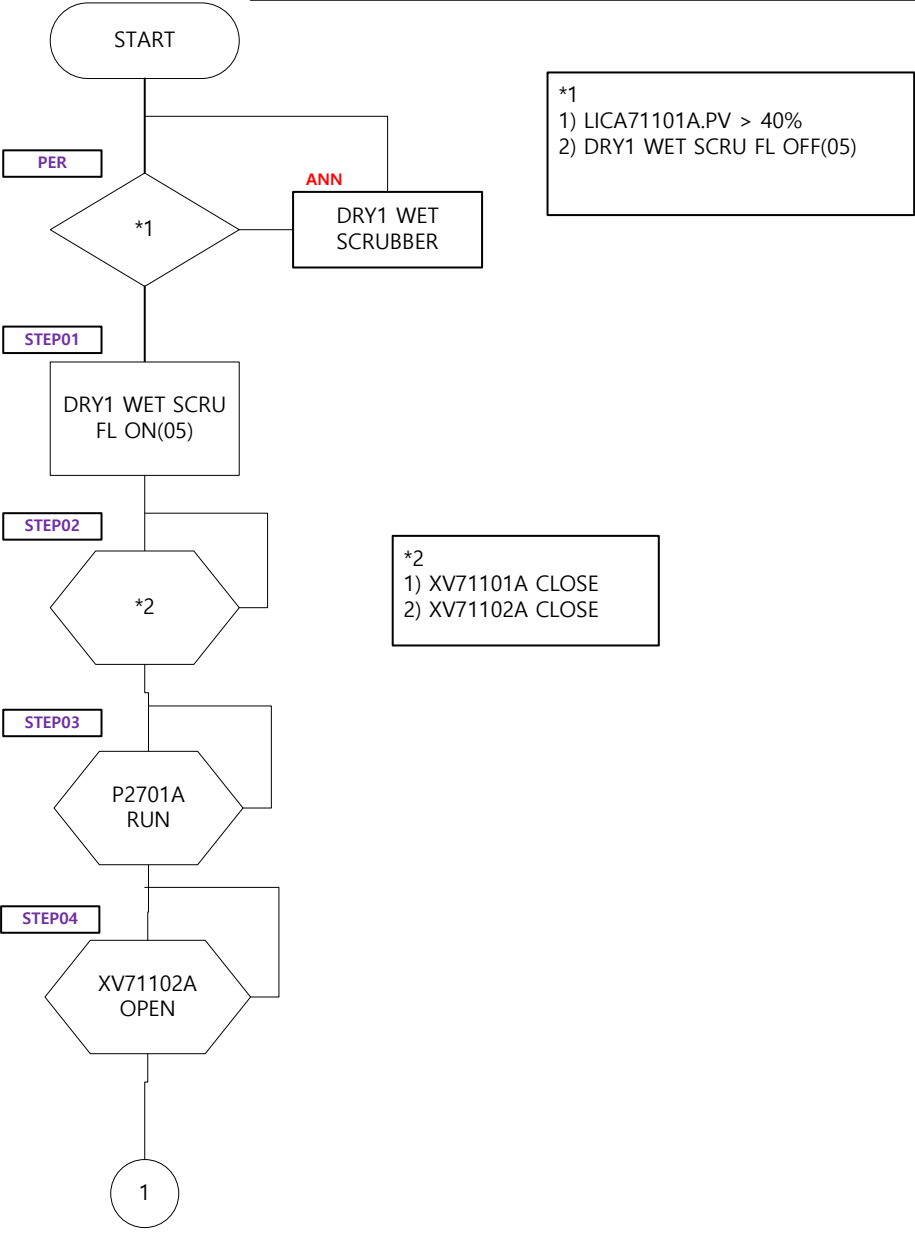




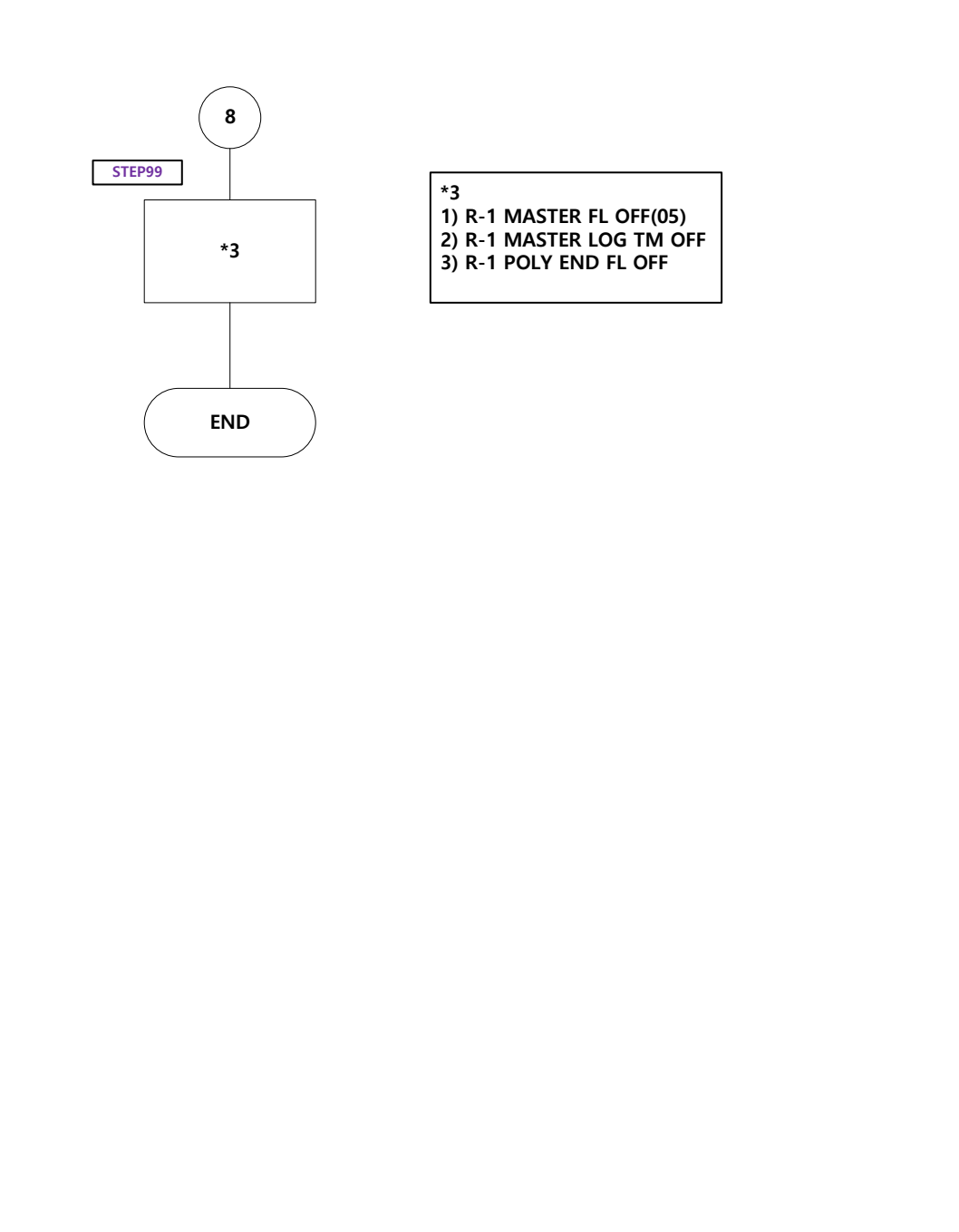
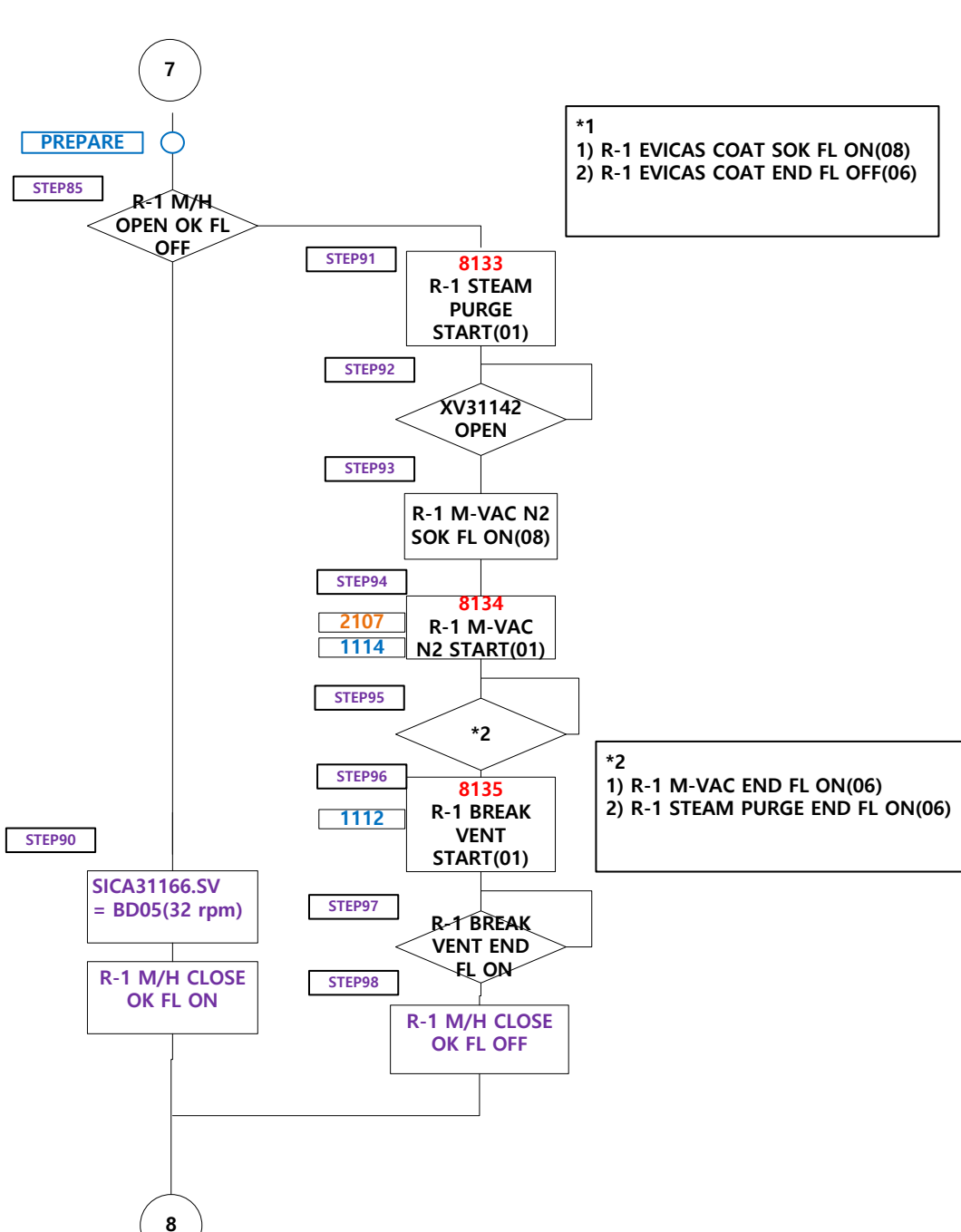
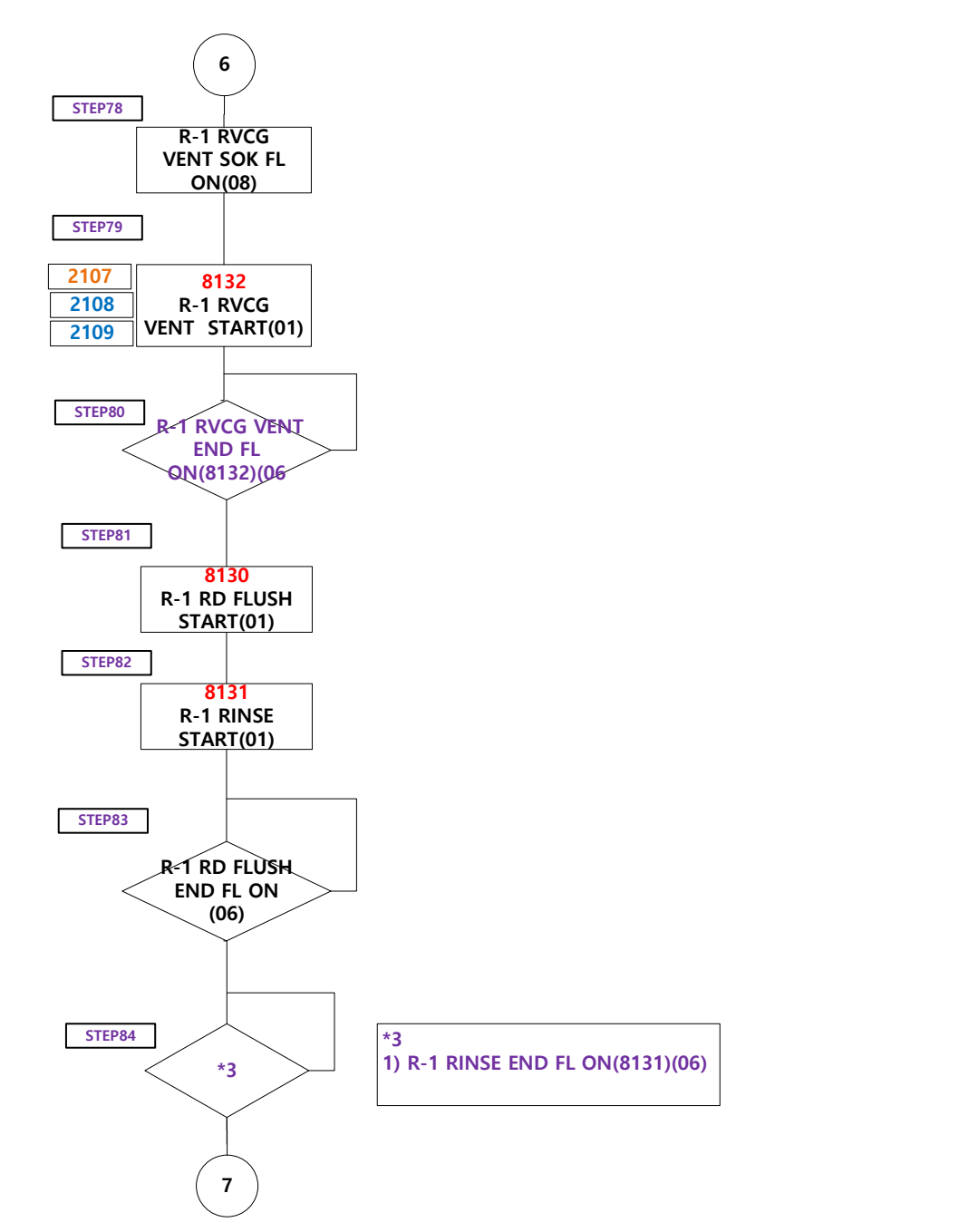
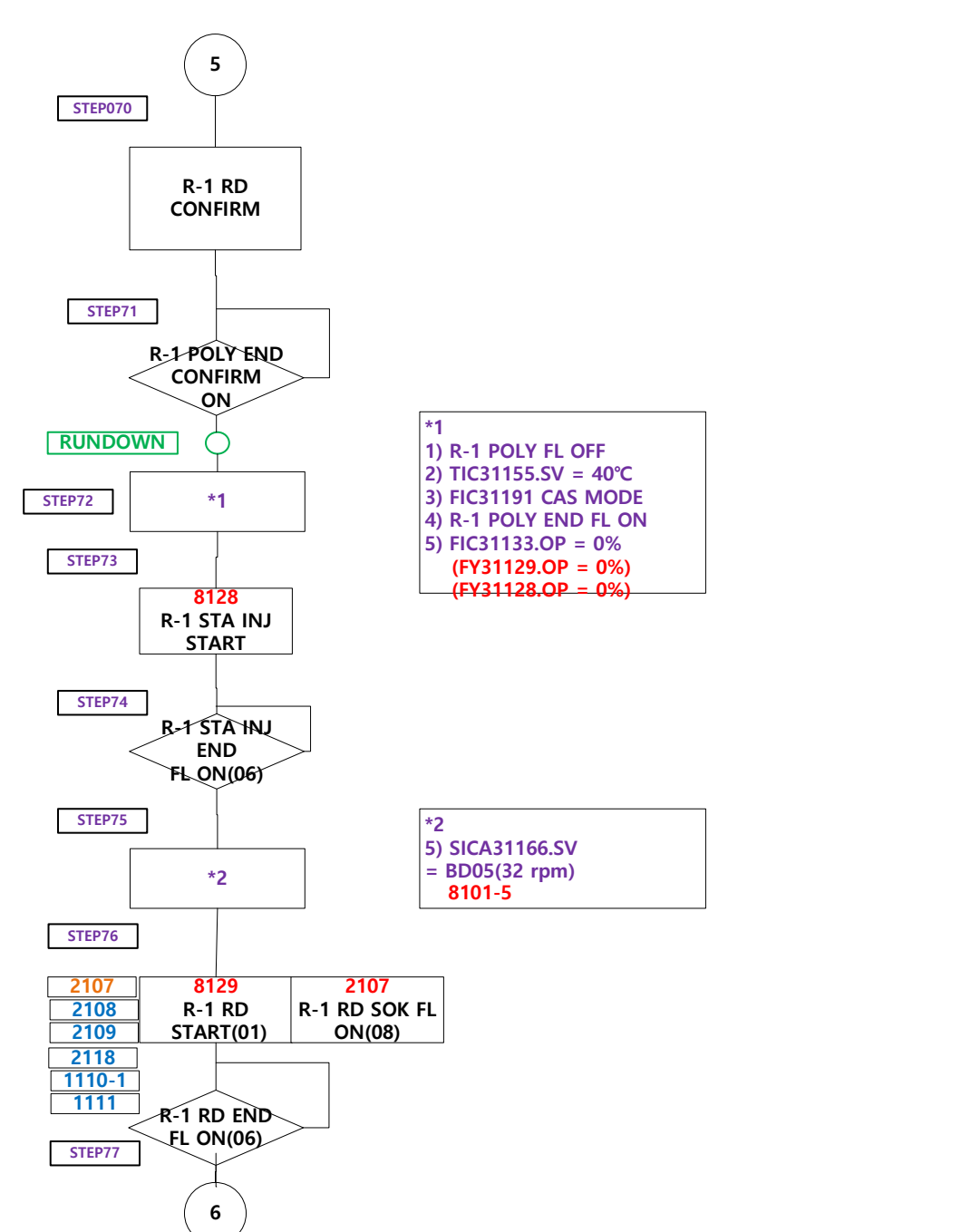
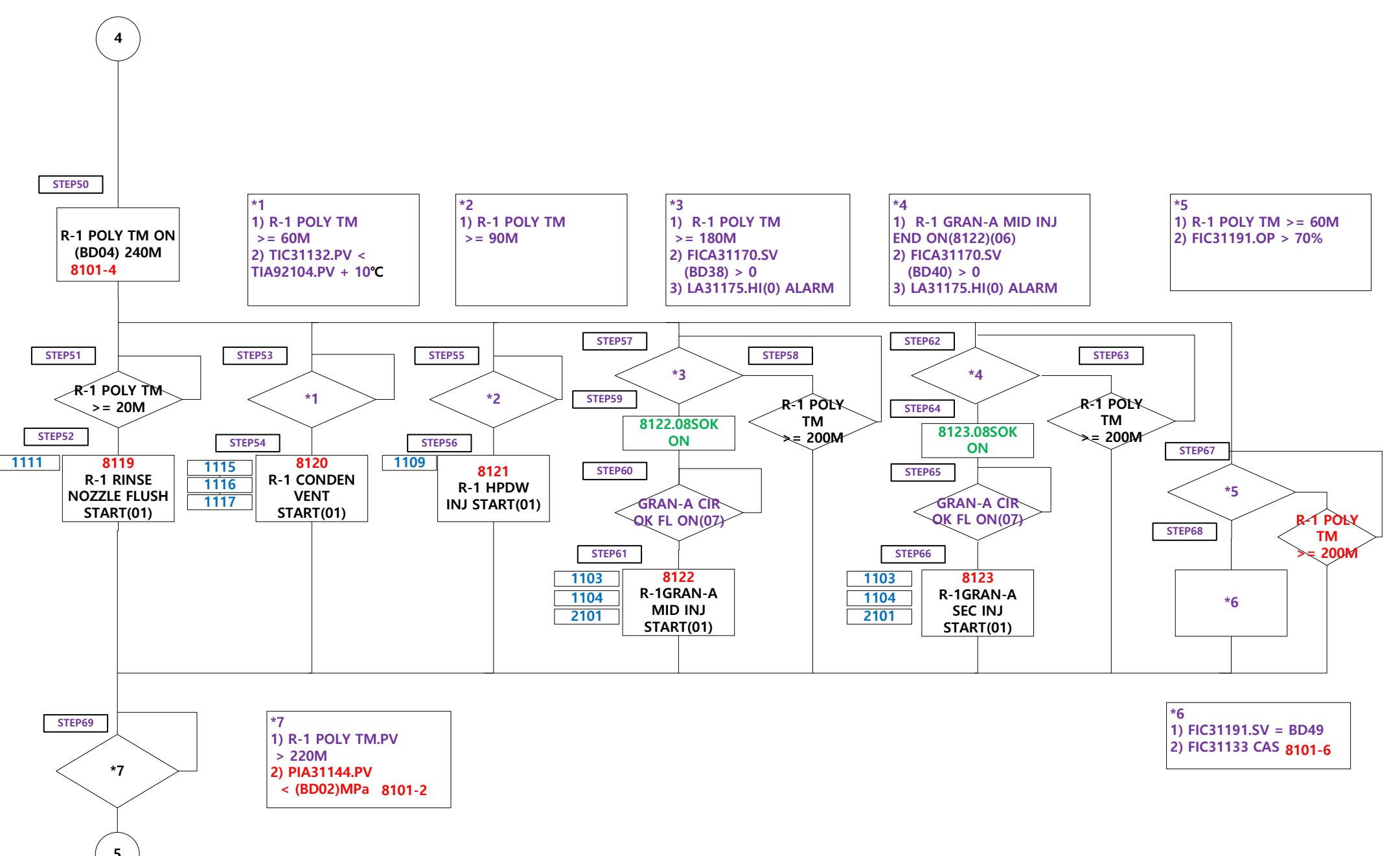
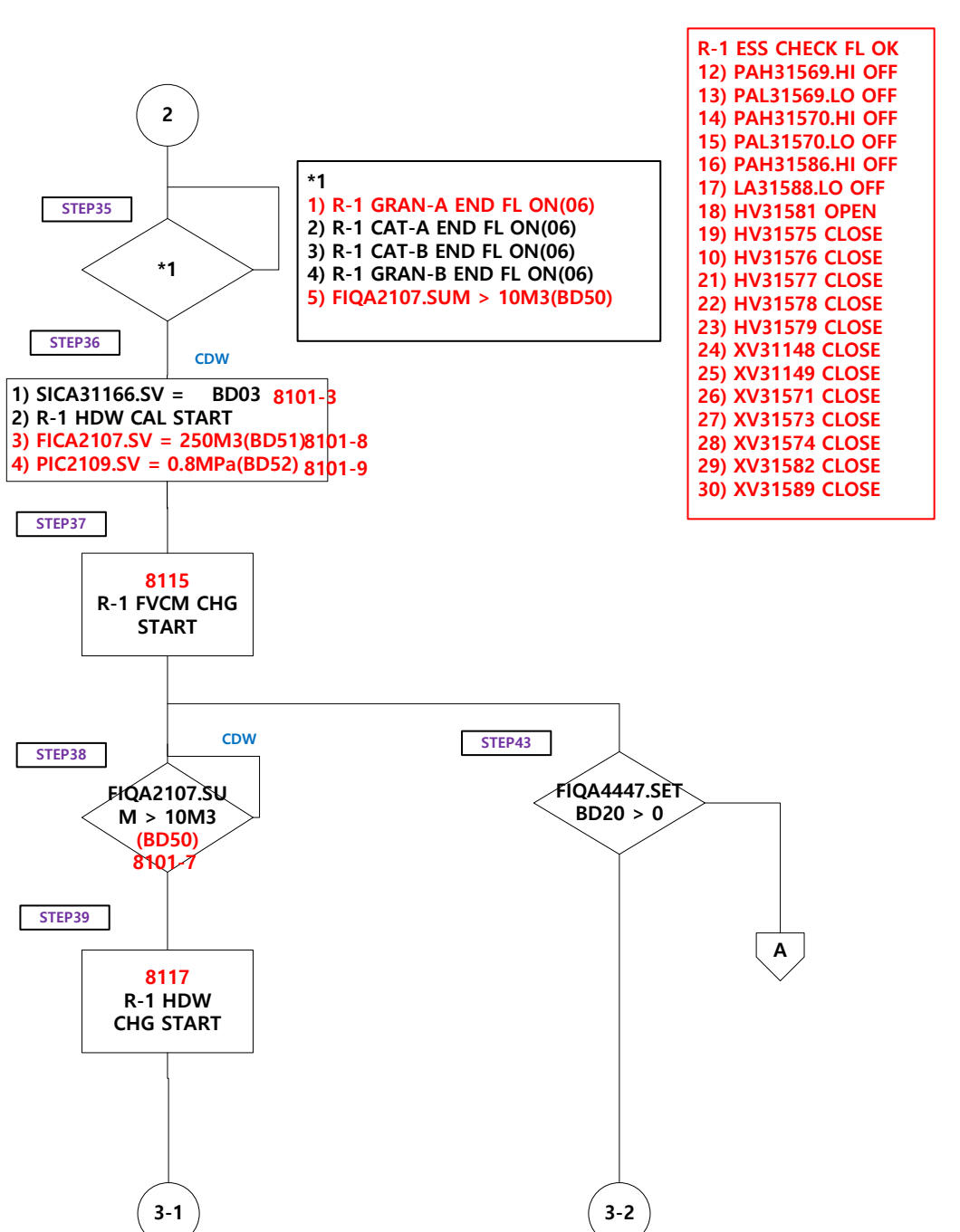
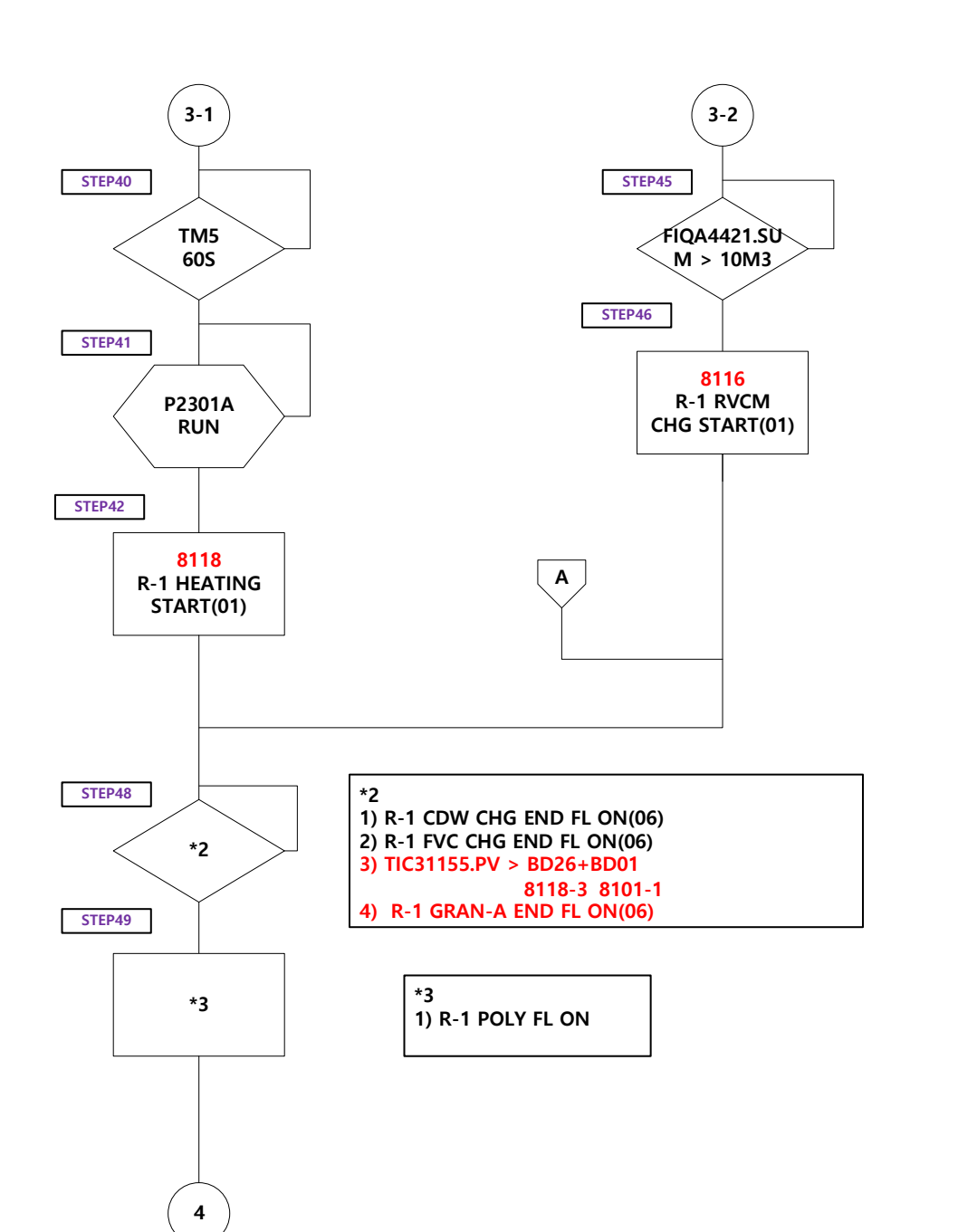
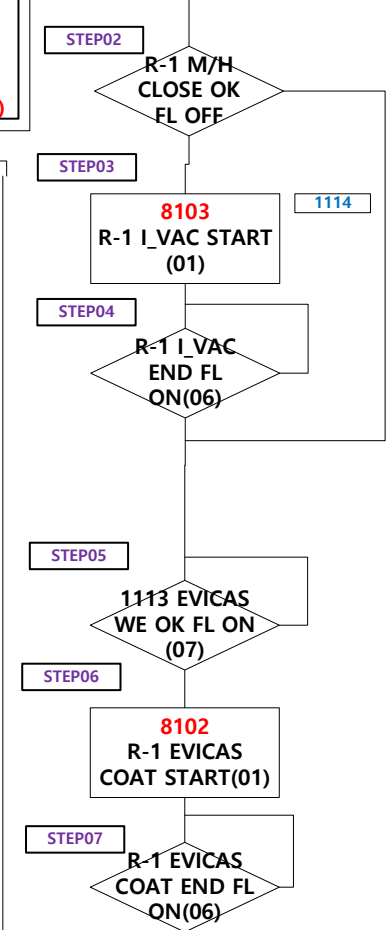




2130 DRY1 WET SCRUBBER

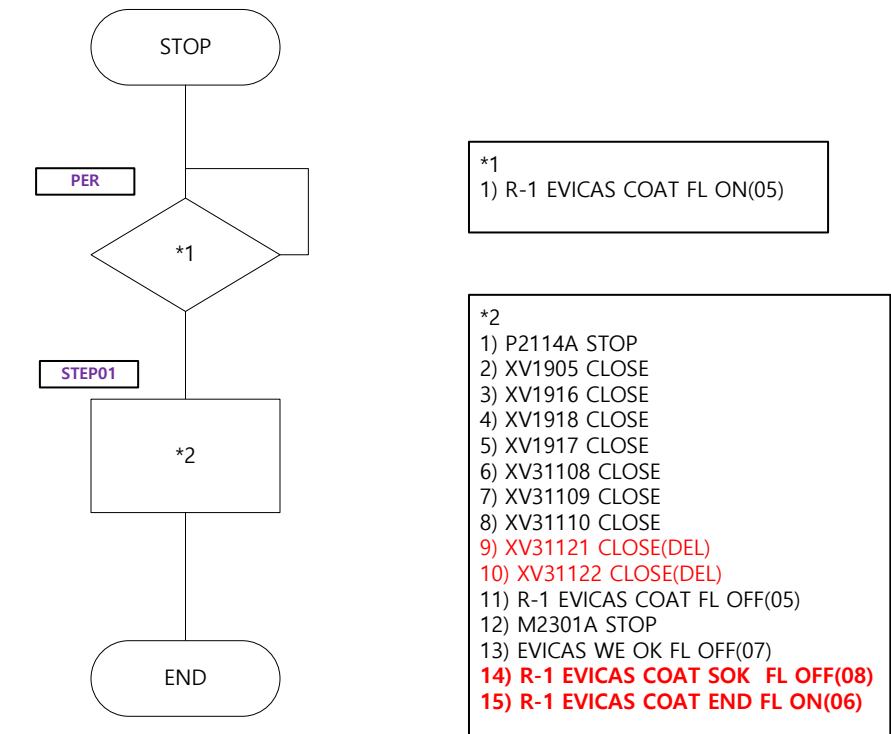
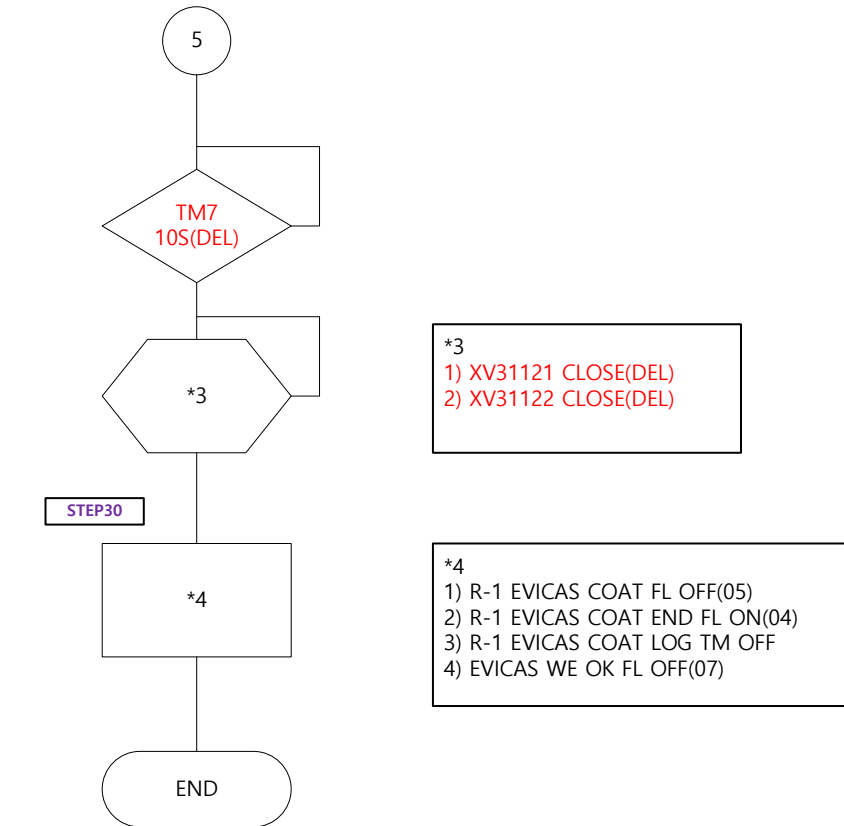
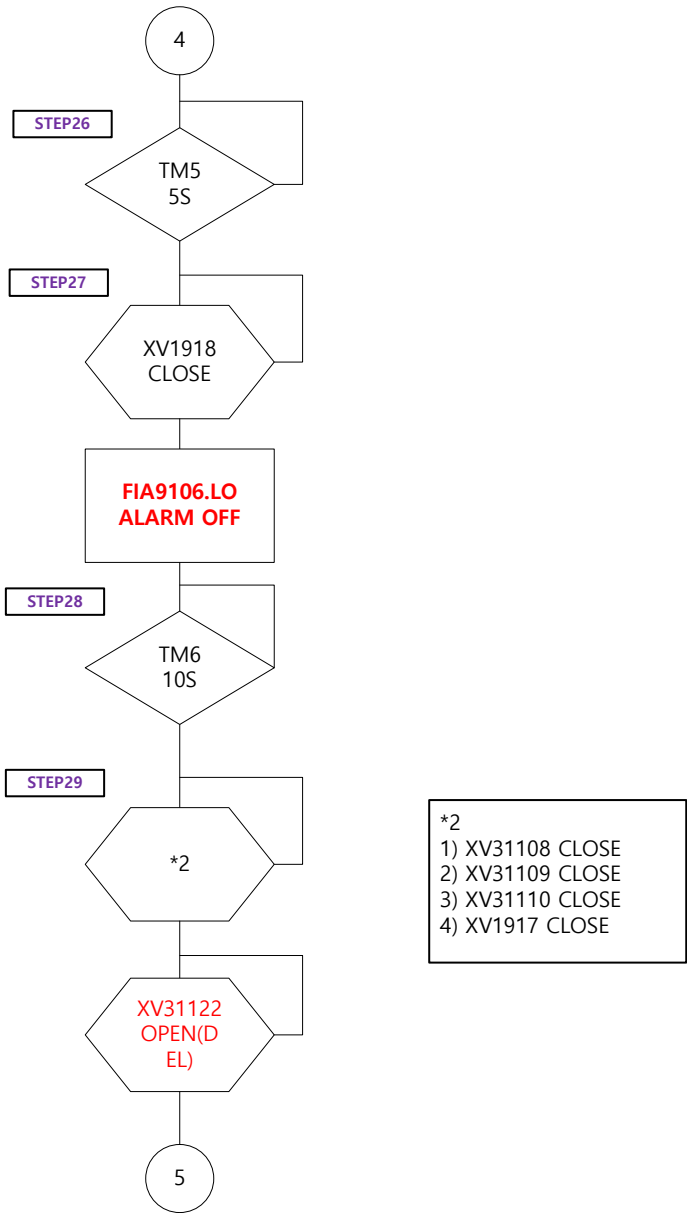
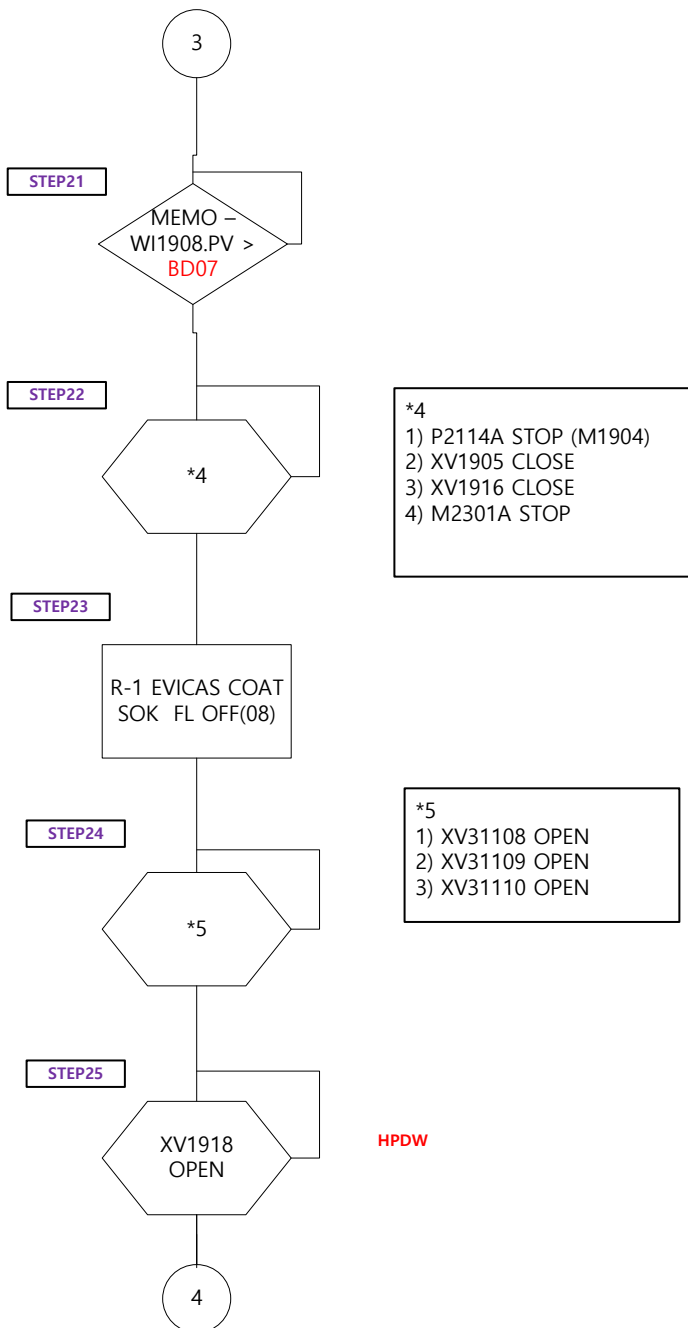
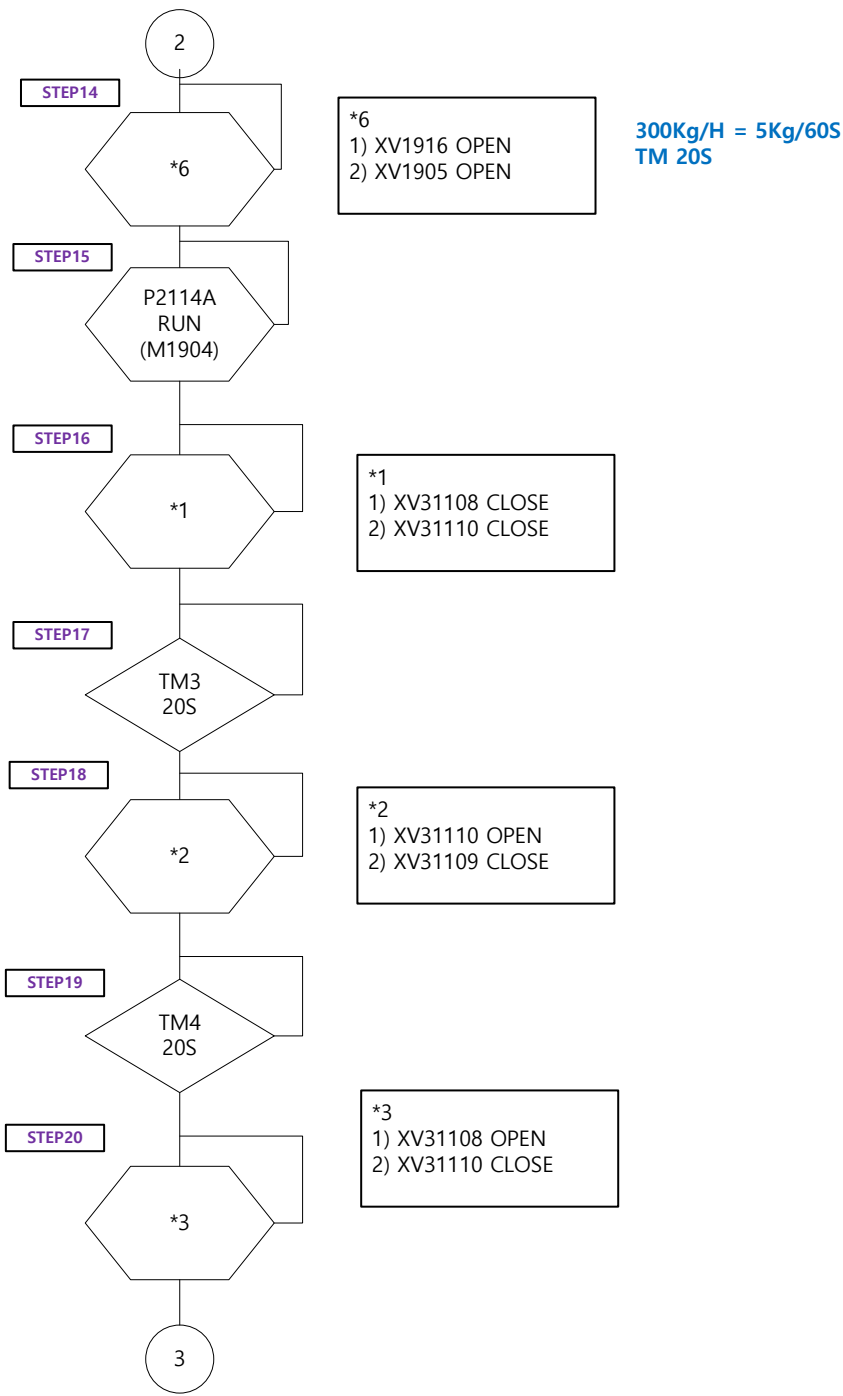
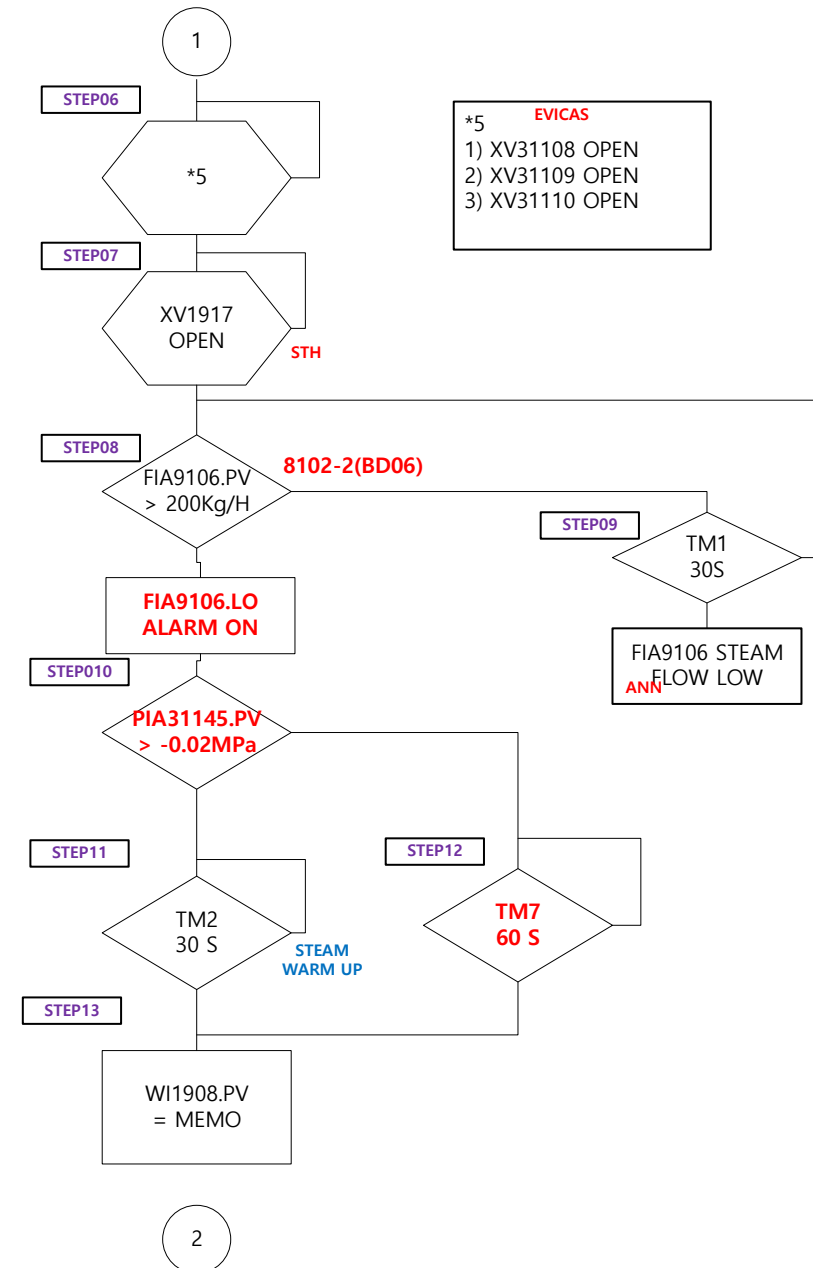
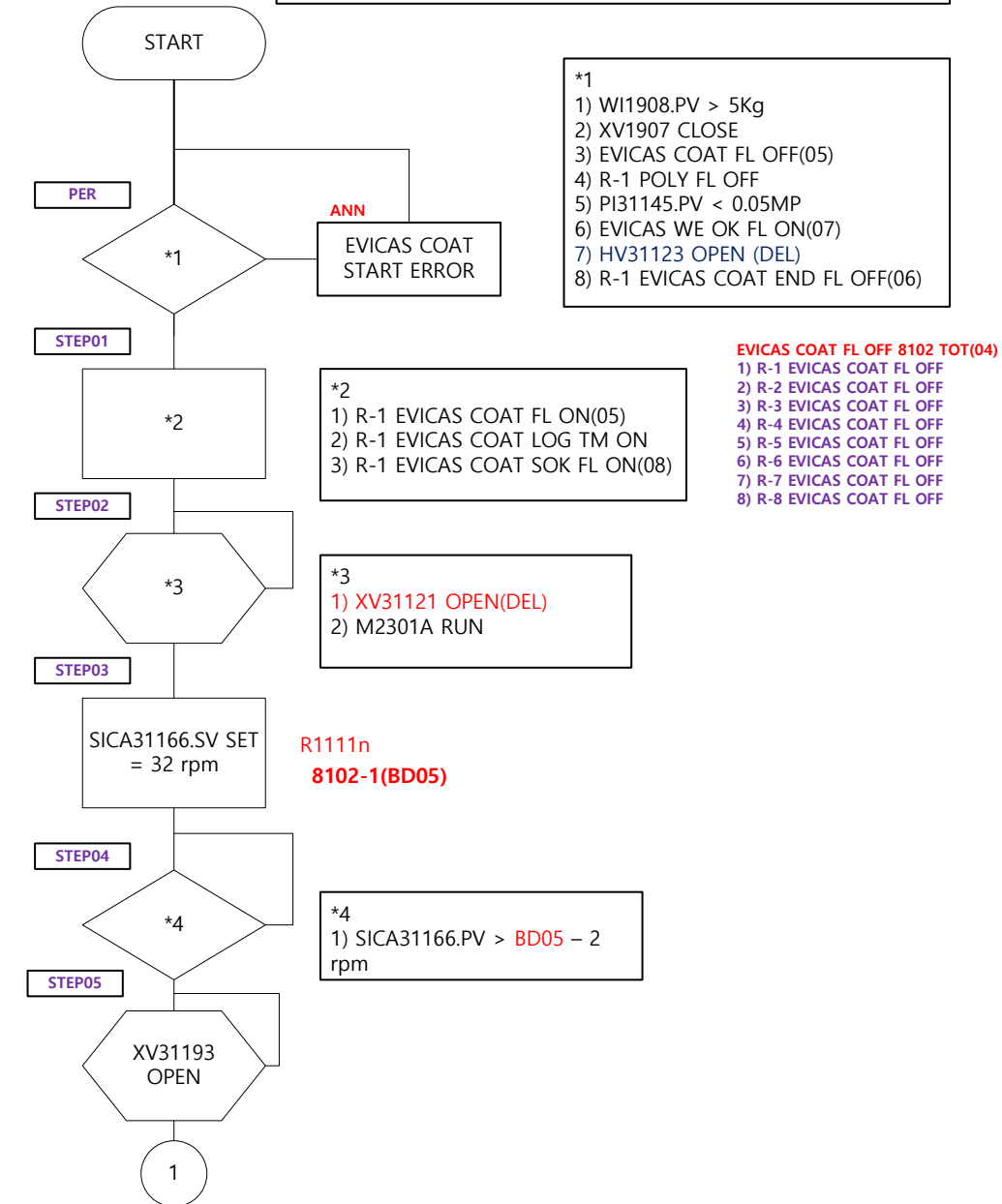


- \*1
- 1) M2301A(M31168) STOP
- 2) P131145 <0.05MP
- 3) R-1 MASTER FL OFF(05)
- 4) PM2308A RUN
- 5-1) P2203A(M2219) RUN
- 5-2) P2203B(M2220) RUN
- 6) WATER READY OK FL ON(07)
- 7-1) XV31157 OPEN
- 7-2) XV31158 OPEN
- 8) HV31124 OPEN
- 9) HV31123 OPEN (DEL)
- 9) R-1 AG READY OK FL ON(07)
- 10) CAT-A CIR OK FL ON(07)
- 11) HPDW CIR OK FL ON(07)
- 12) R1 ESS CHECK FL OK

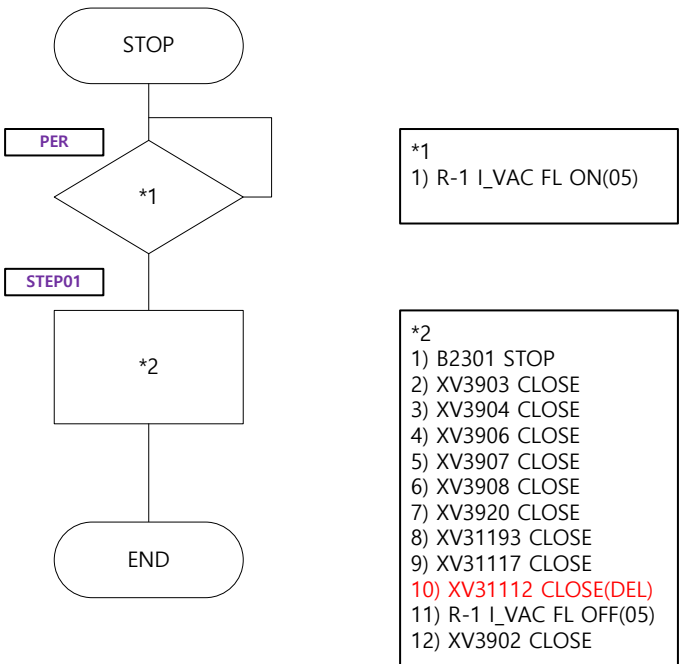
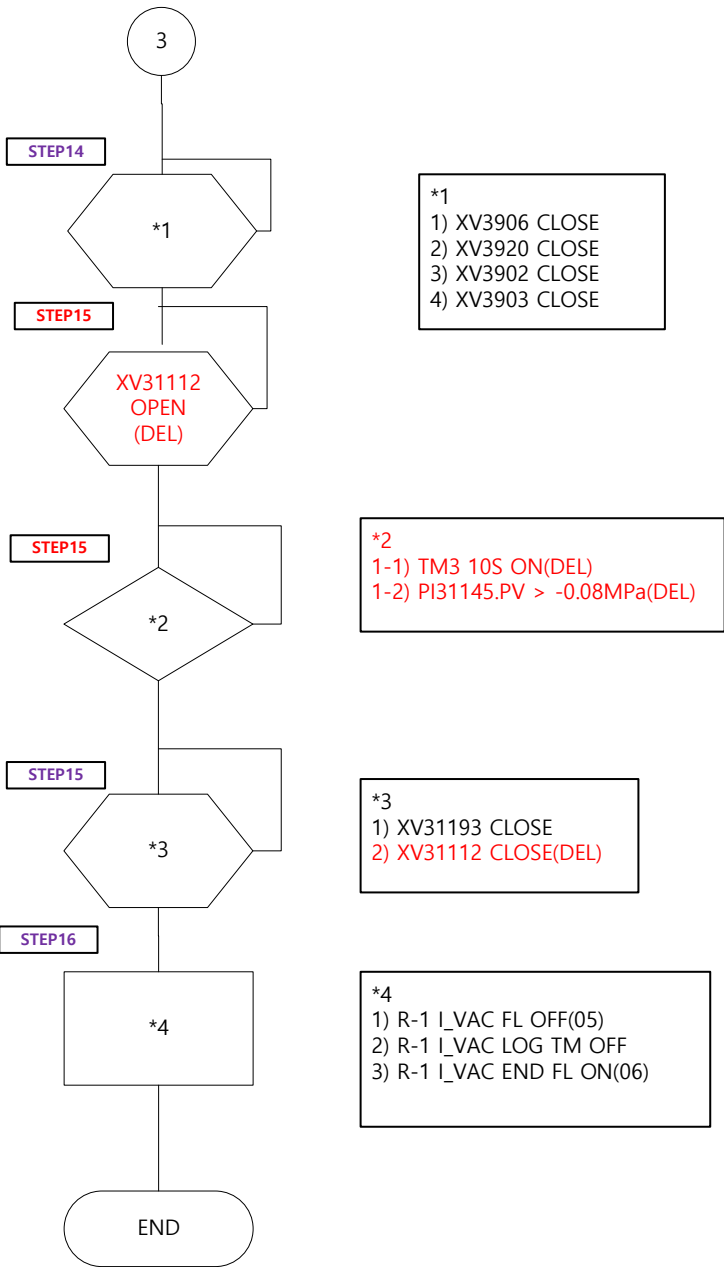
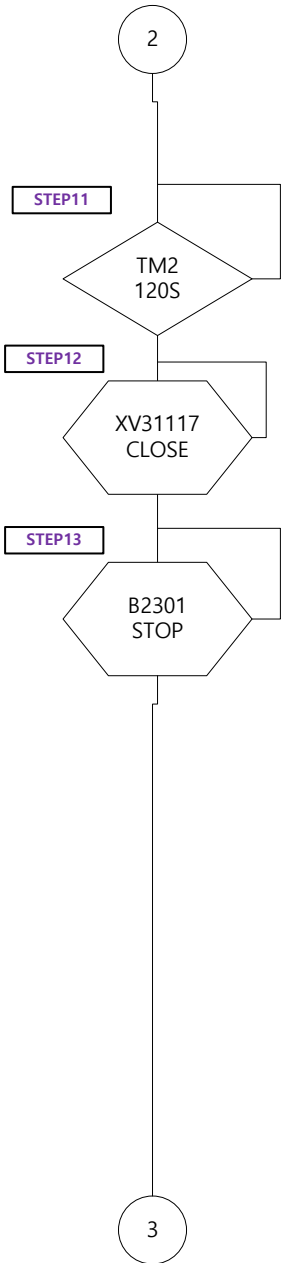
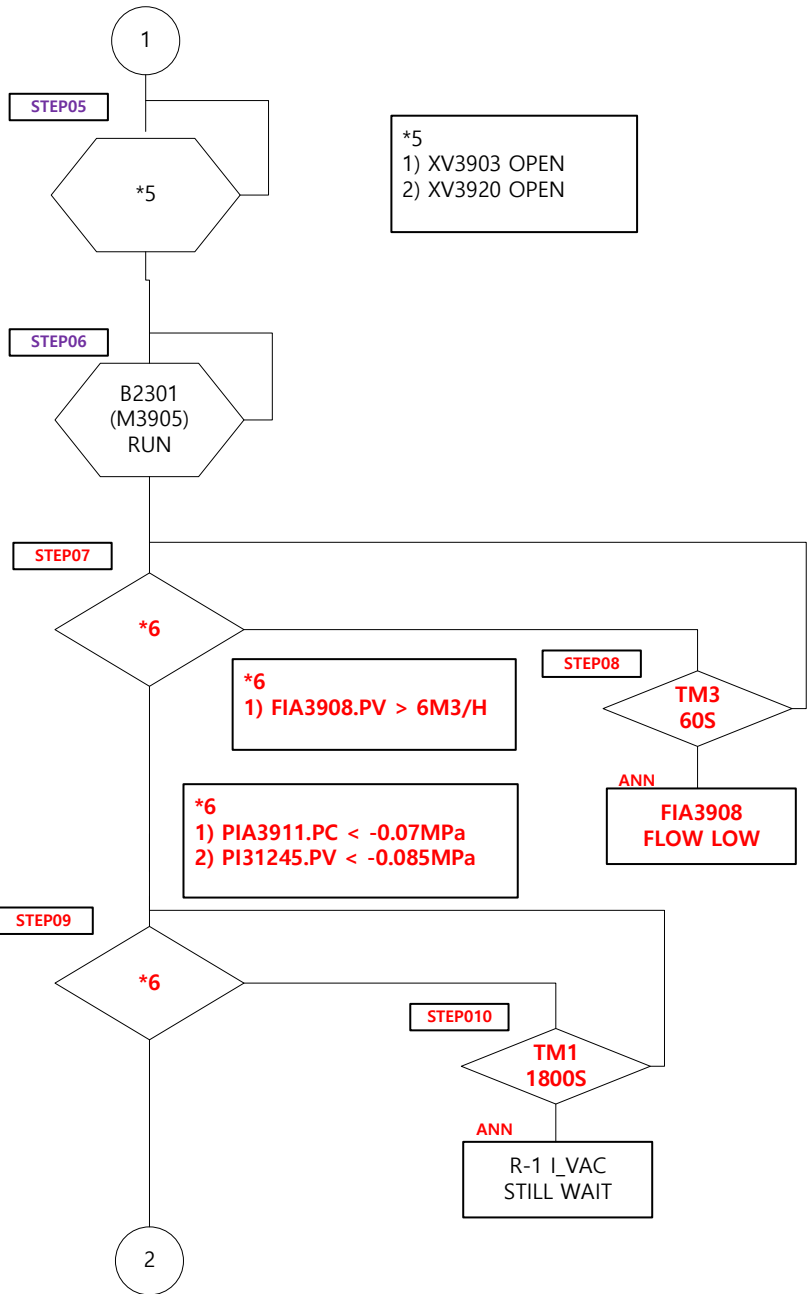
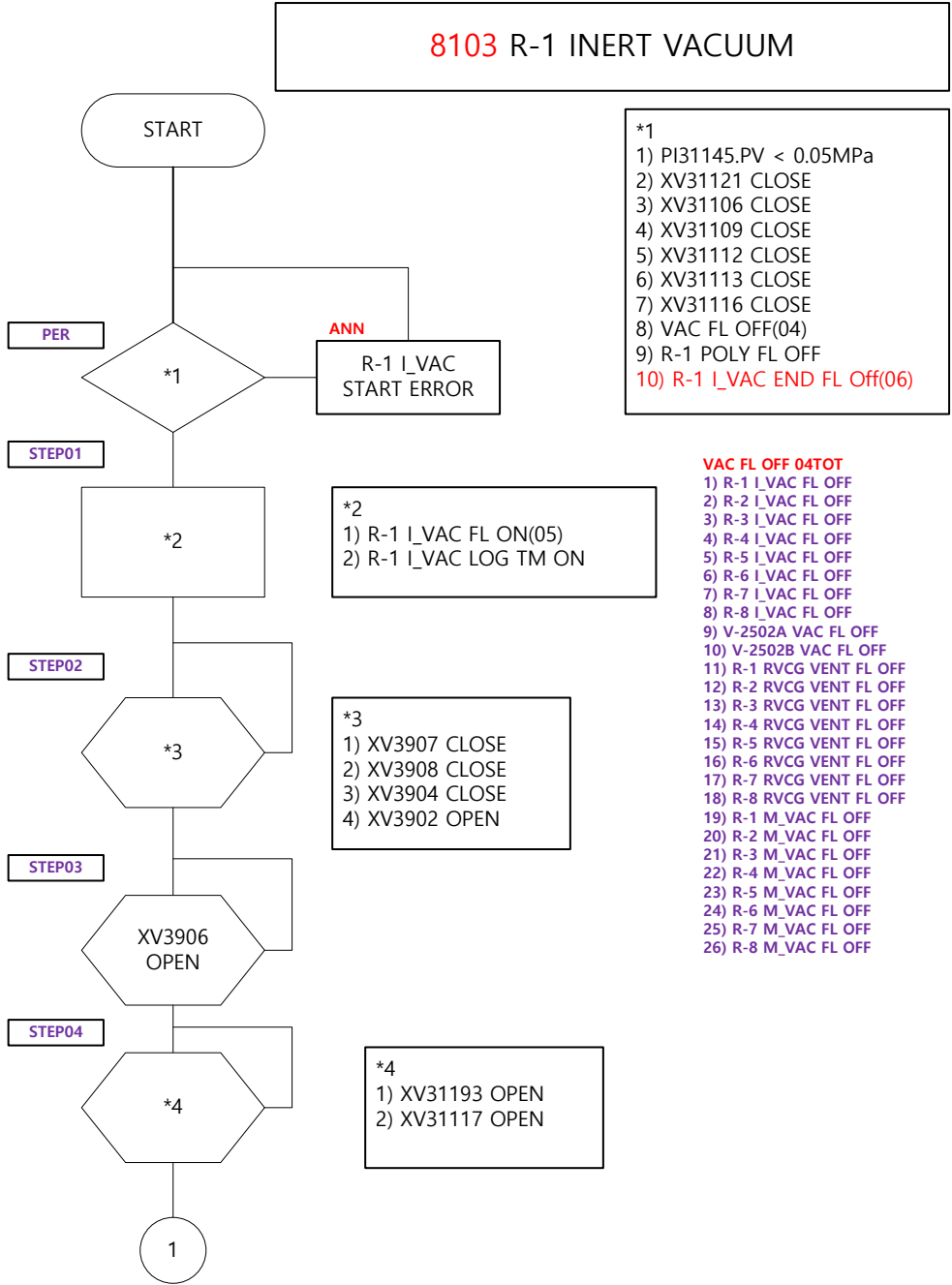


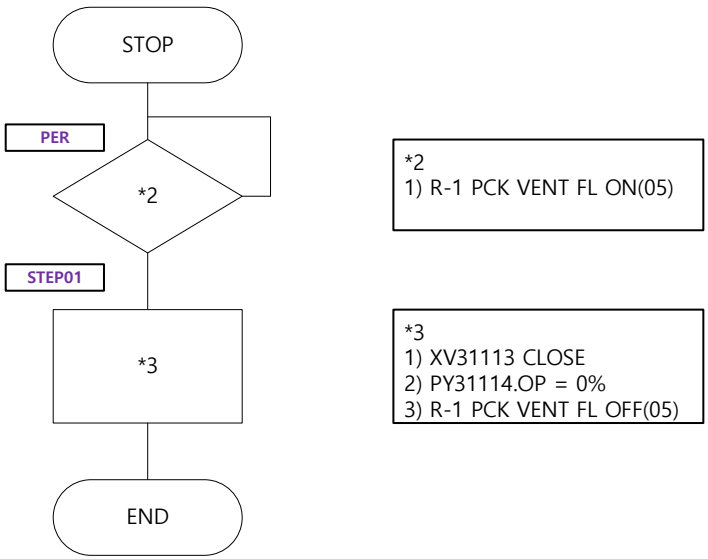
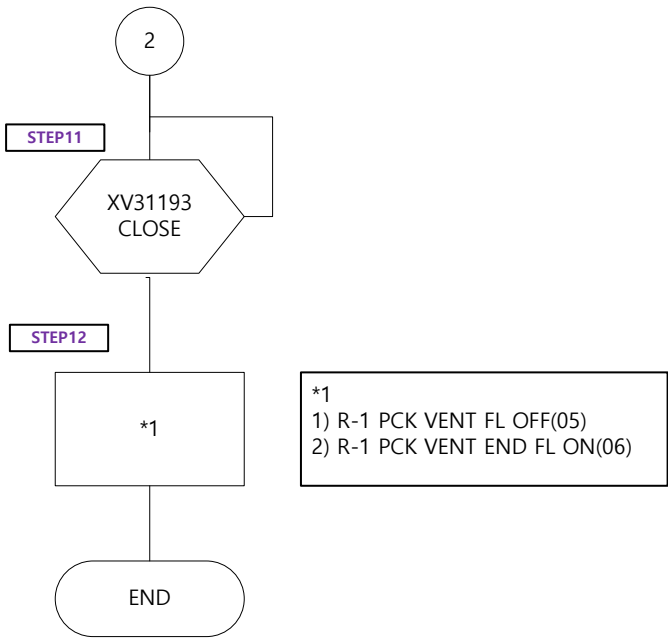
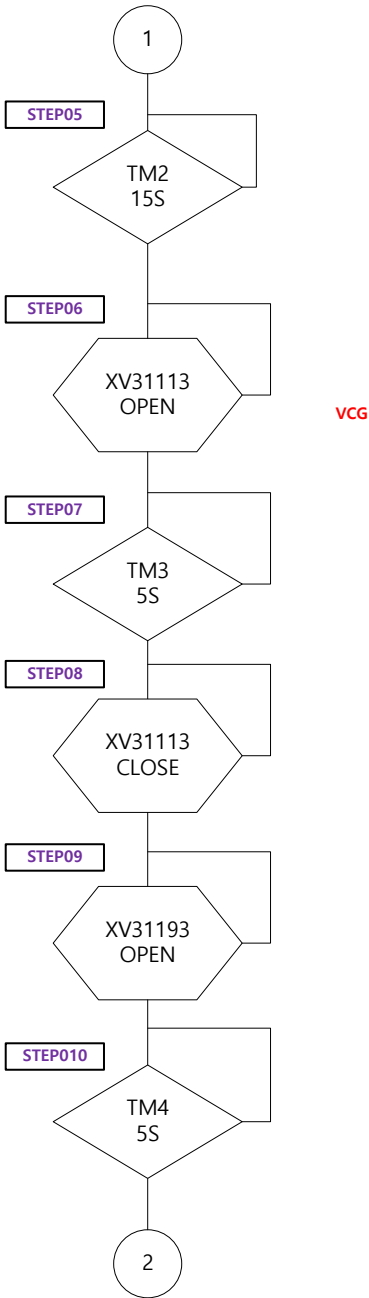
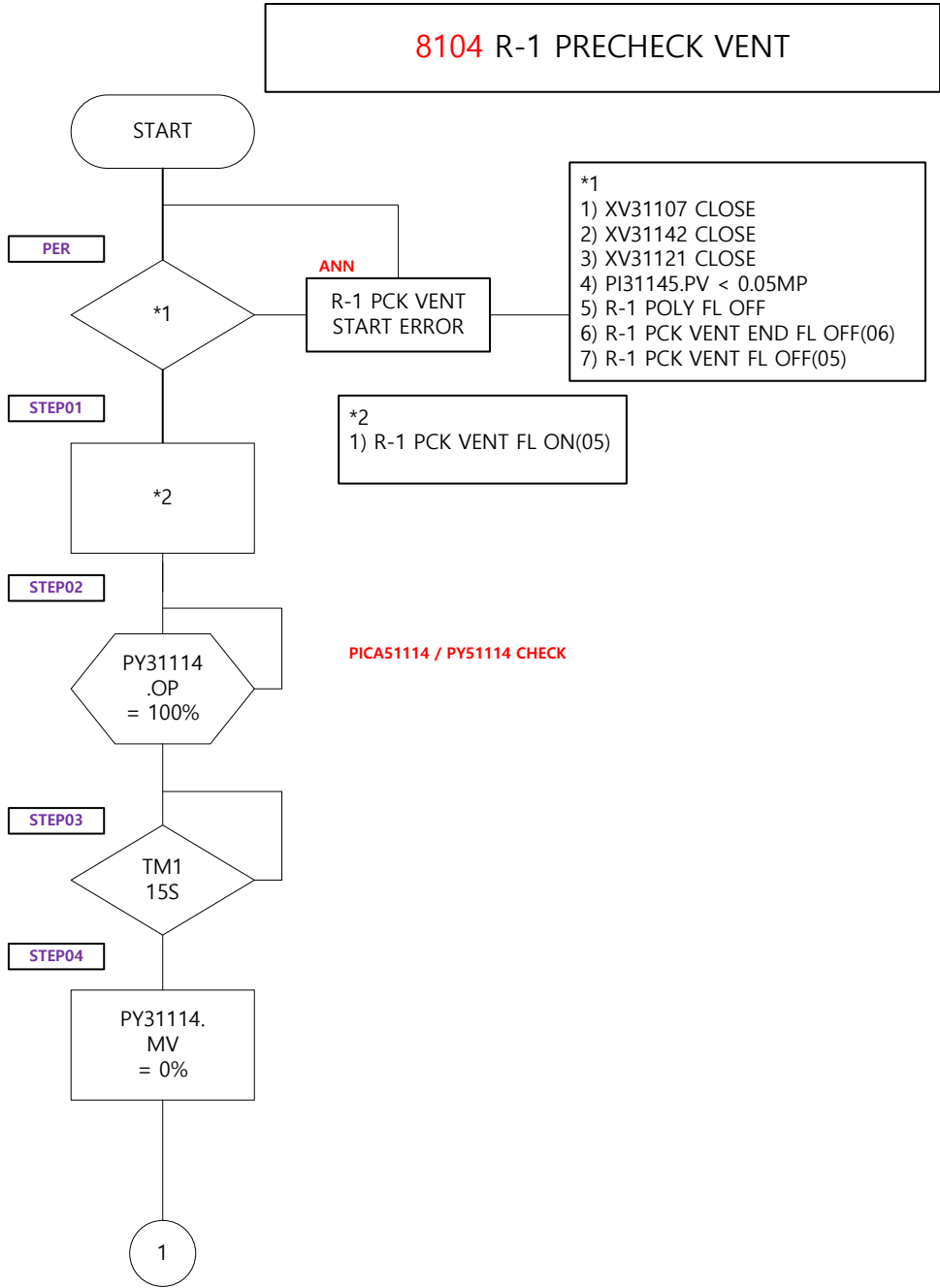


8102 R-1 EVICAS COAT

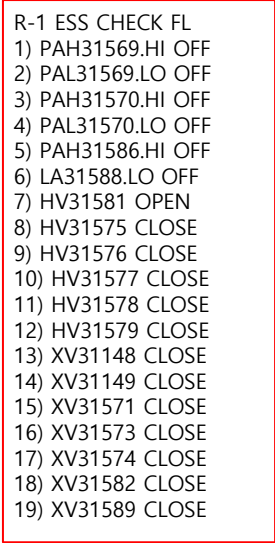
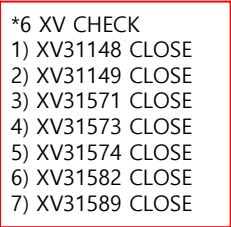
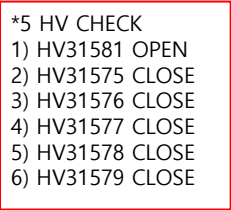
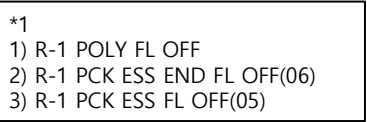


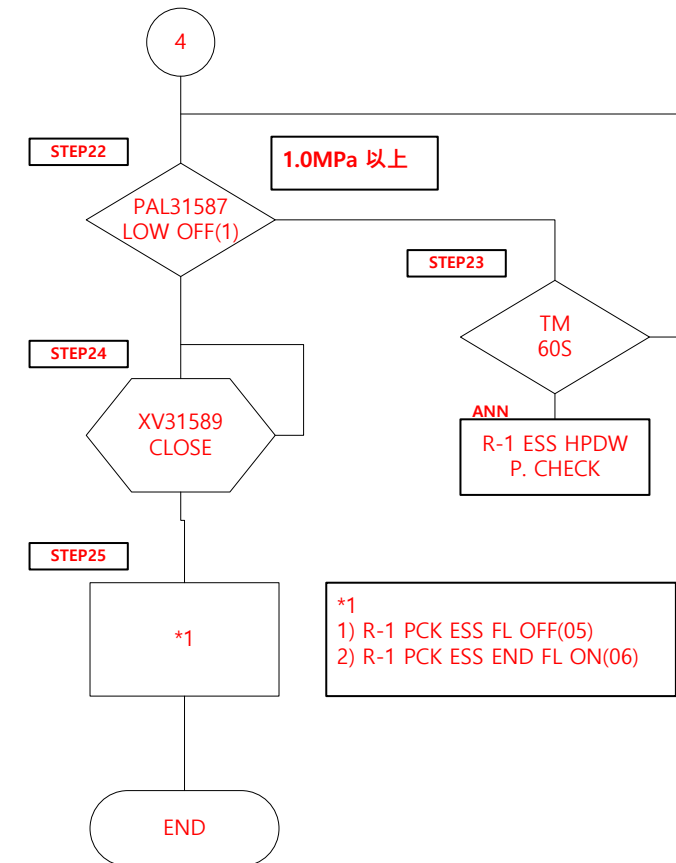
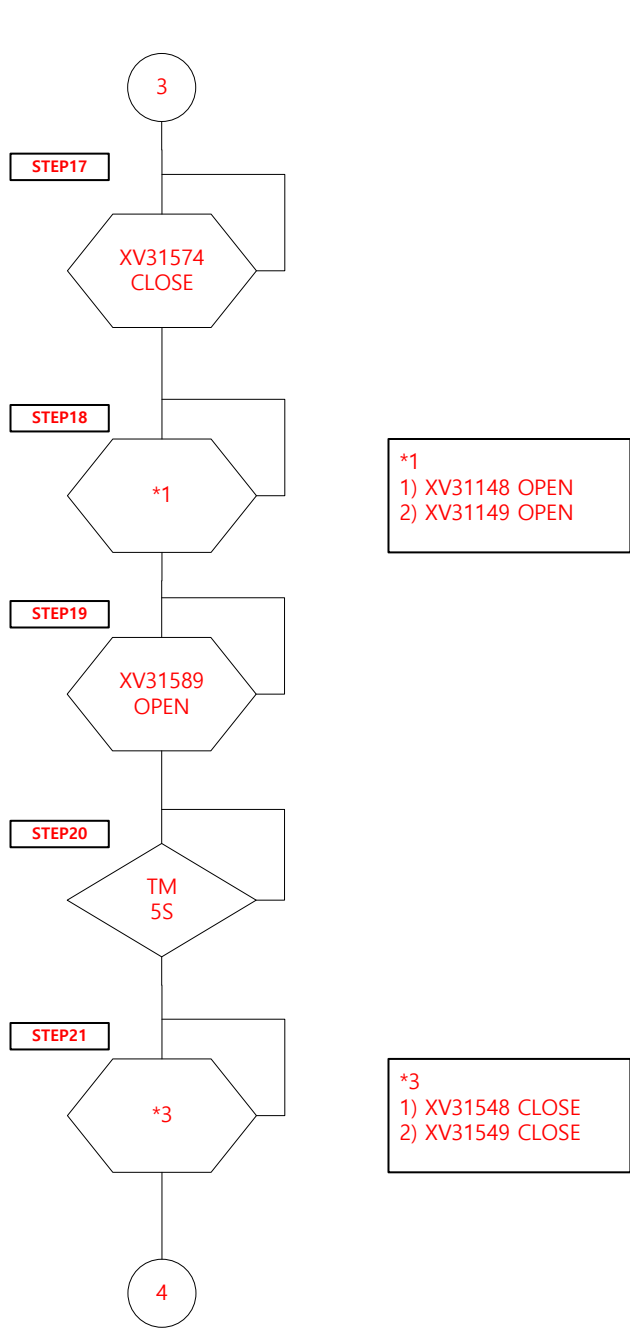
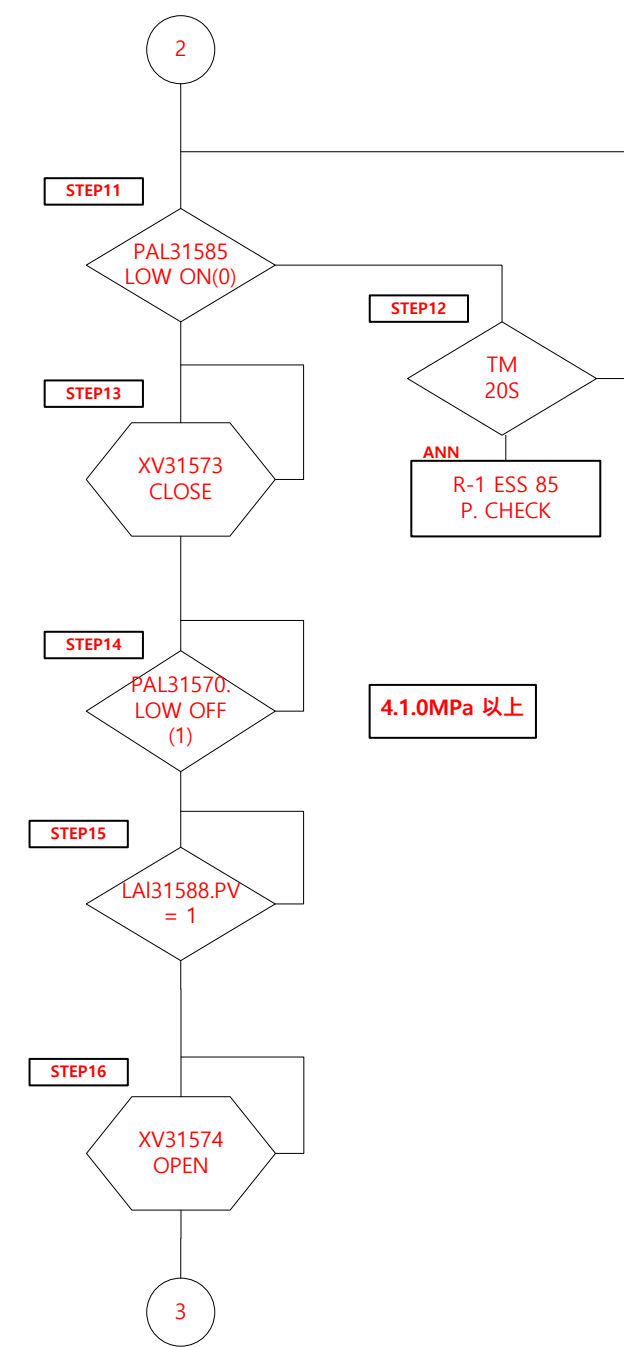
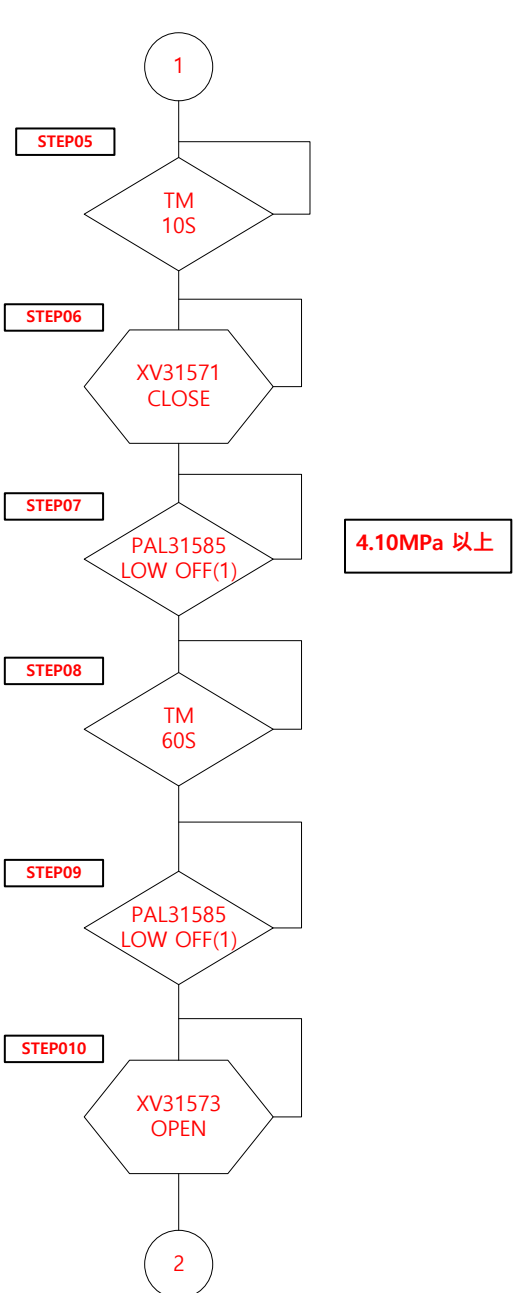
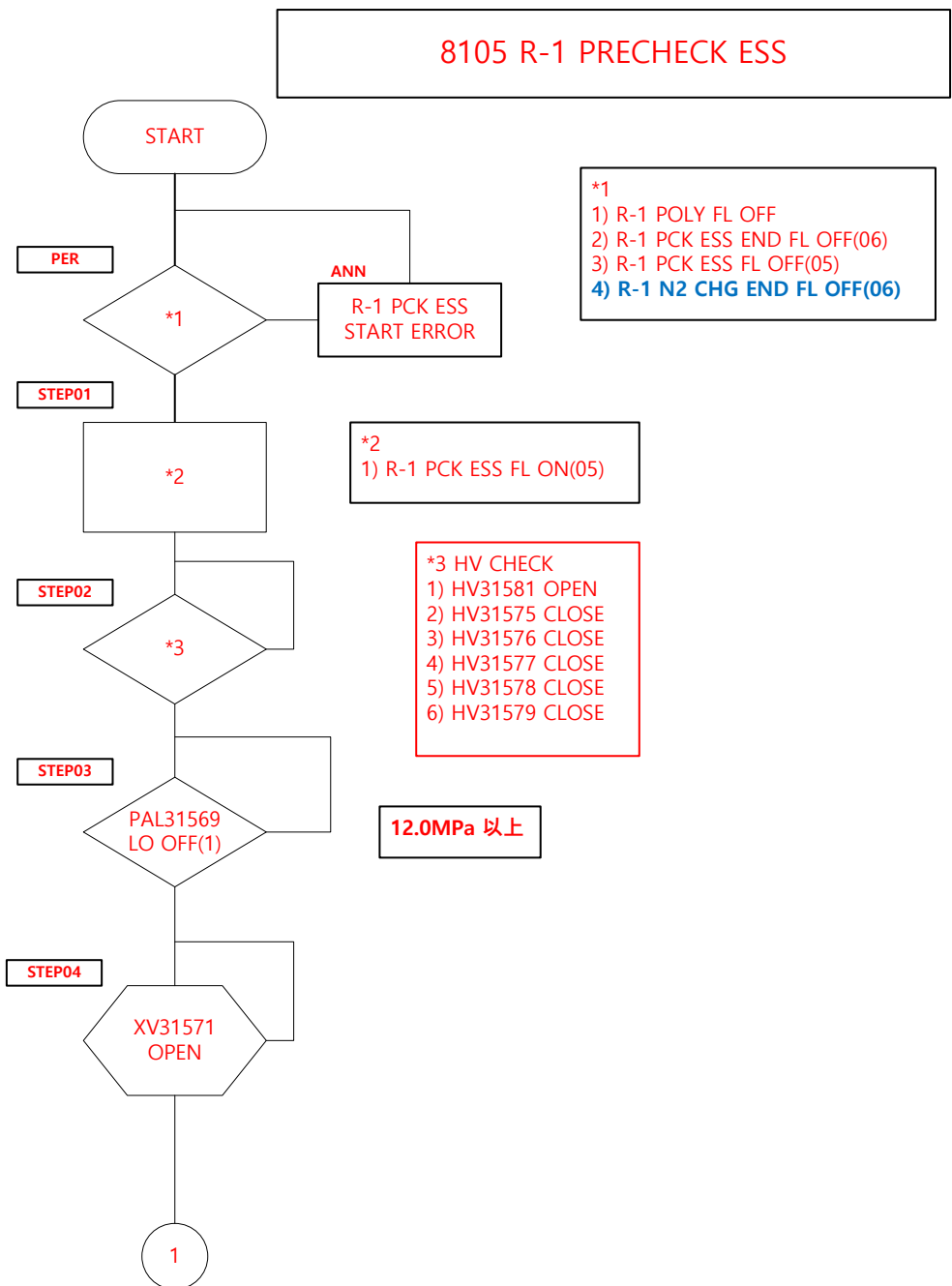
If the reactor has been off-line , and contains air or nitrogen, these gases must be removed before VC is admitted.



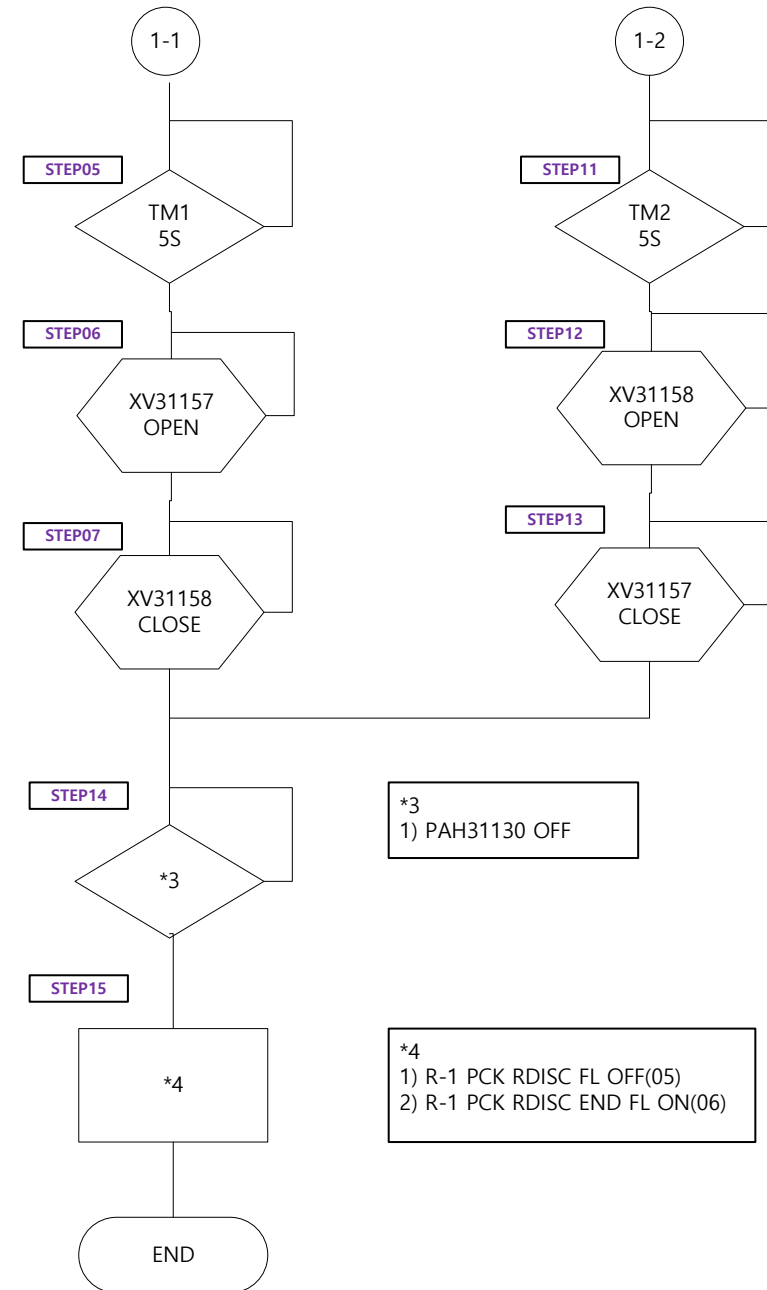
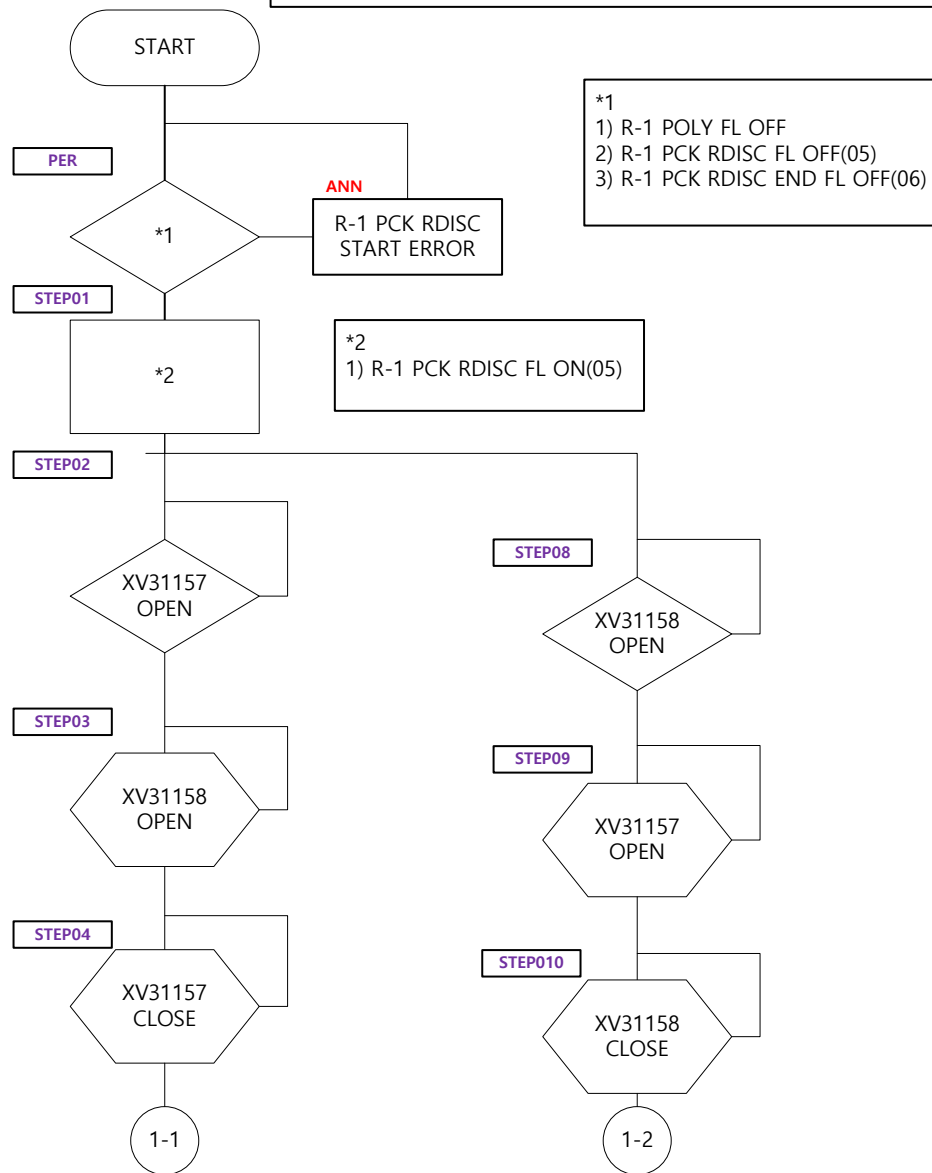


8105 R-1 PRECHECK ESS

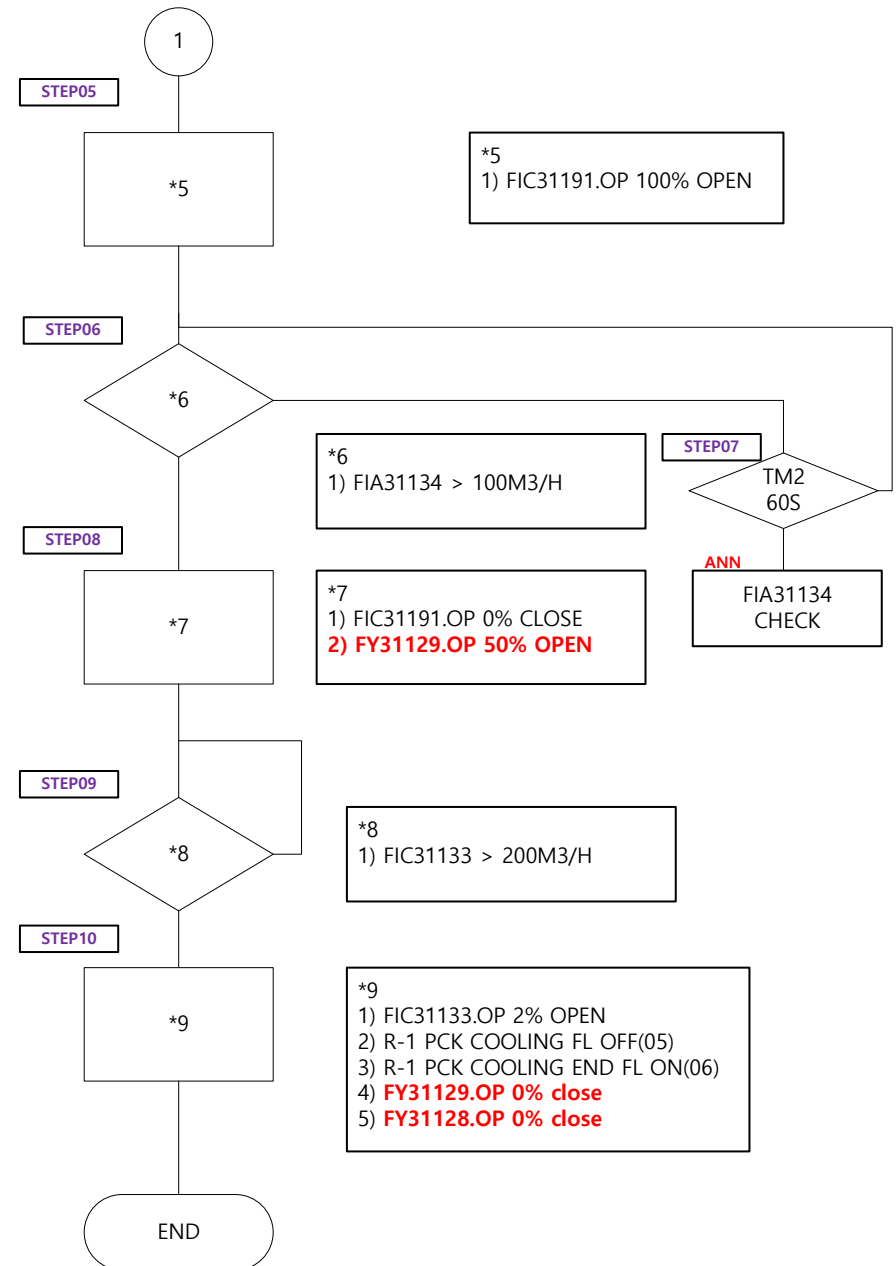
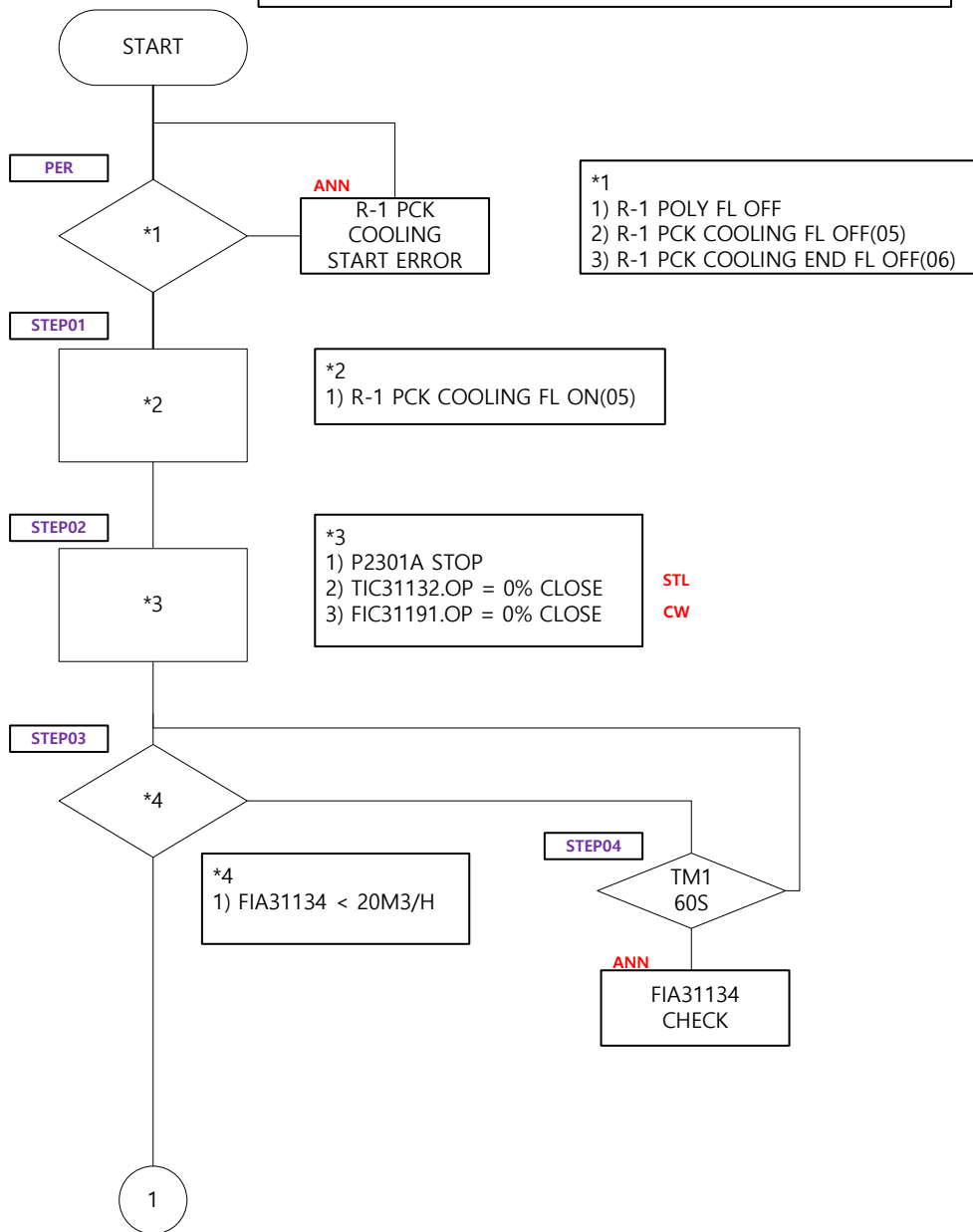




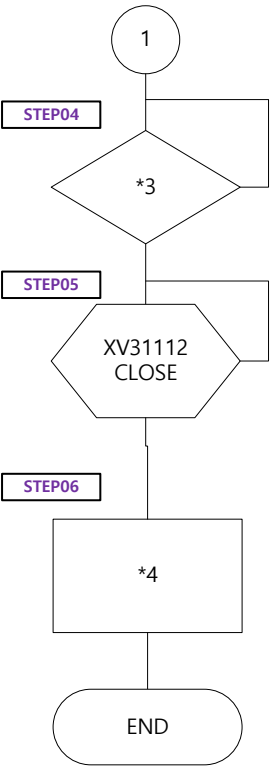
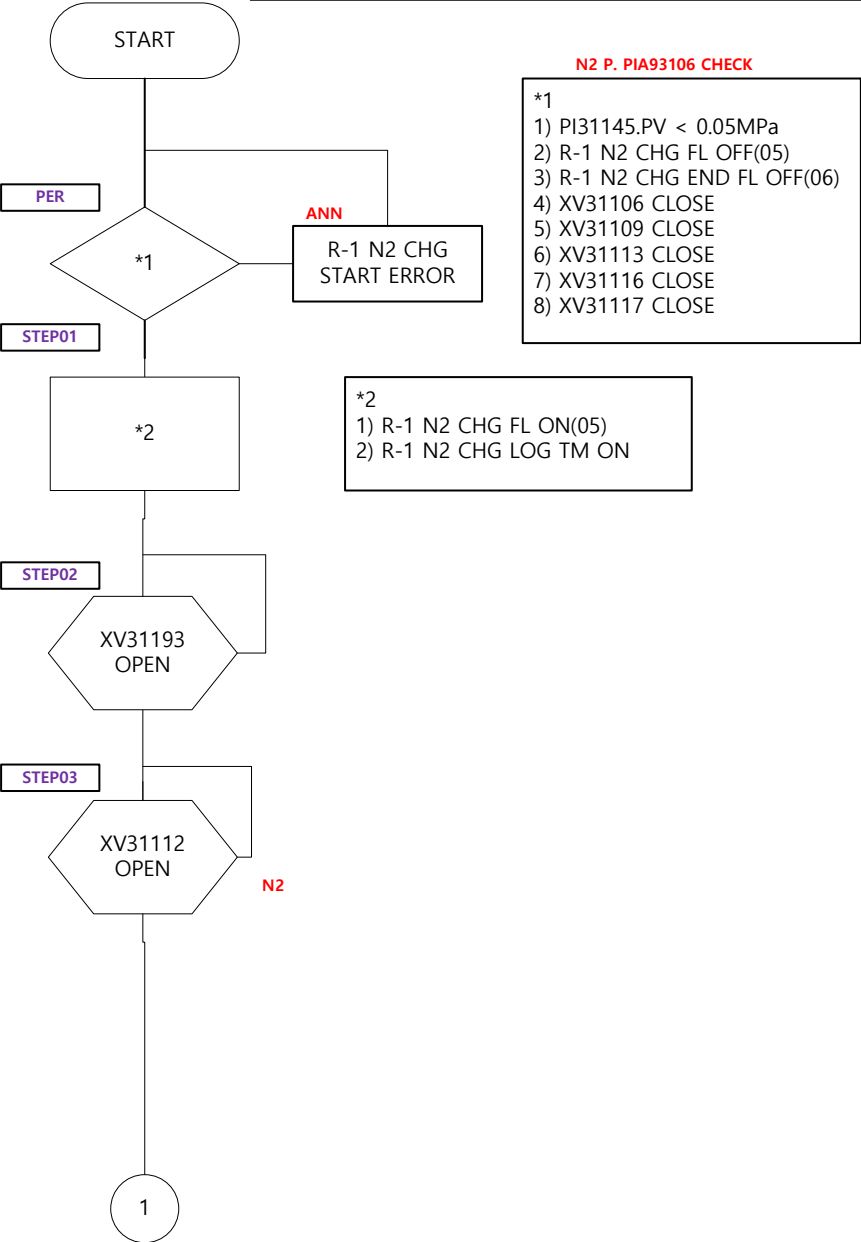
## 8106 R-1 PRECHECK RUPTURE DISC



## 8107 R-1 PRECHECK COOLING

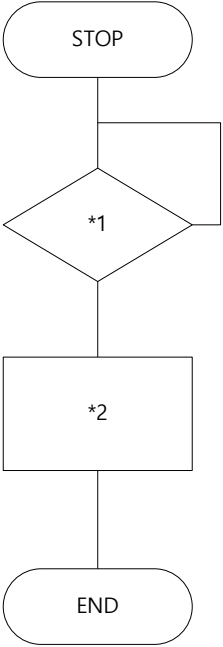


8108 R-1 N2 CHARGE



\*3  
1) TM1 20S **8108-1**  
**(BD08)**

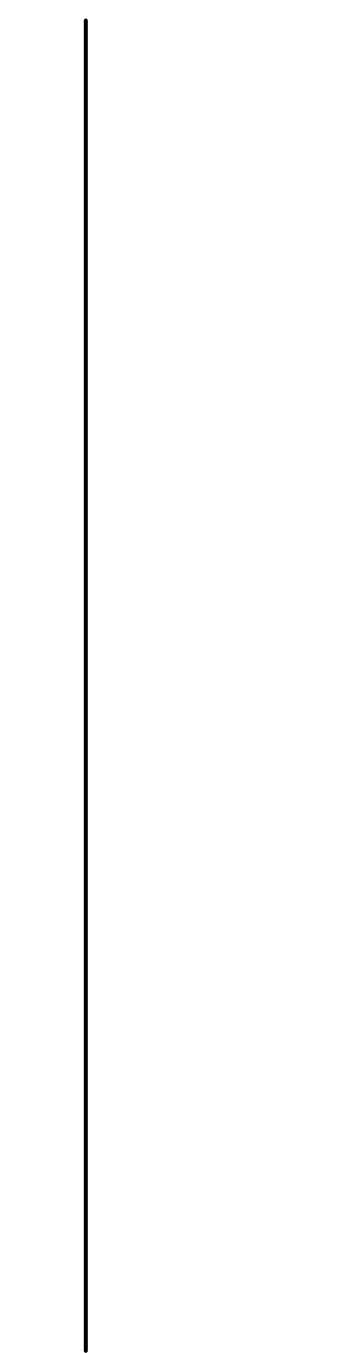
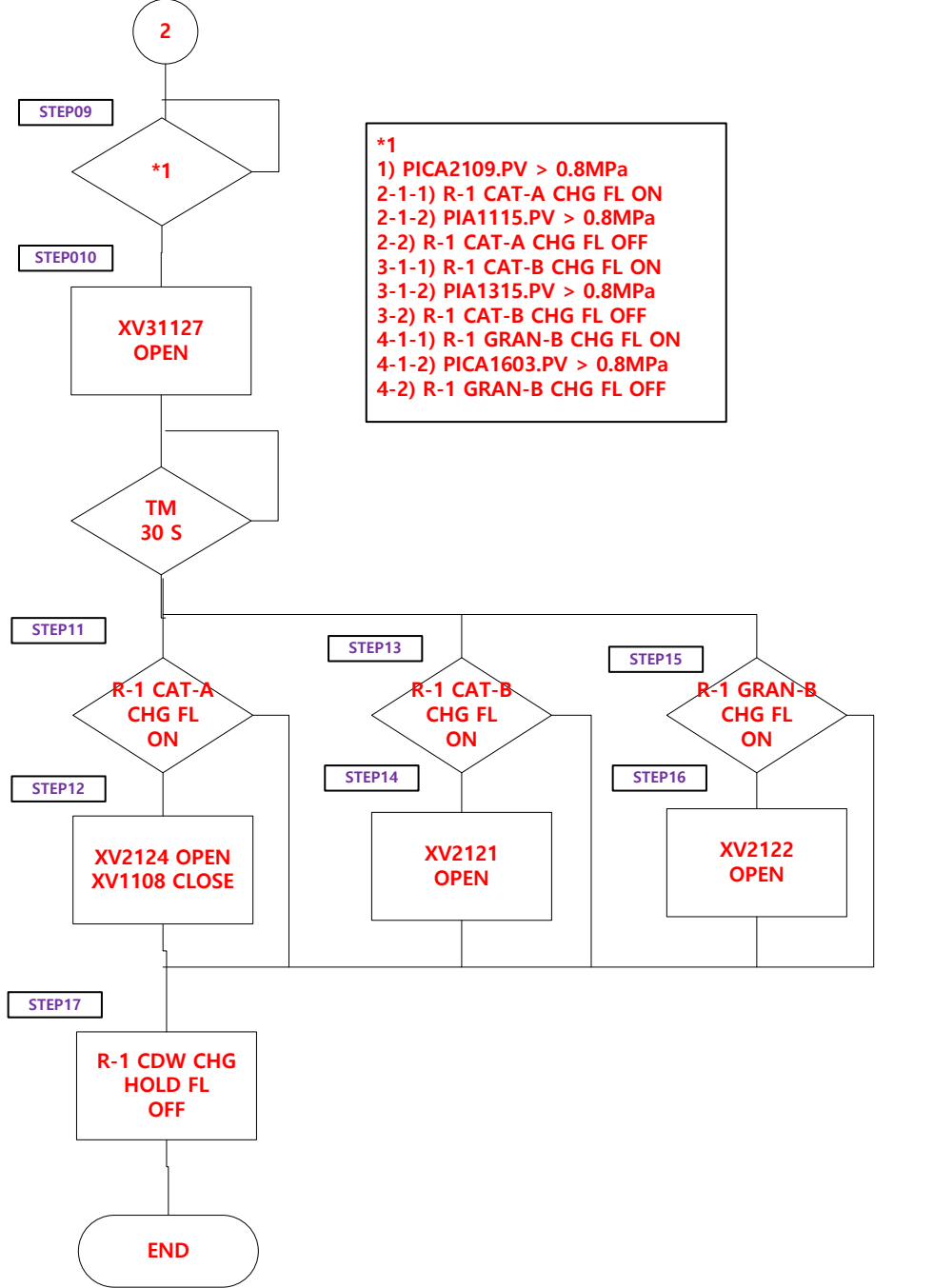
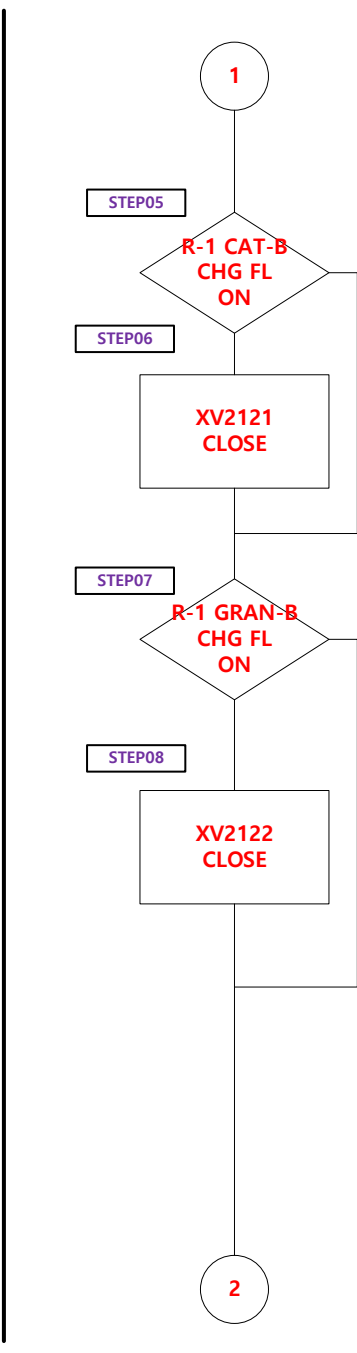
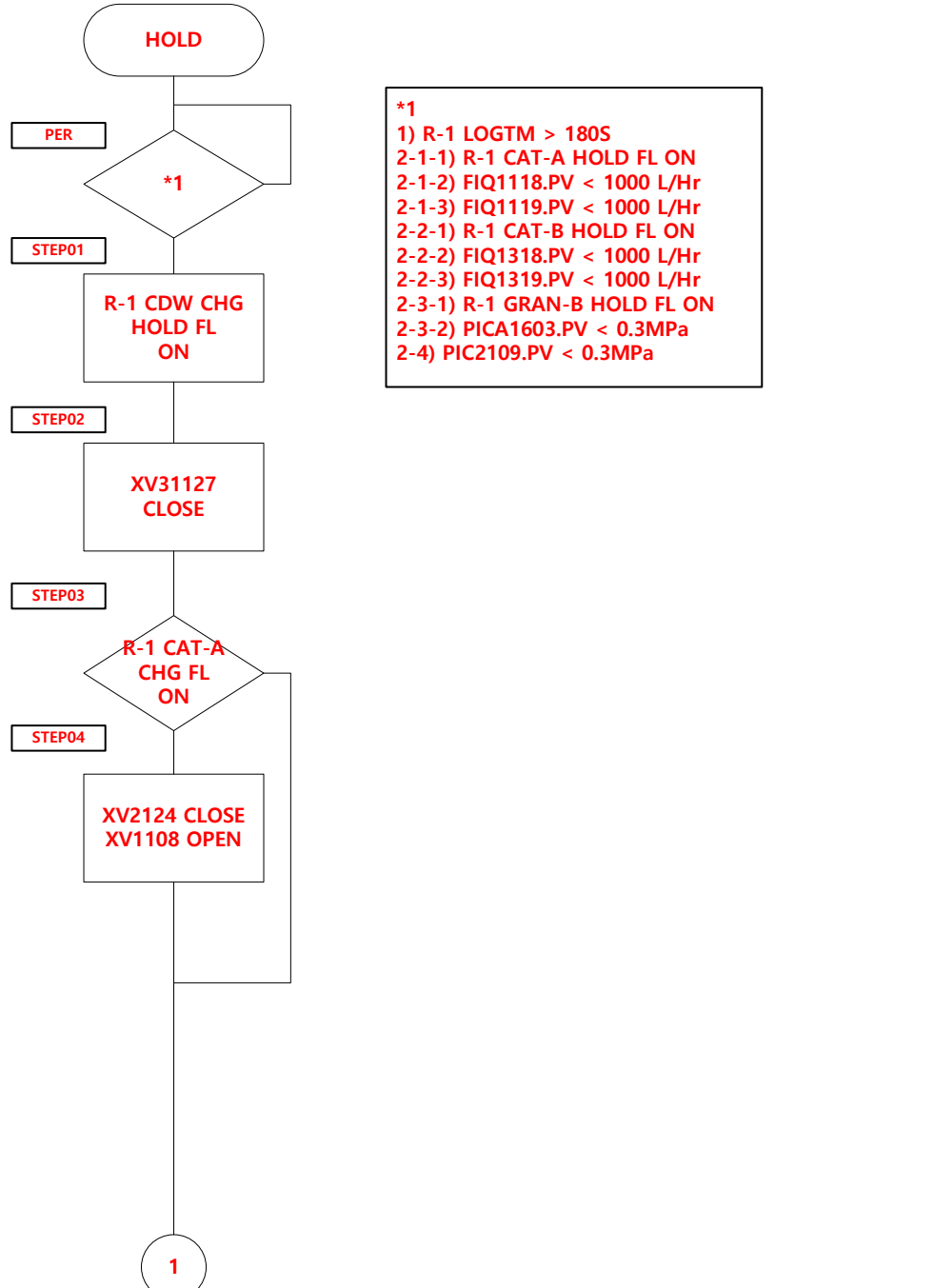
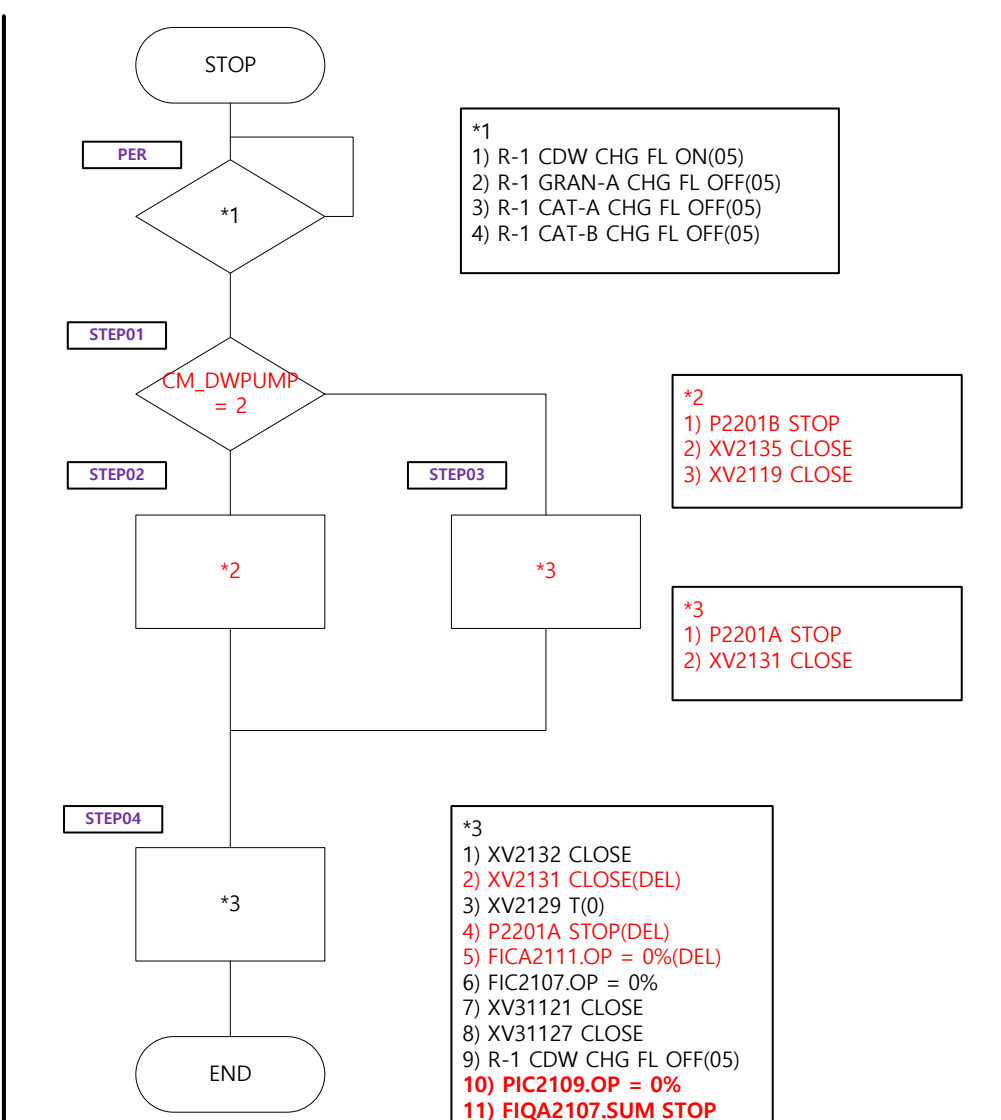
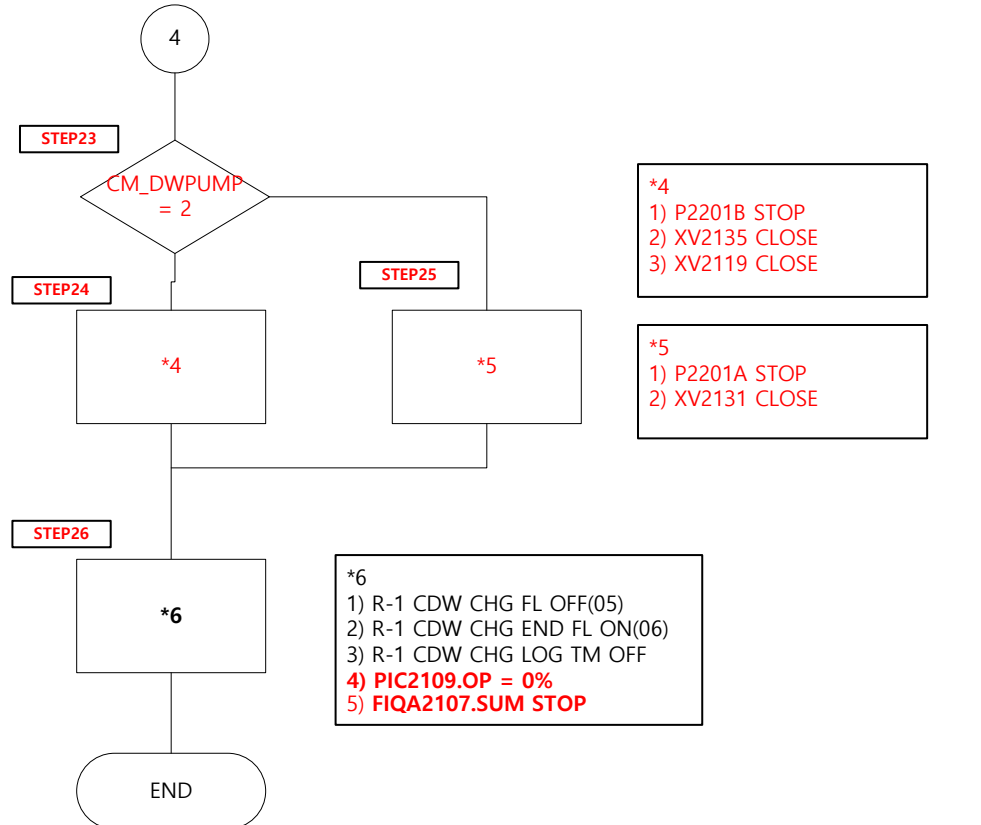
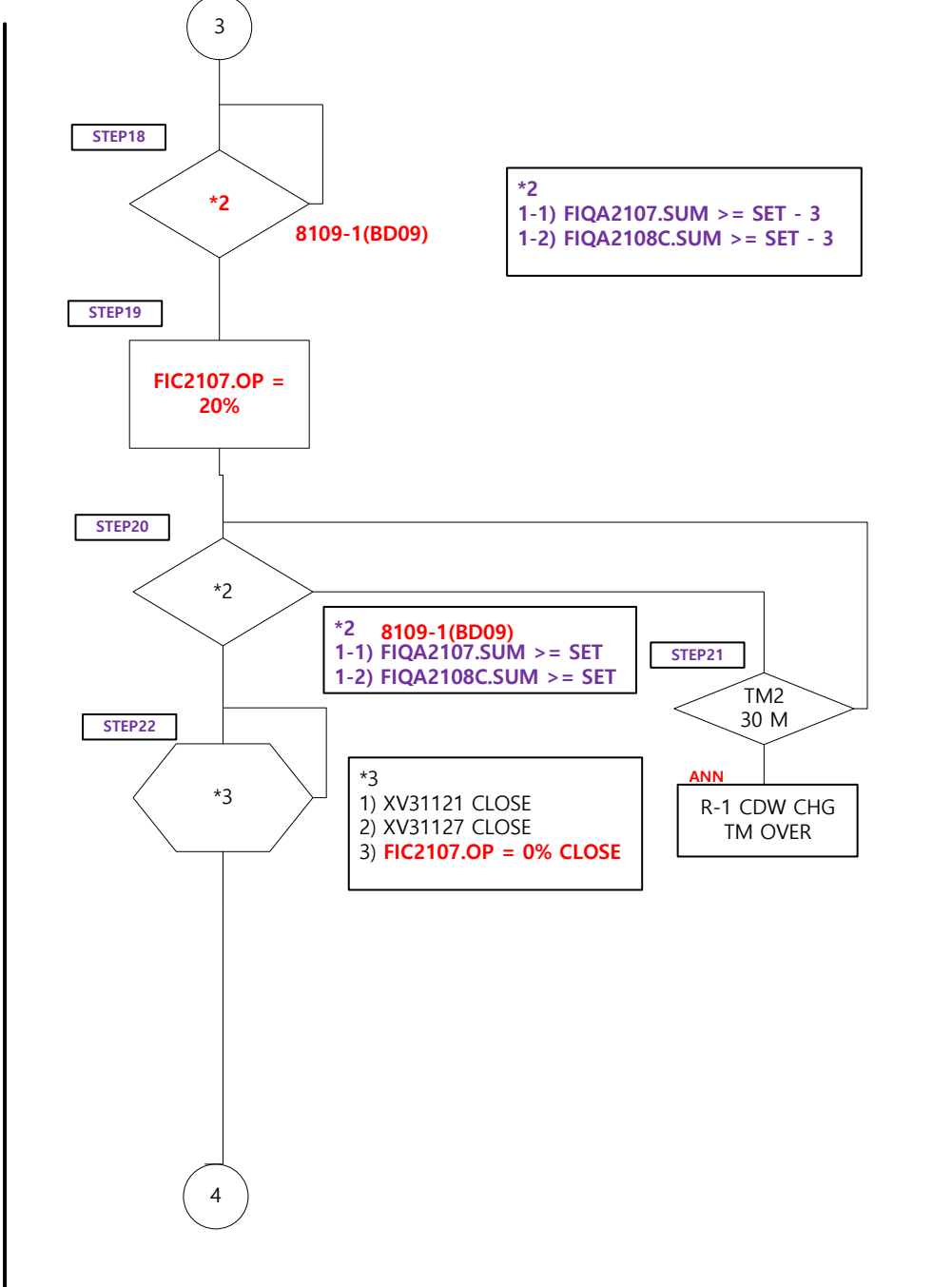
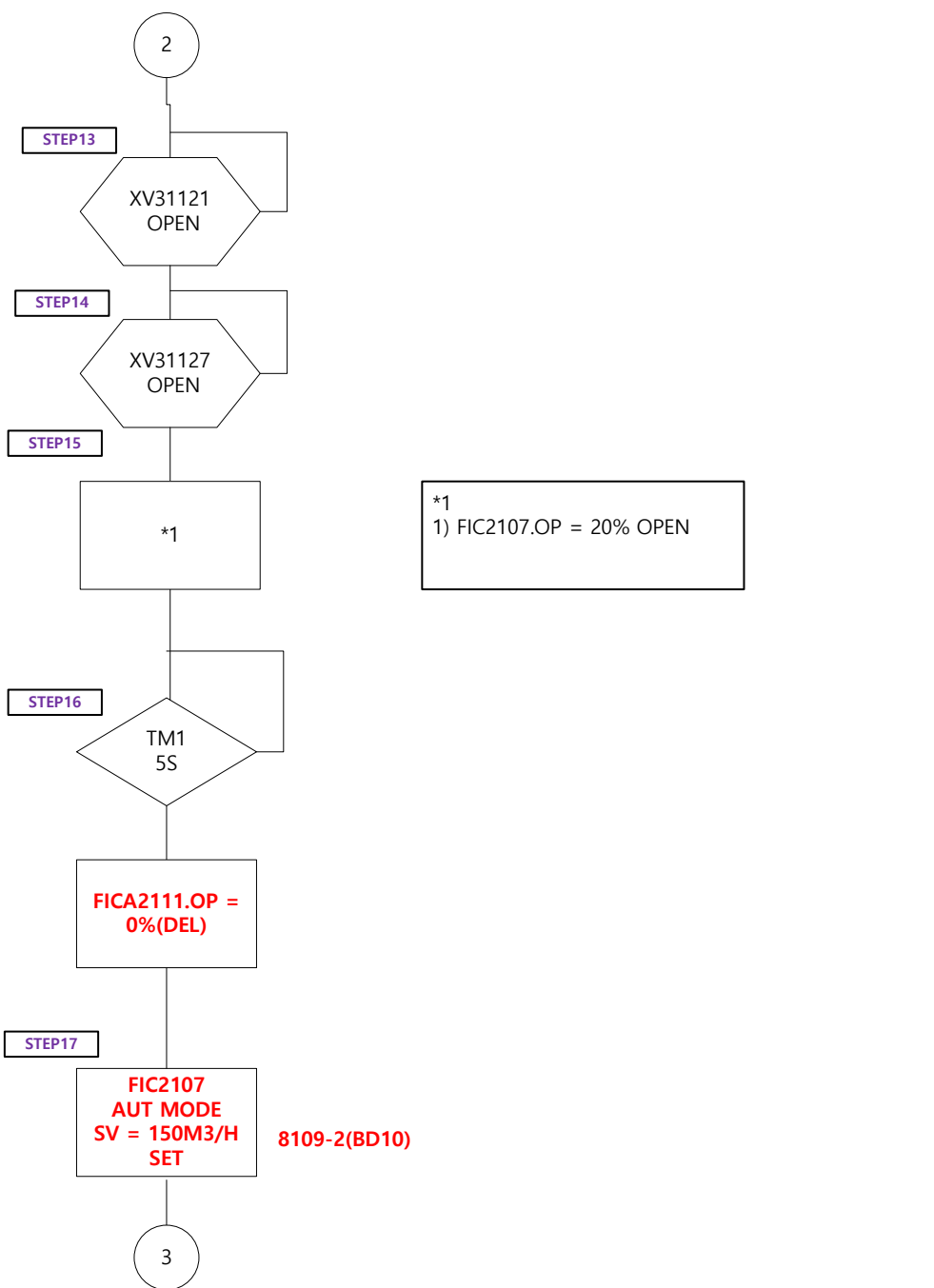
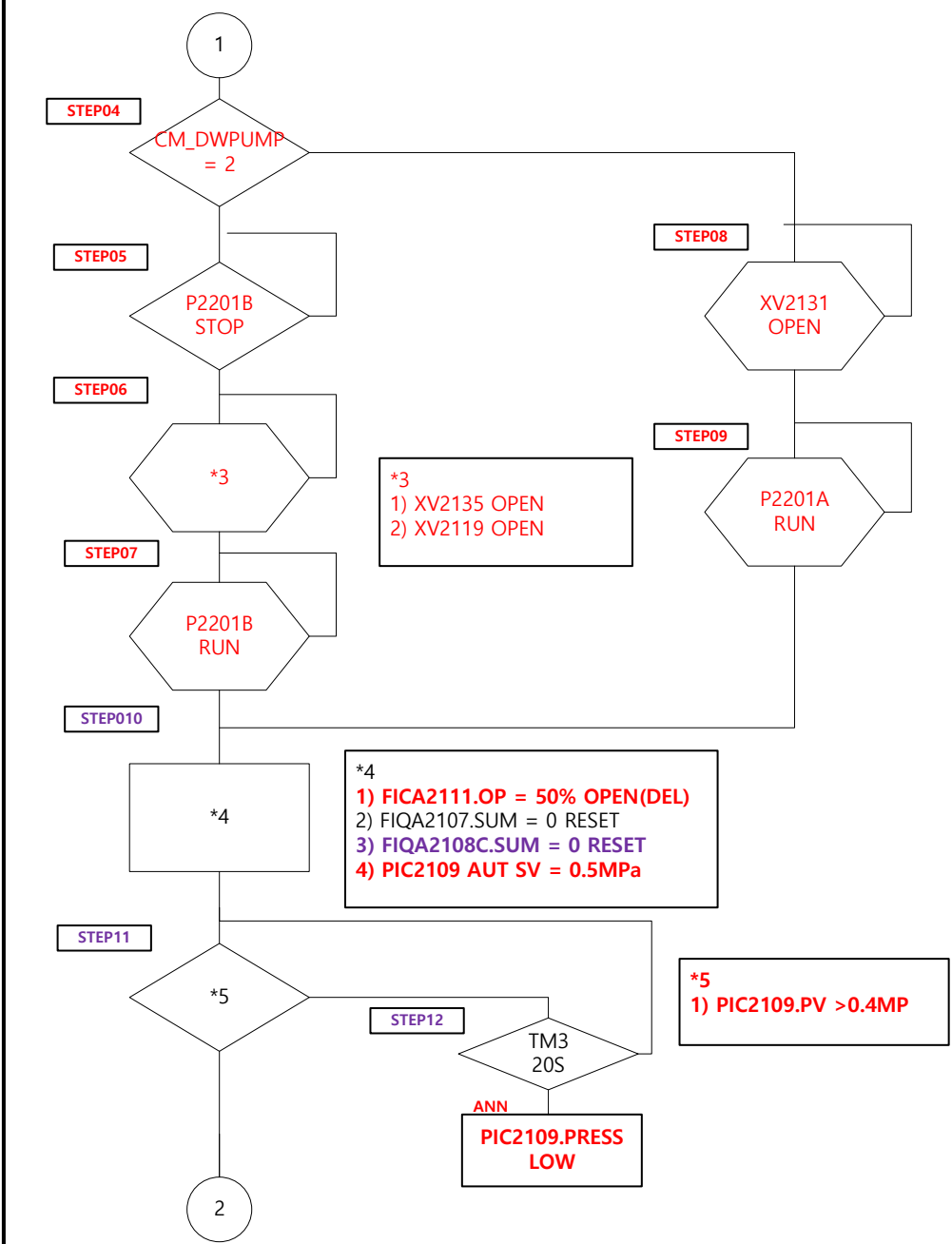
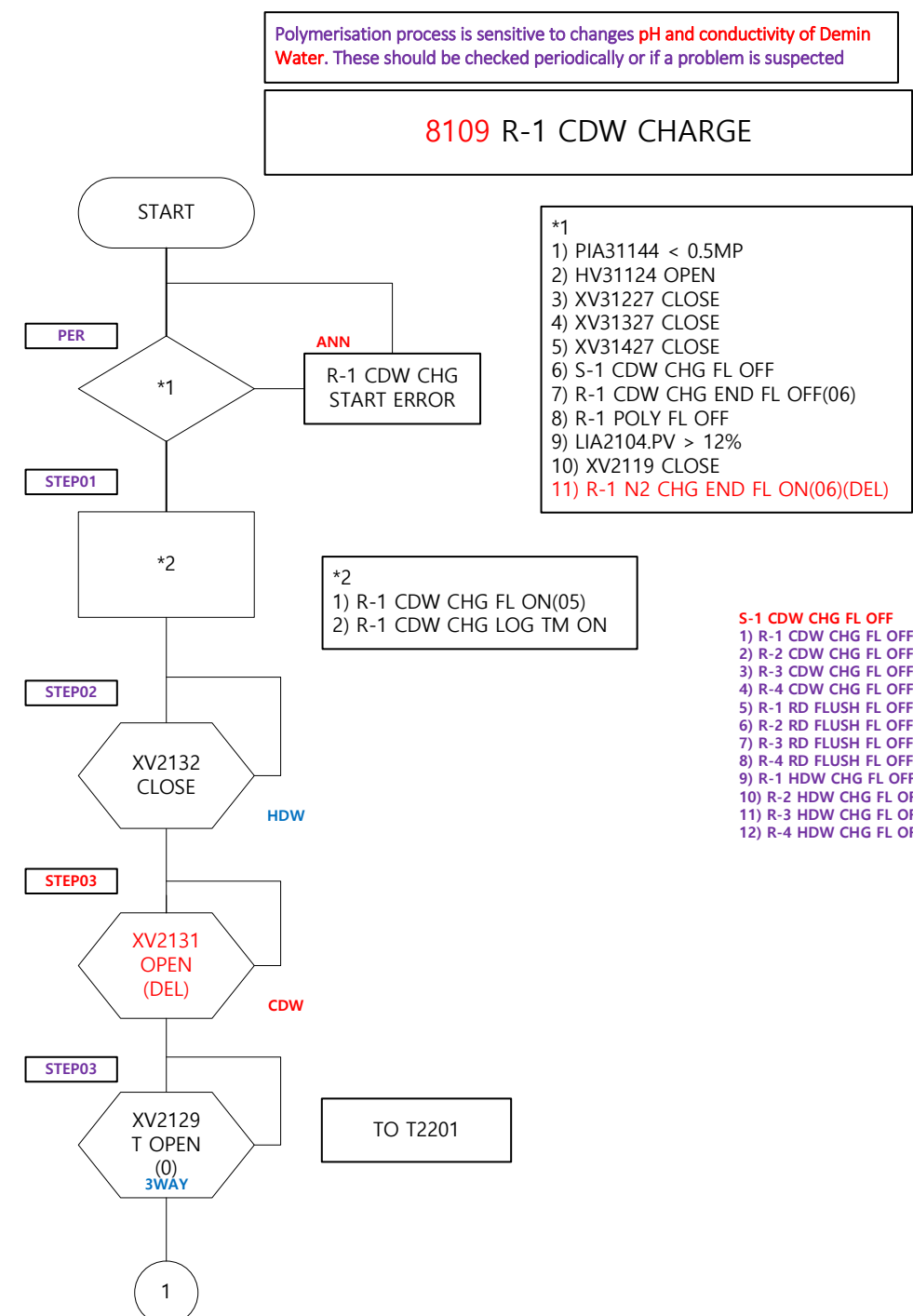
\*4  
1) R-1 N2 CHG FL OFF(05)  
2) R-1 N2 CHG END FL ON(06)  
3) R-1 N2 CHG LOG TM OFF



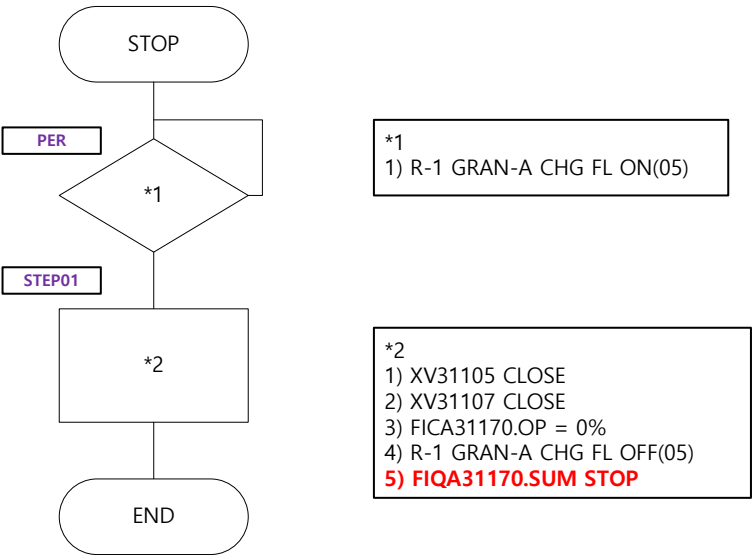
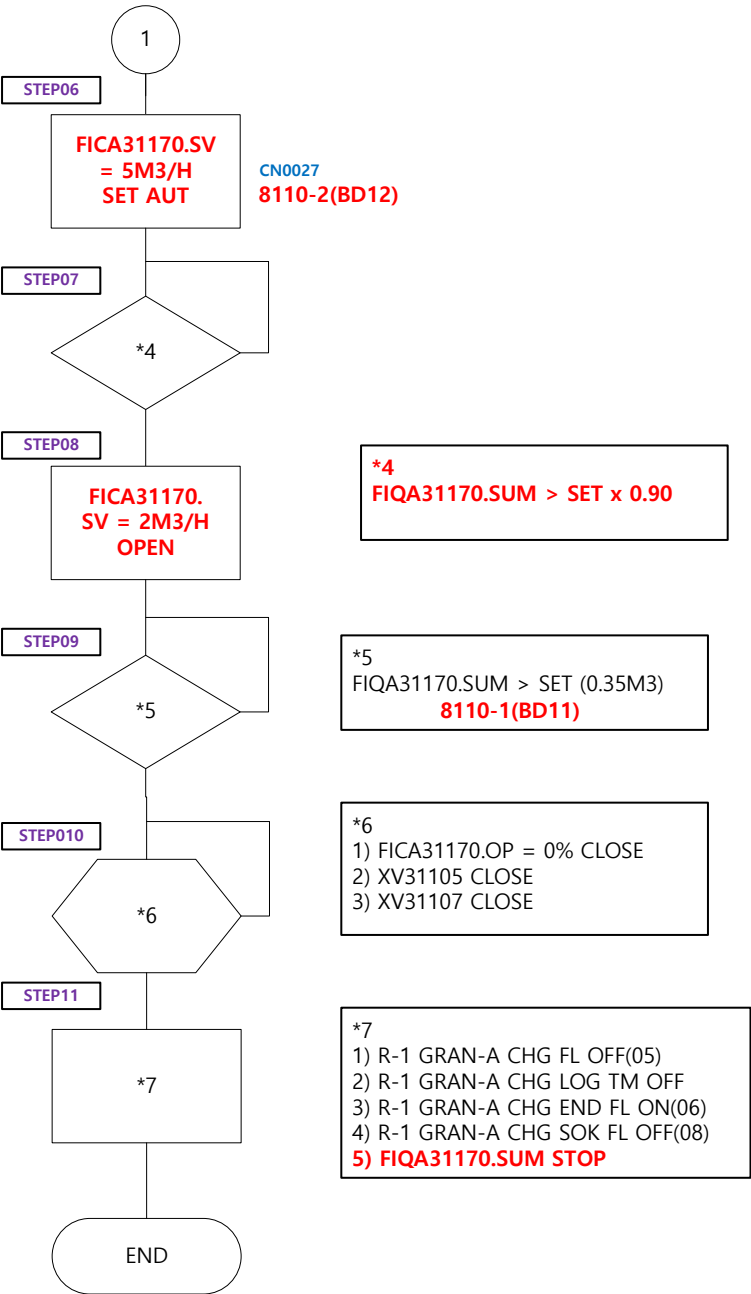
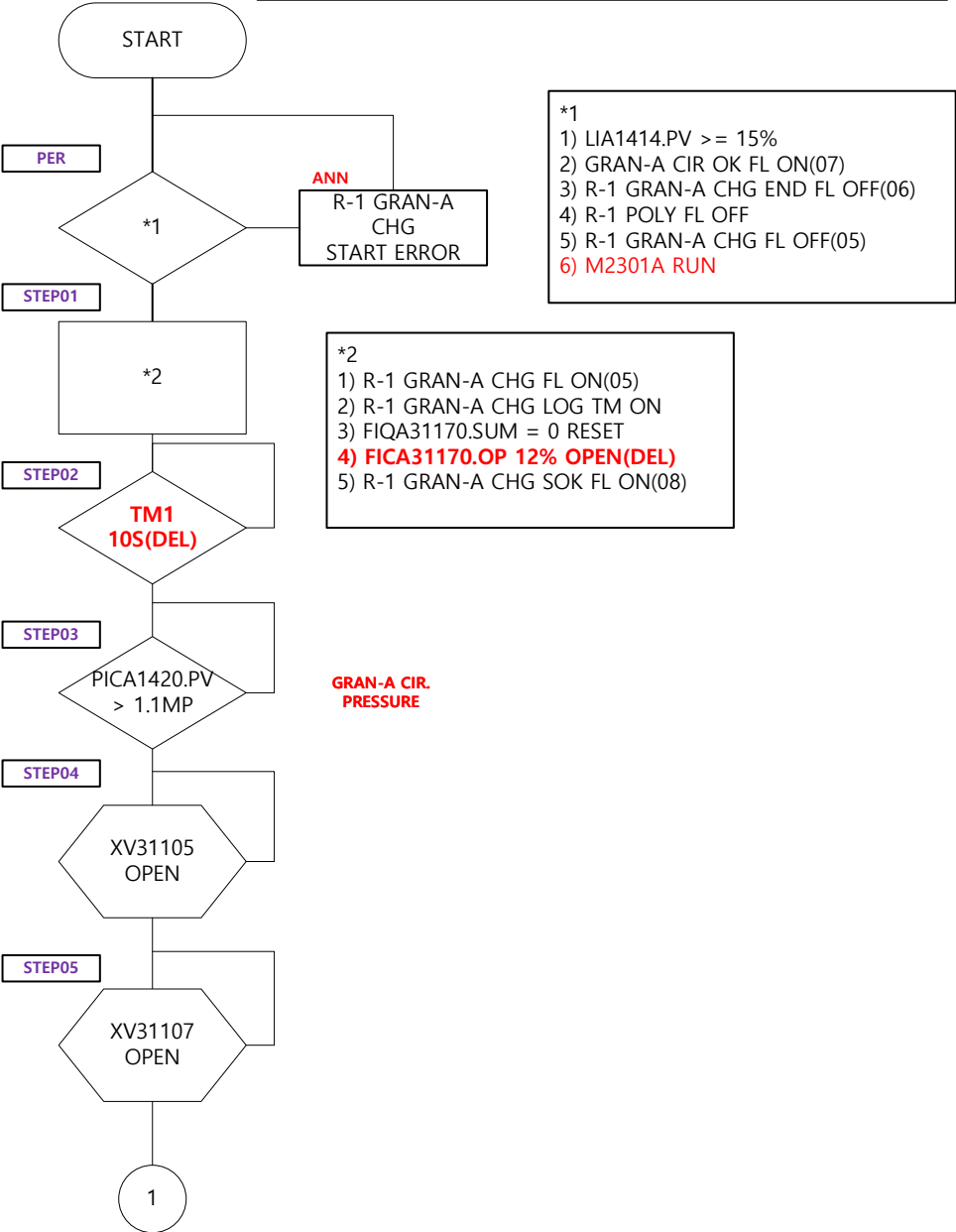
\*1  
1) R-1 N2 CHG FL ON(05)

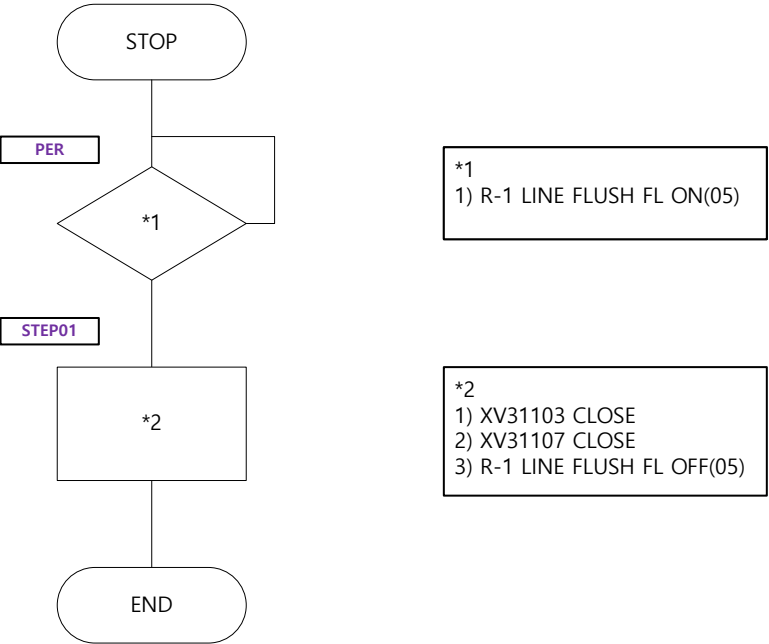
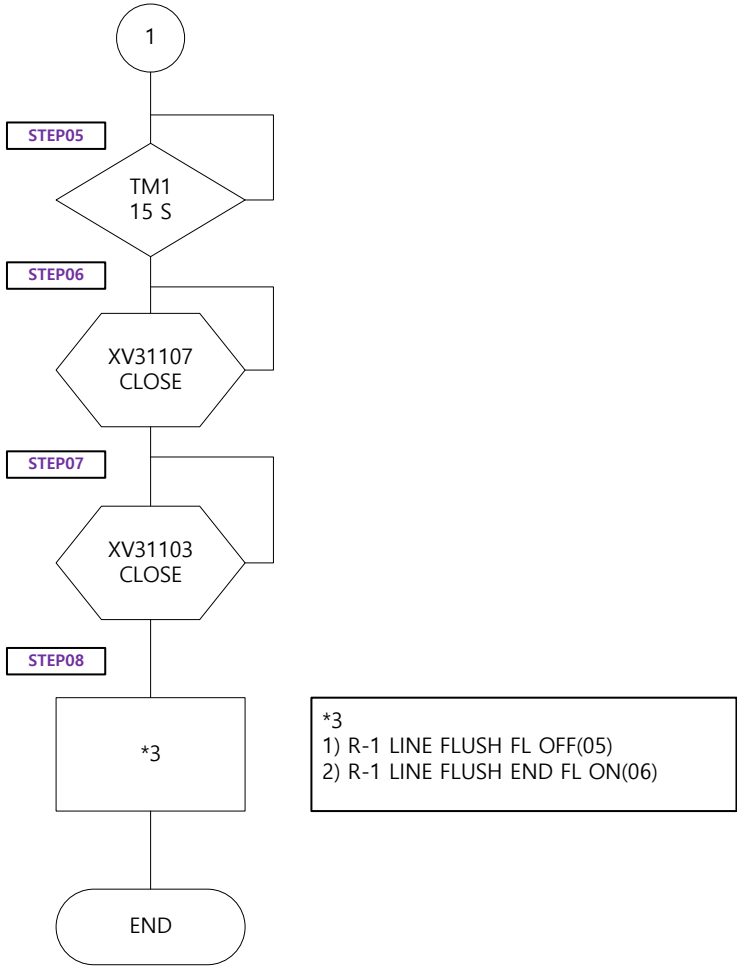
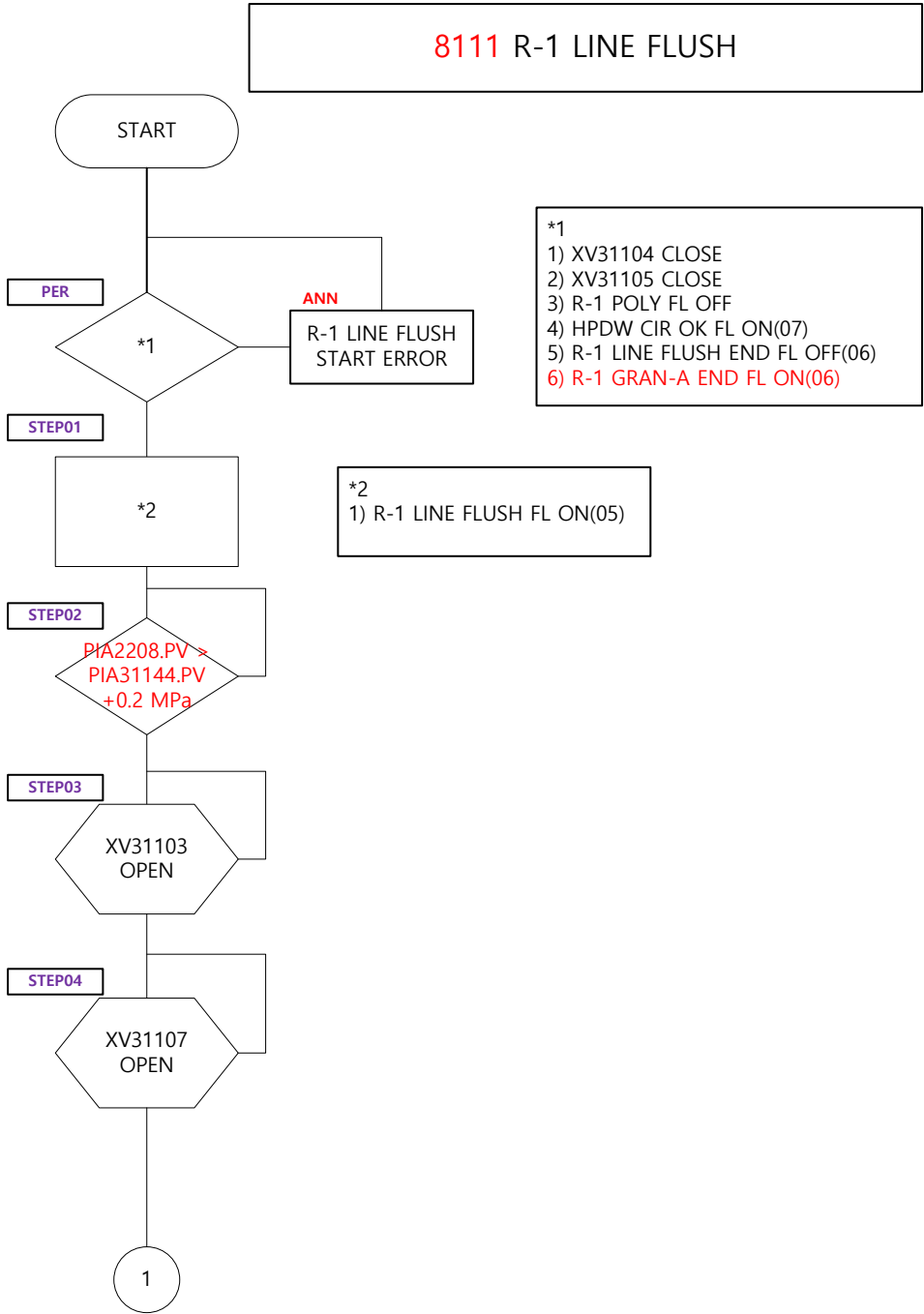
\*2  
1) XV31112 CLOSE  
2) R-1 N2 CHG FL OFF(05)

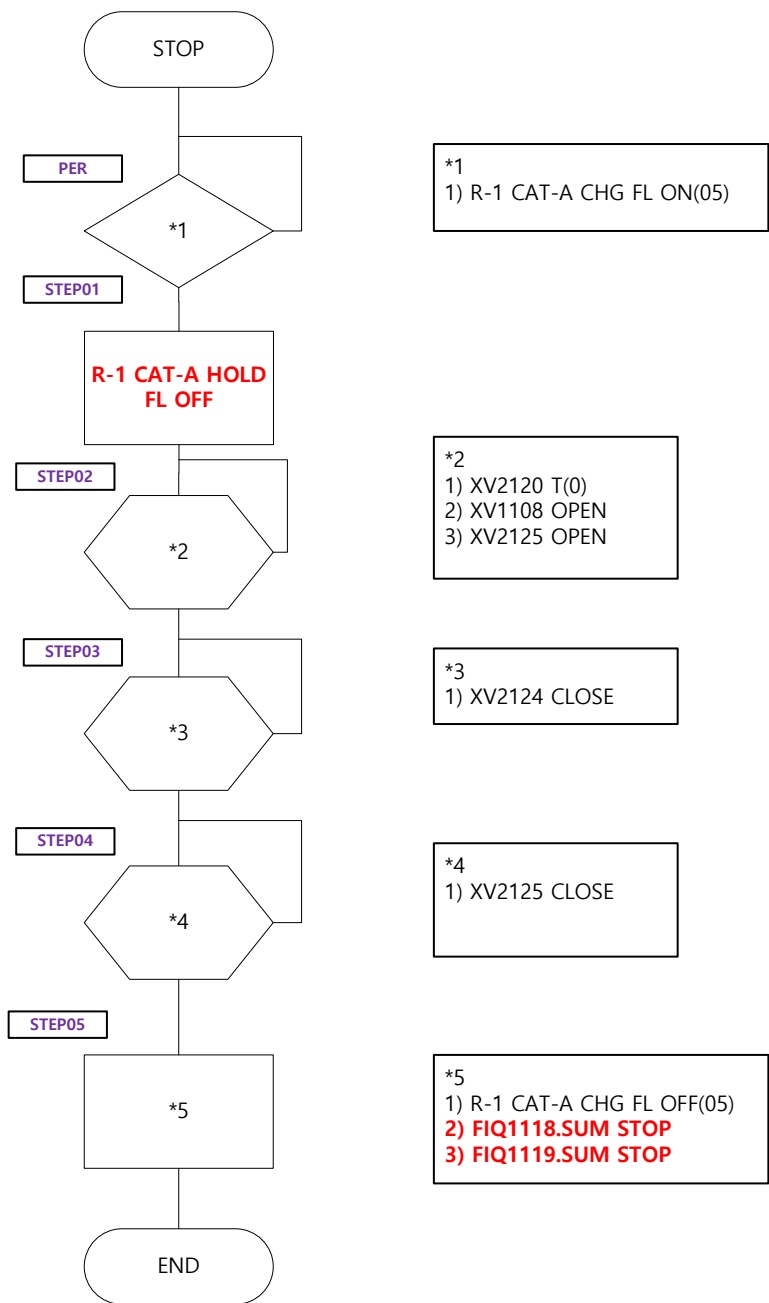
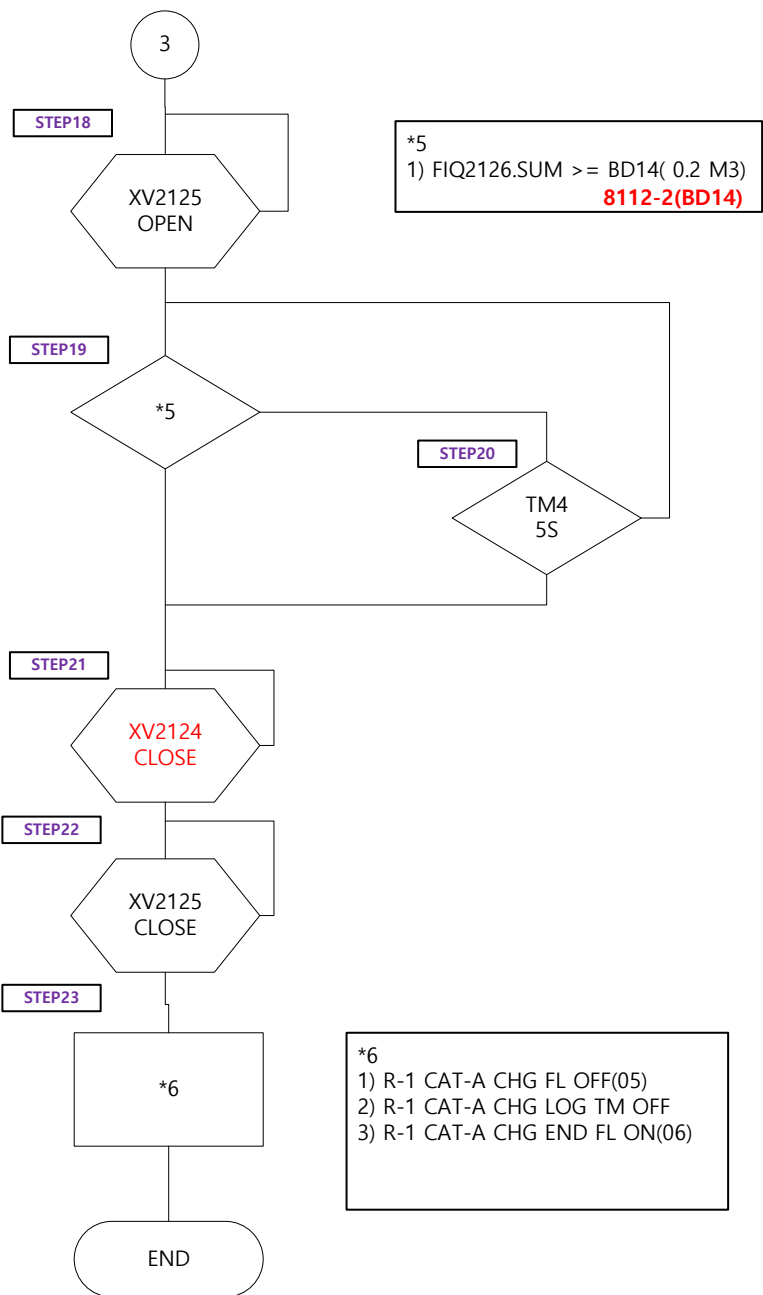
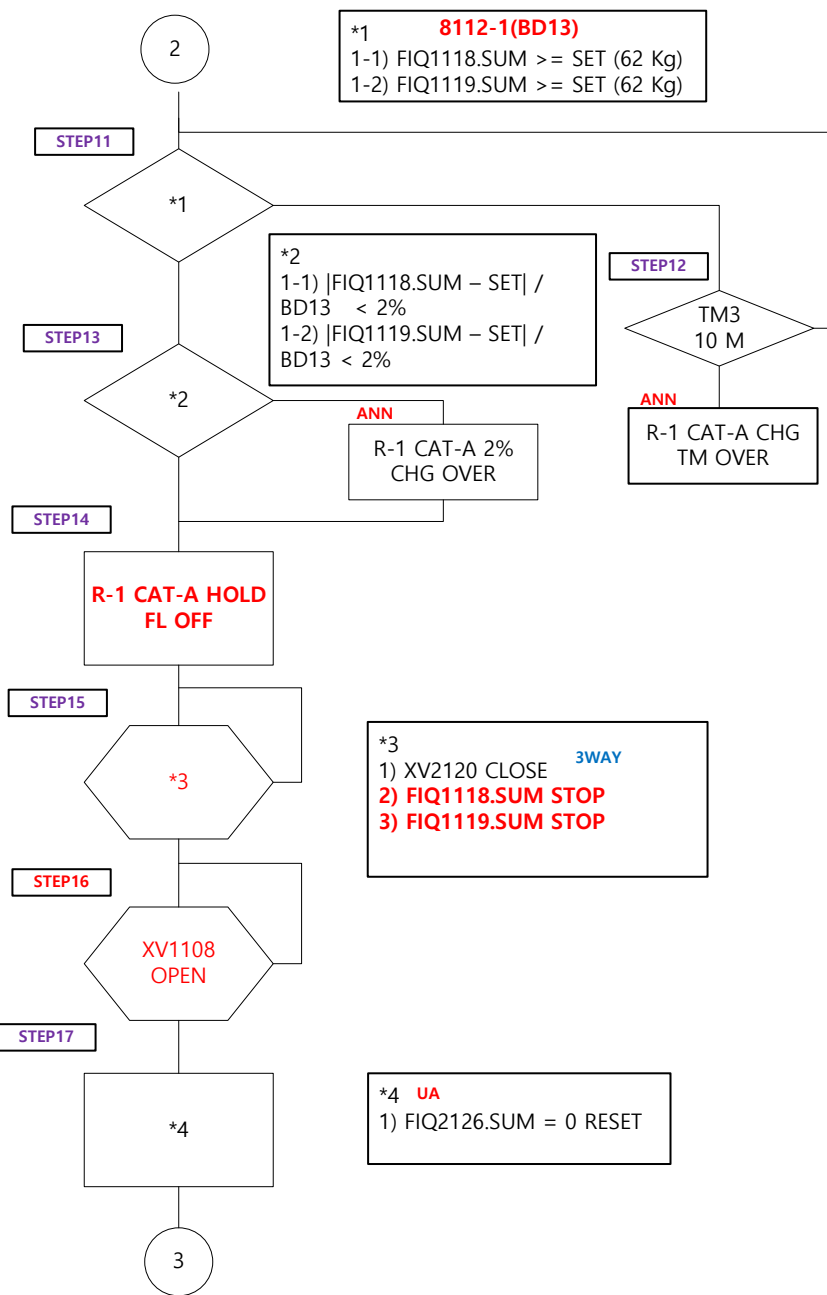
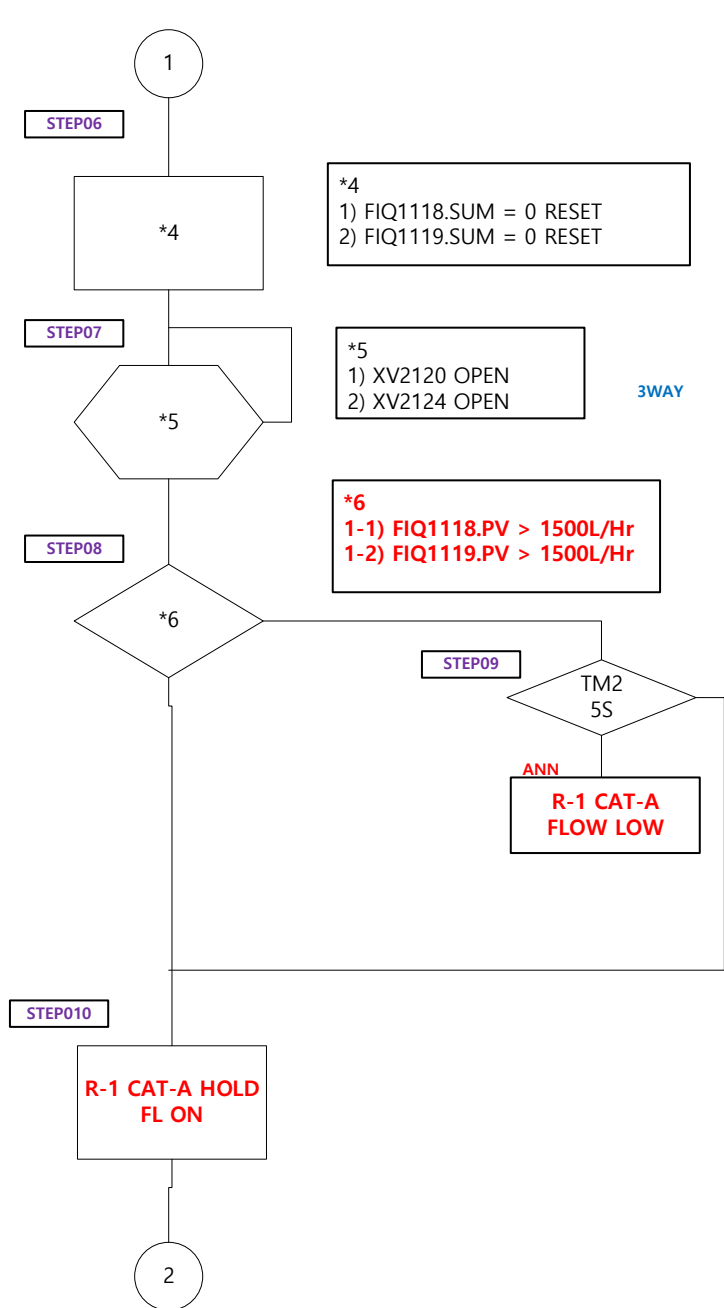
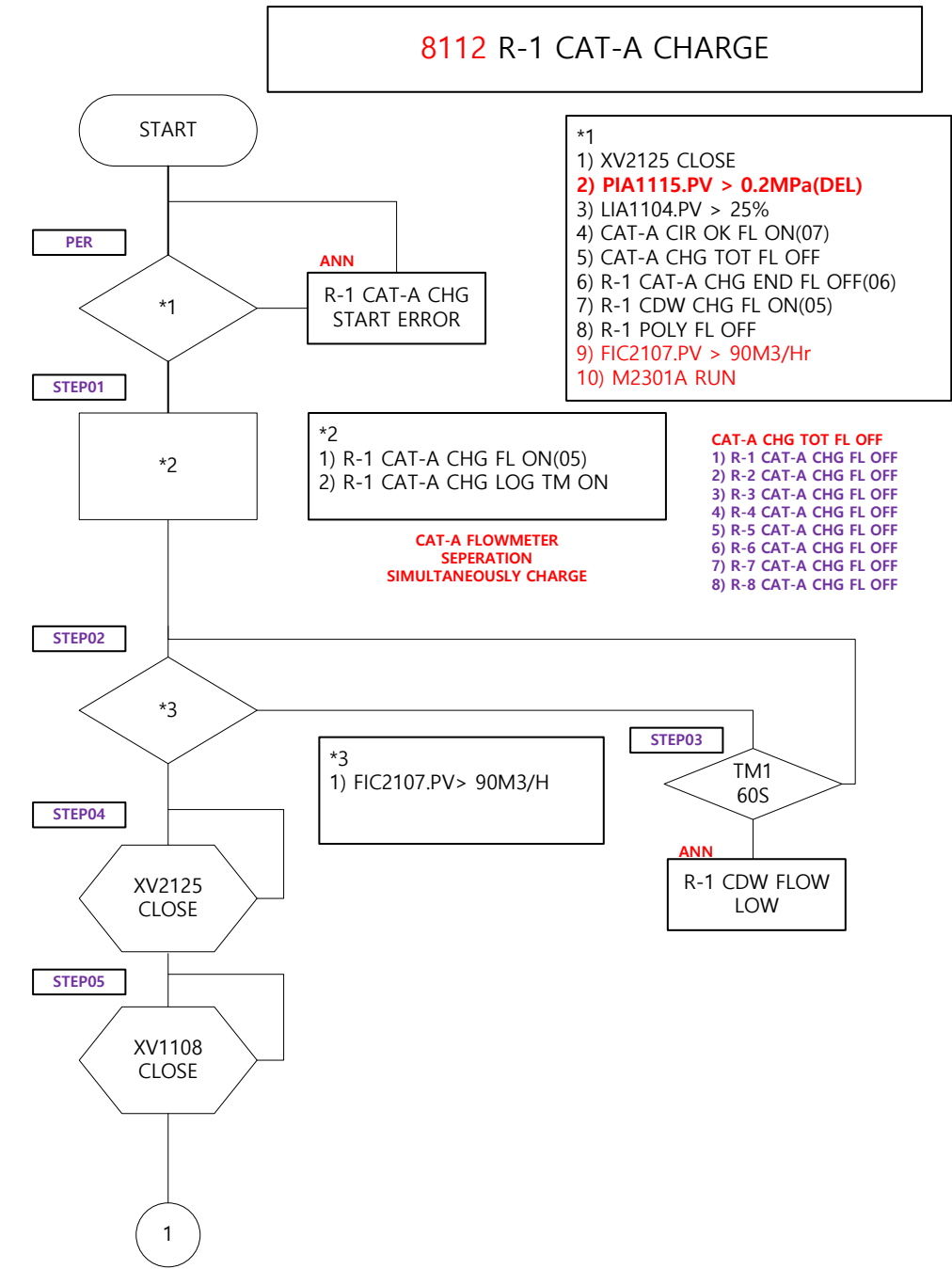




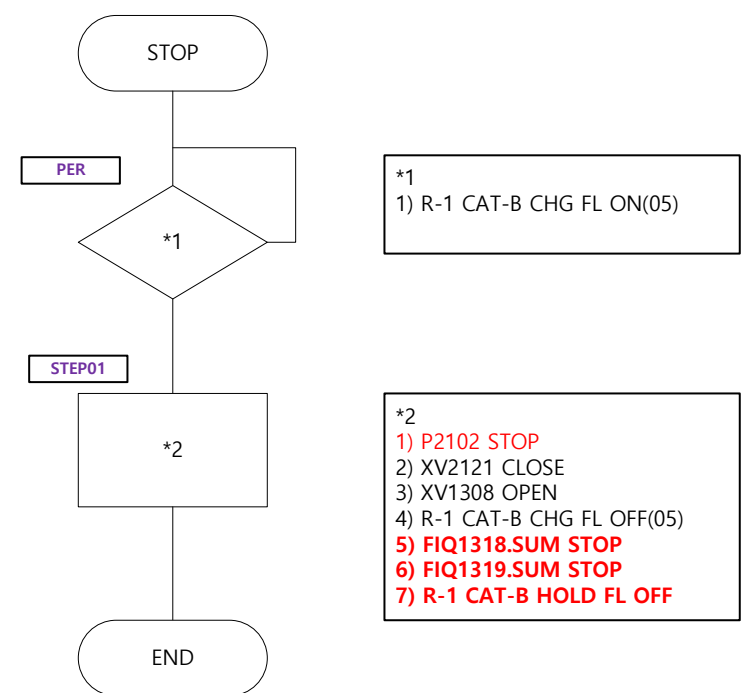
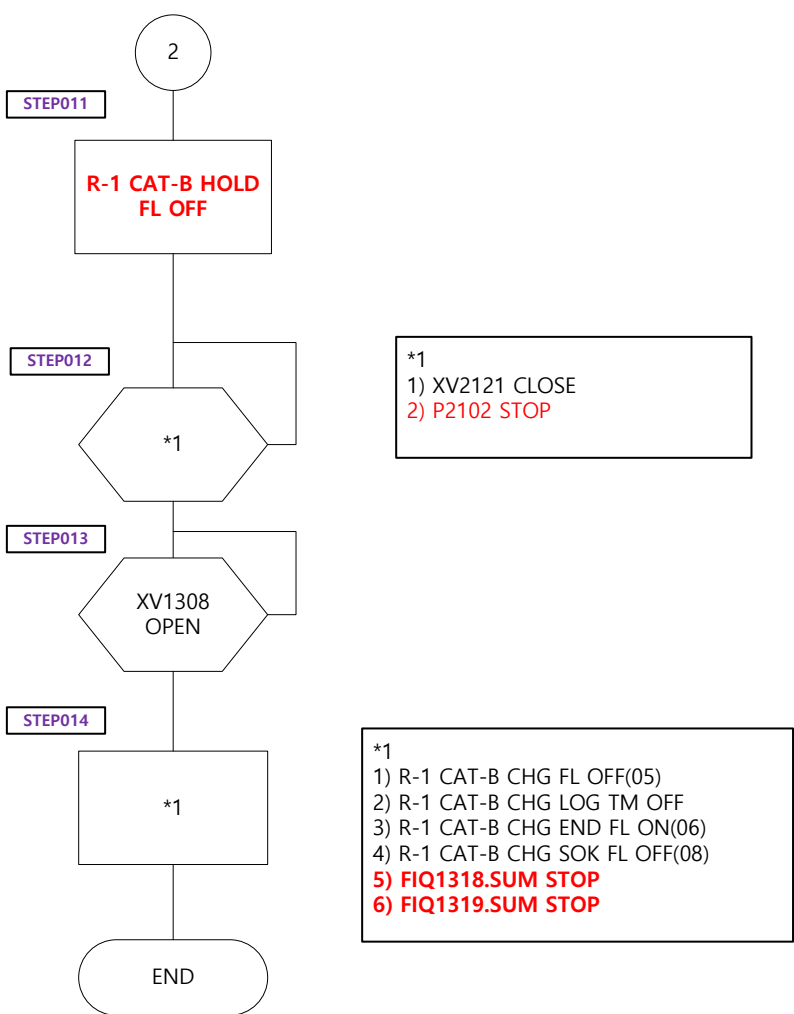
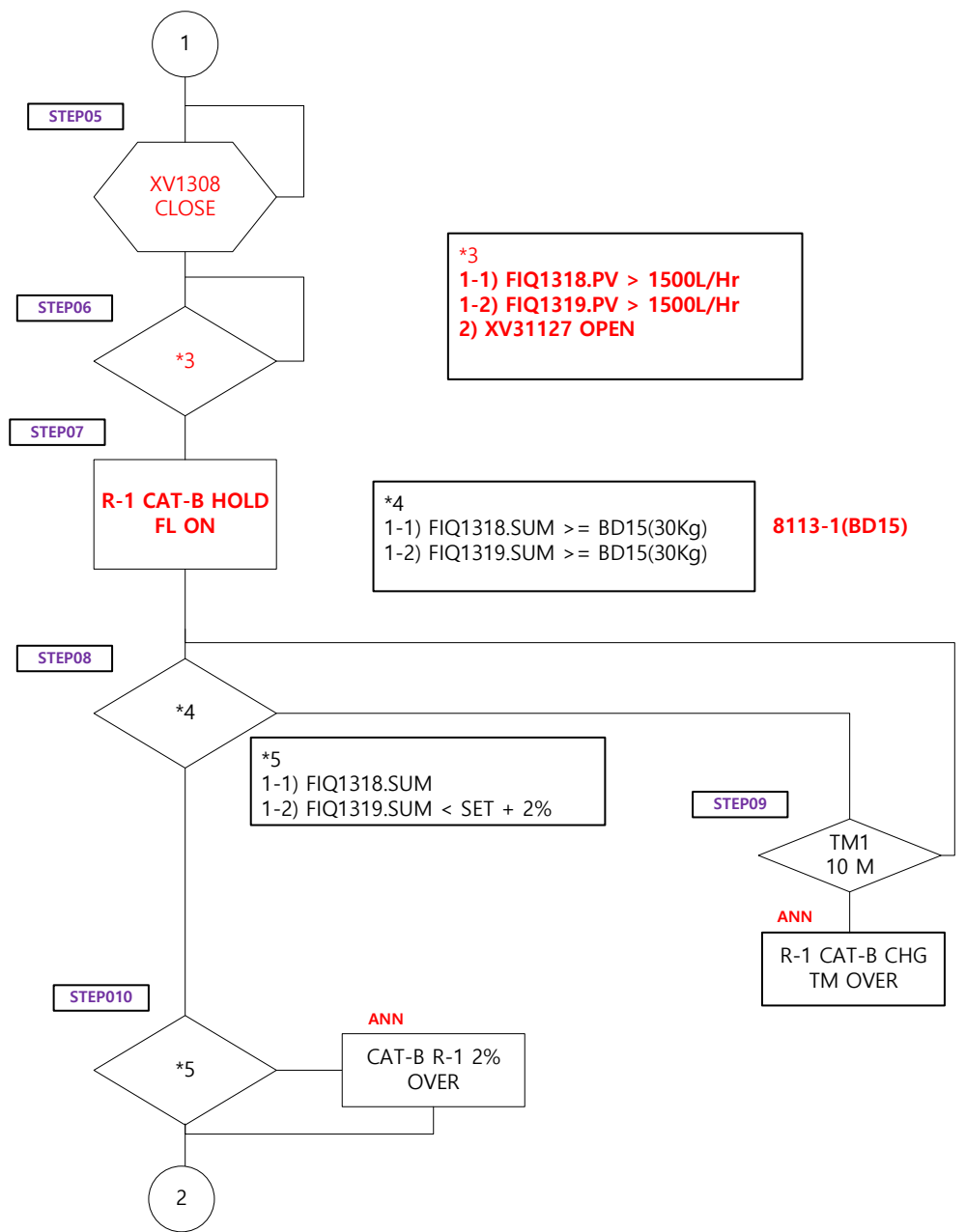
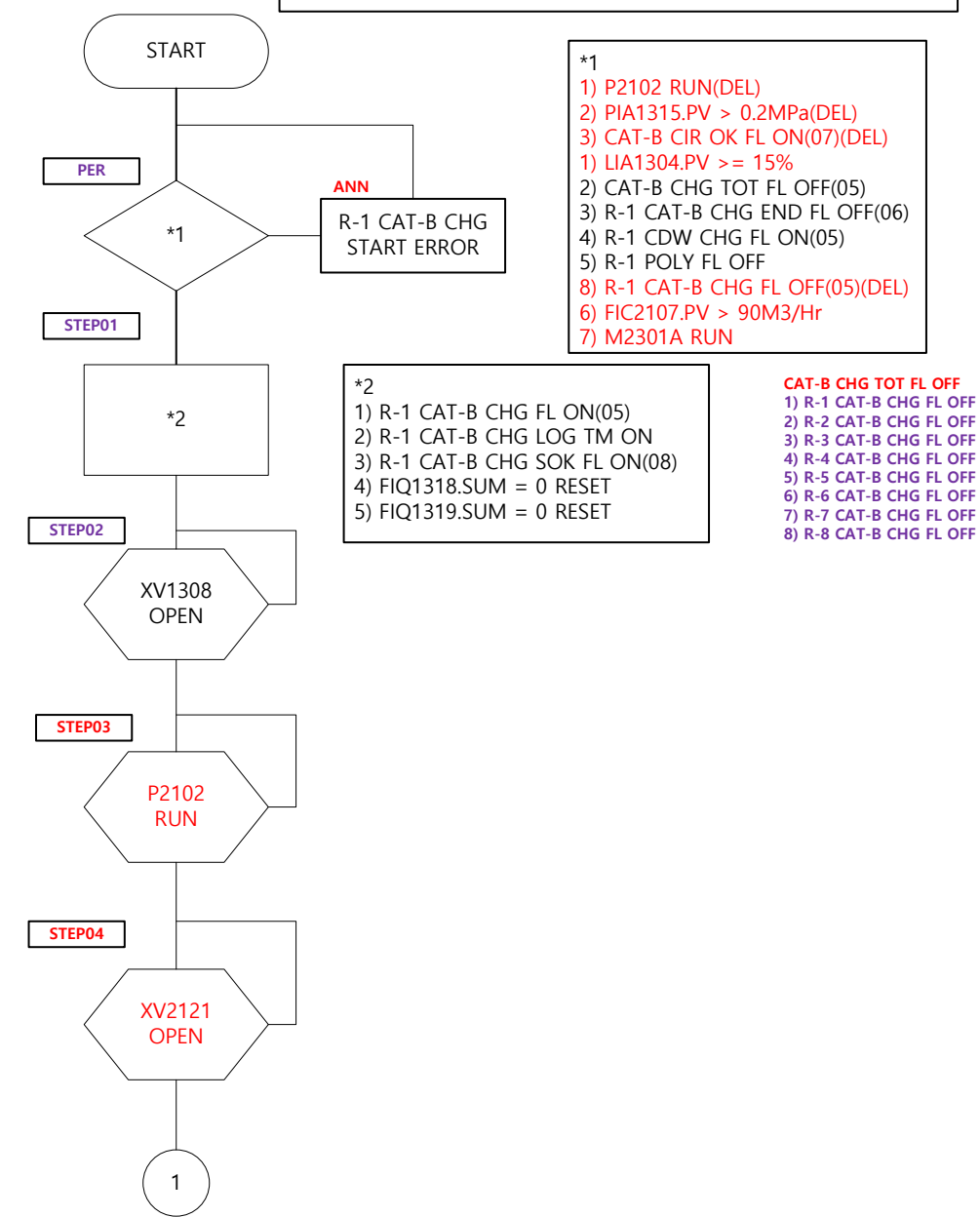
8110 R-1 GRAN-A CHARGE

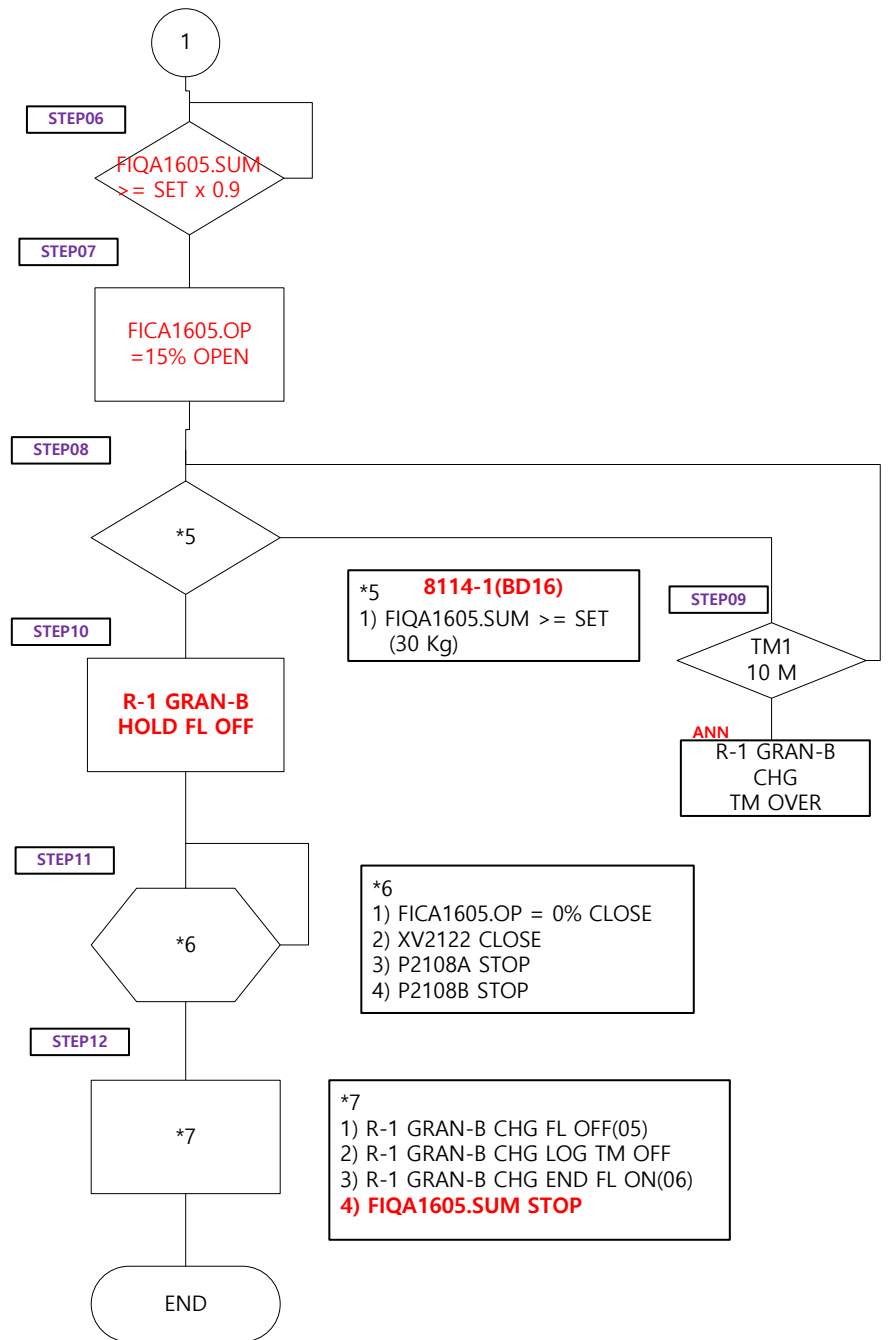
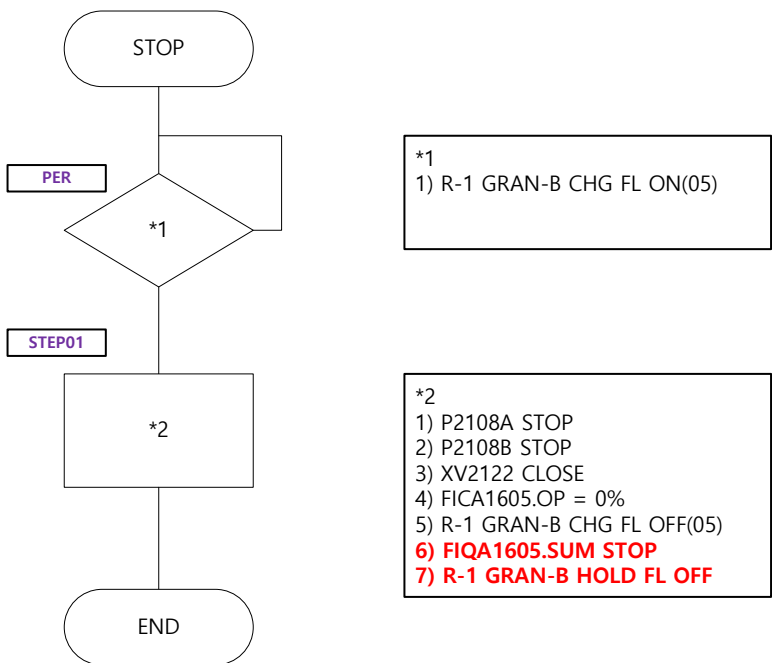
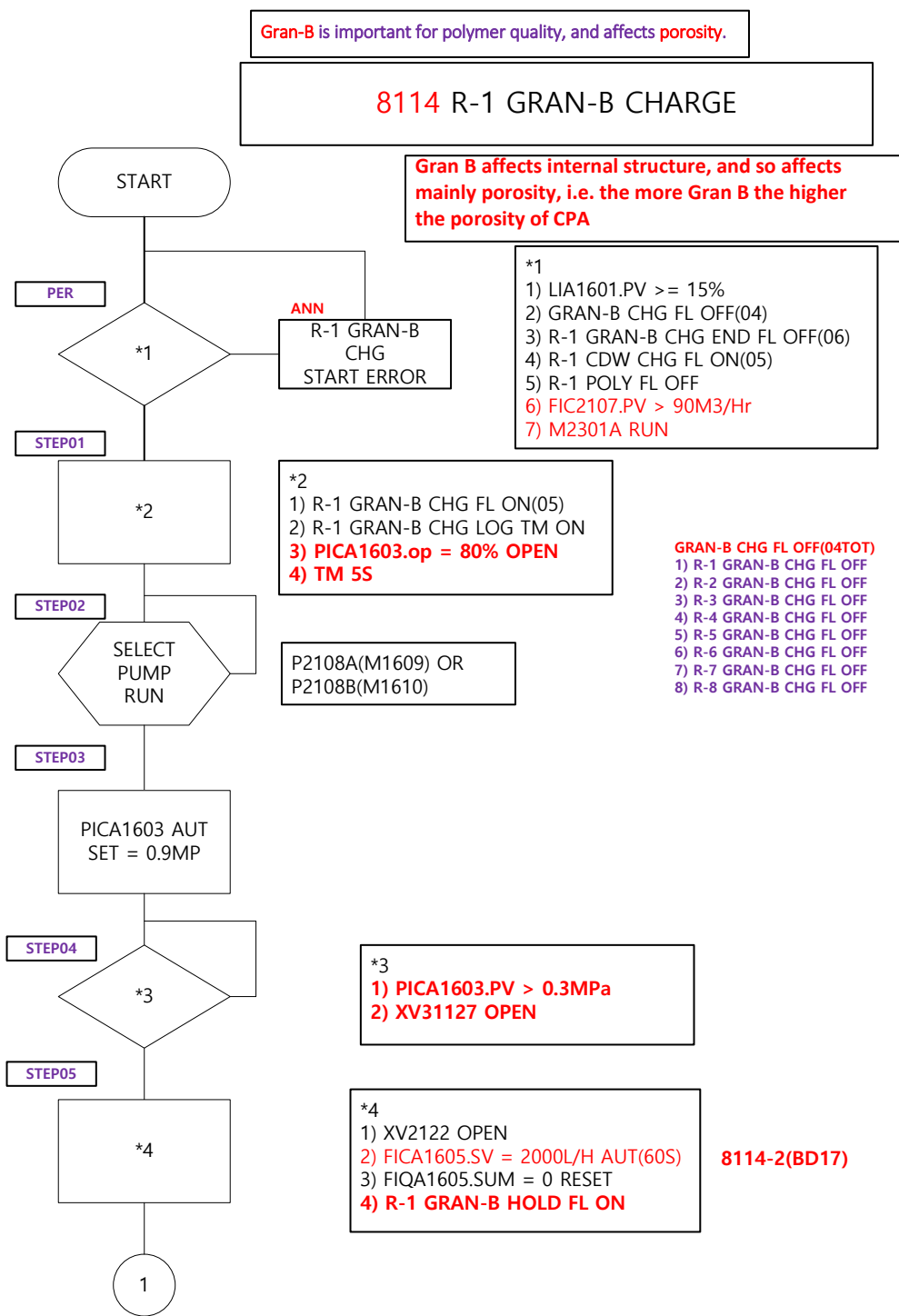


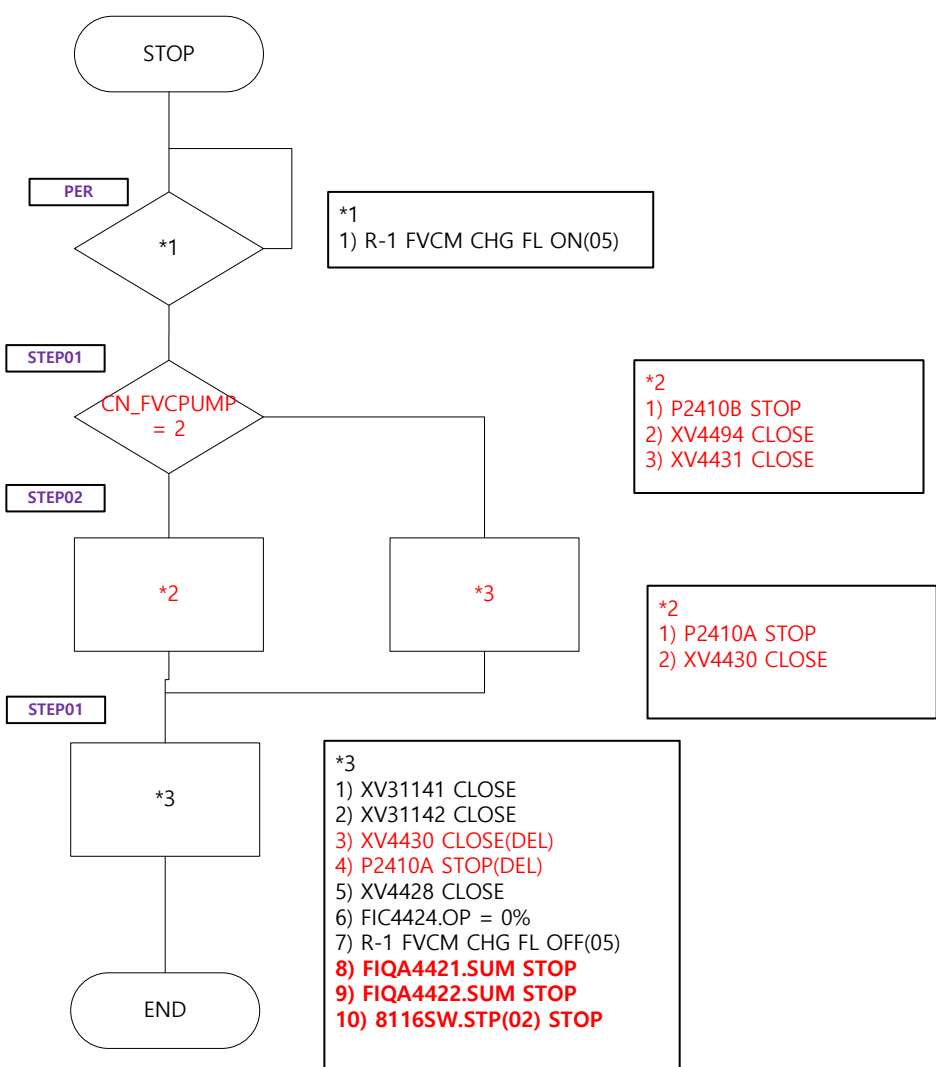
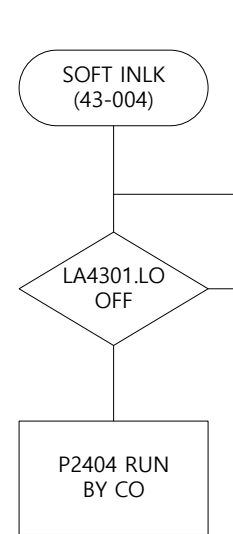
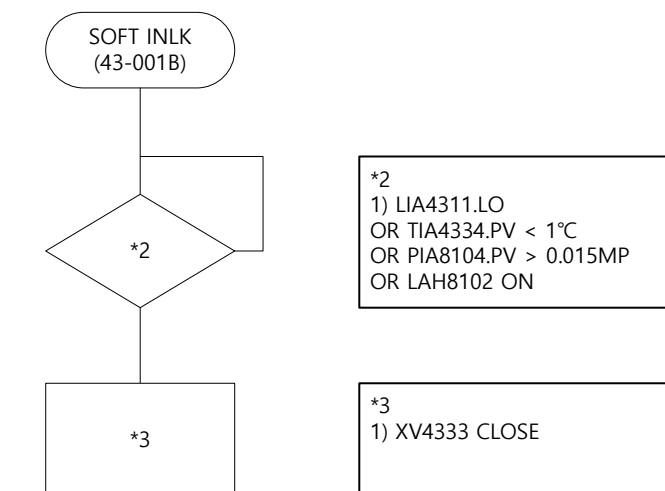
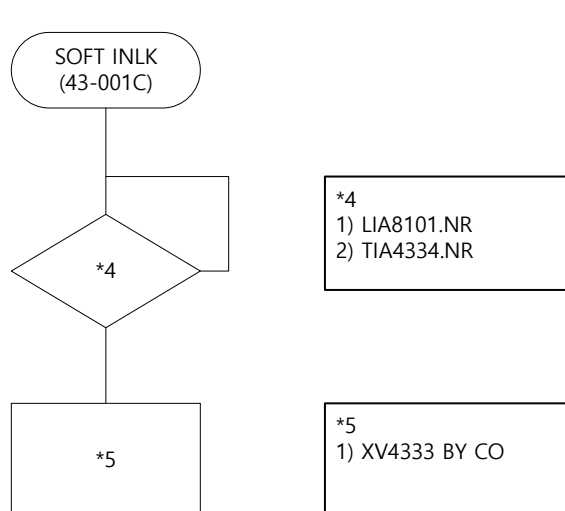
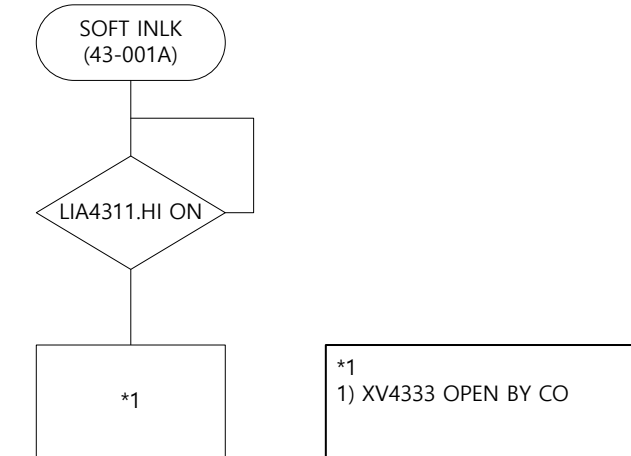
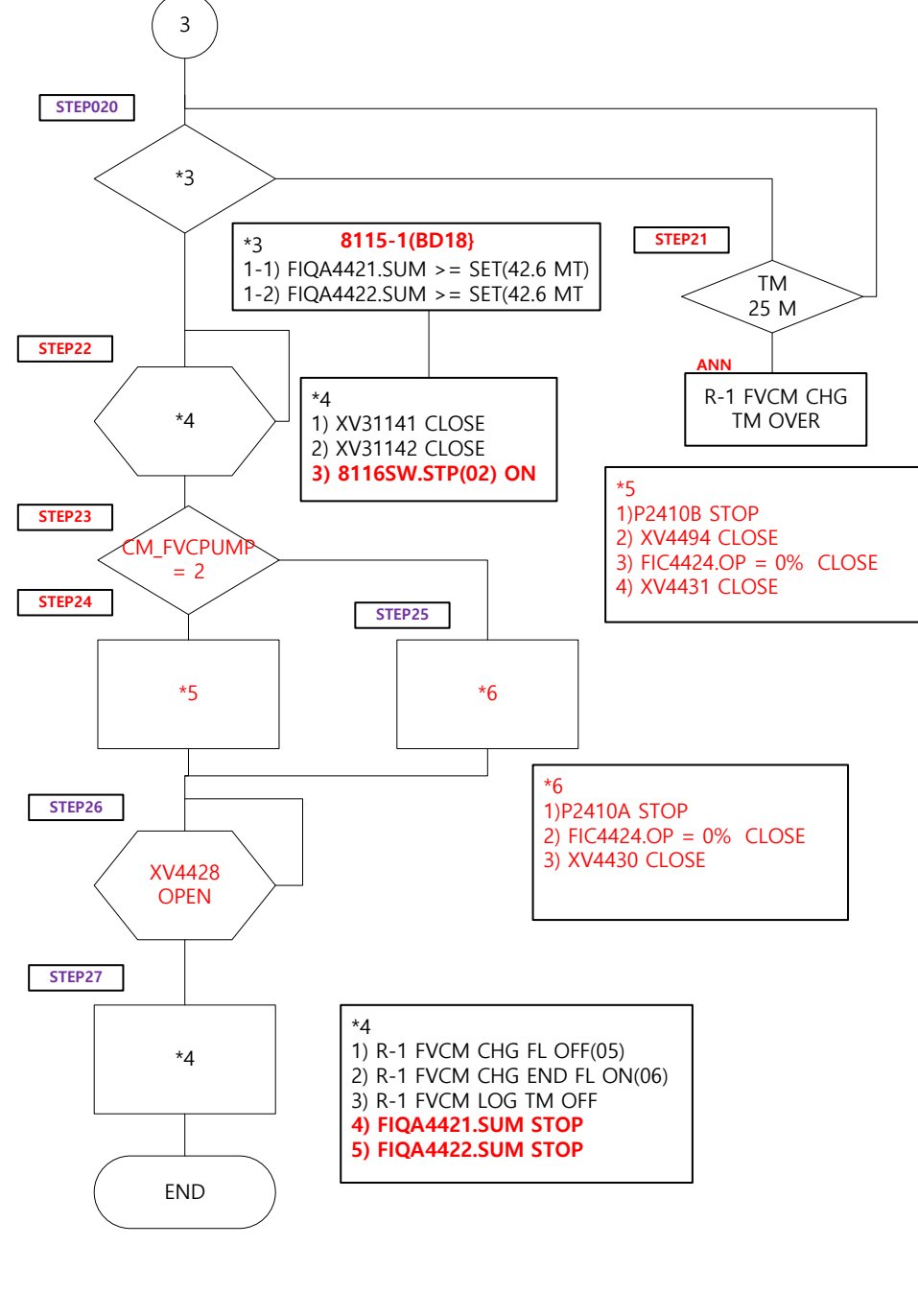
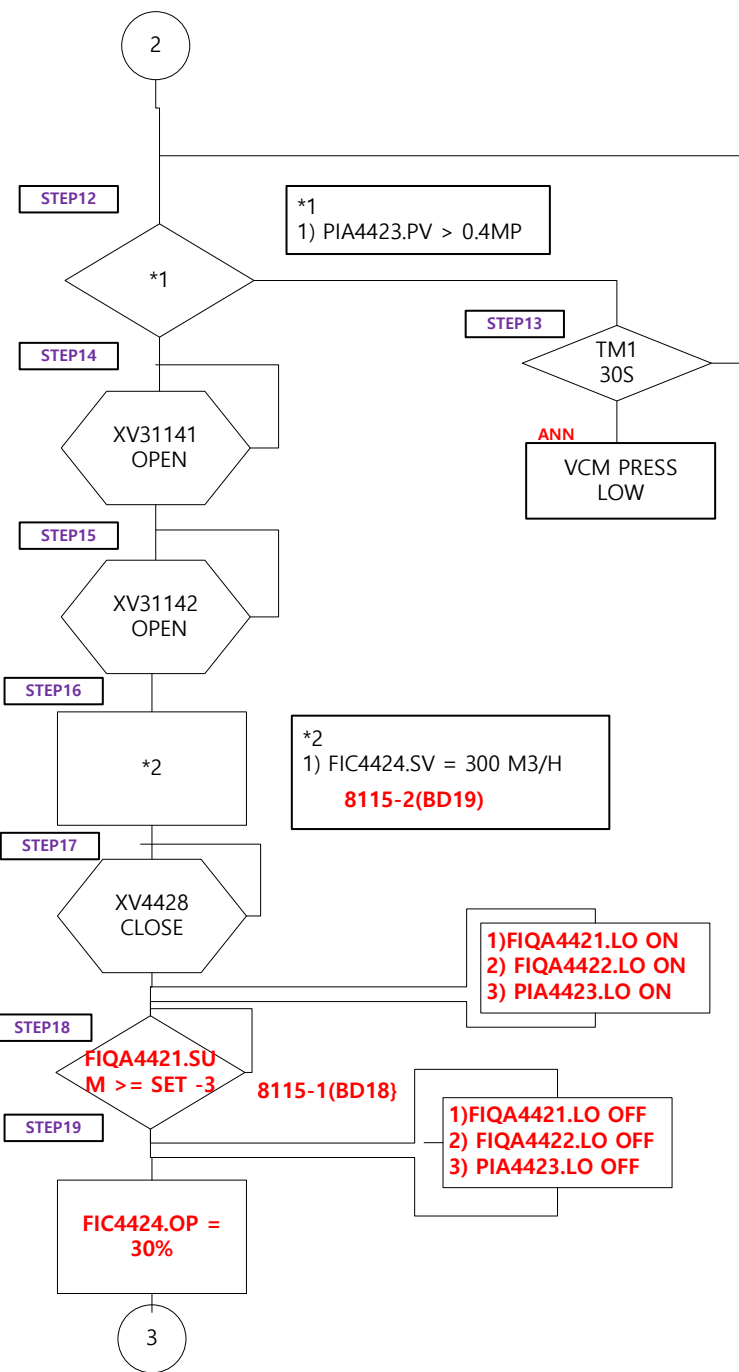
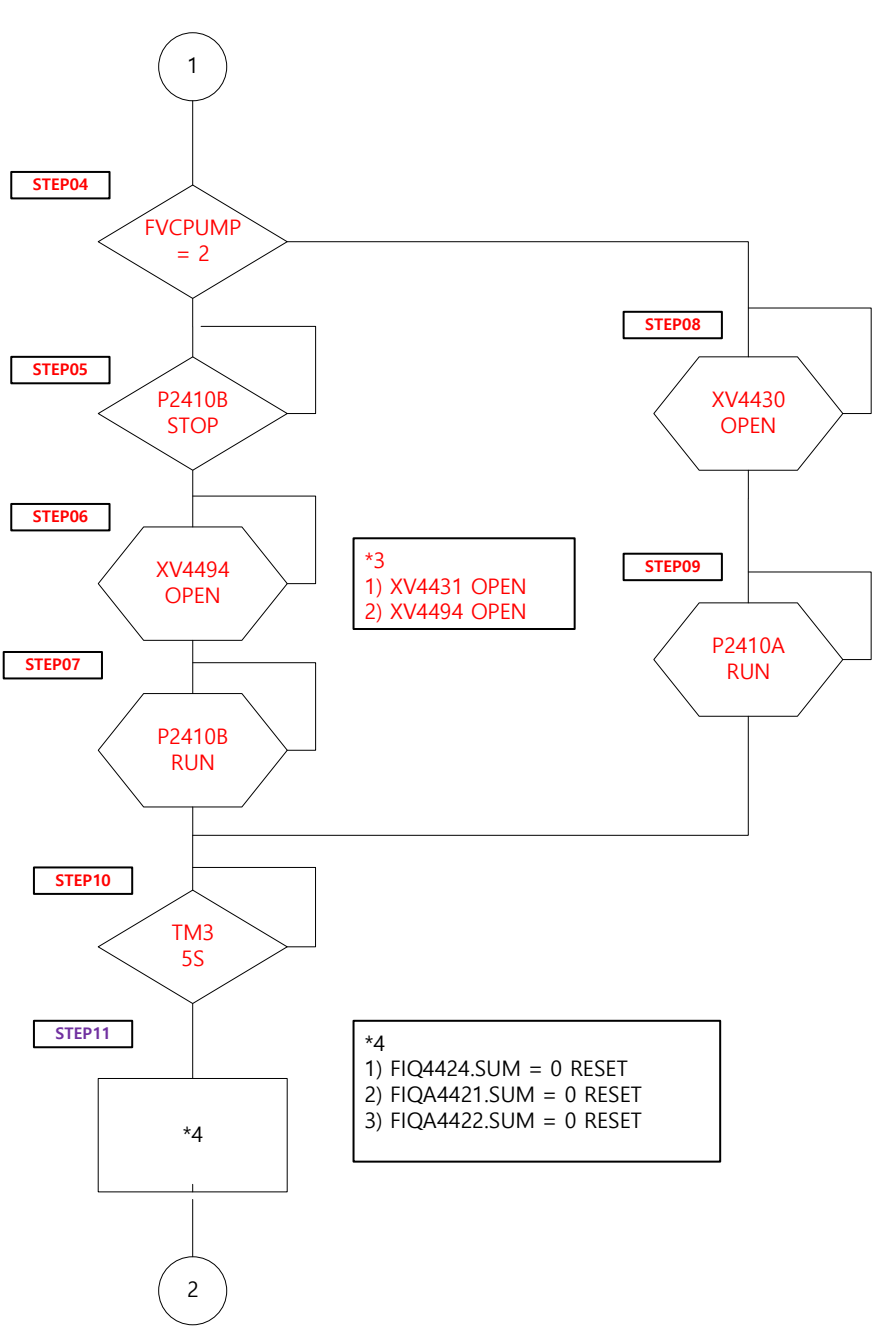
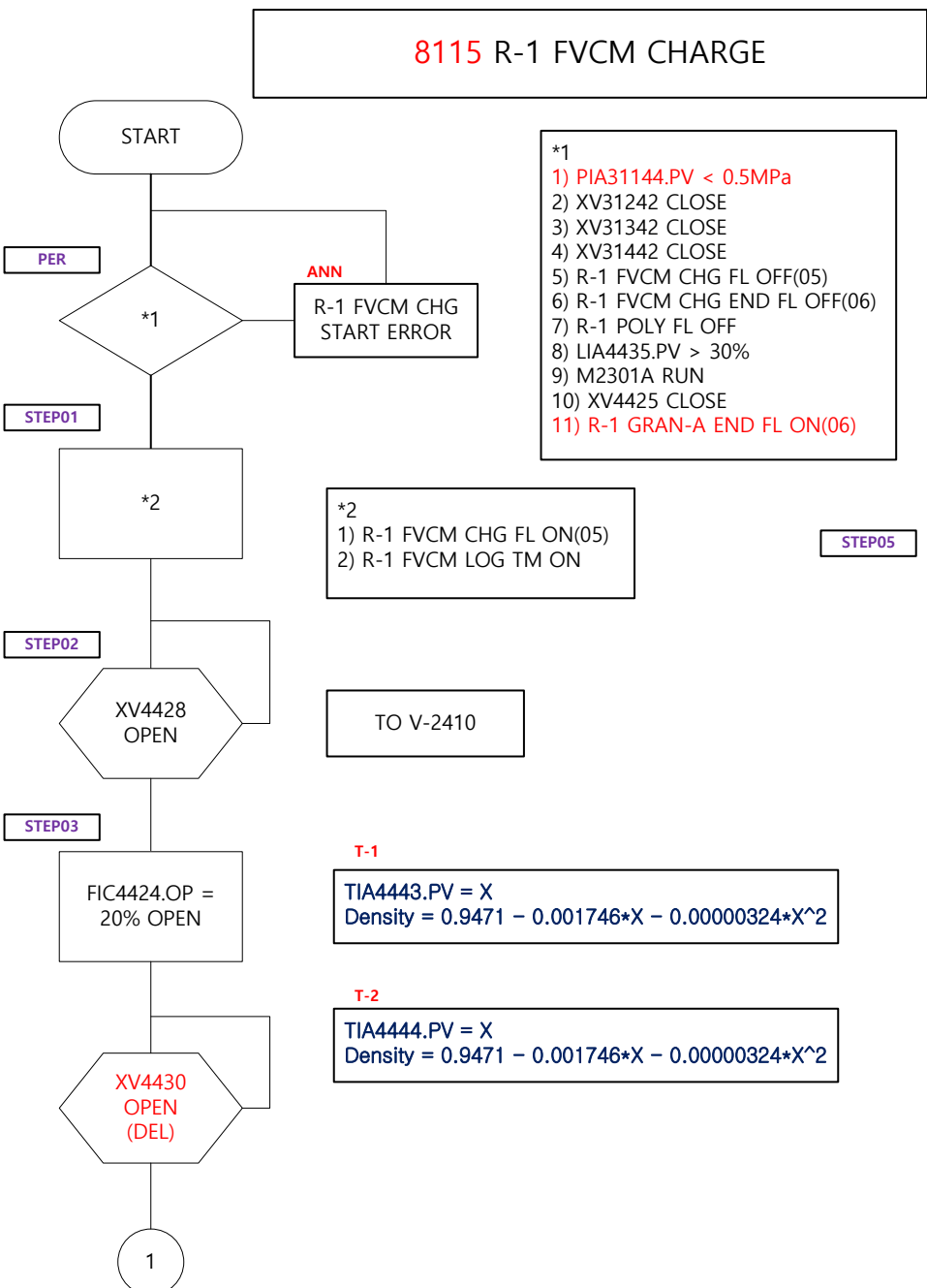




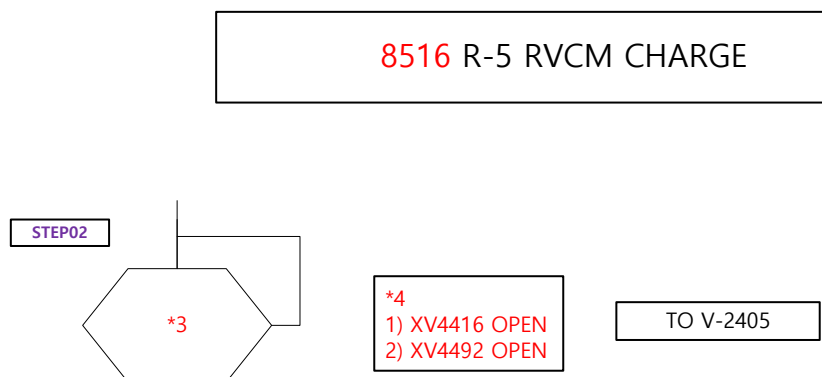
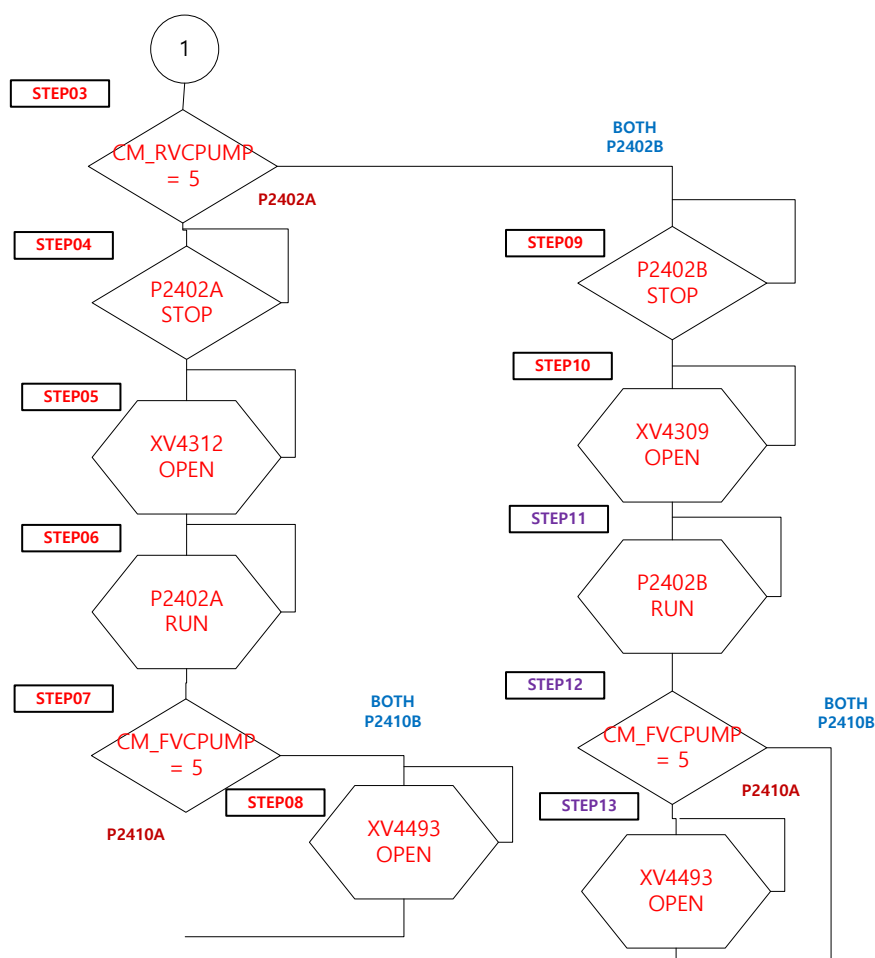
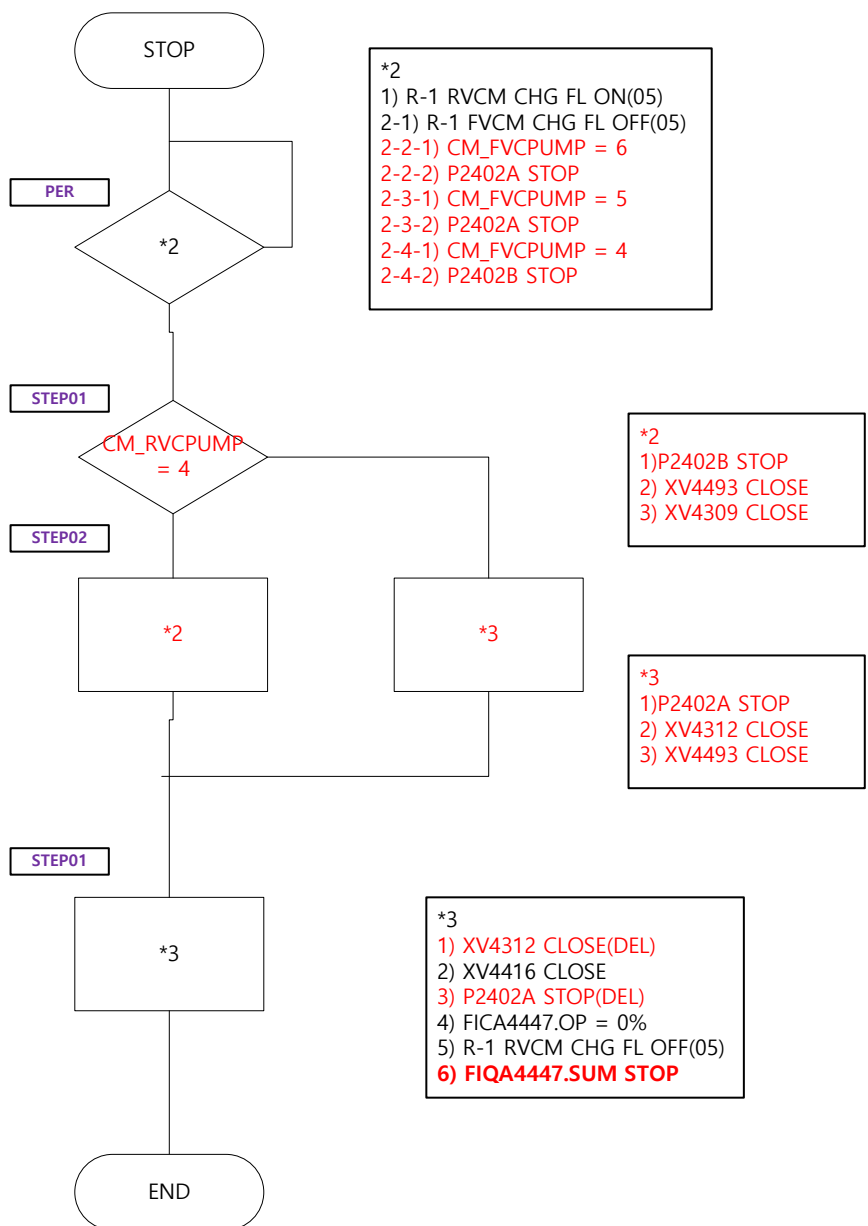
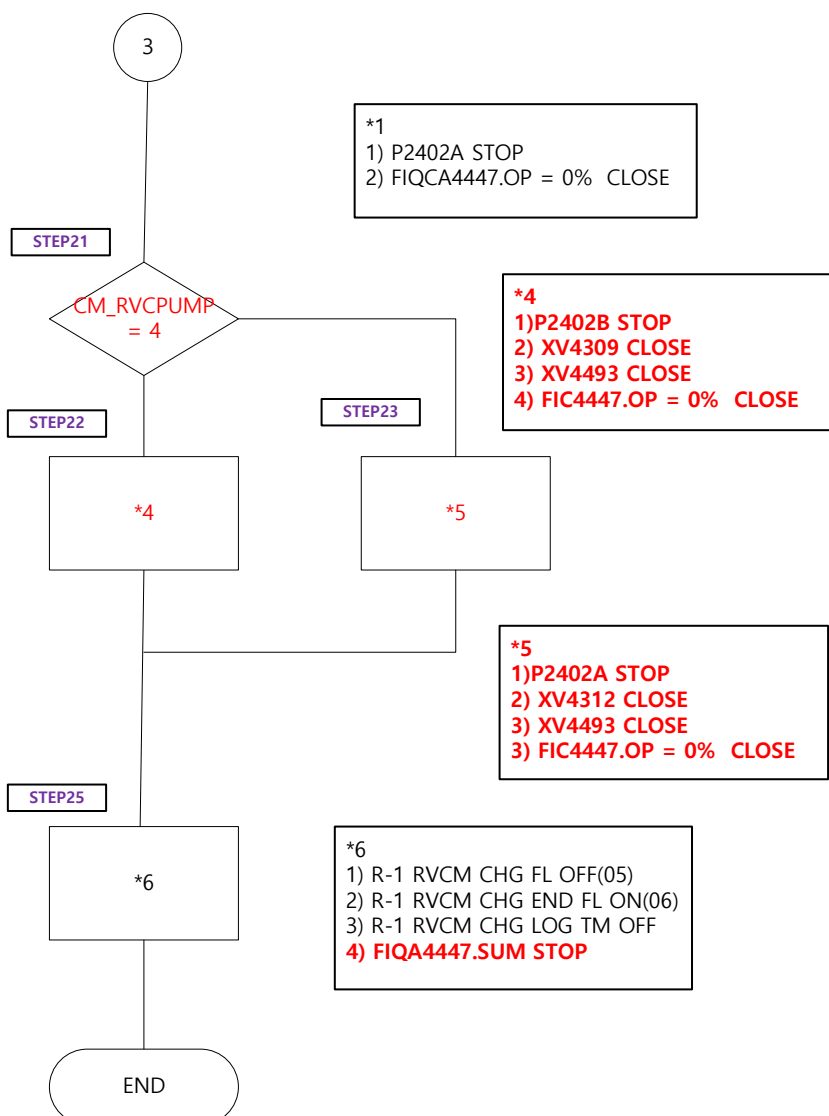
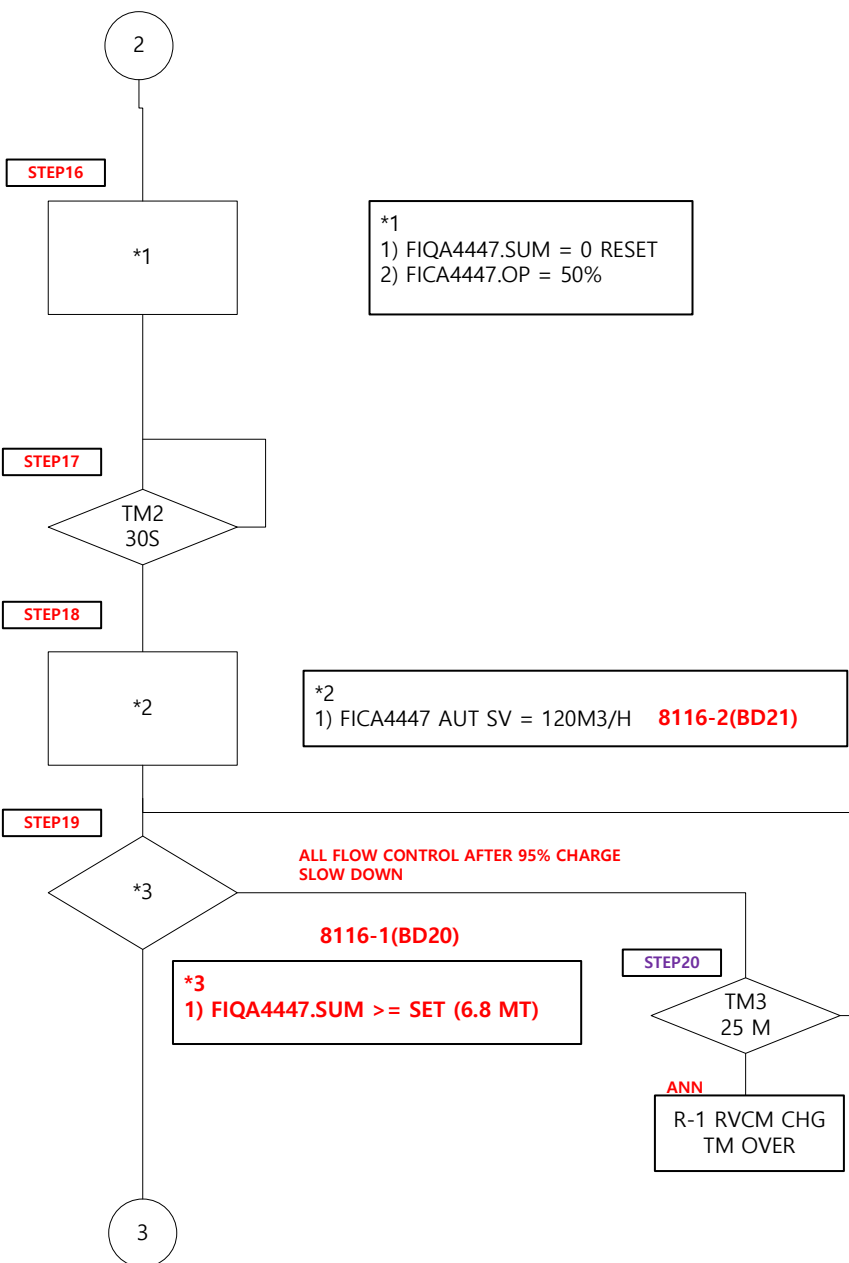
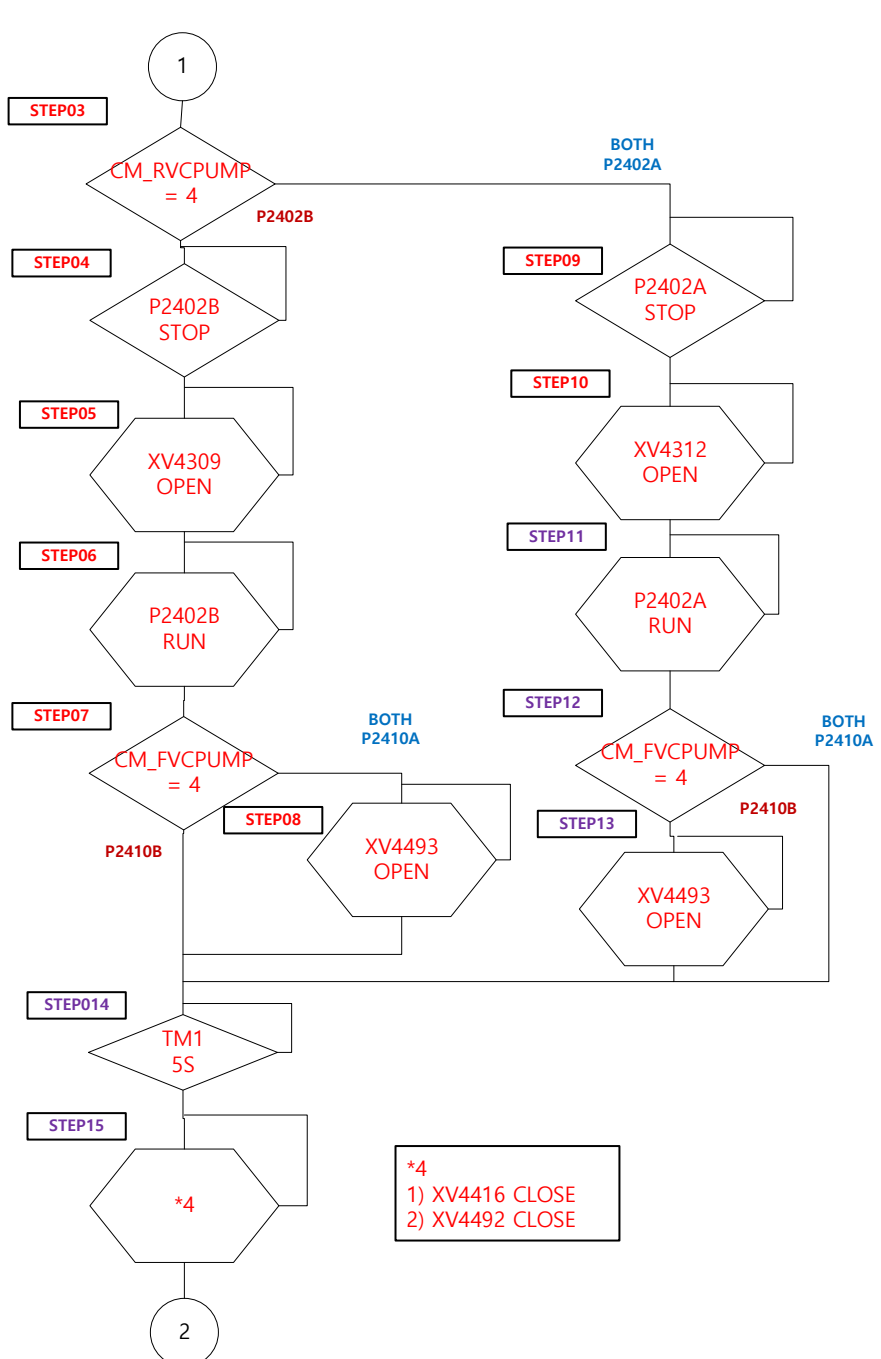
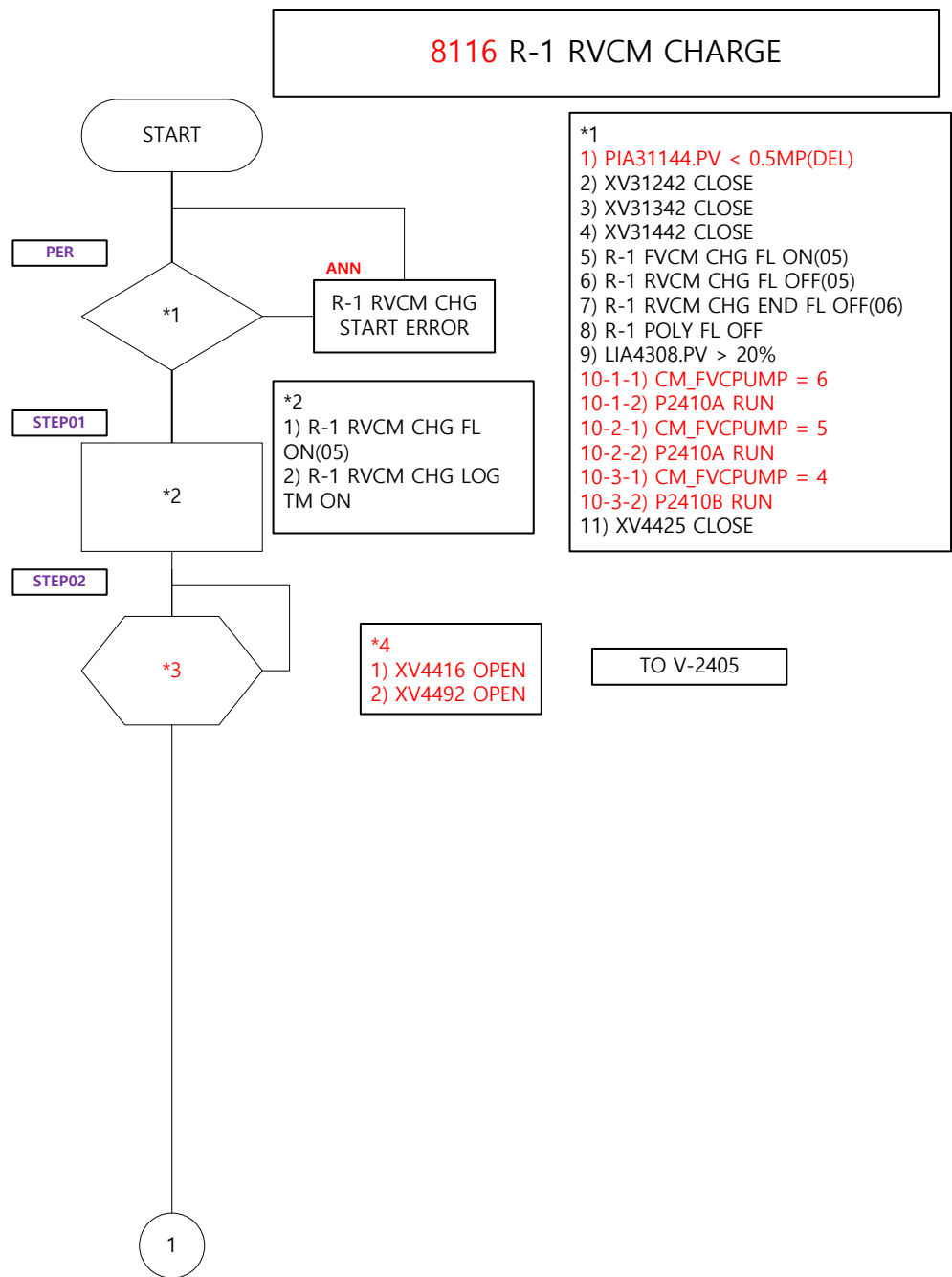
8113 R-1 CAT-B CHARGE







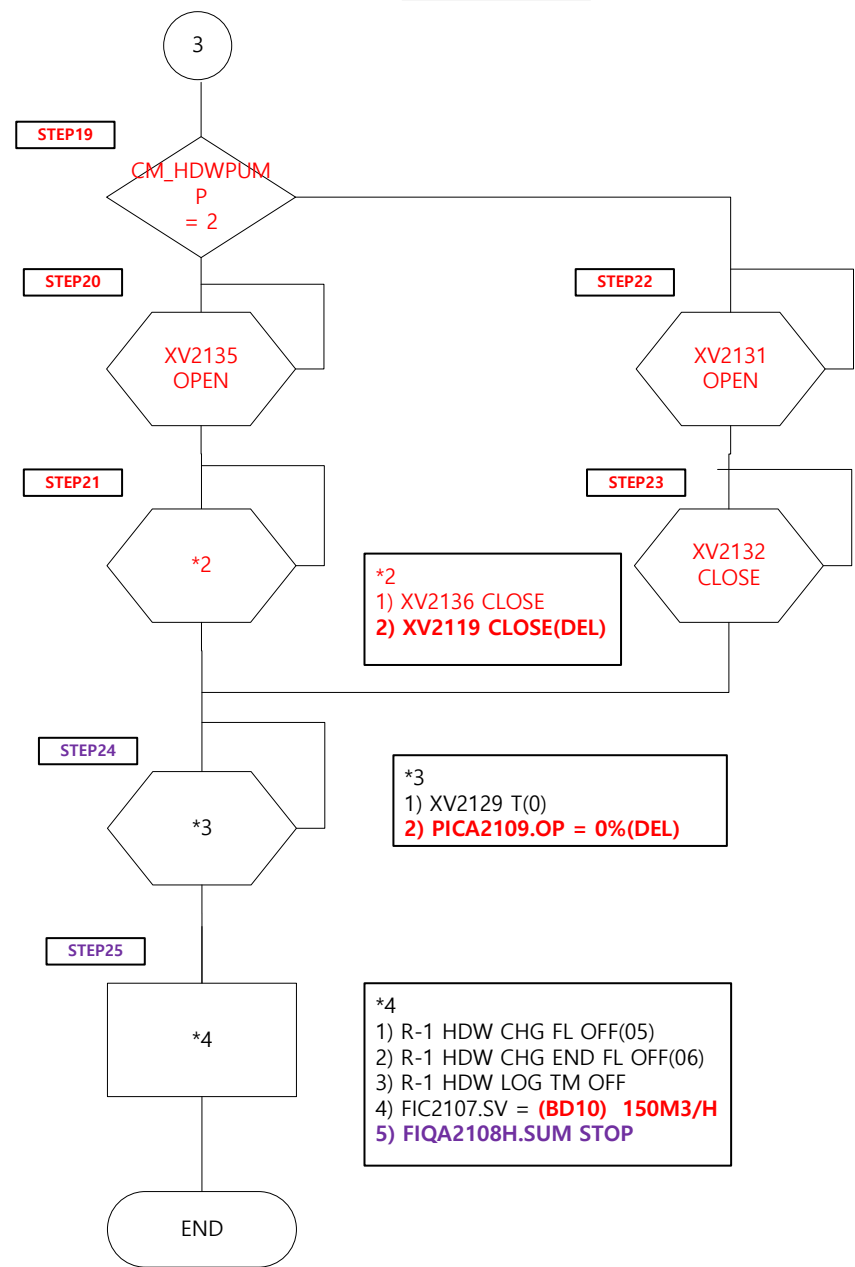
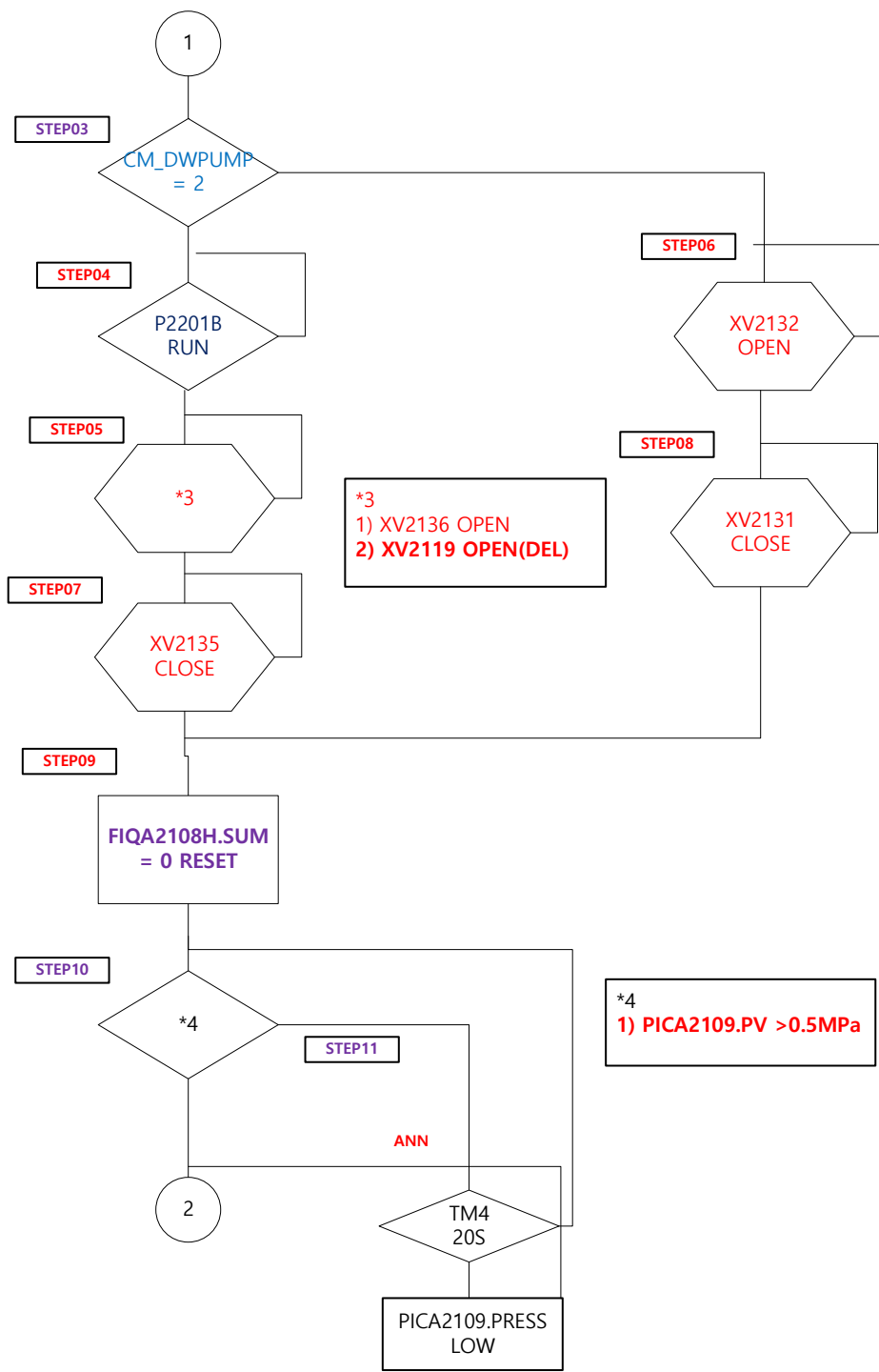
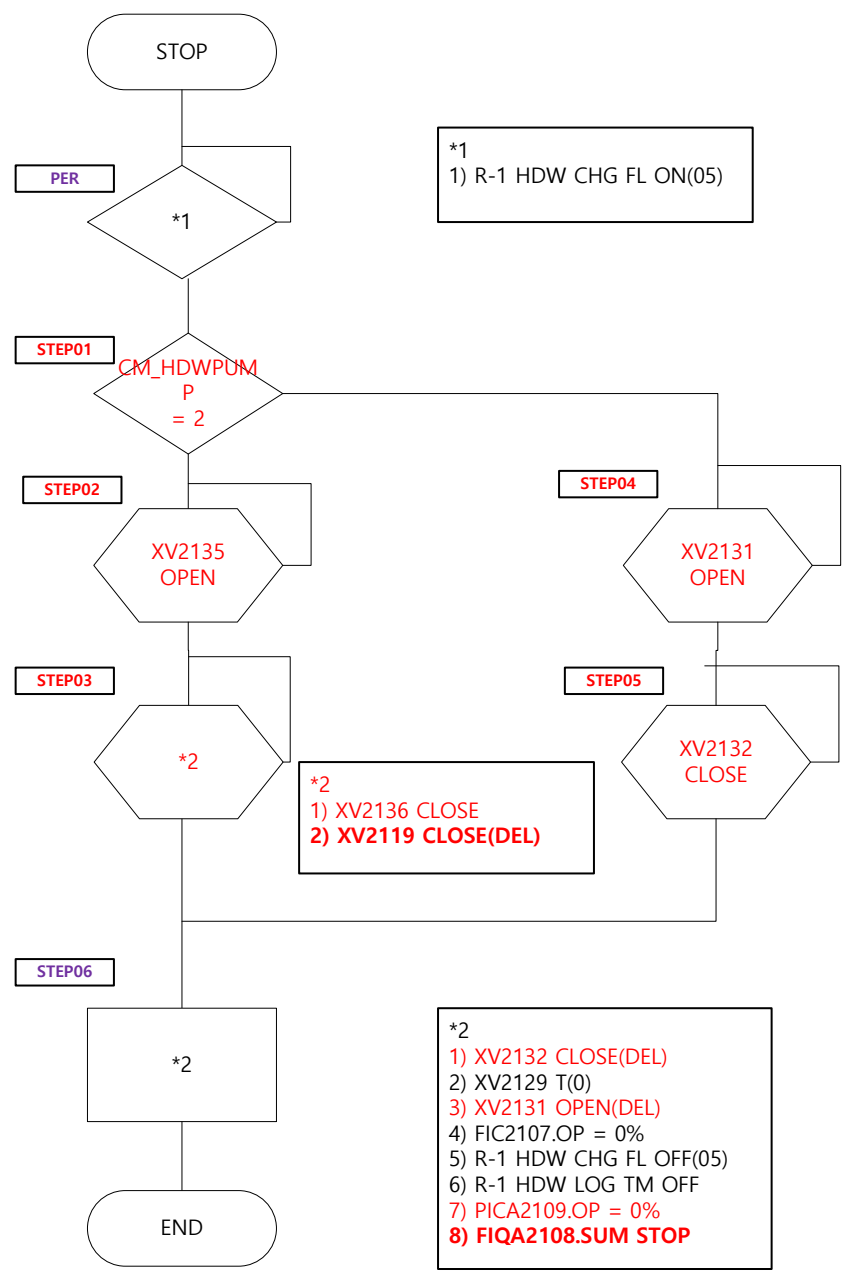
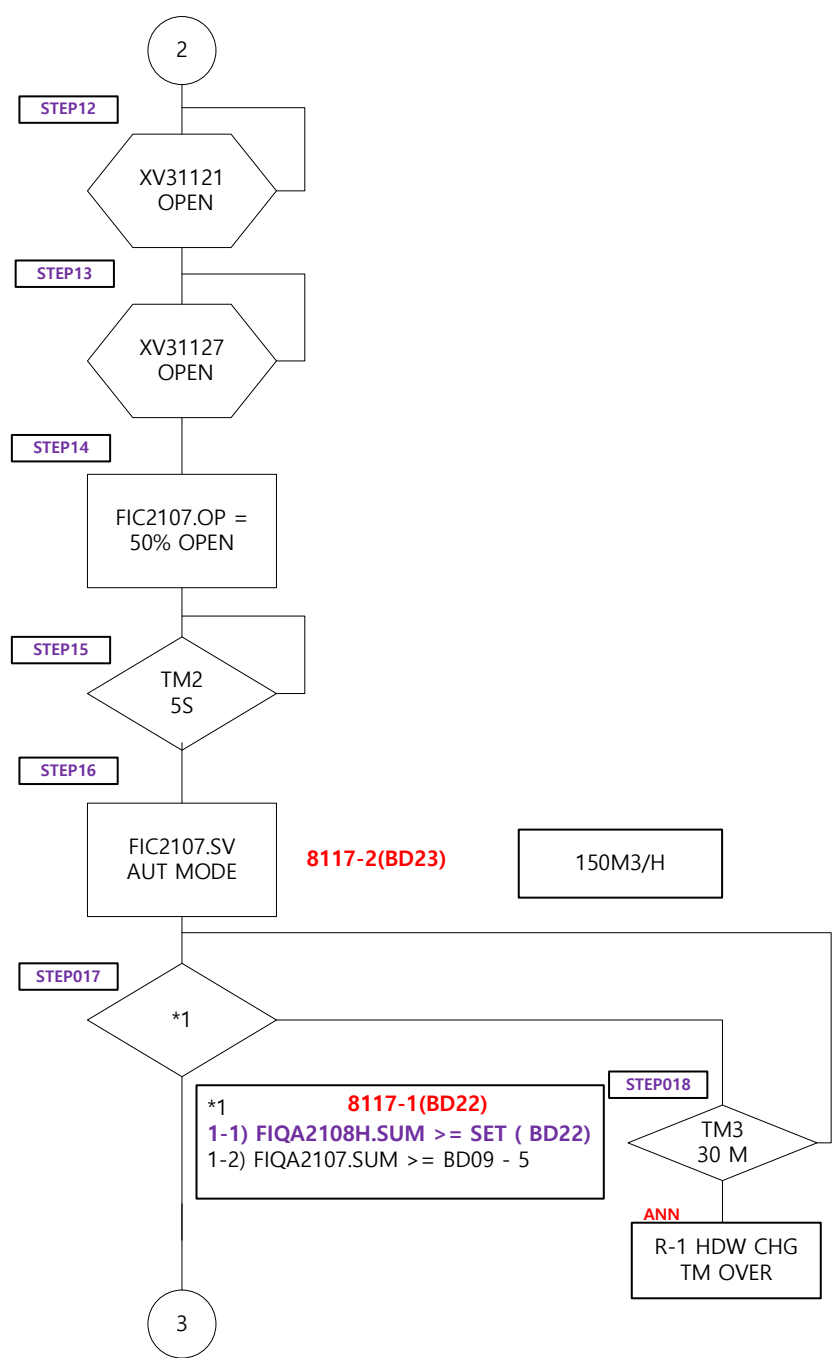
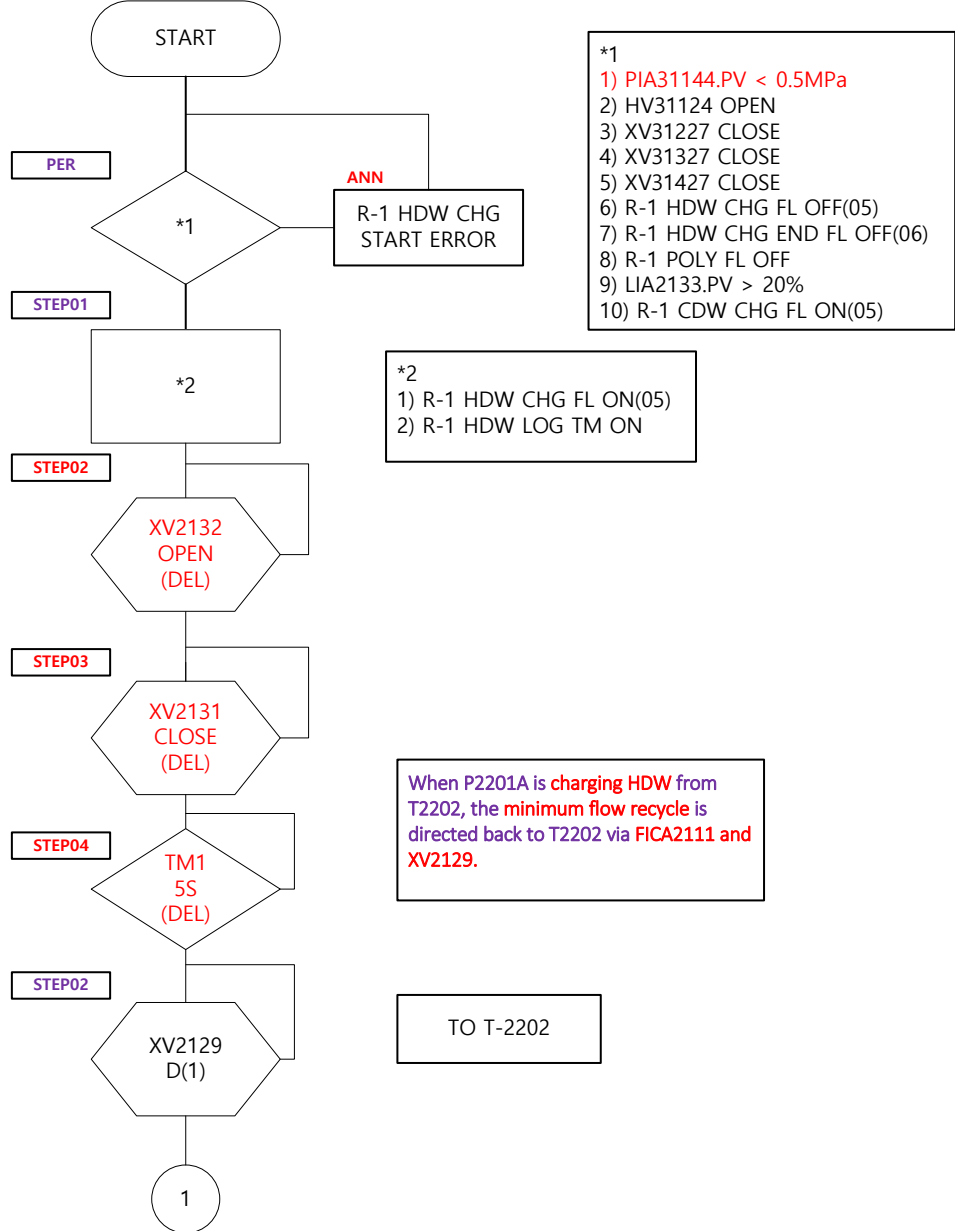




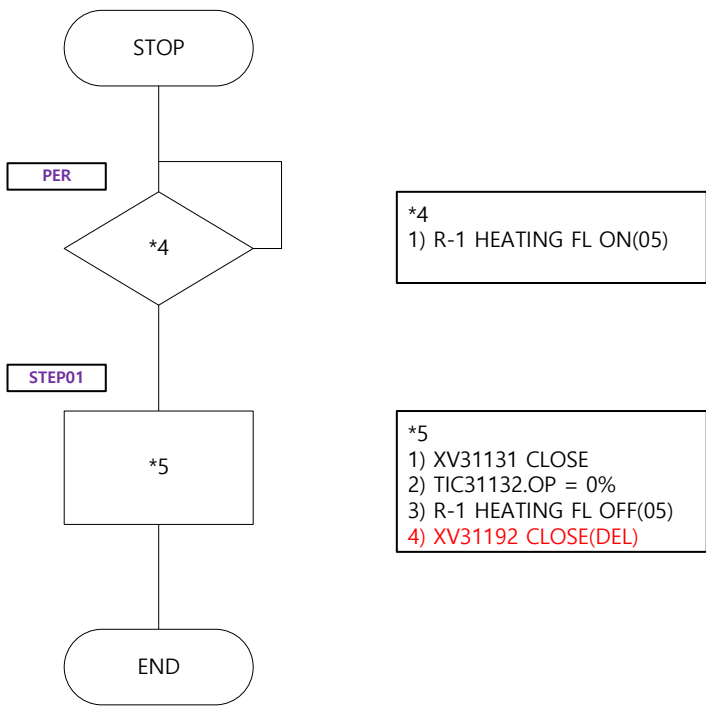
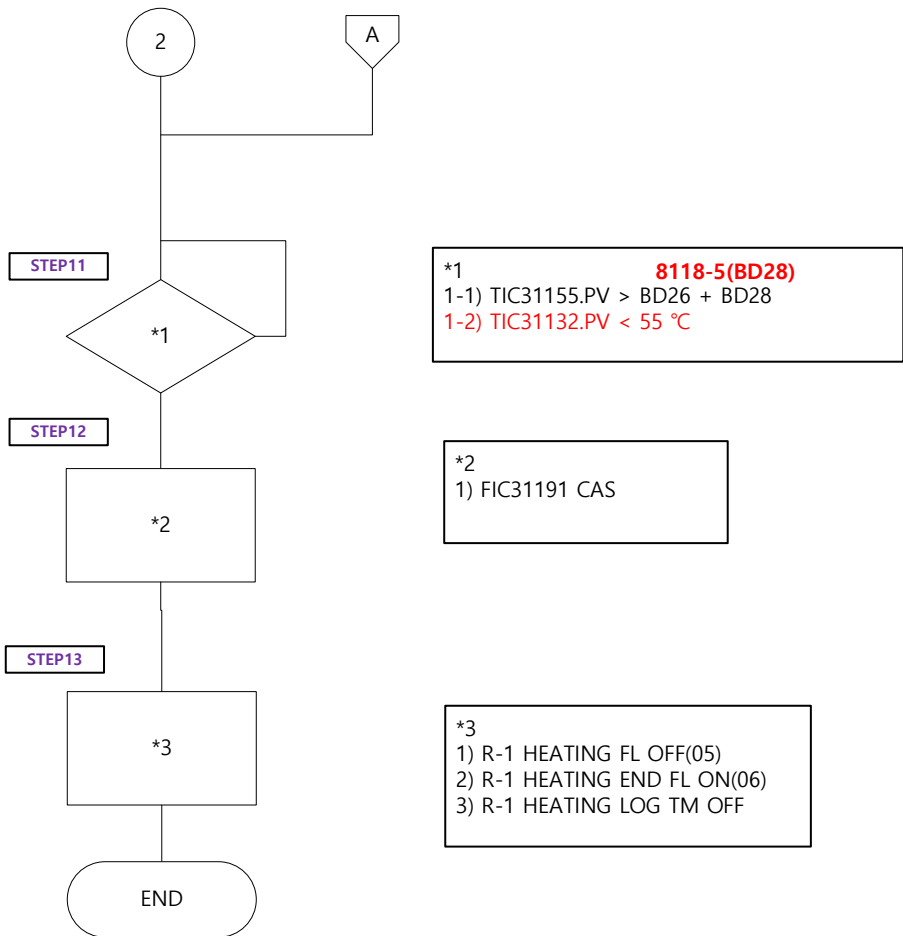
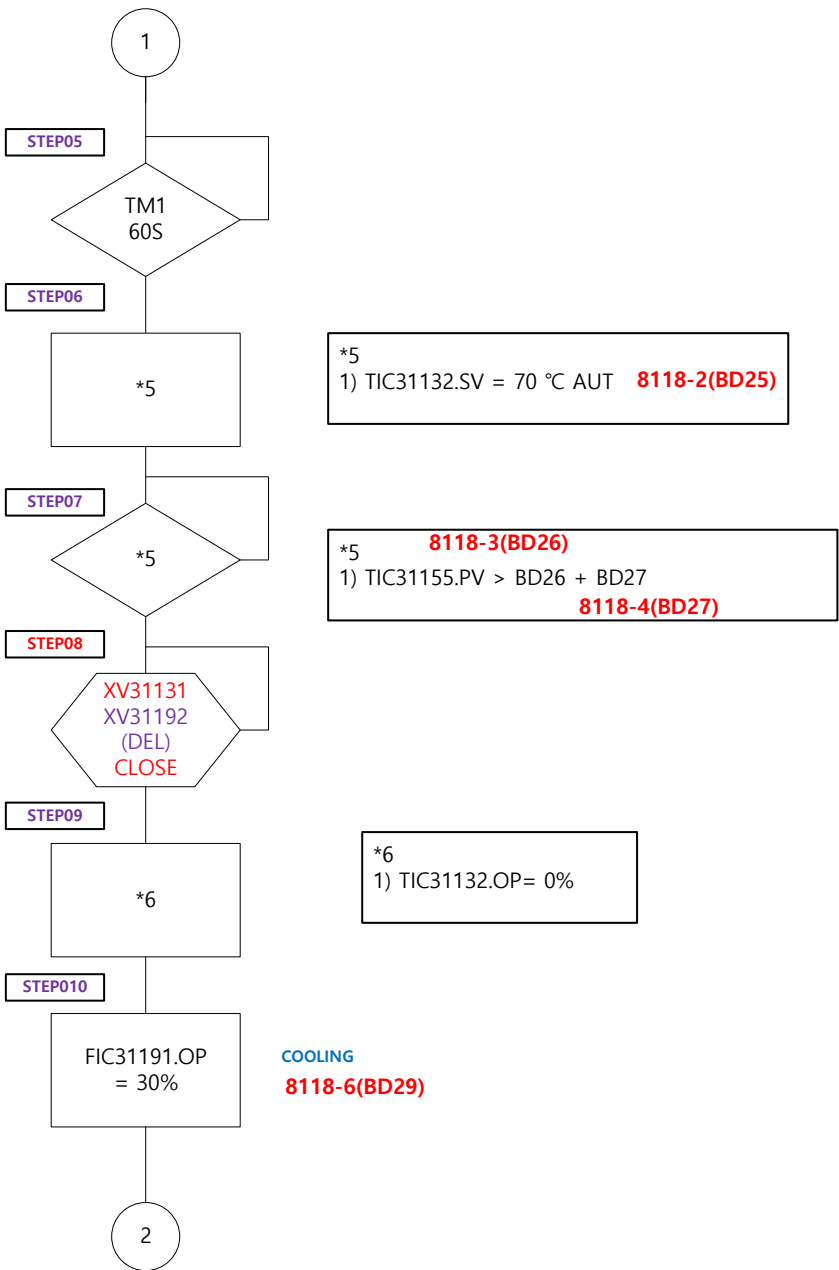
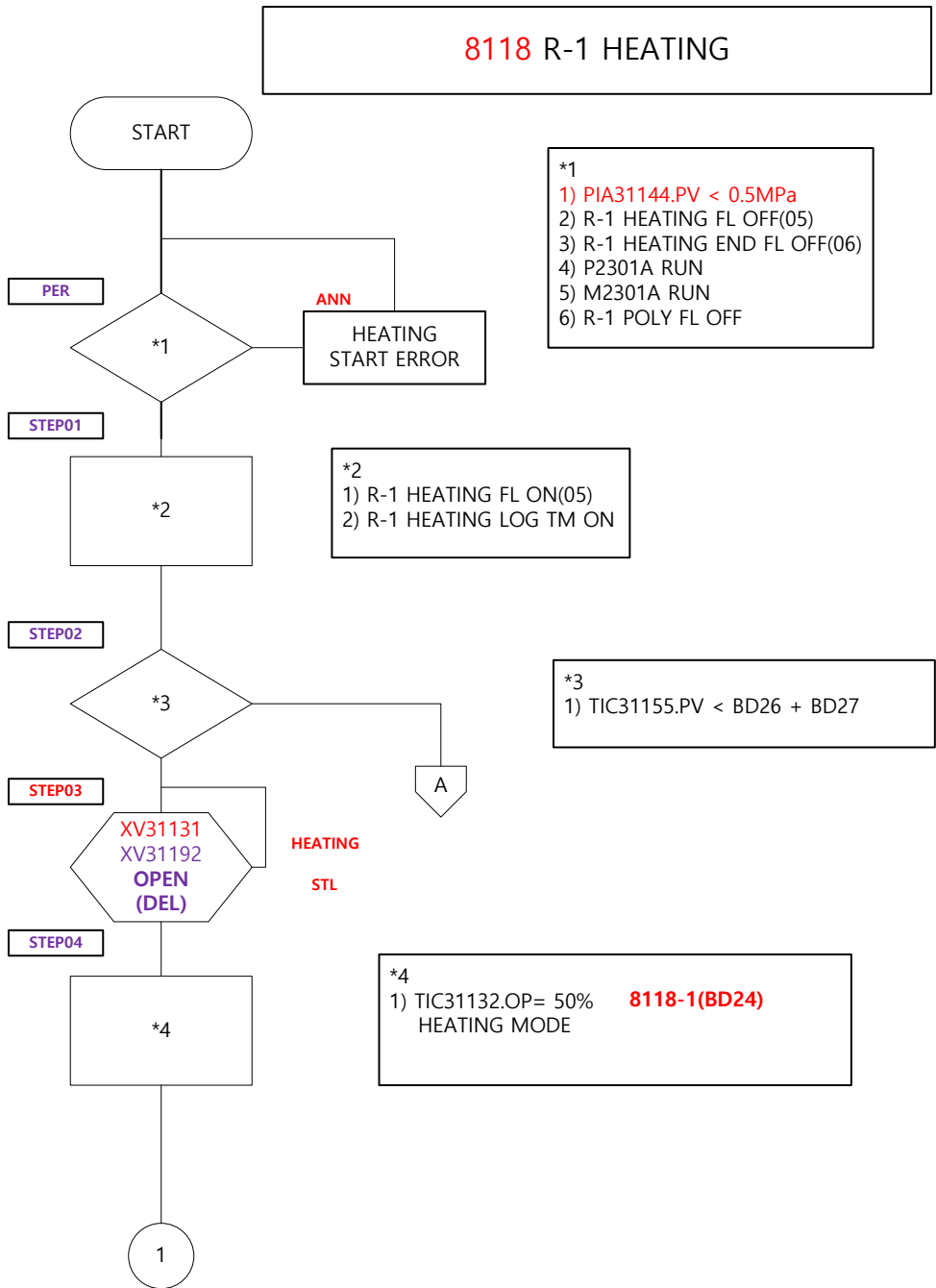


Hot water is charged to the reactor to heat the batch to near reaction temperature. HDW is maintained at 90°C.

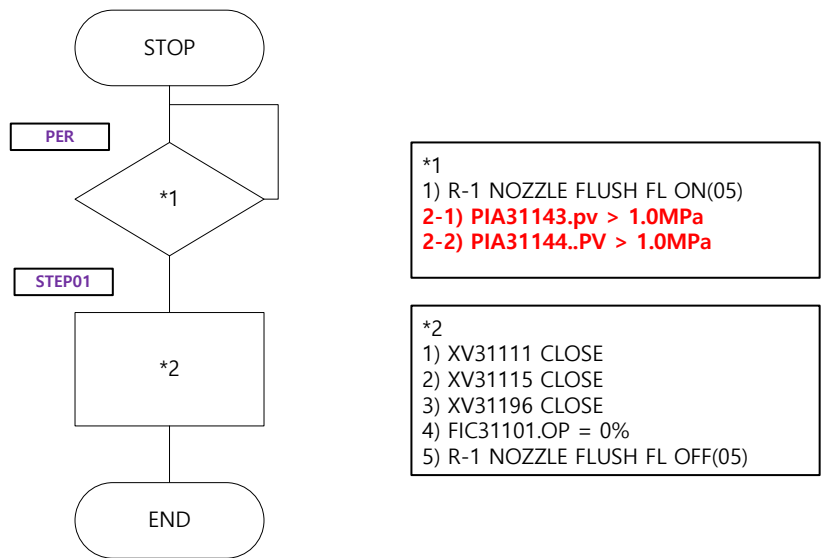
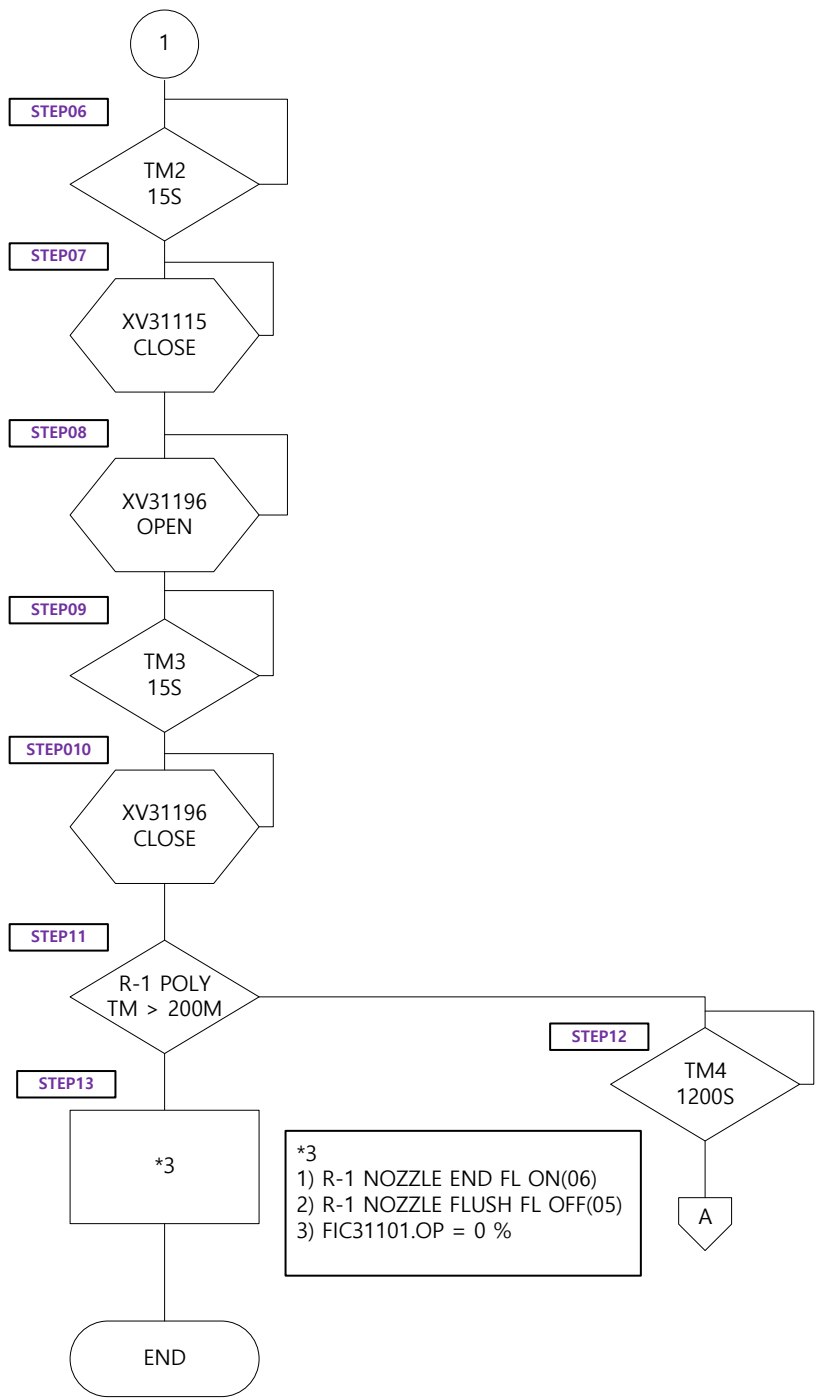
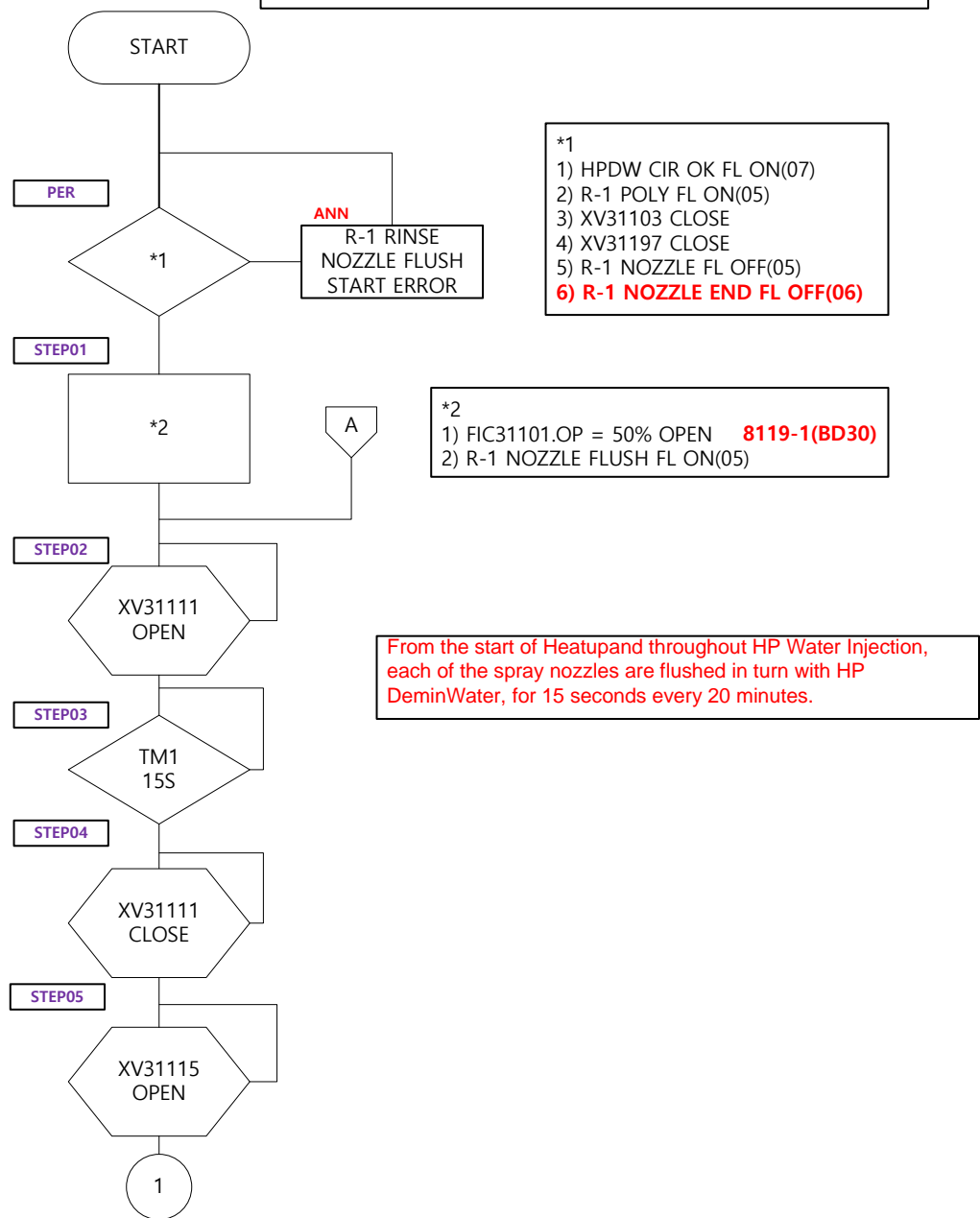
# 8117 R-1 HDW CHARGE

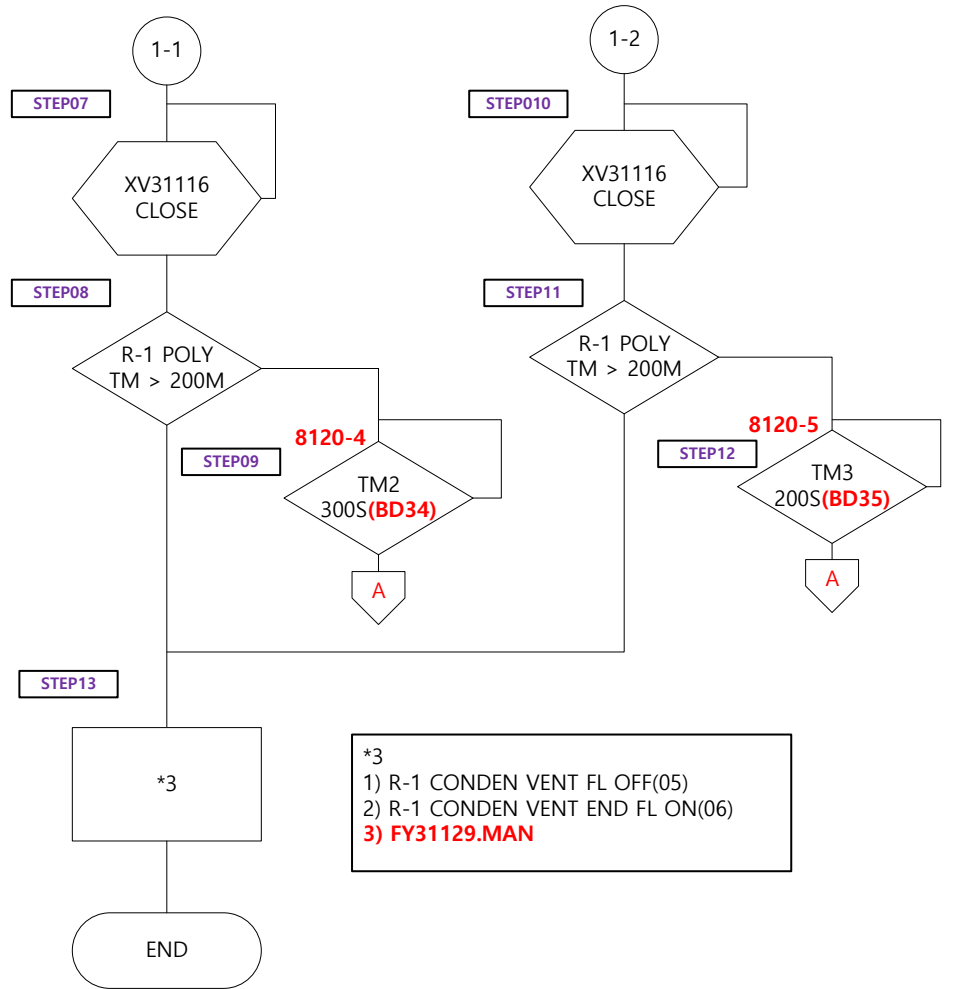
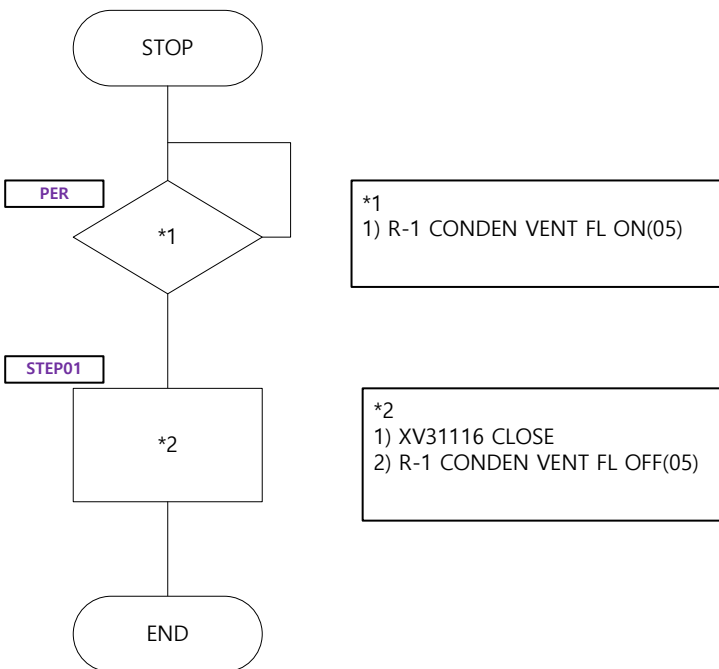
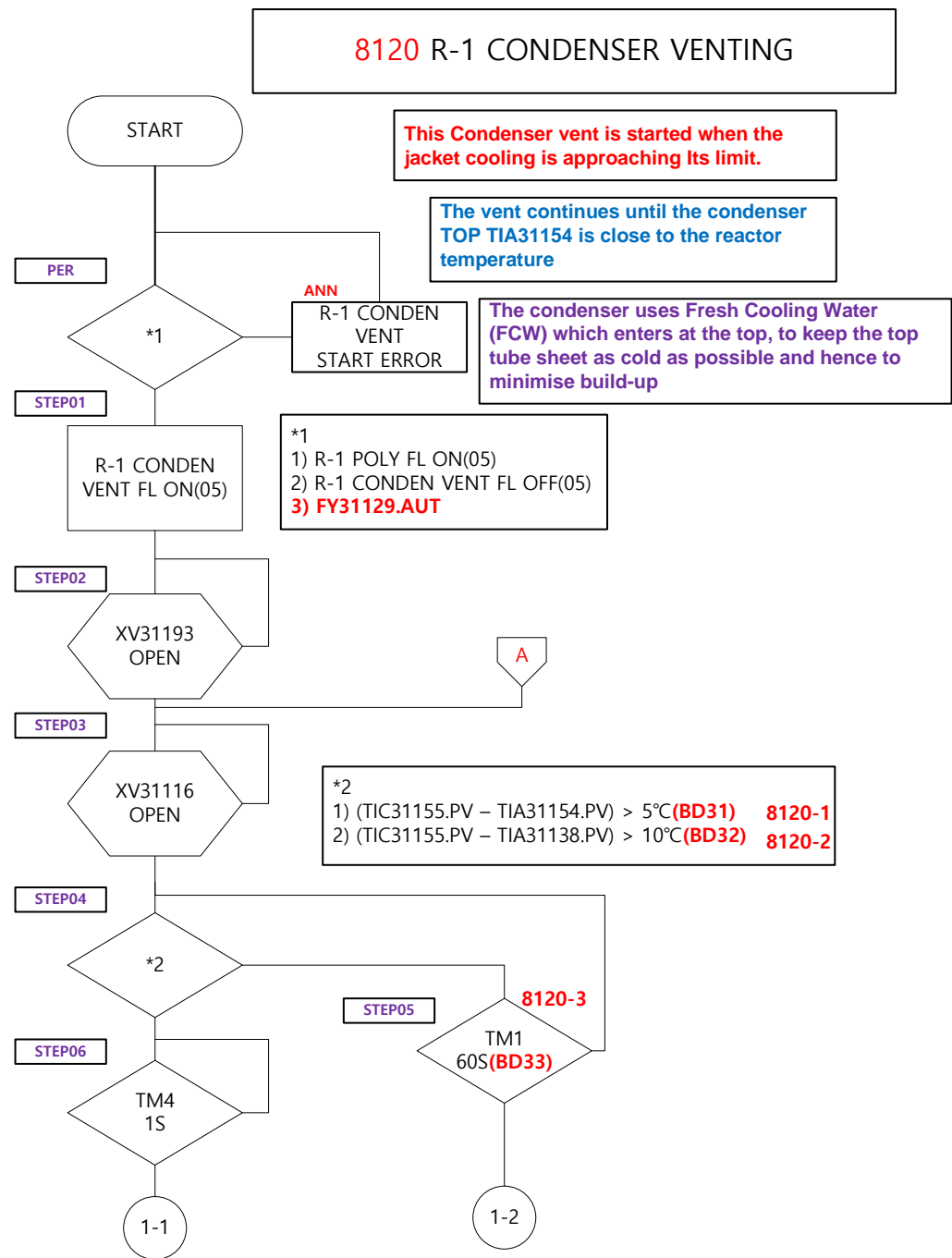


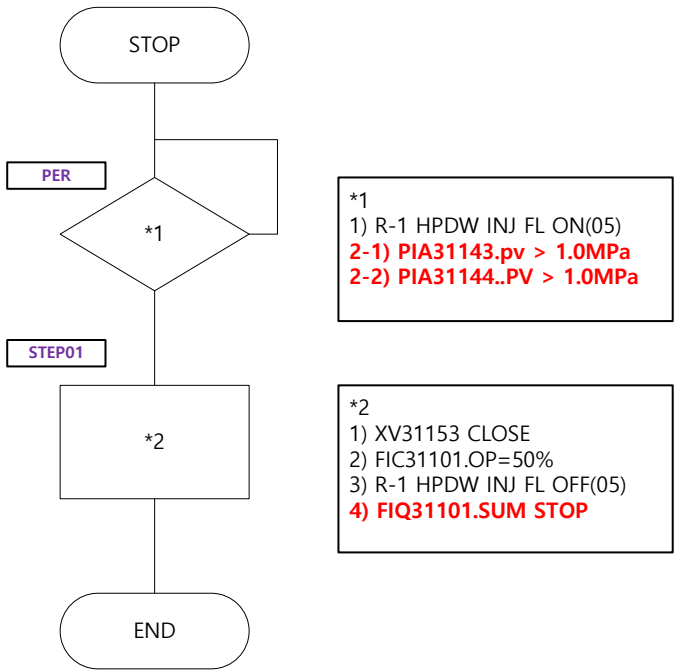
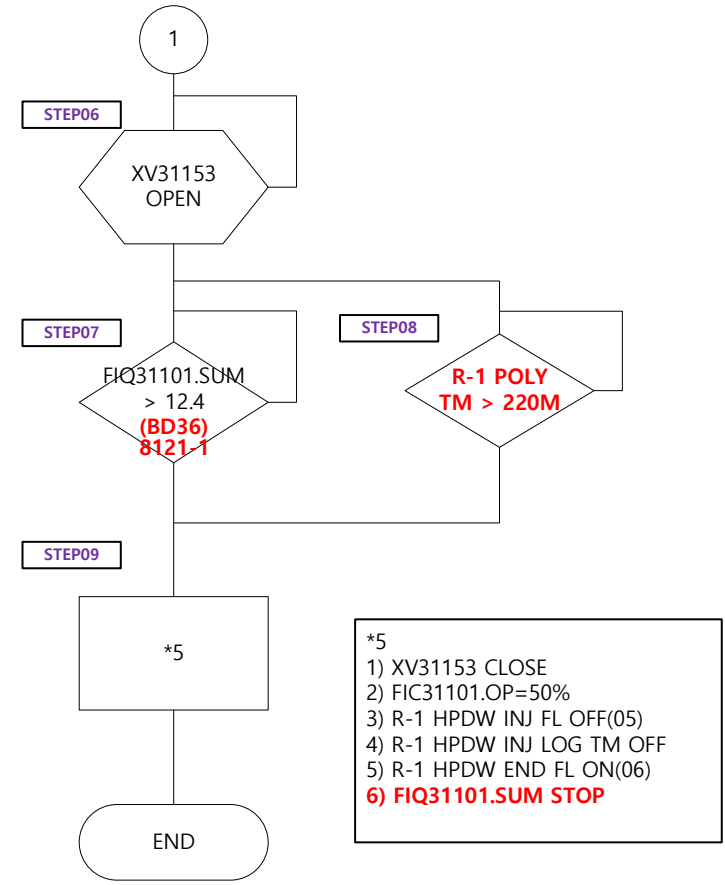
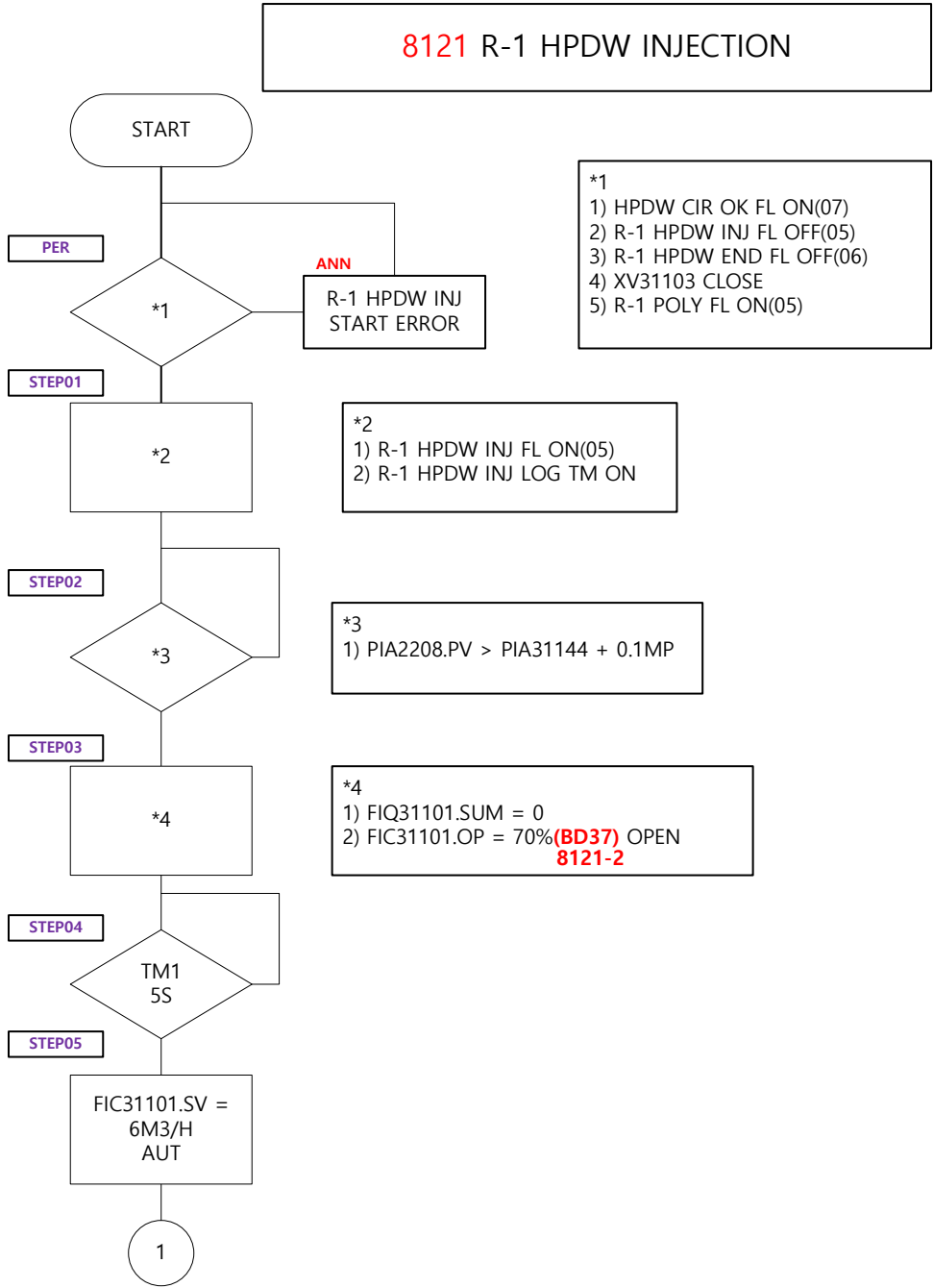
8118 R-1 HEATING

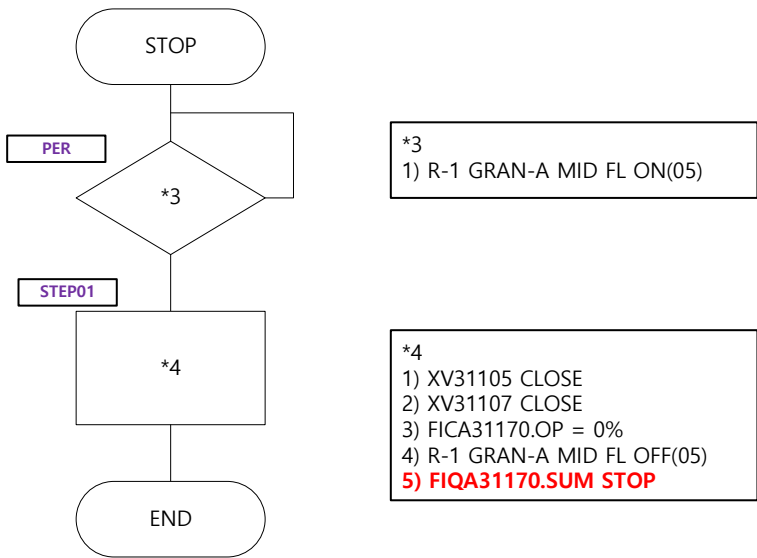
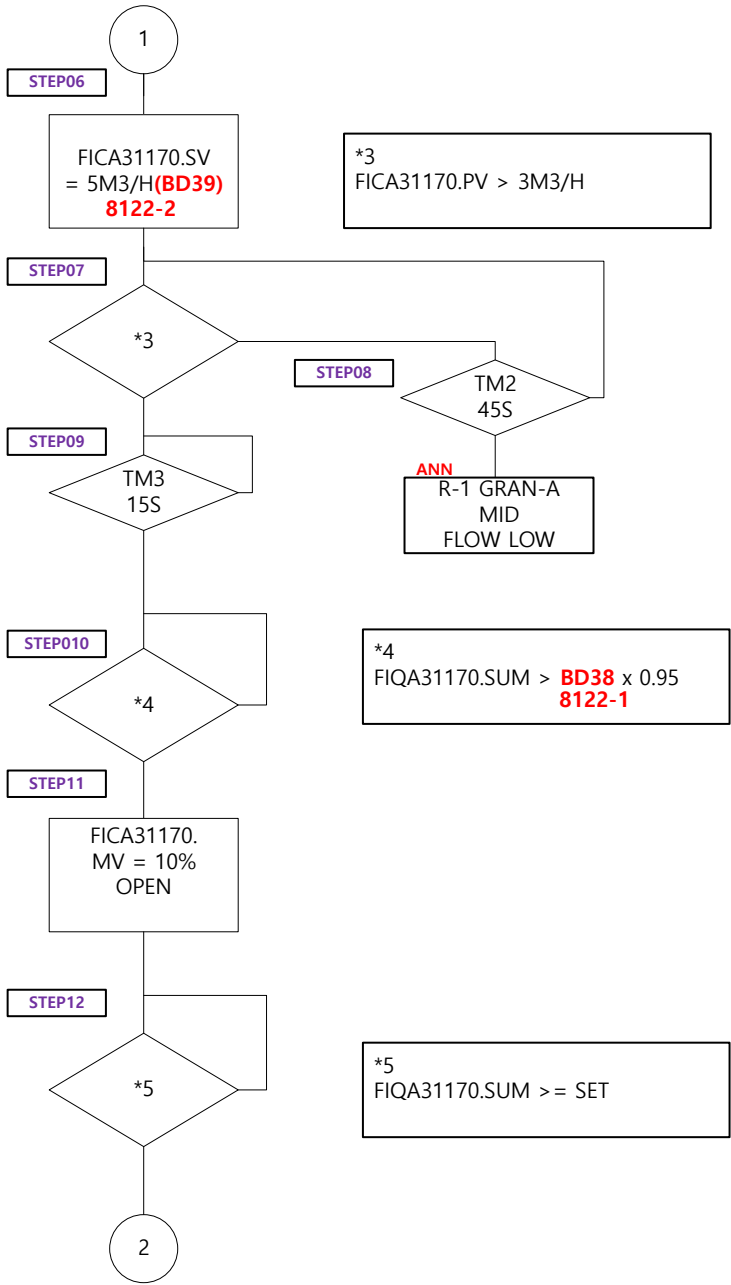
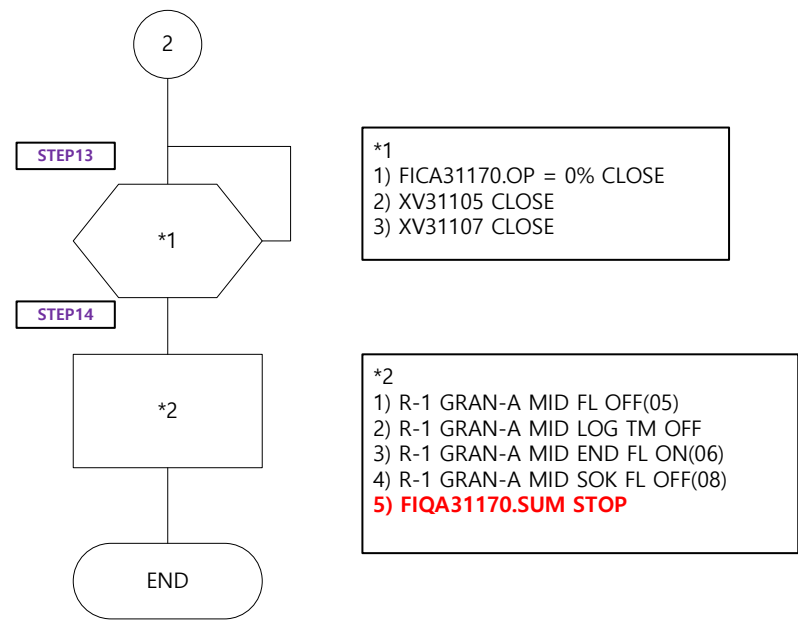
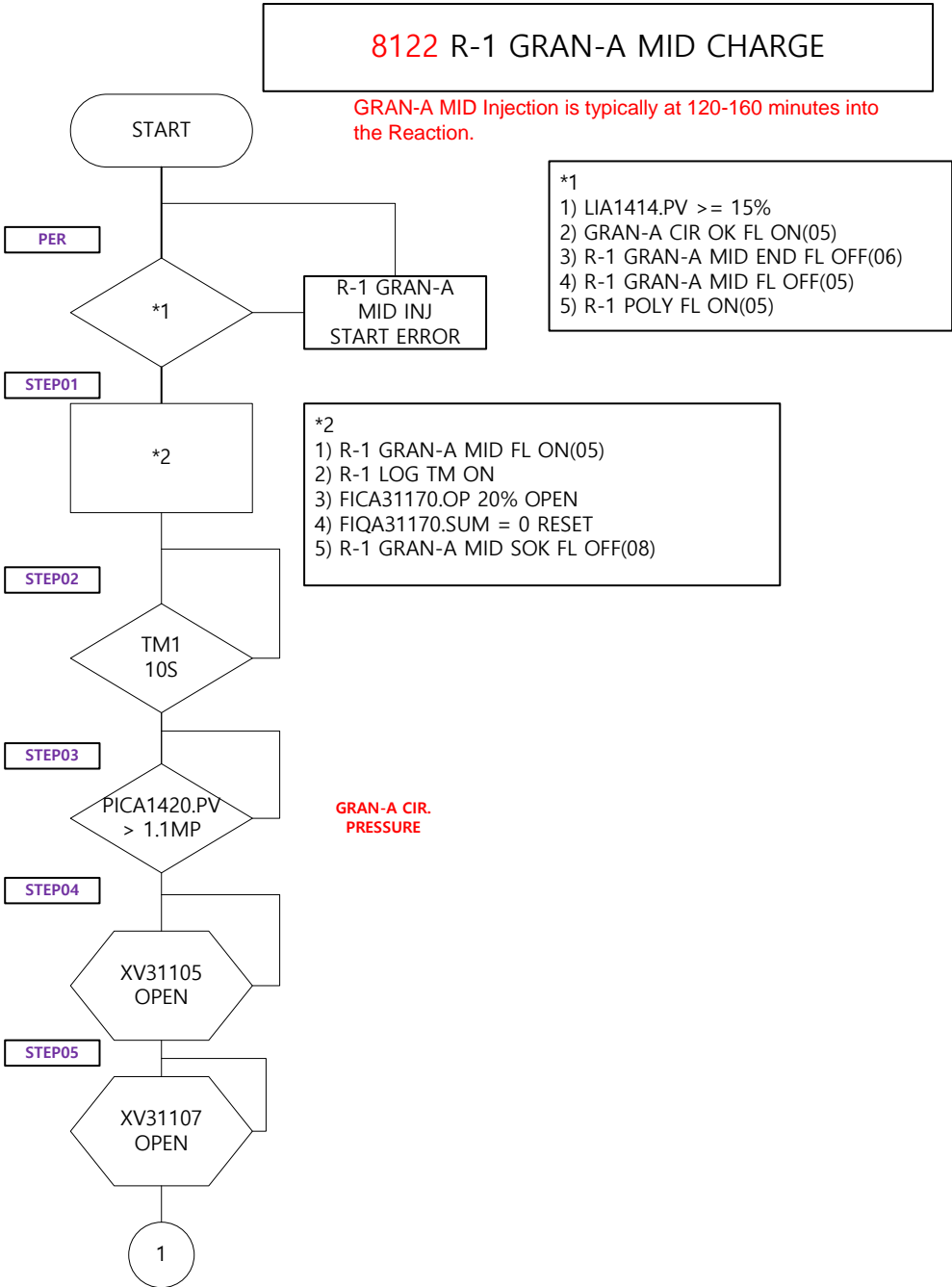


8119 R-1 RINSE NOZZLE FLUSH

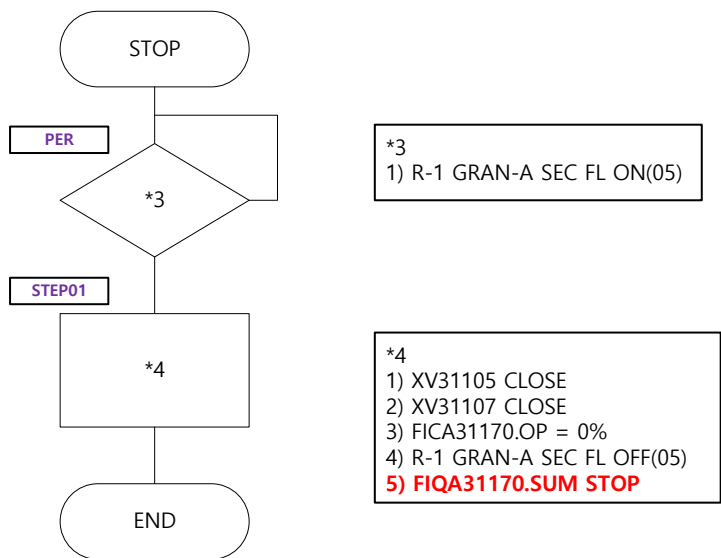
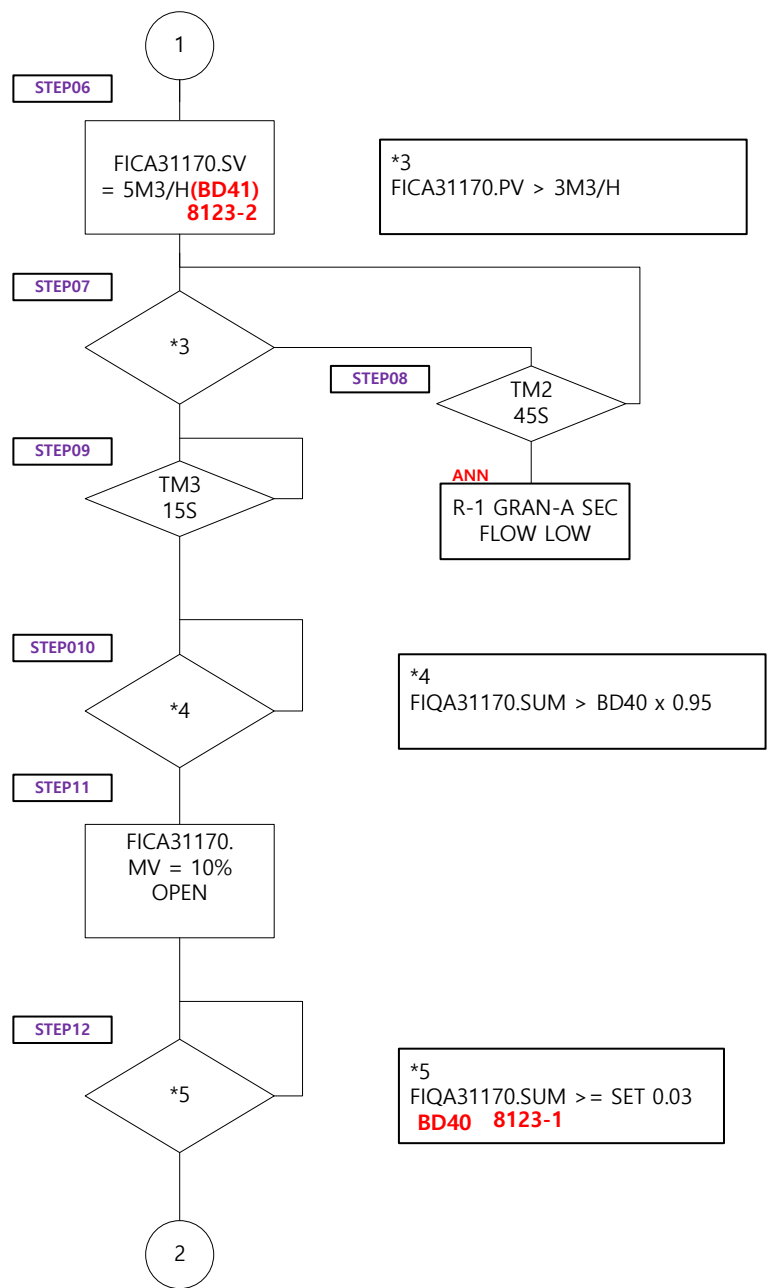
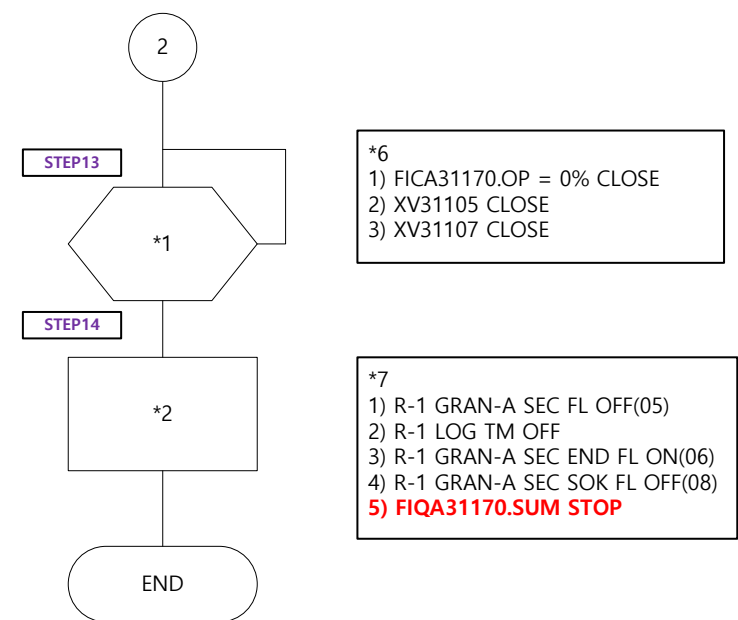
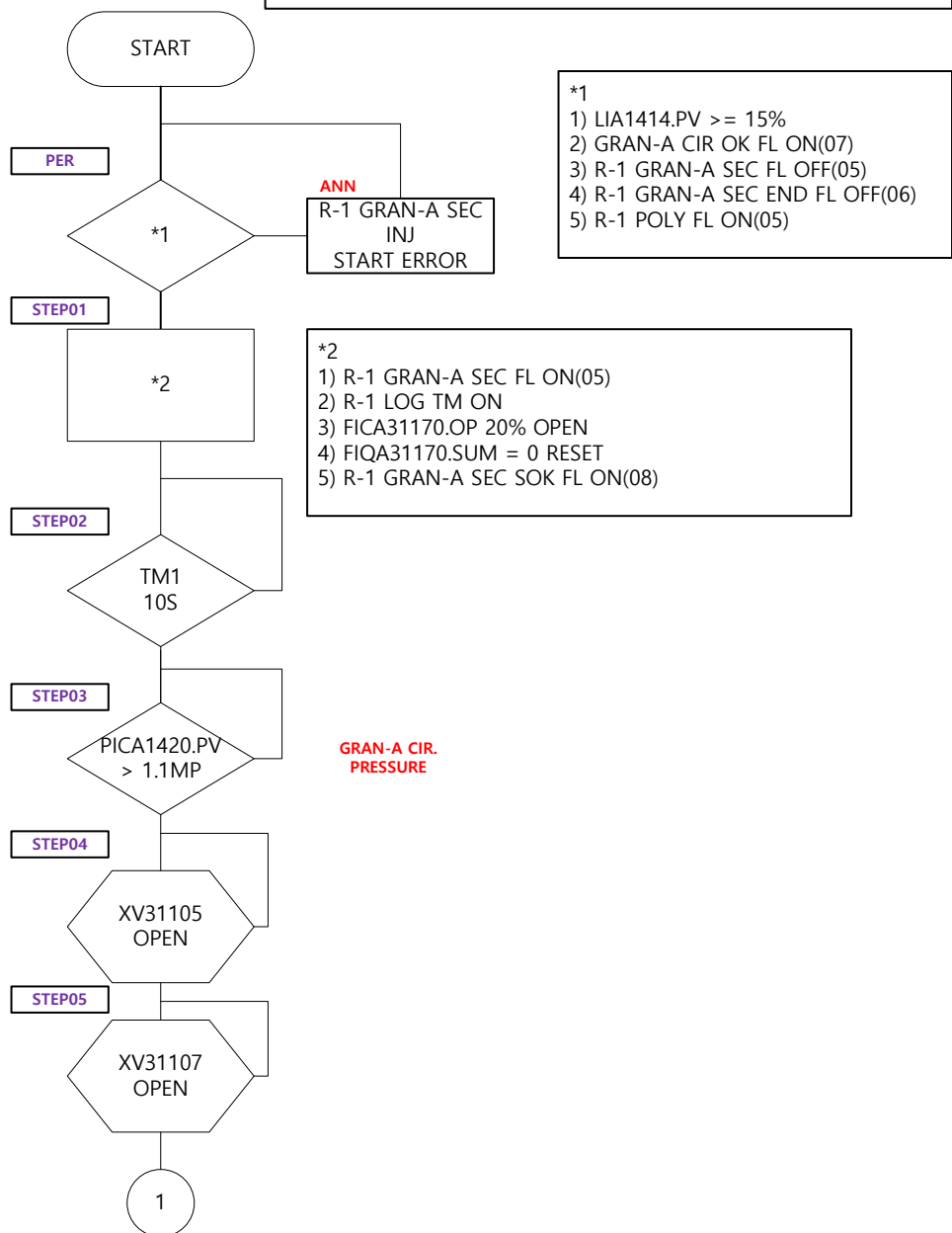






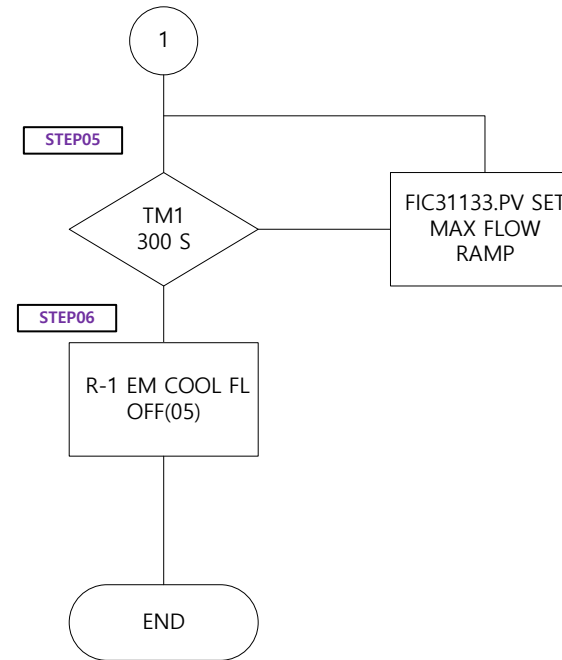
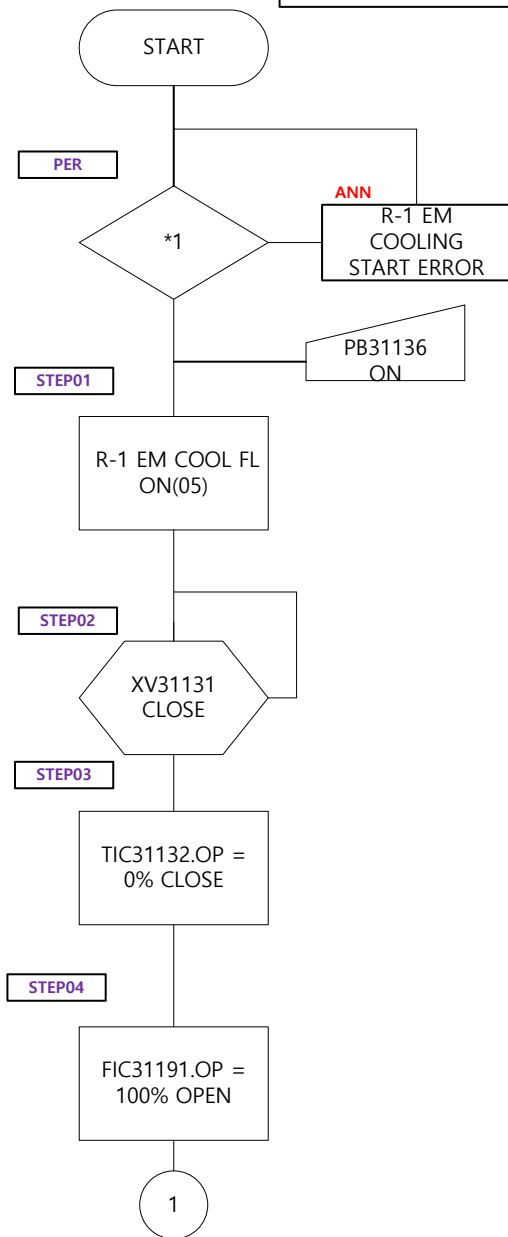


8123 R-1 GRAN-A SEC CHARGE



## 8124 R-1 EMERGENCY COOLING

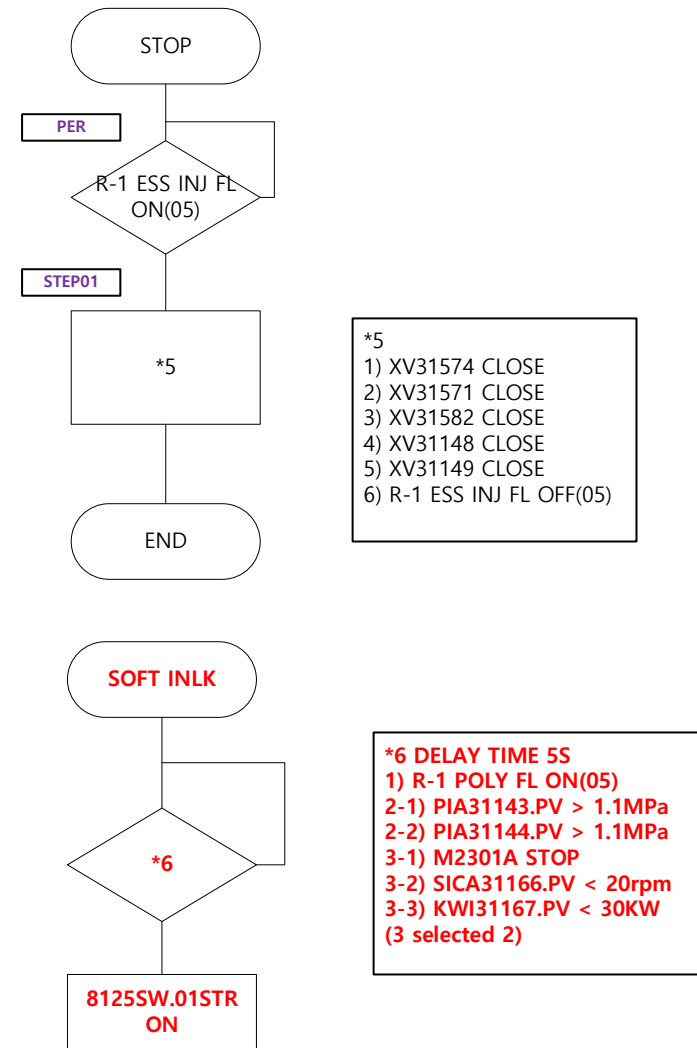
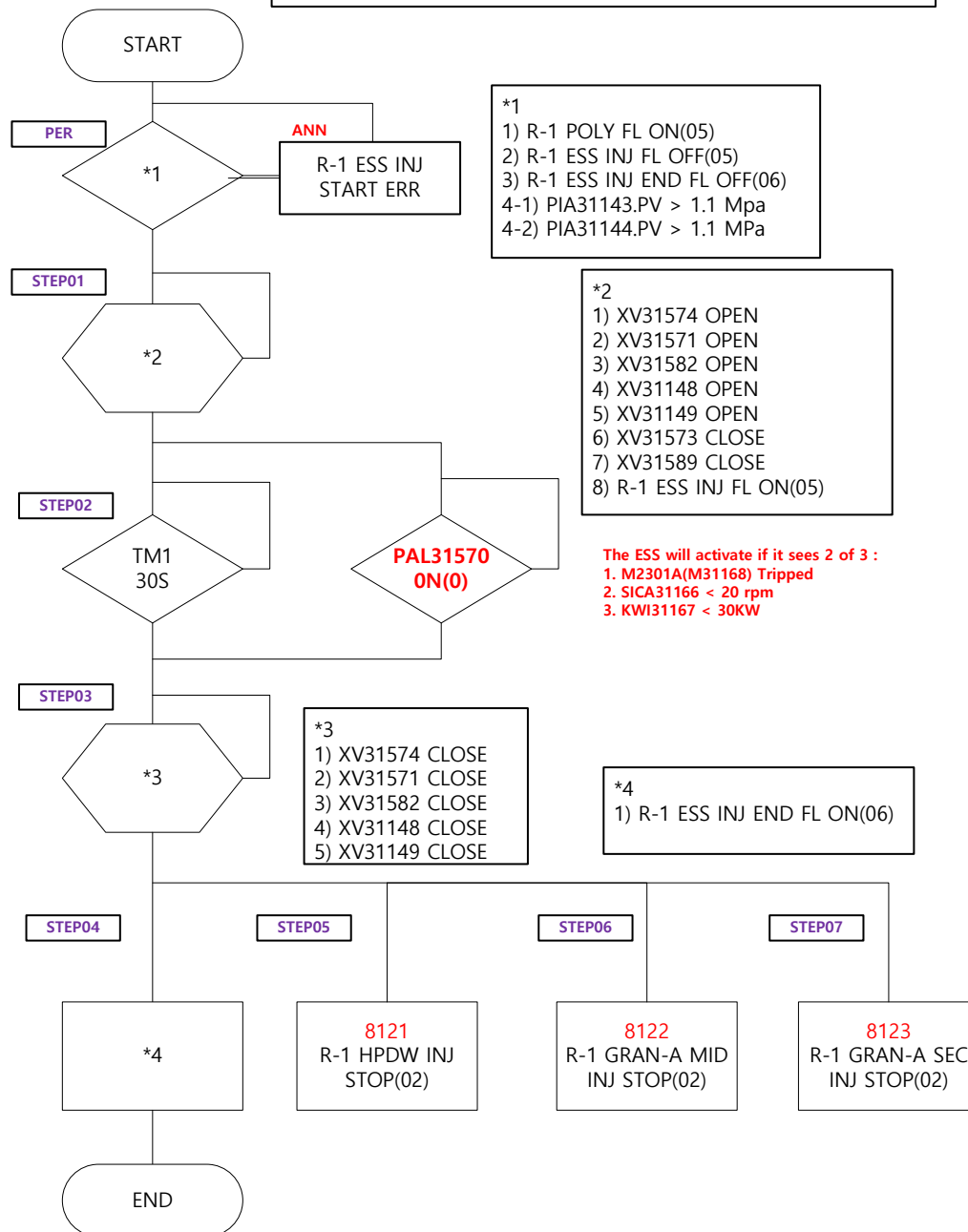
\*1  
1) R-1 POLY FL ON(05)  
2) R-1 EM COOL FL OFF(05)





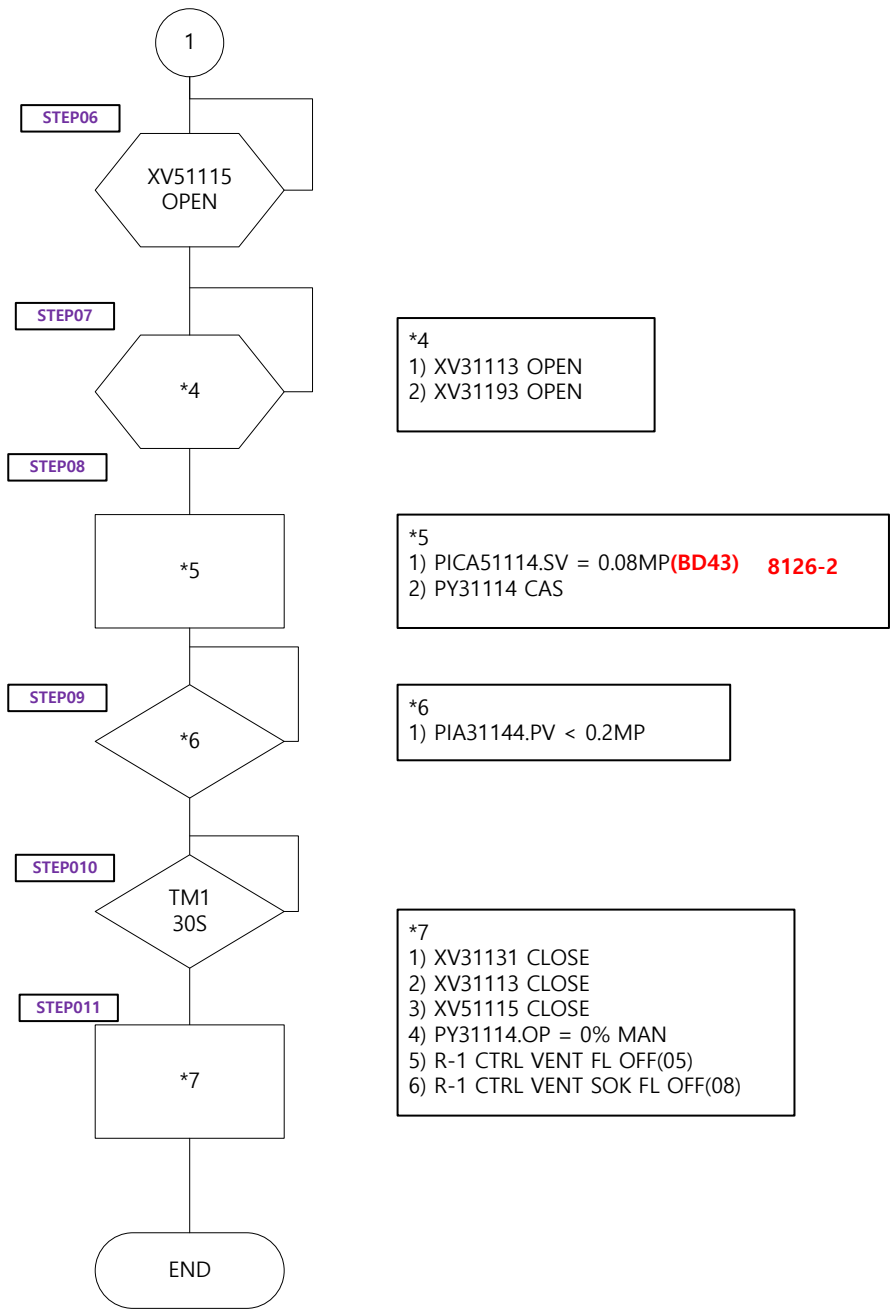
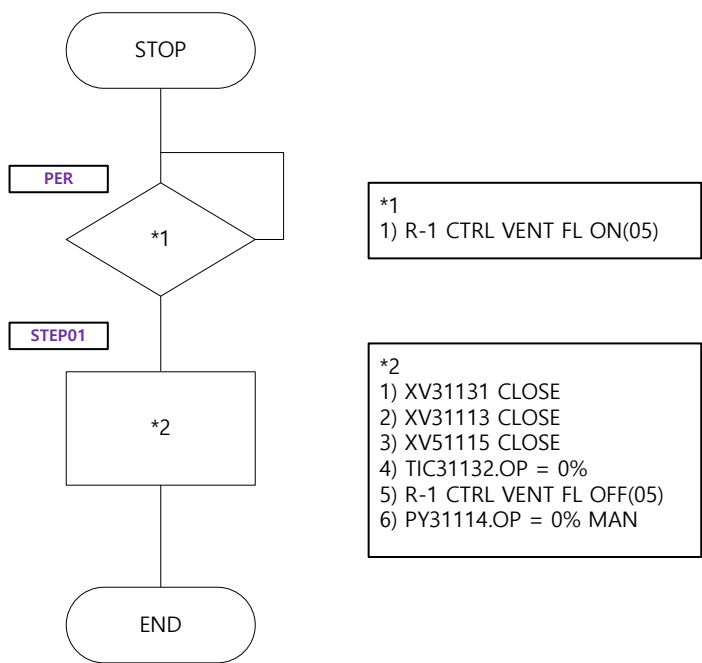
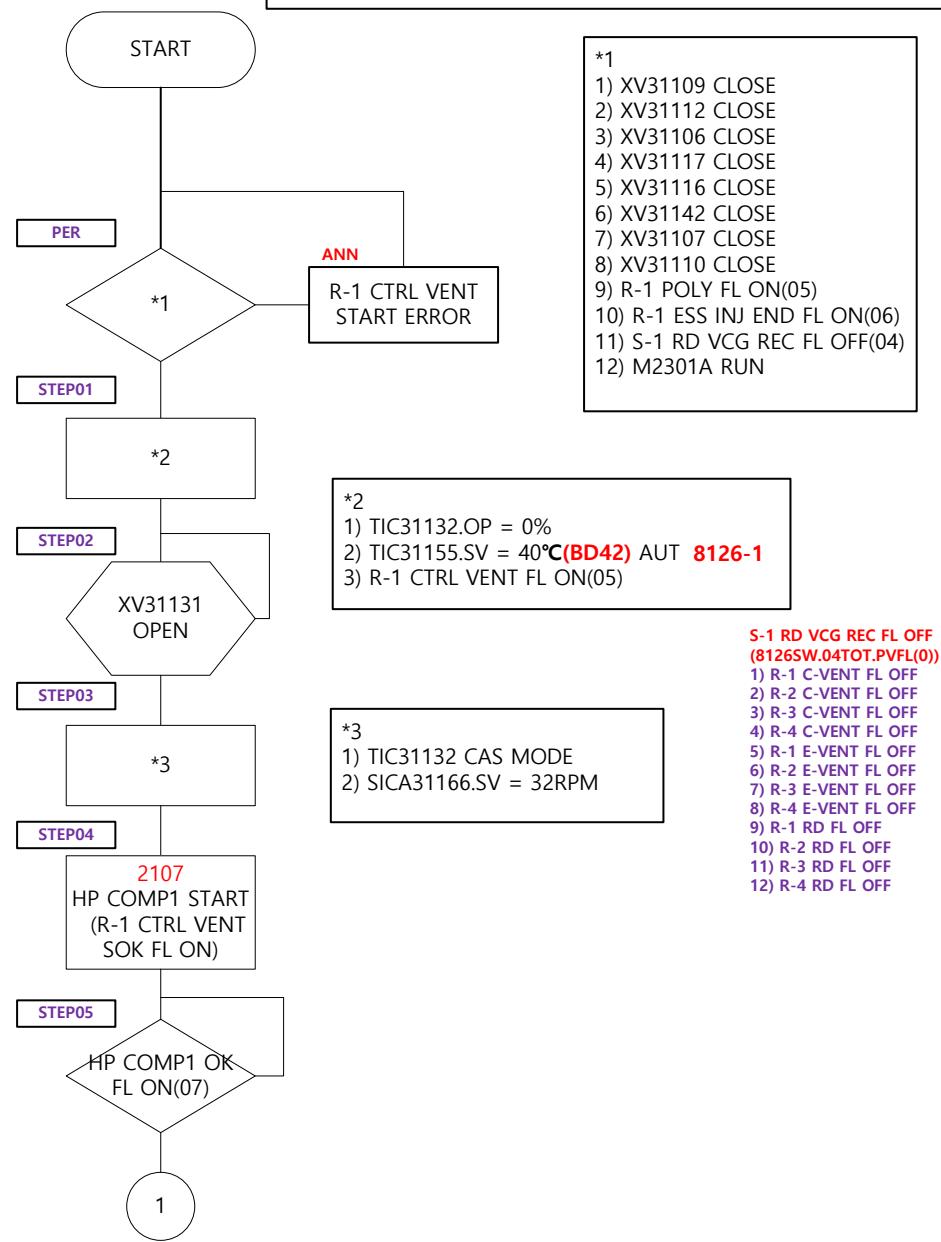
Reactor emergency short stop injection valves are air fail open, If air pressure is lost short stop will be injected to all eight reactors.

## 8125 R-1 ESS INJECTION



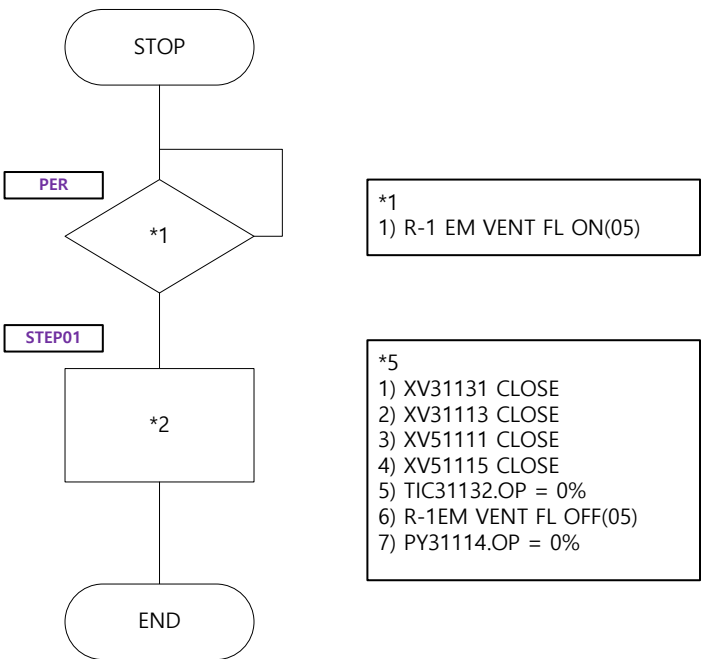
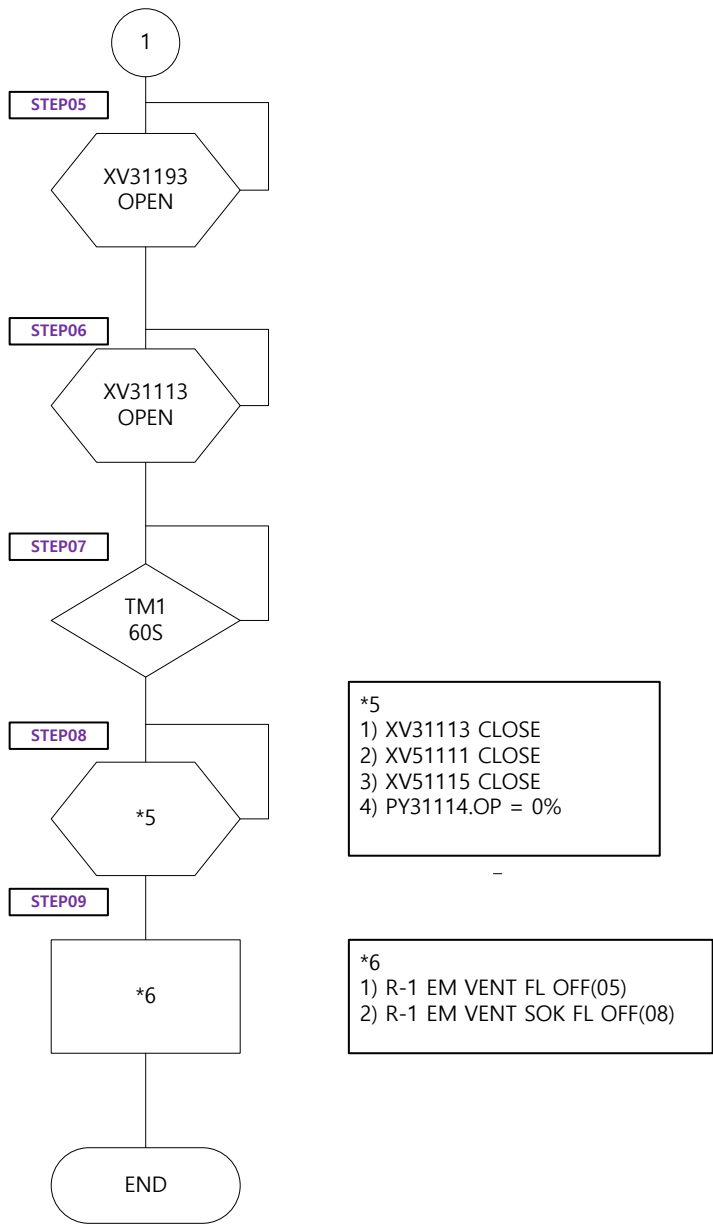
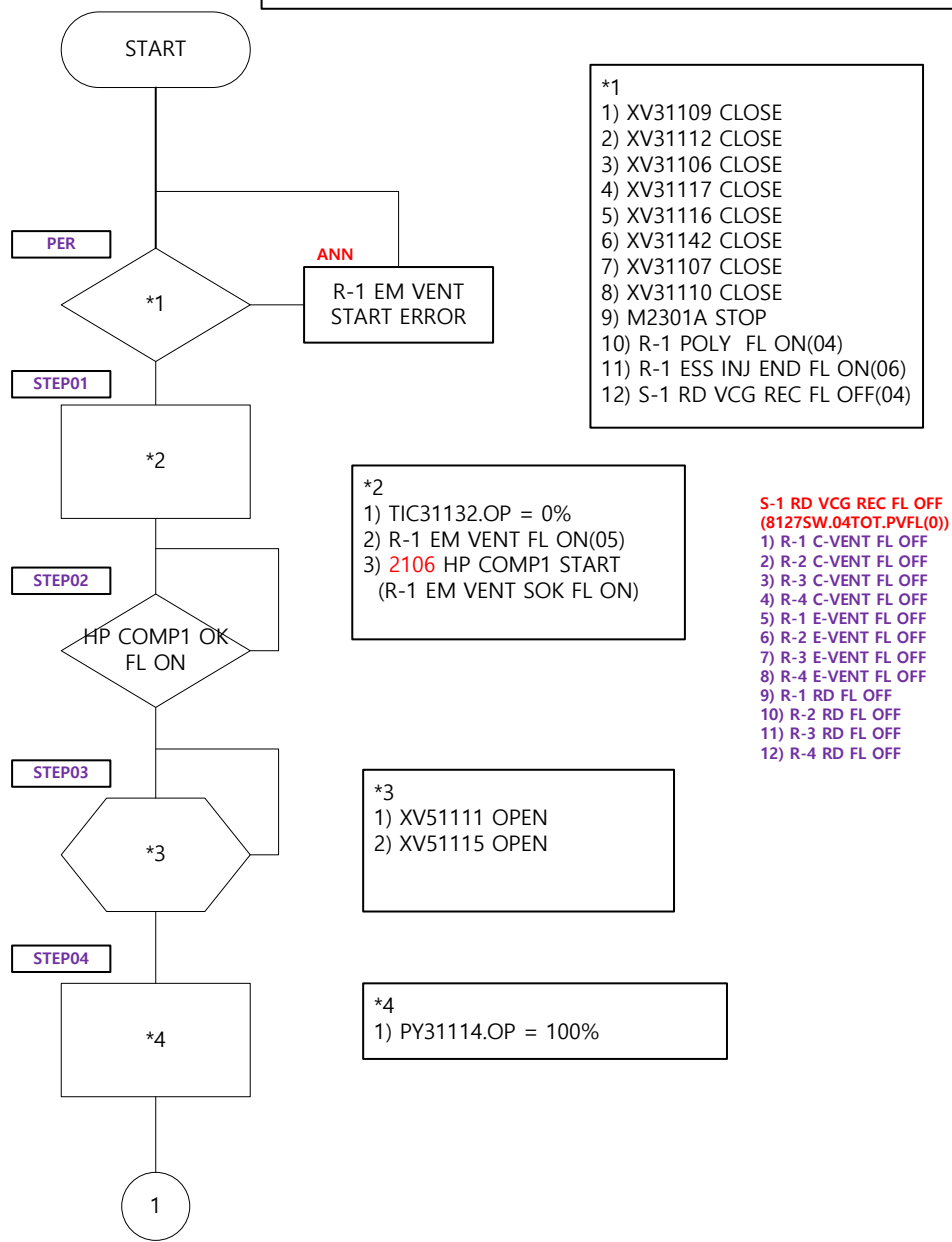
Batch has been ESS injected or initiator  
has failed.

8126 R-1 CONTROL VENT



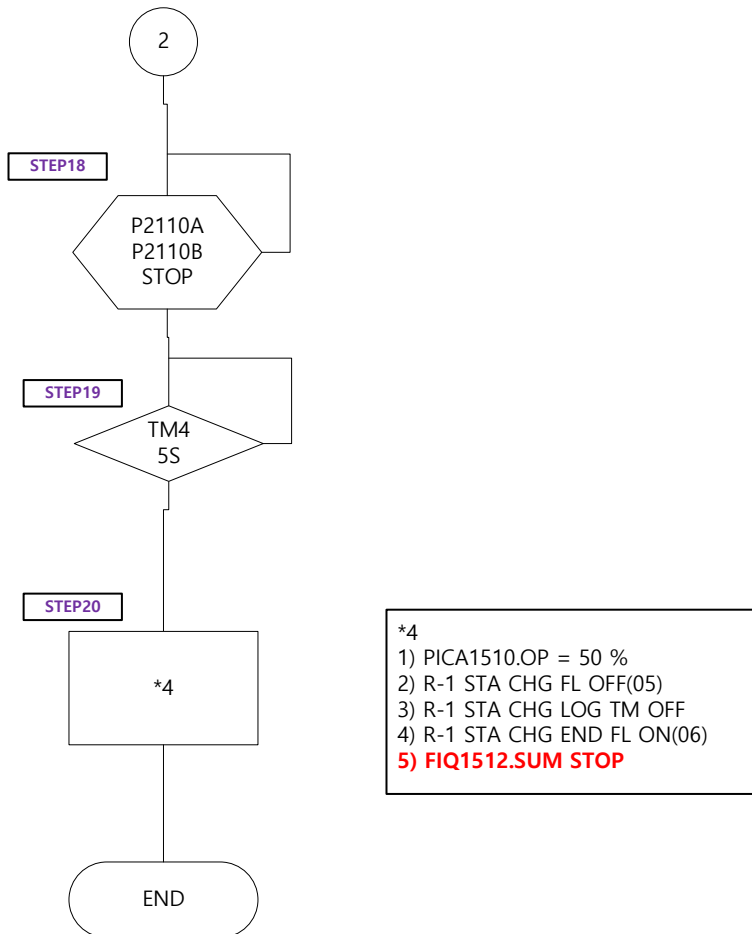
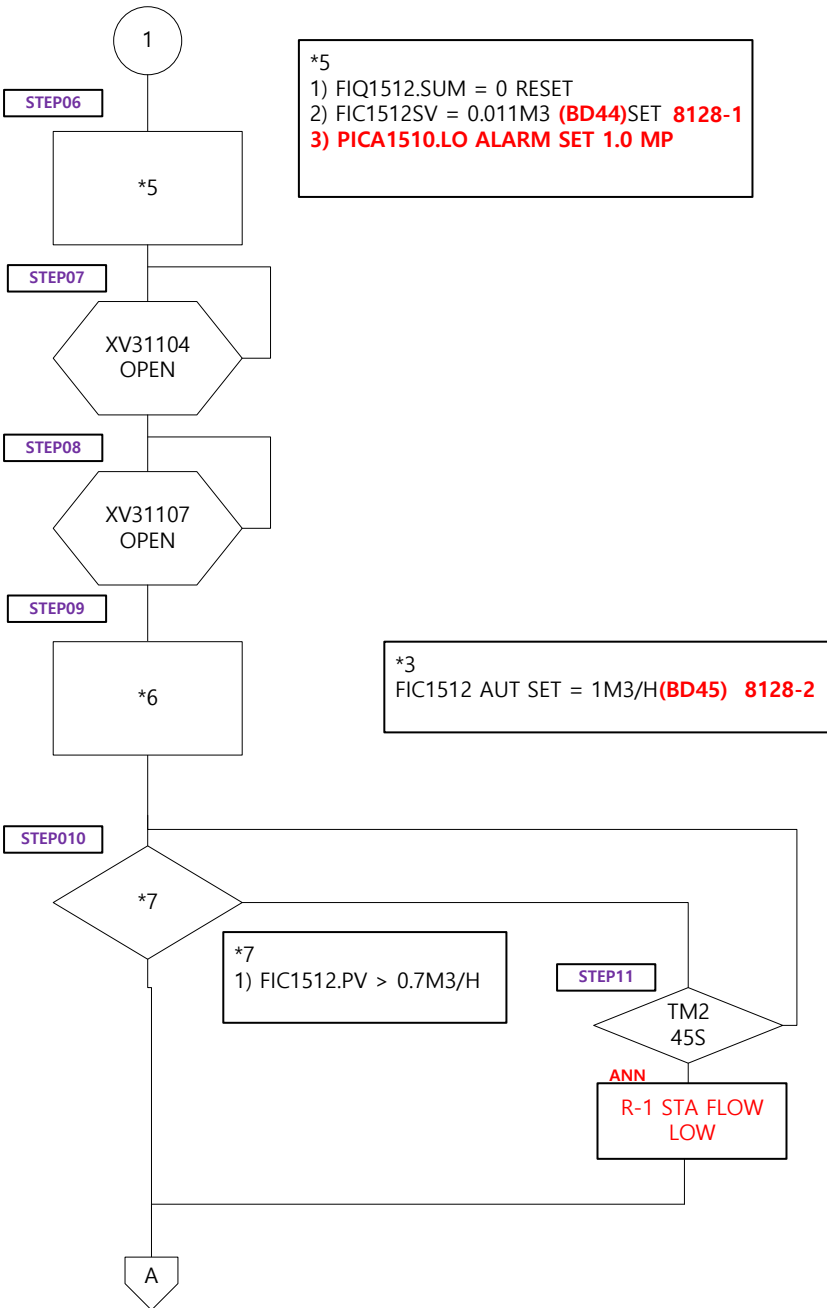
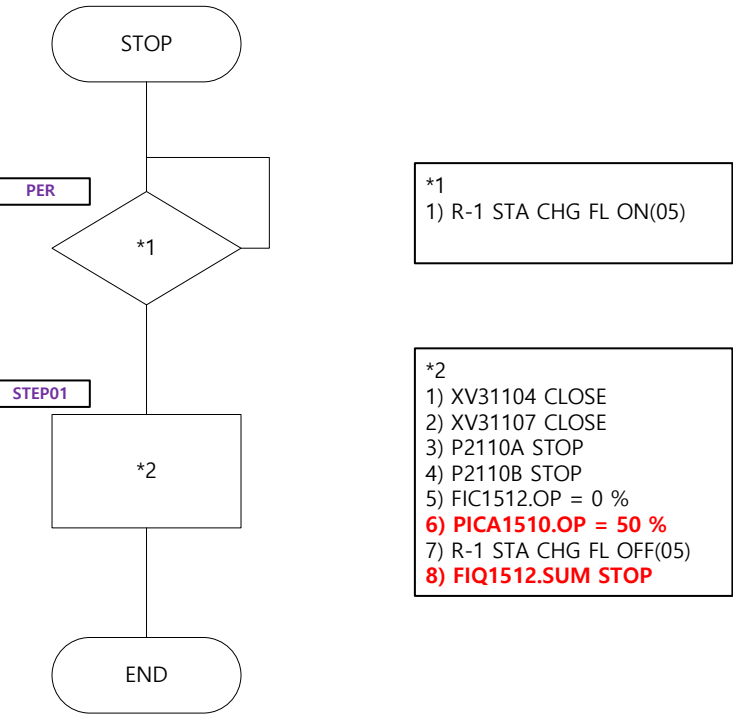
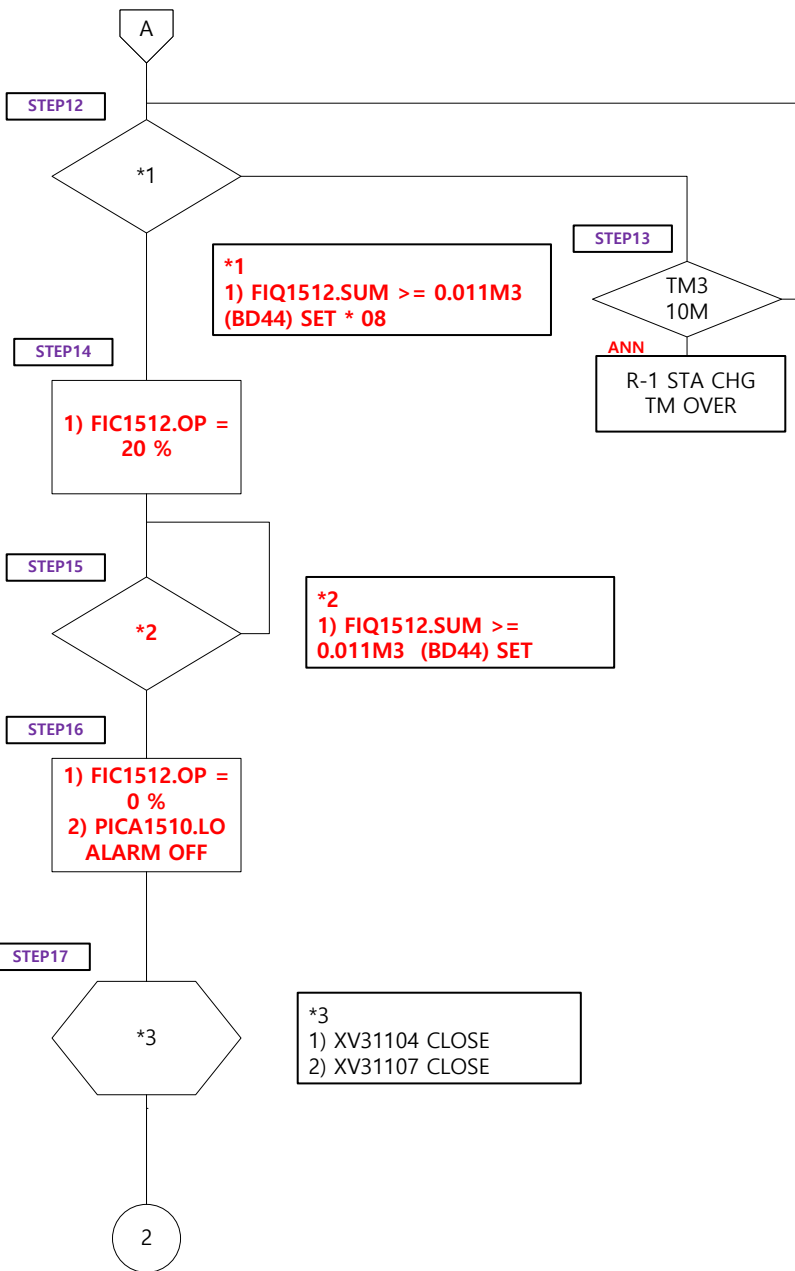
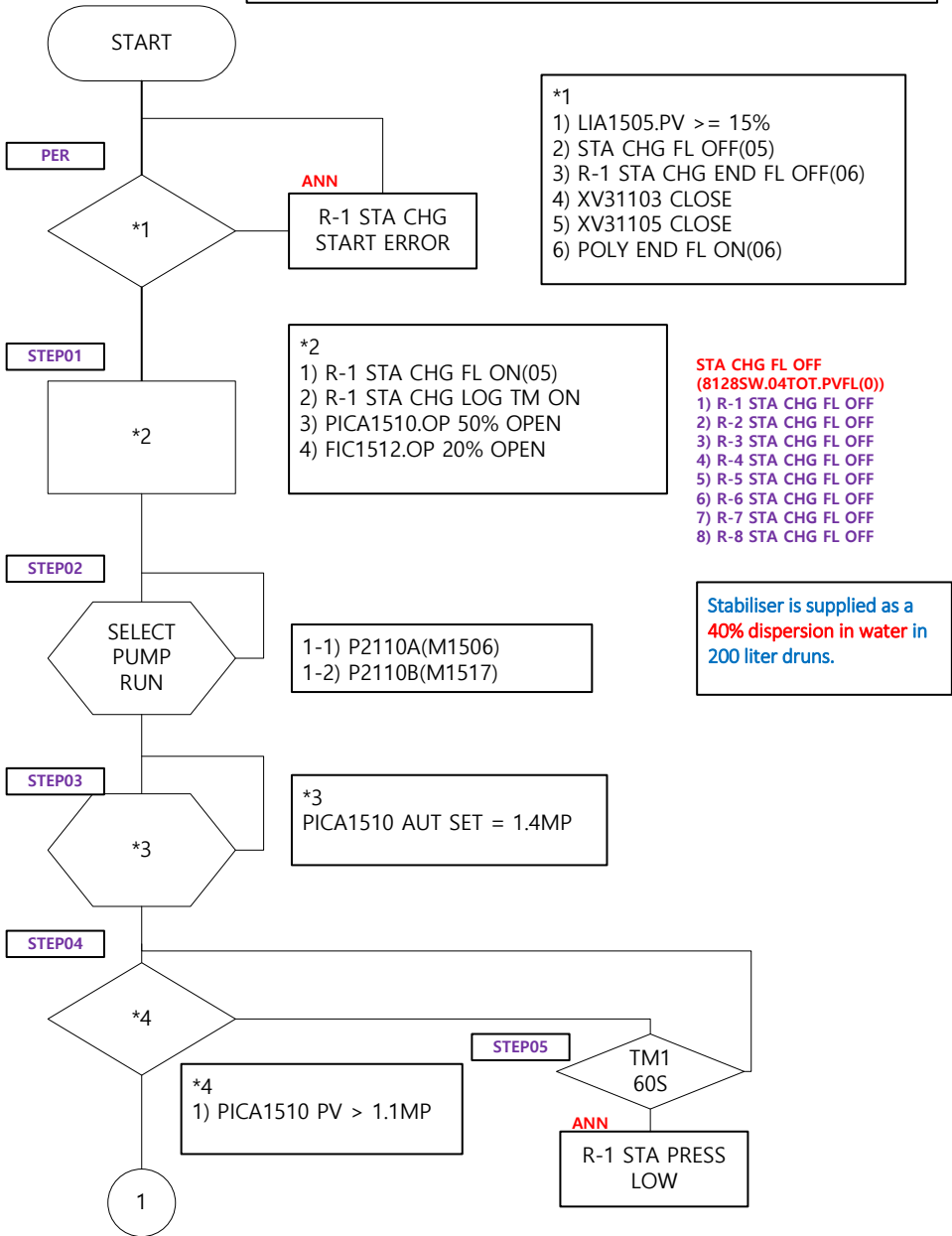
No agitation gives poor mixing  
of Short Stop.

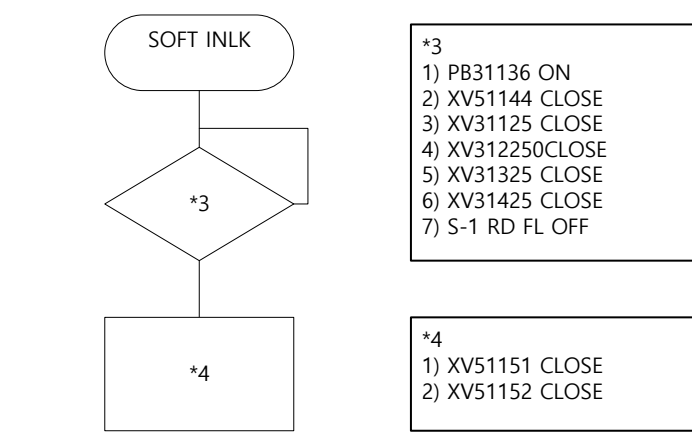
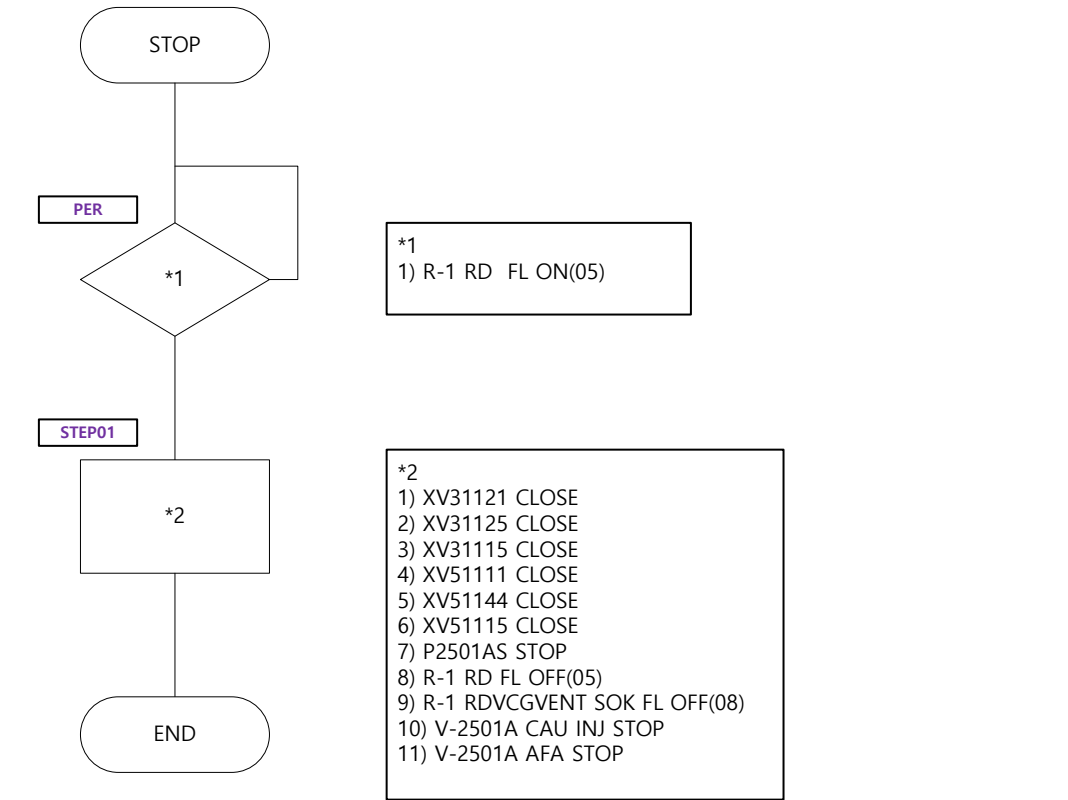
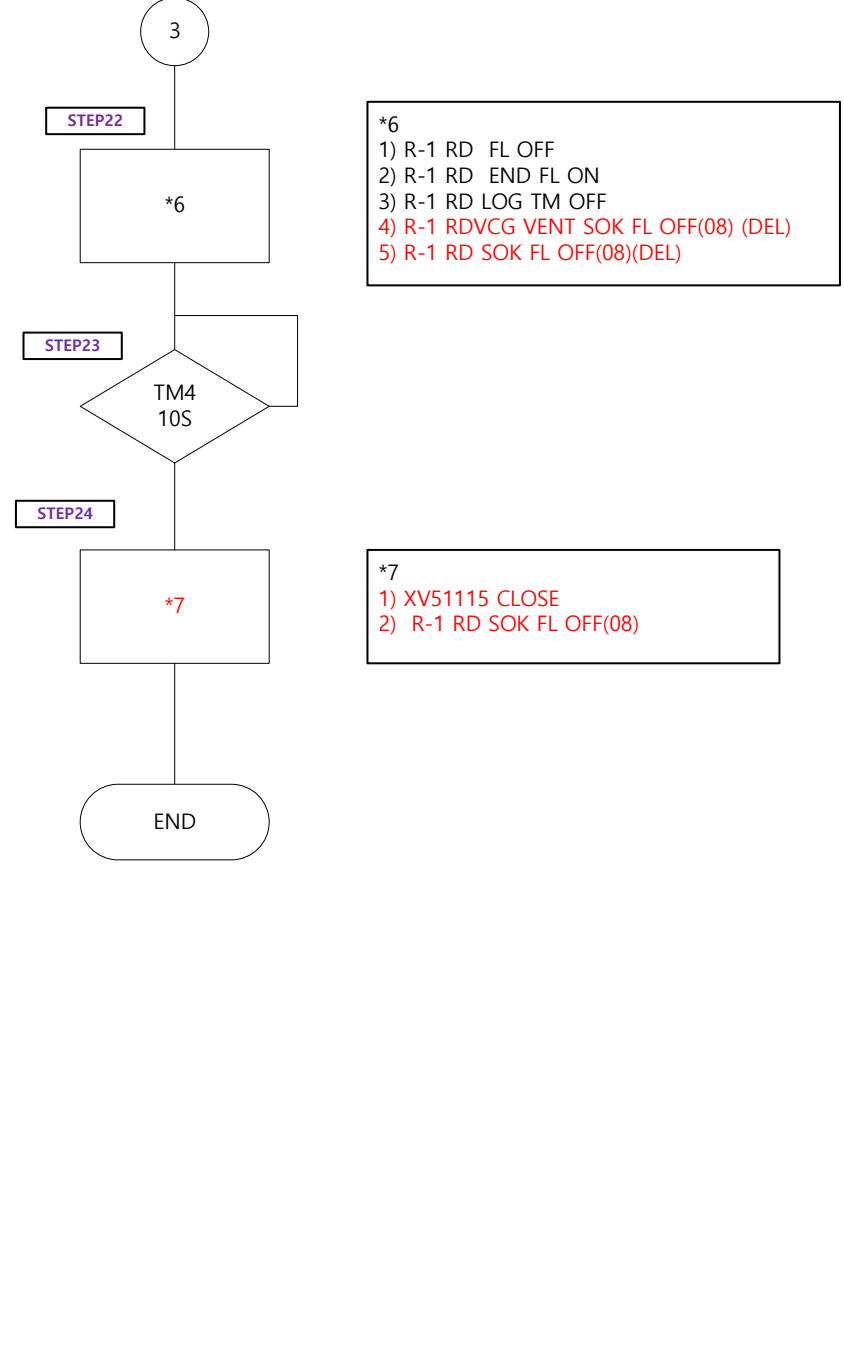
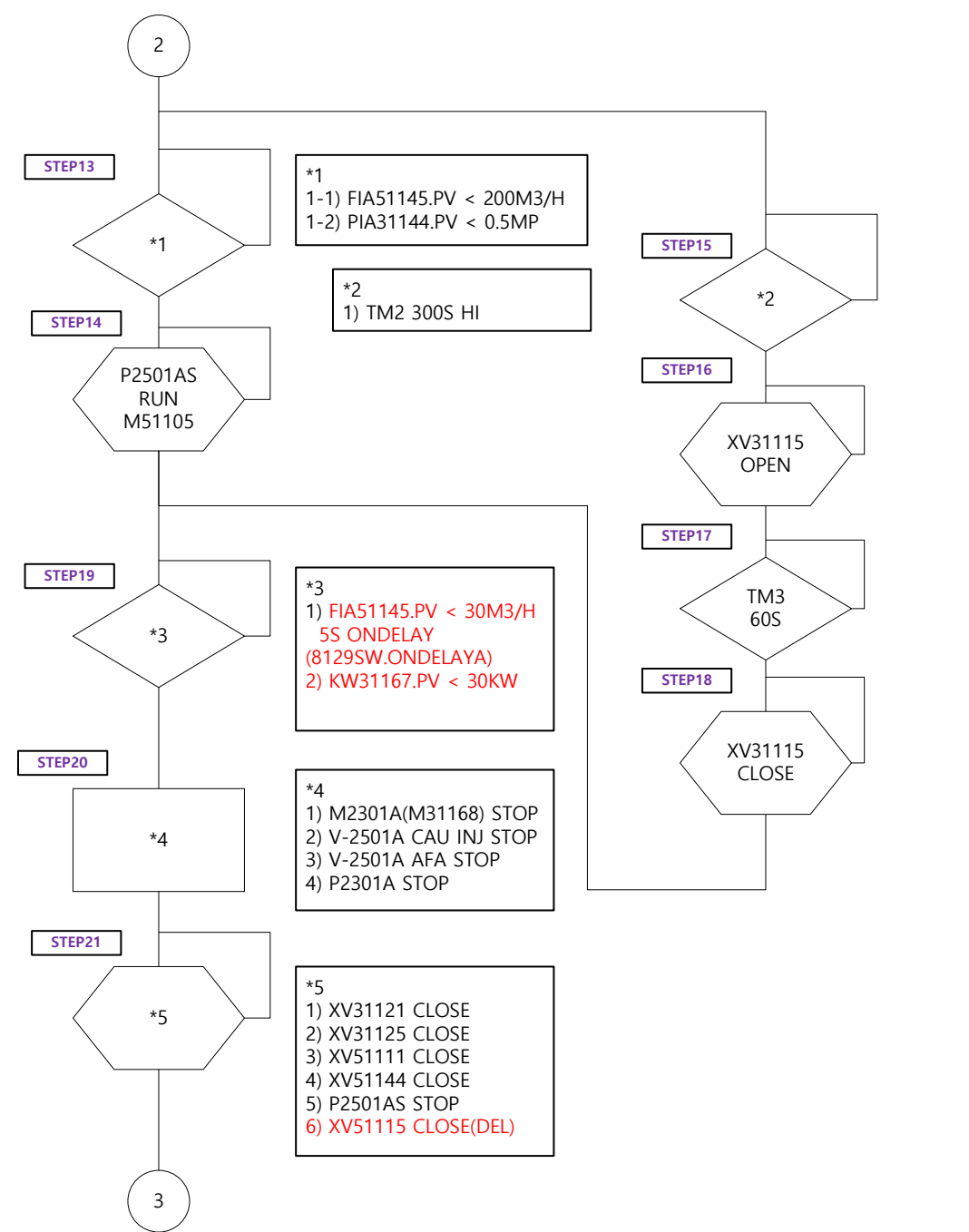
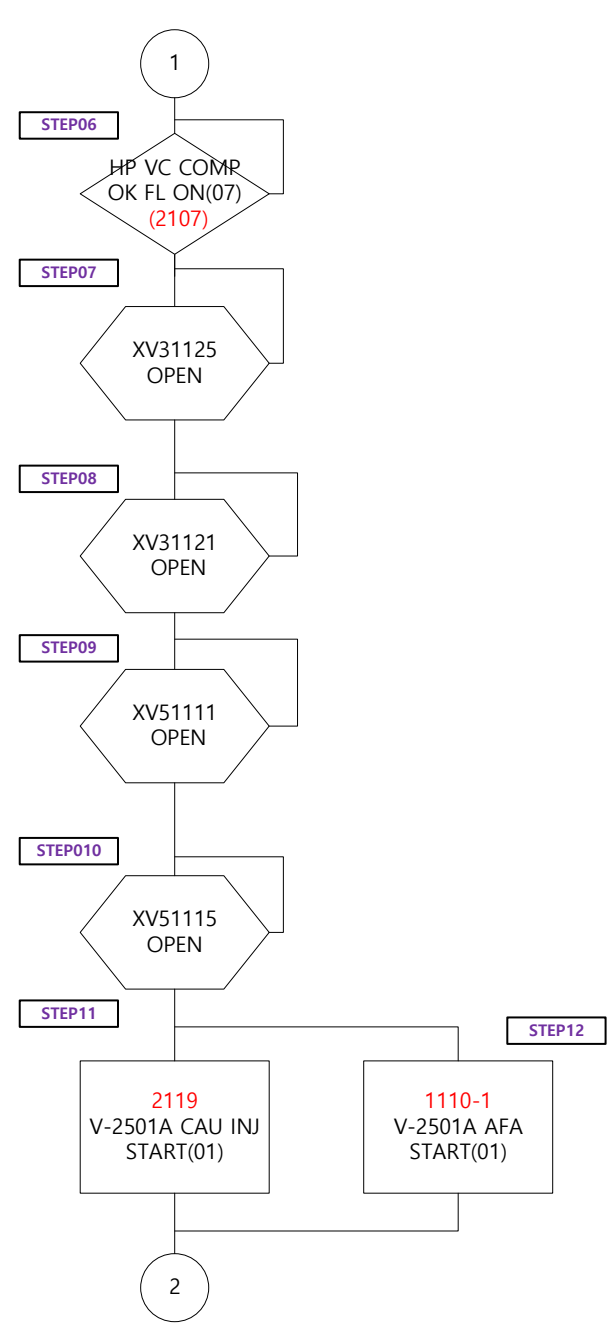
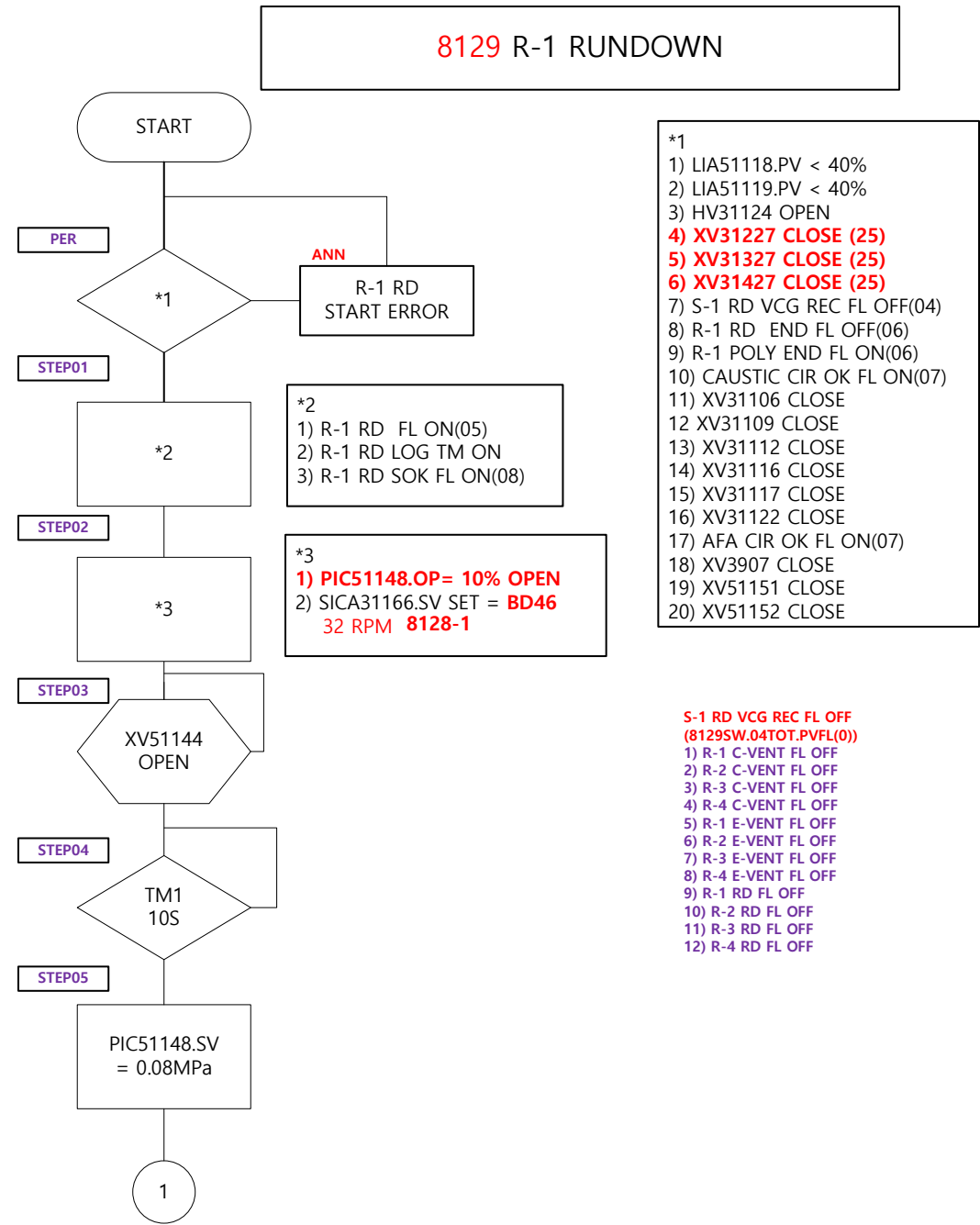
8127 R-1 EMERGENCY VENT

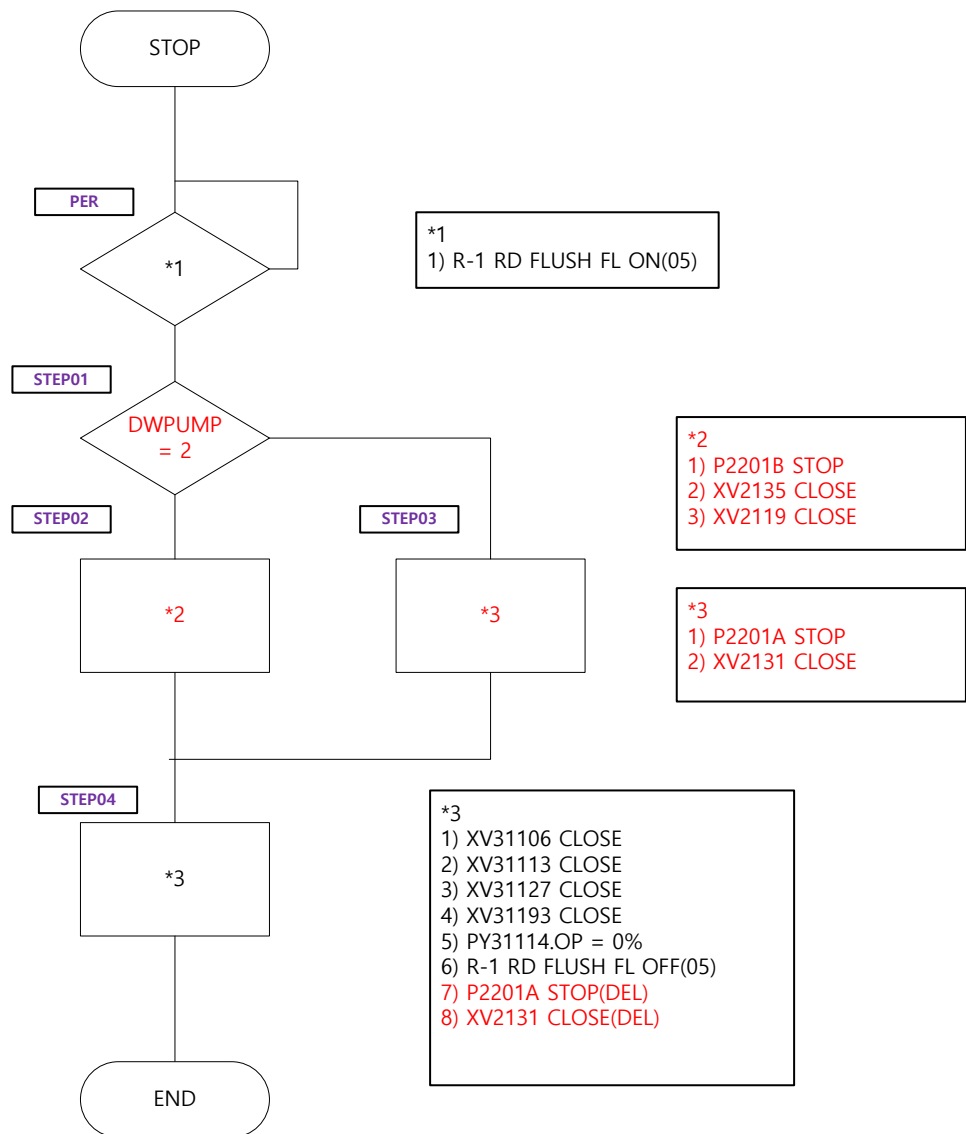
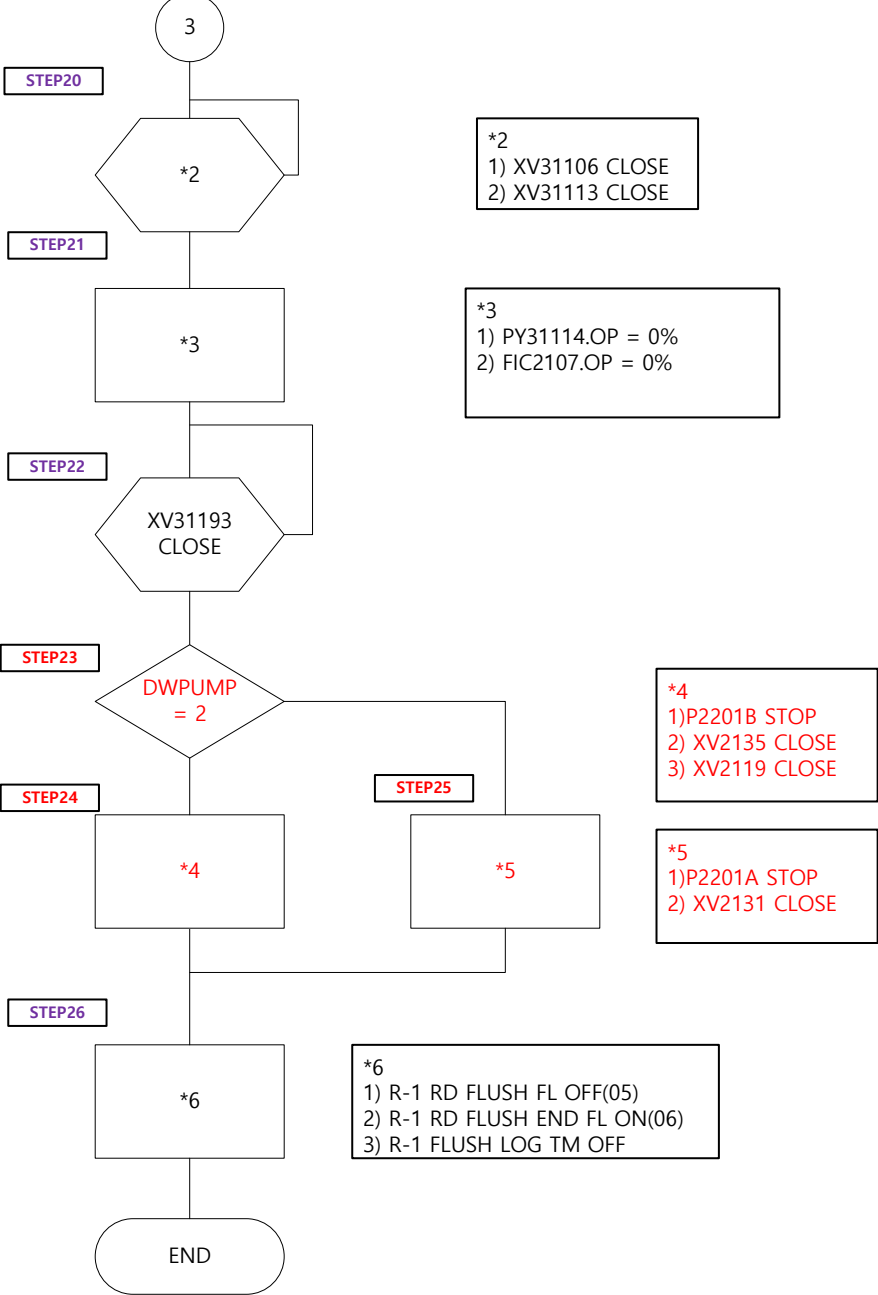
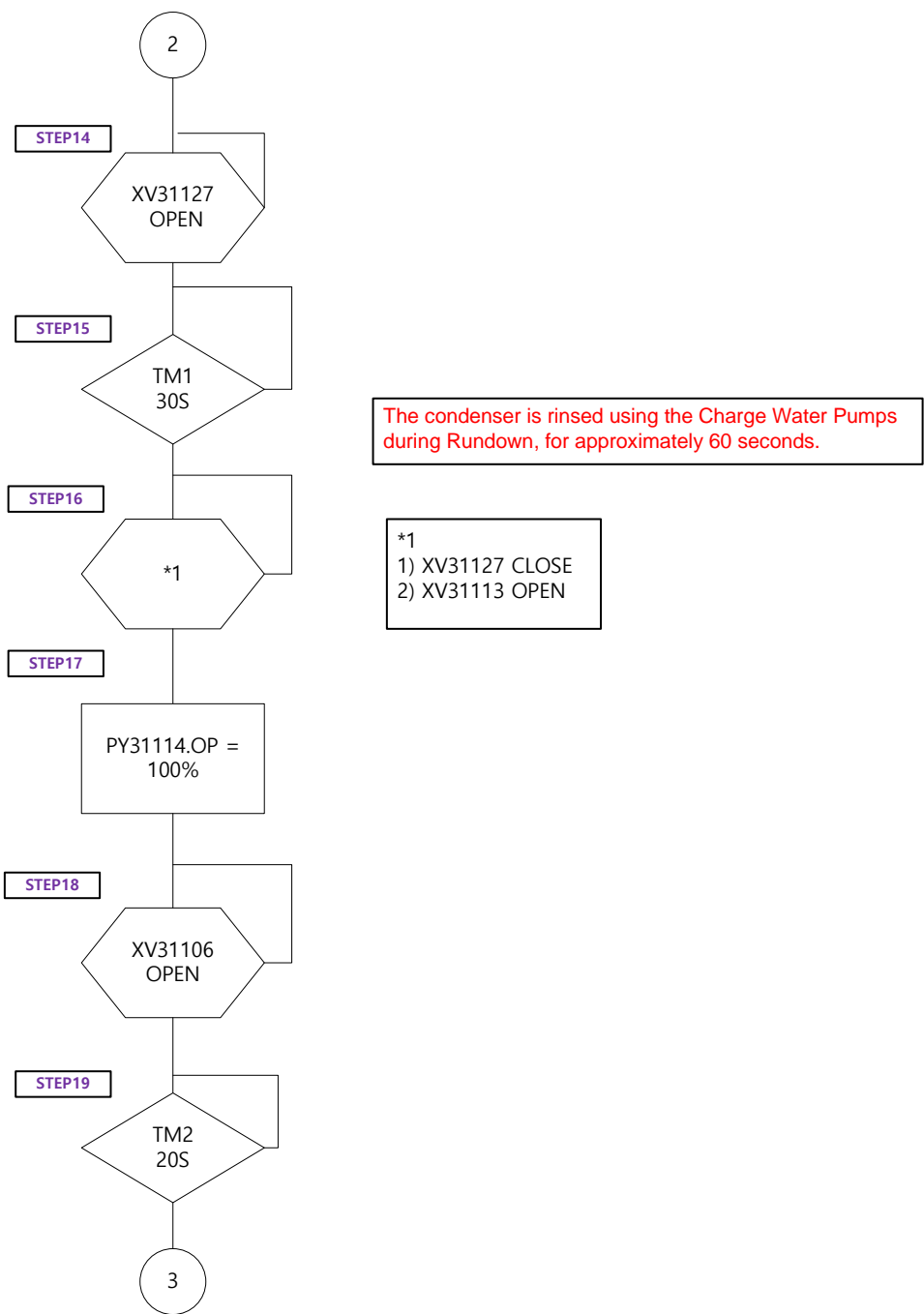
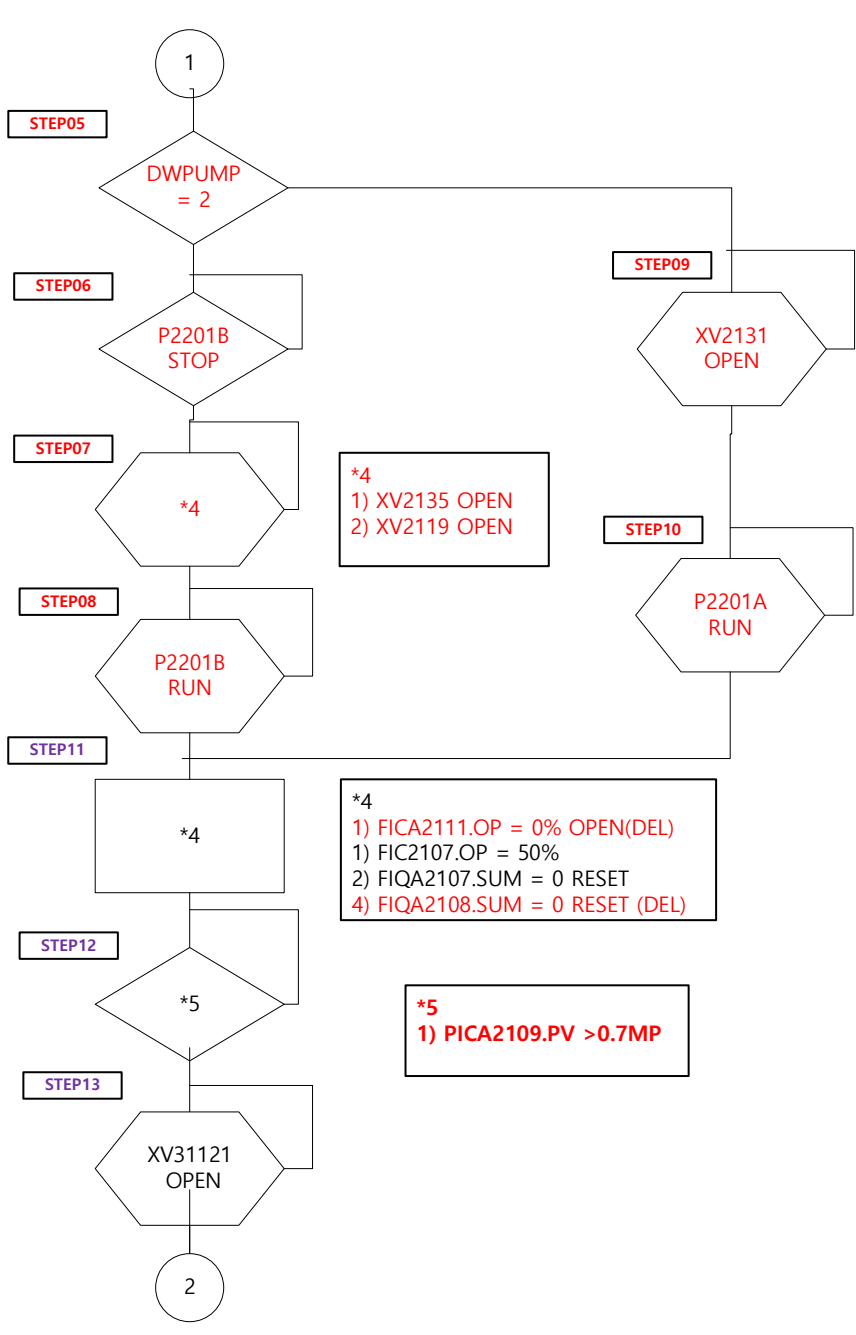
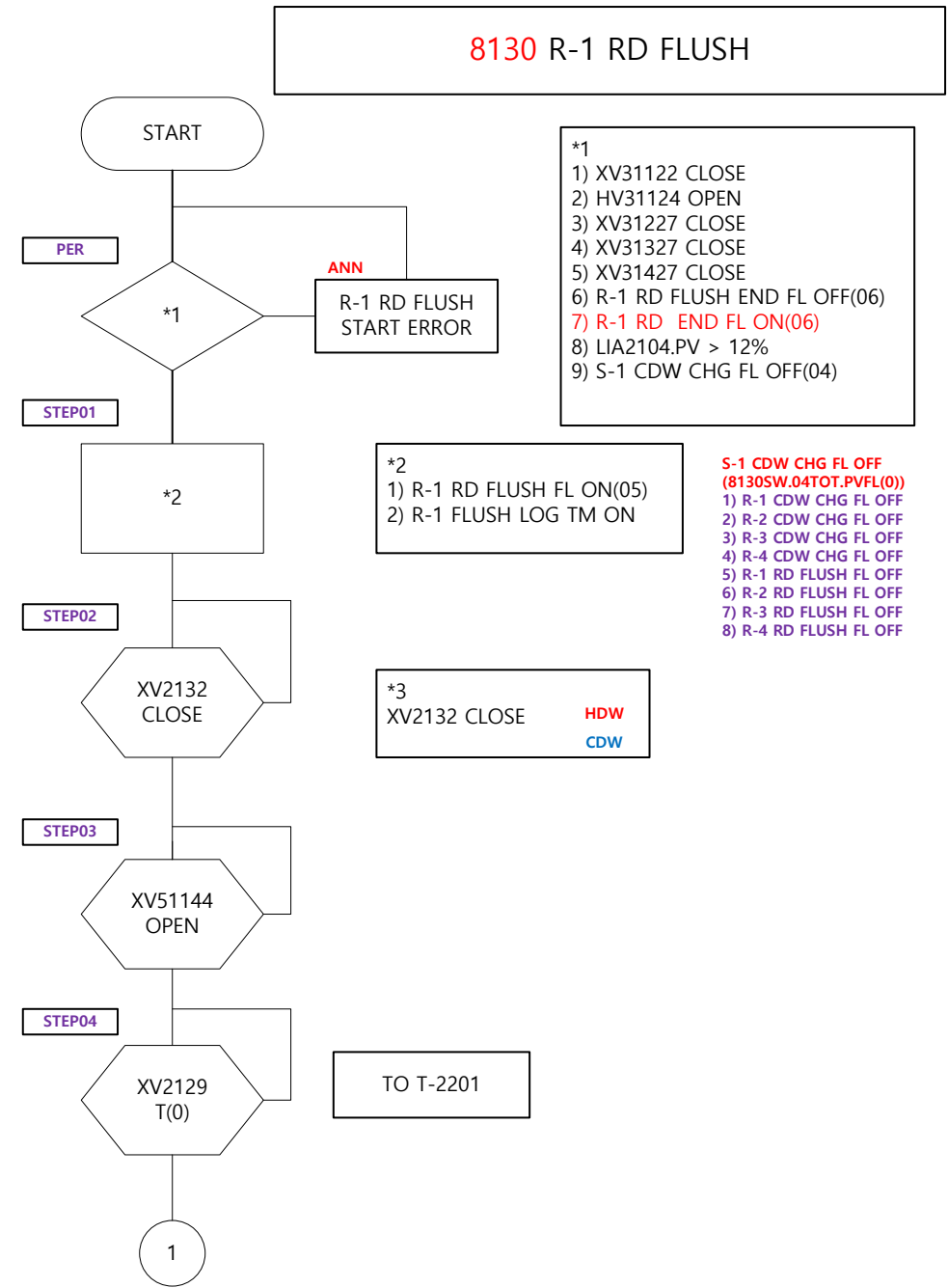


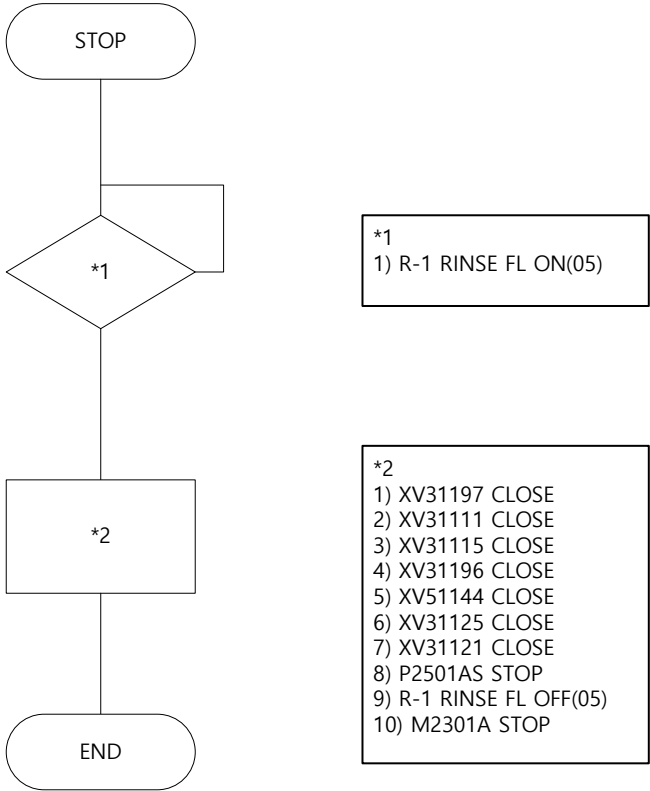
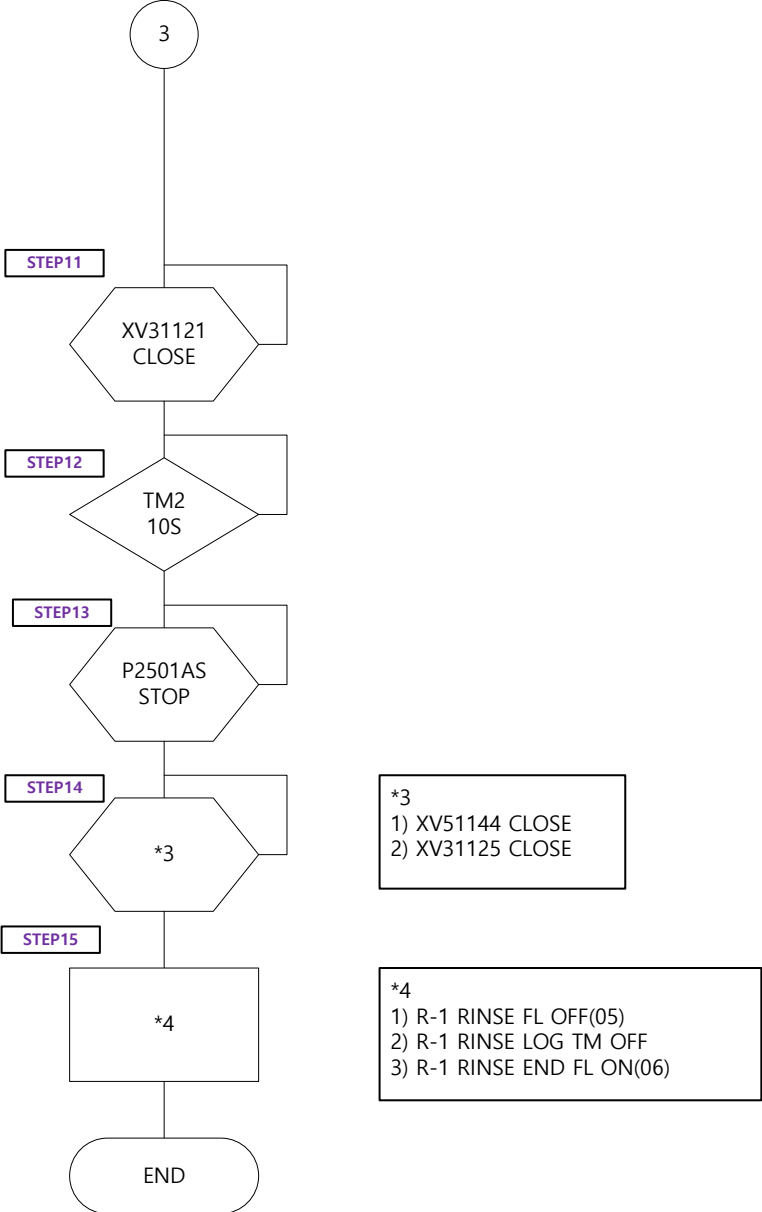
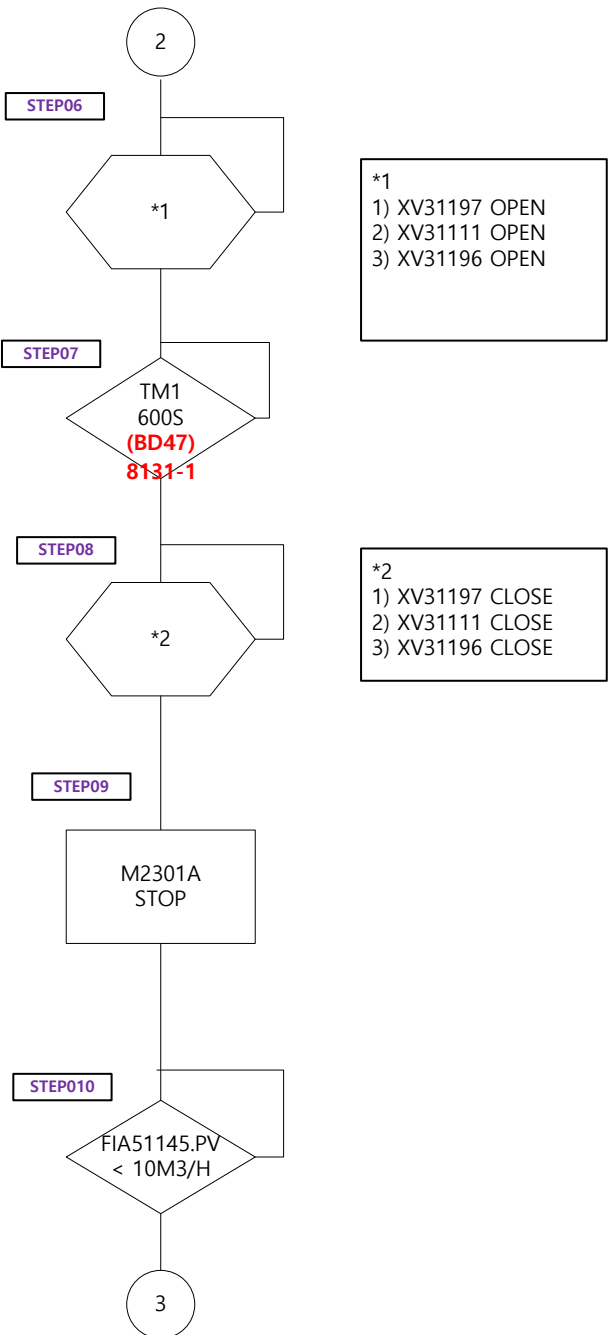
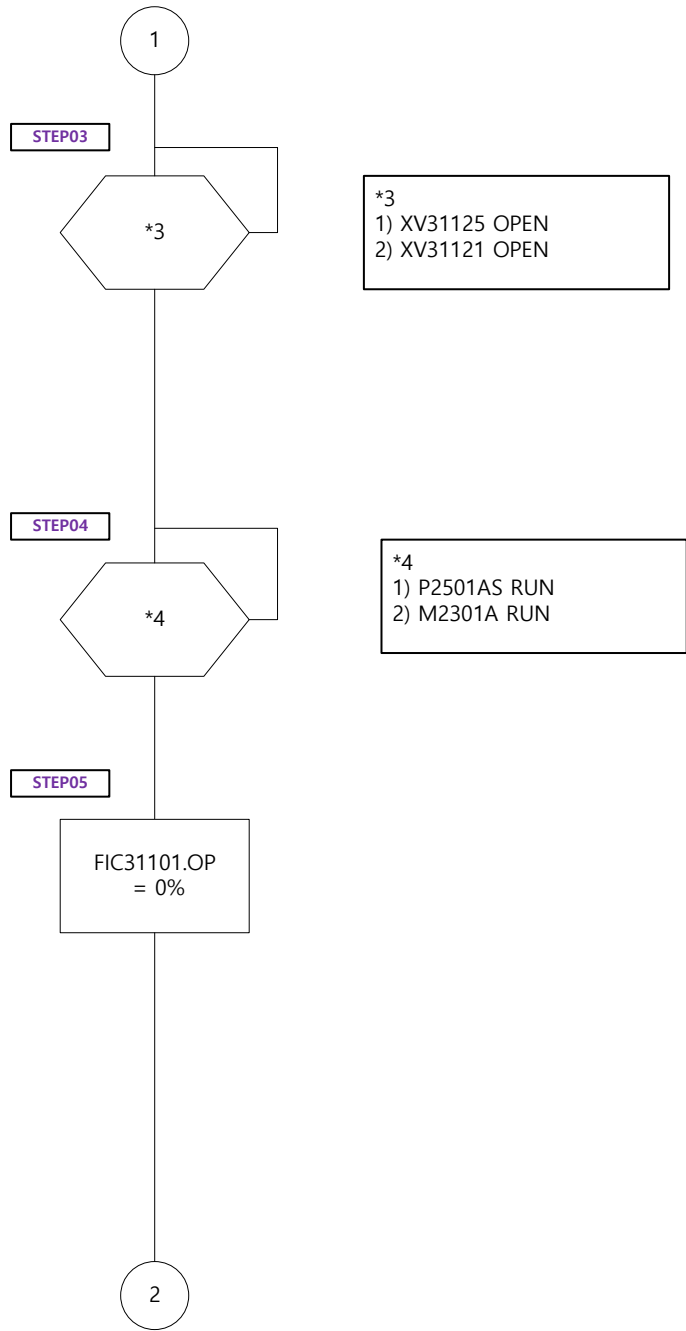
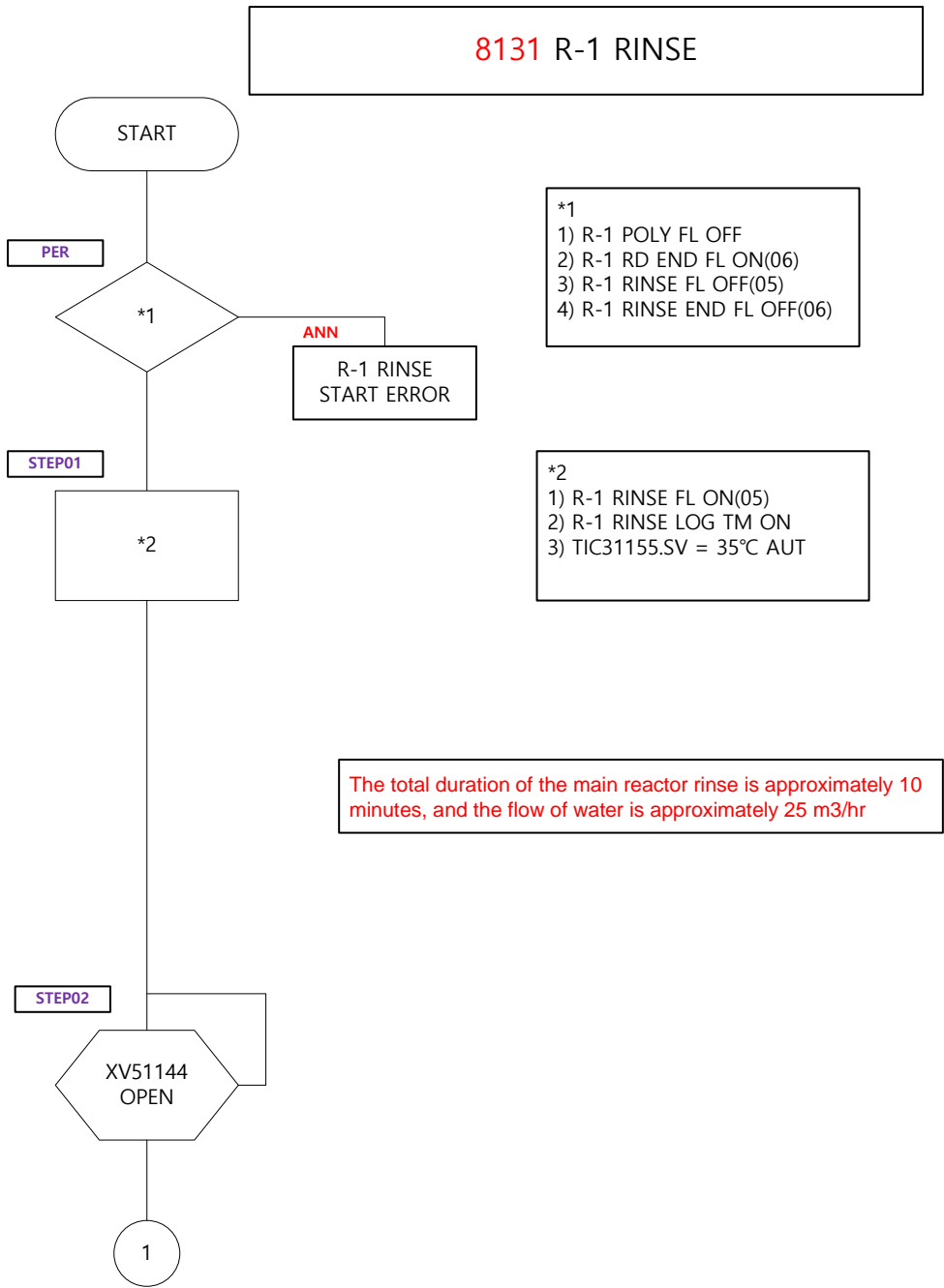
Stabiliser is used to improve the color and quality of PVC resin.

8128 R-1 STA CHARGE

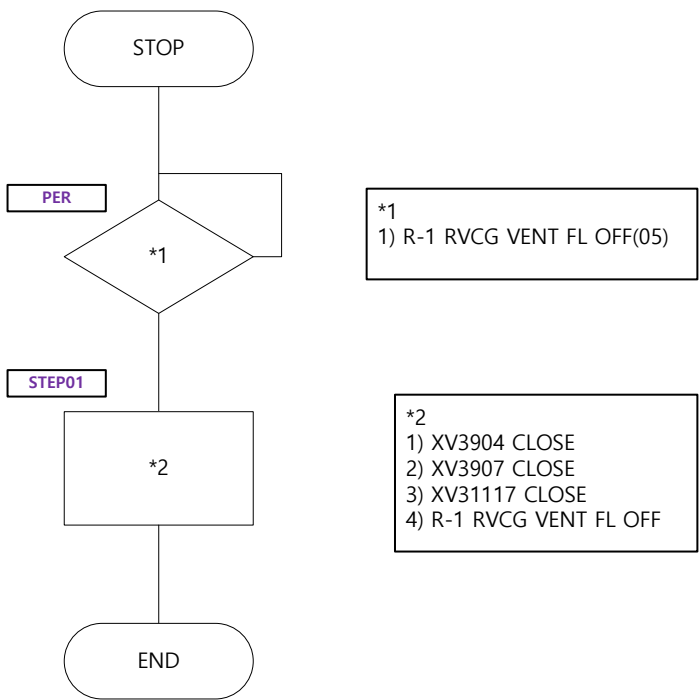
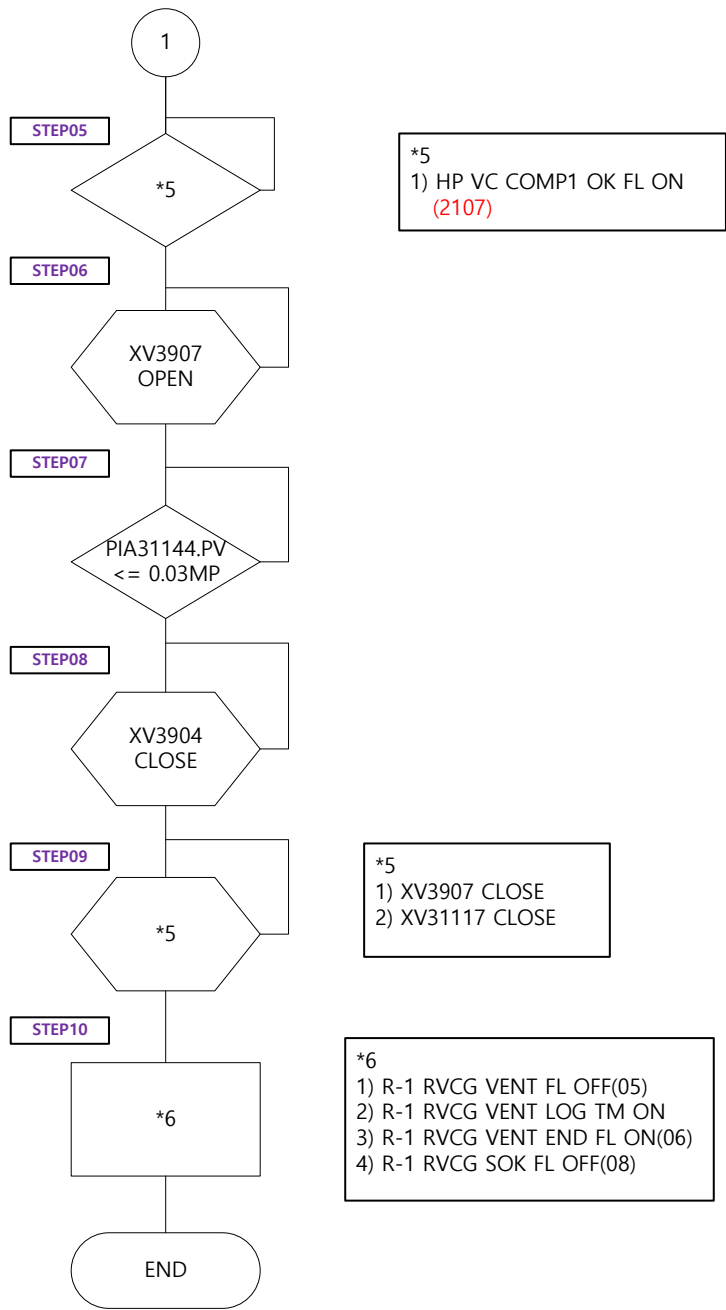
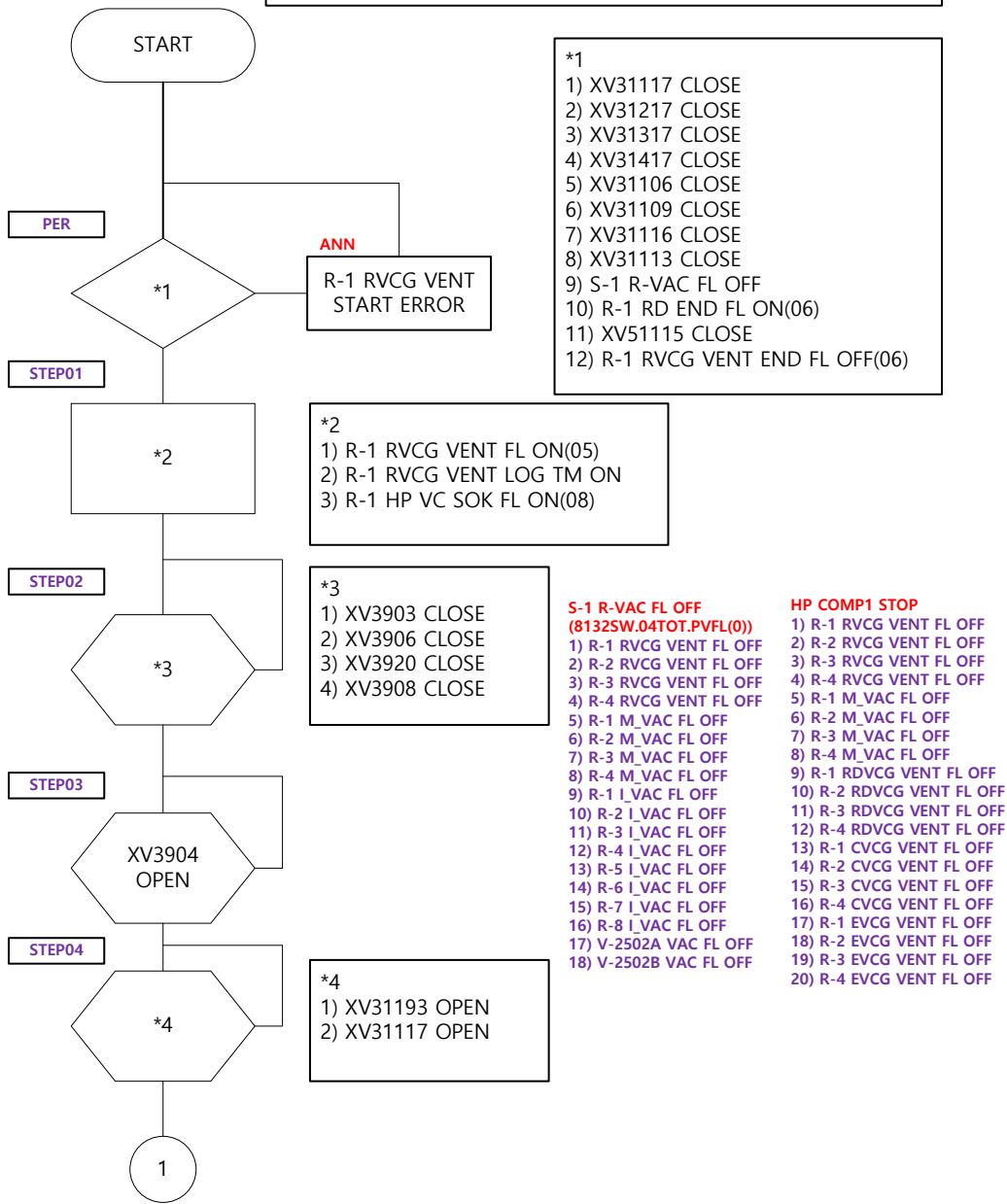




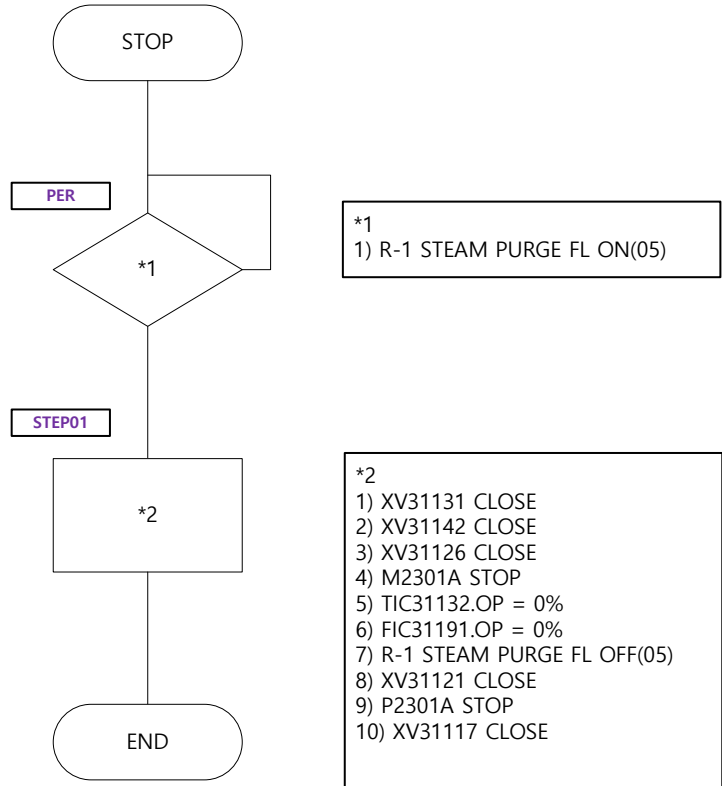
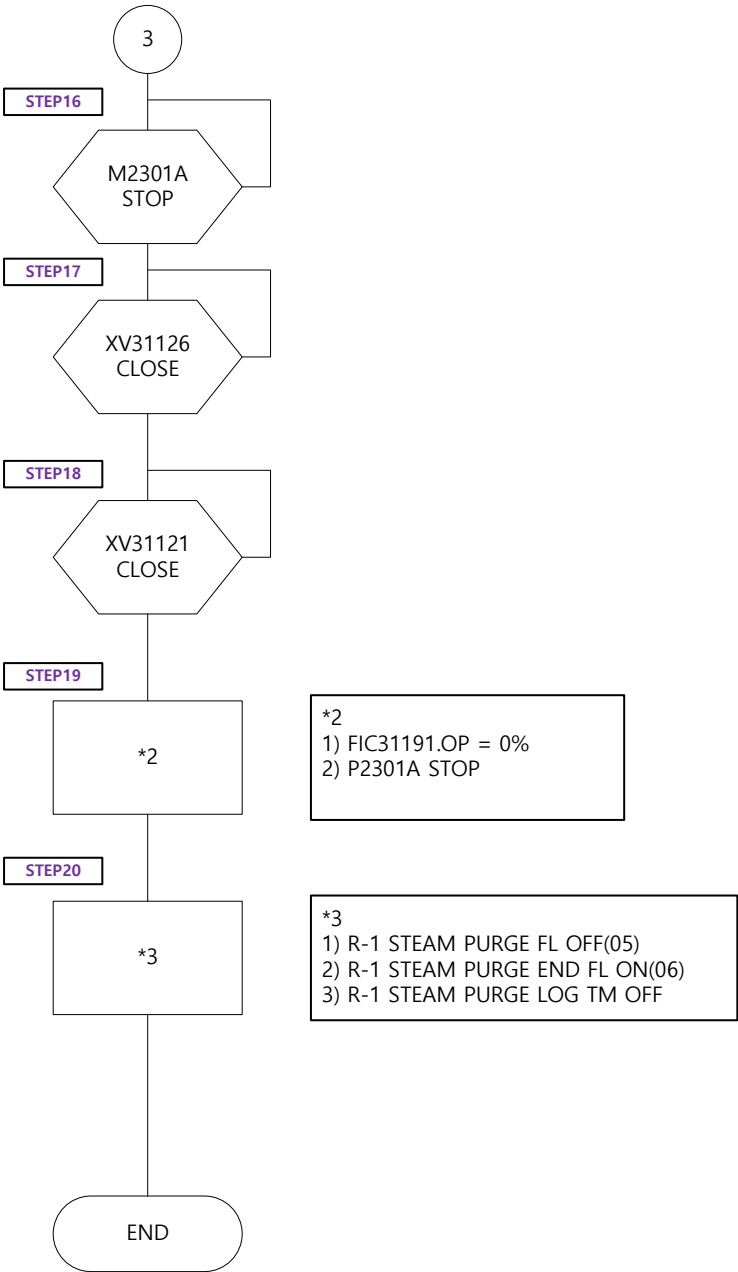
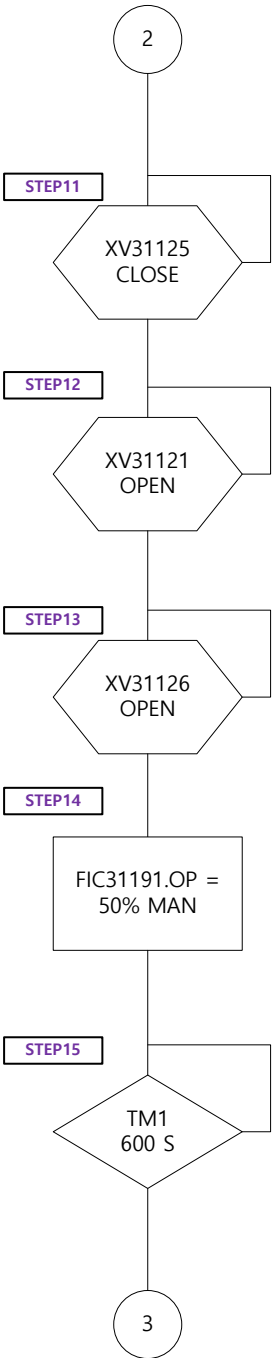
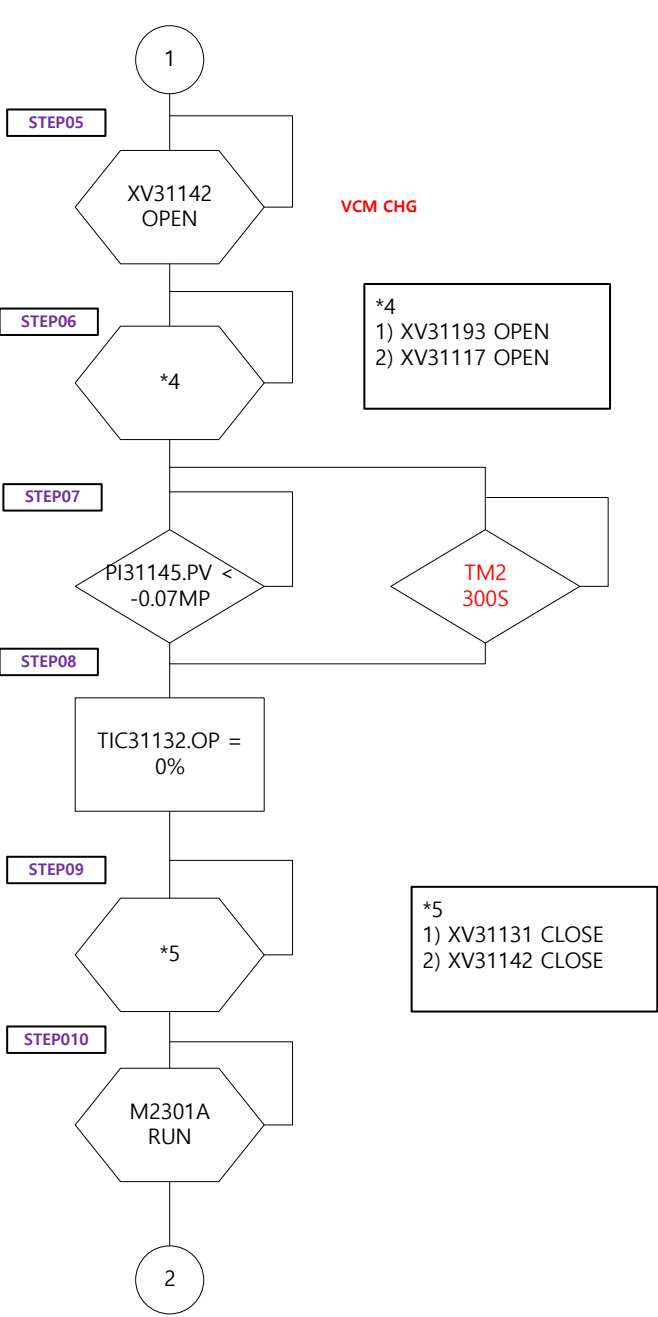
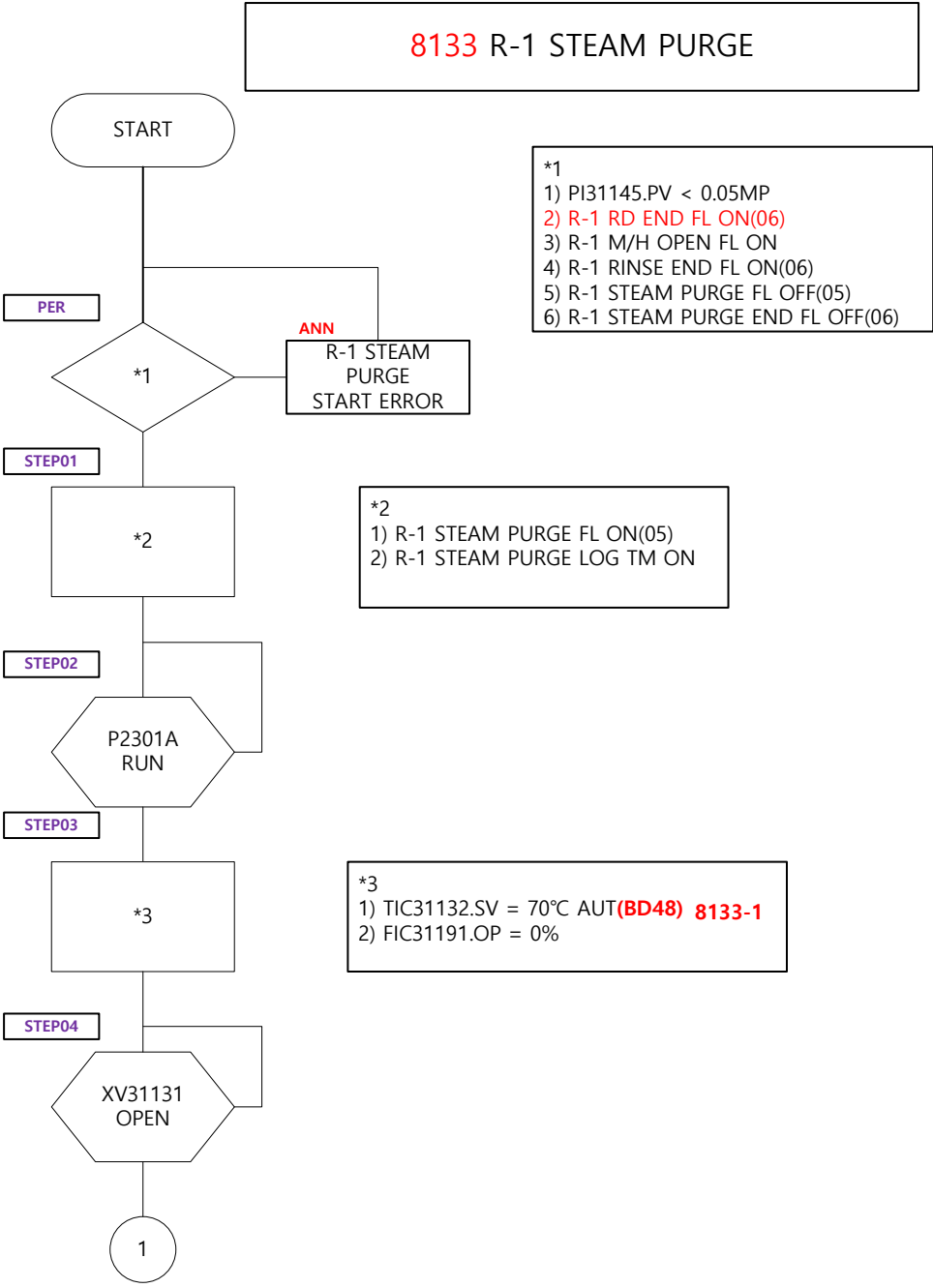




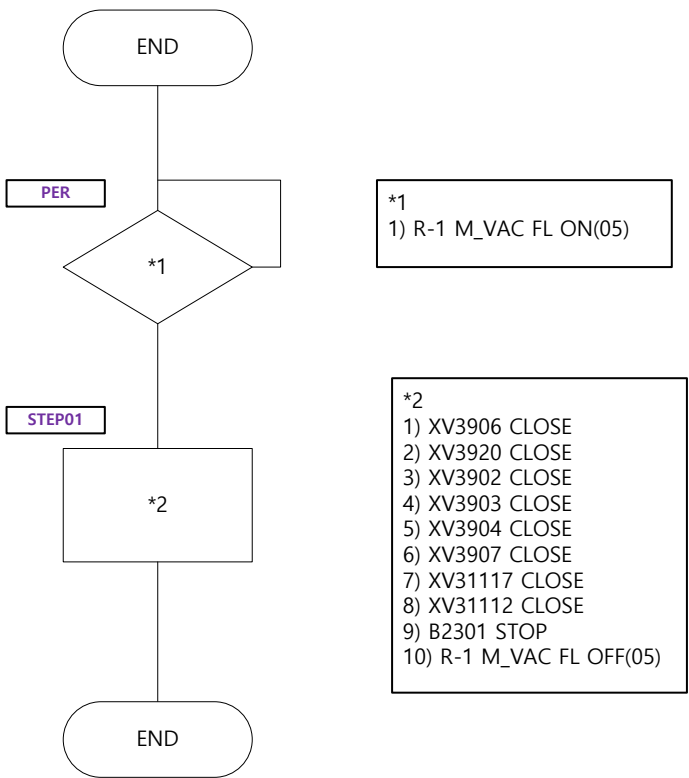
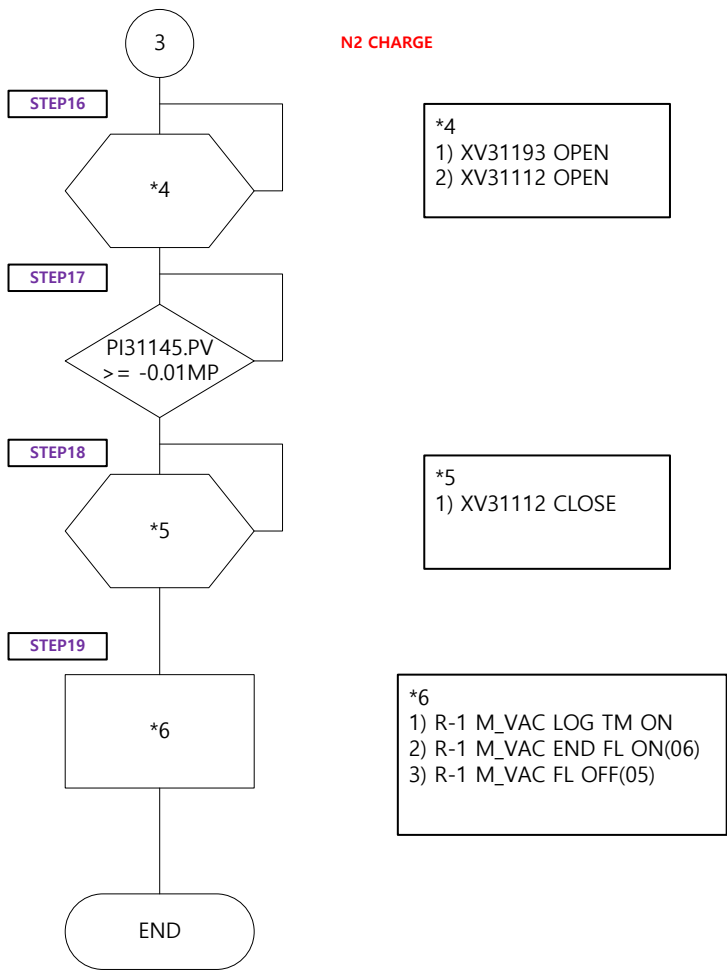
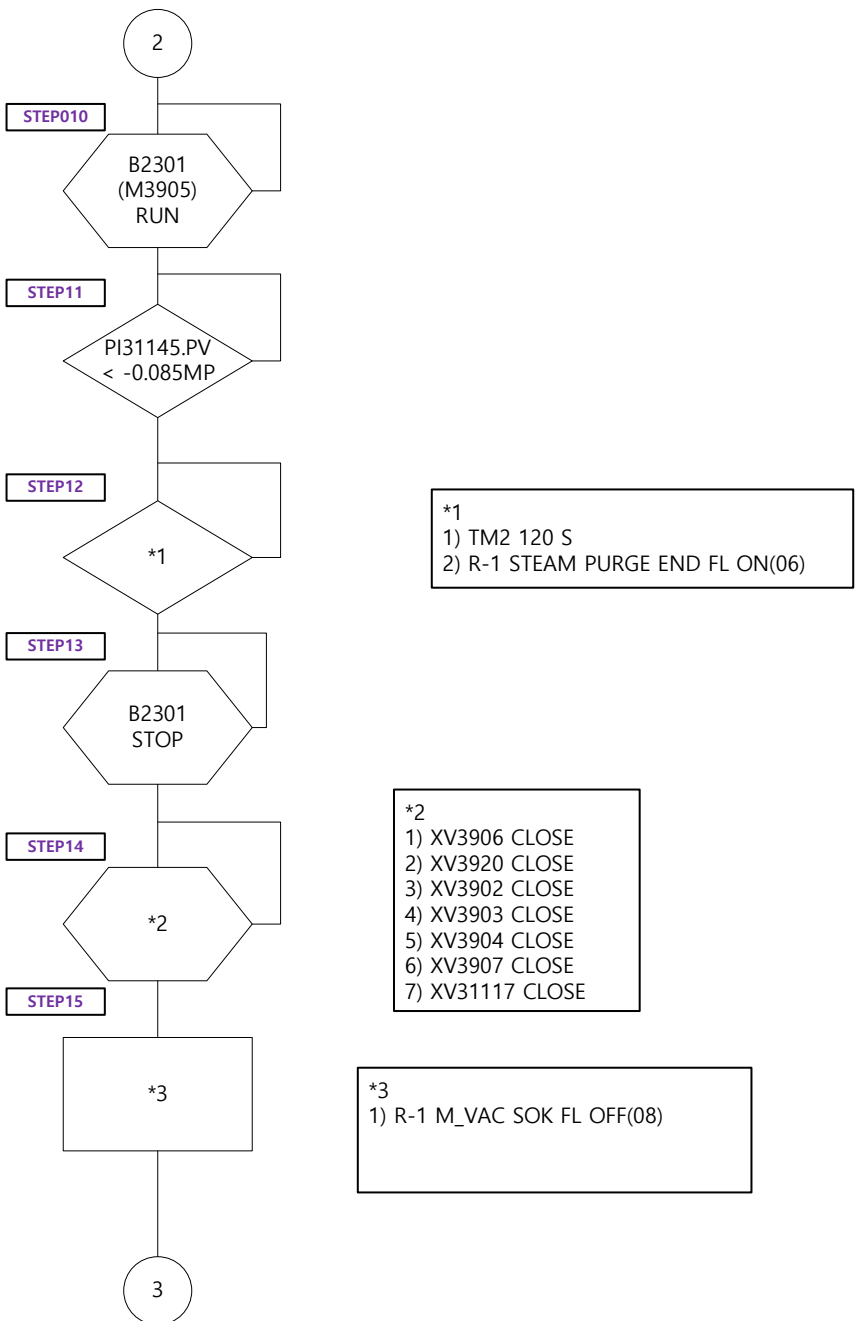
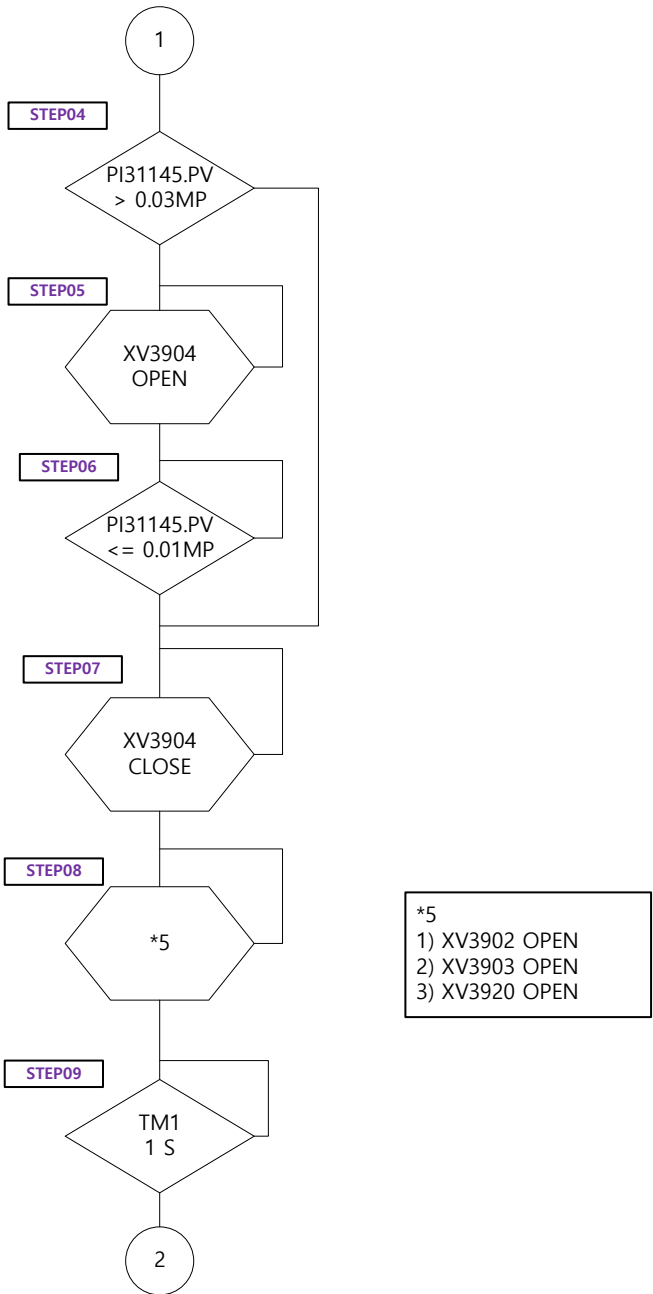
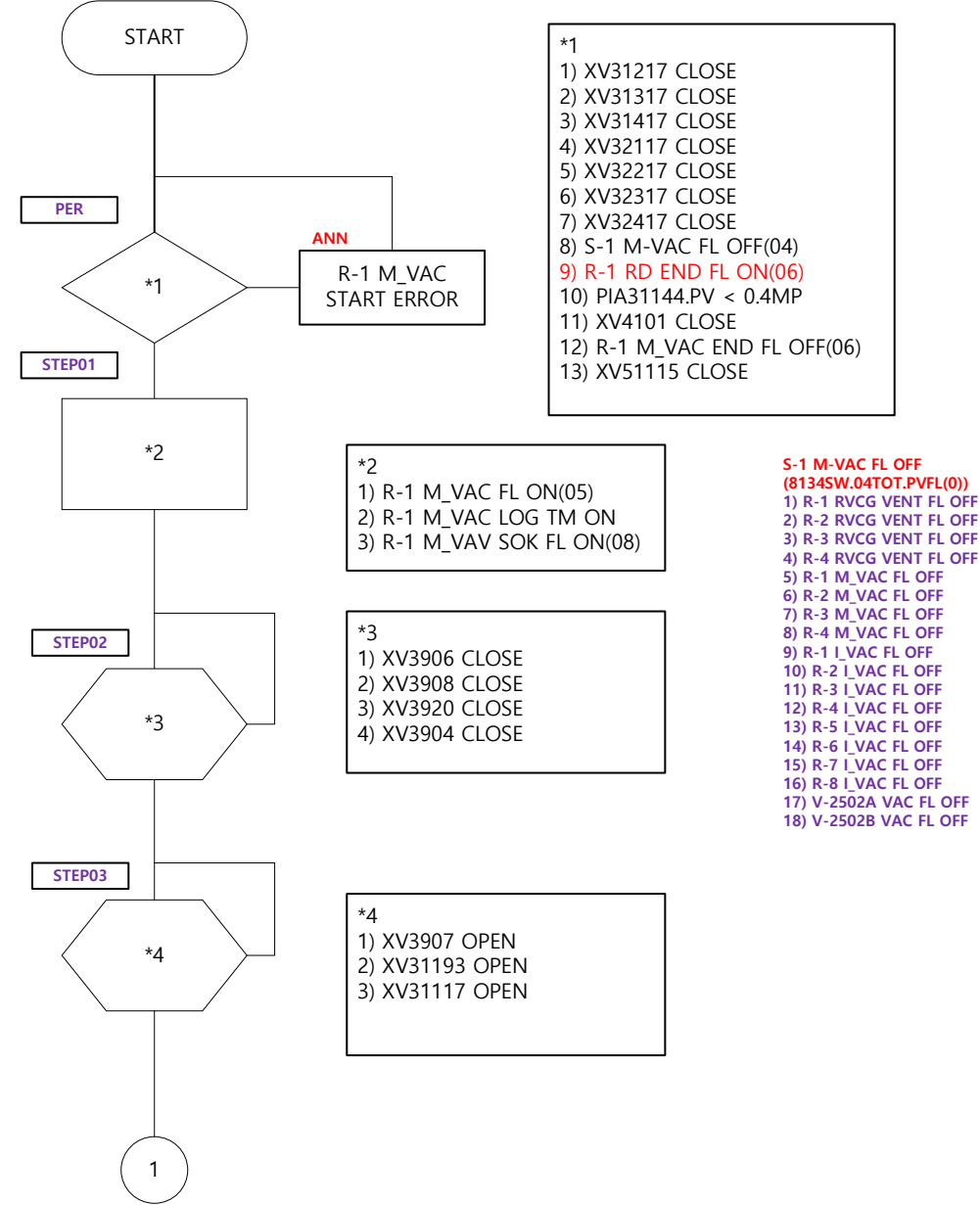
8132 R-1 RESIDUAL PRESSURE VENT



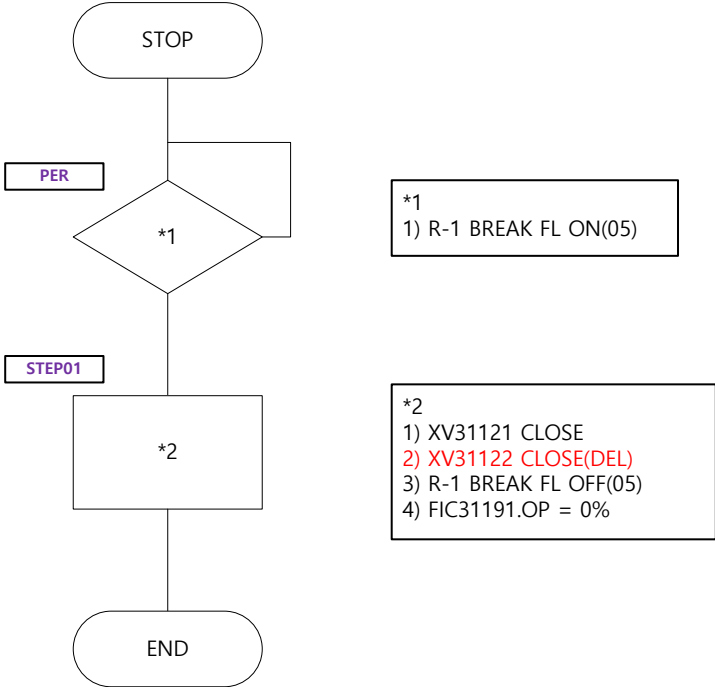
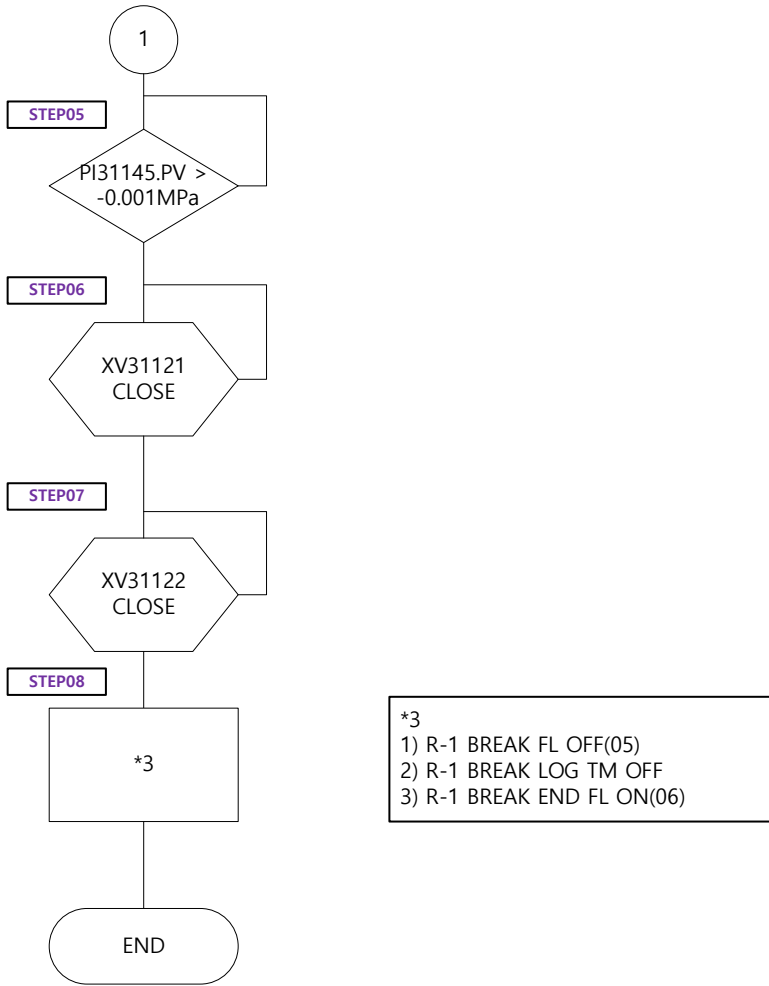
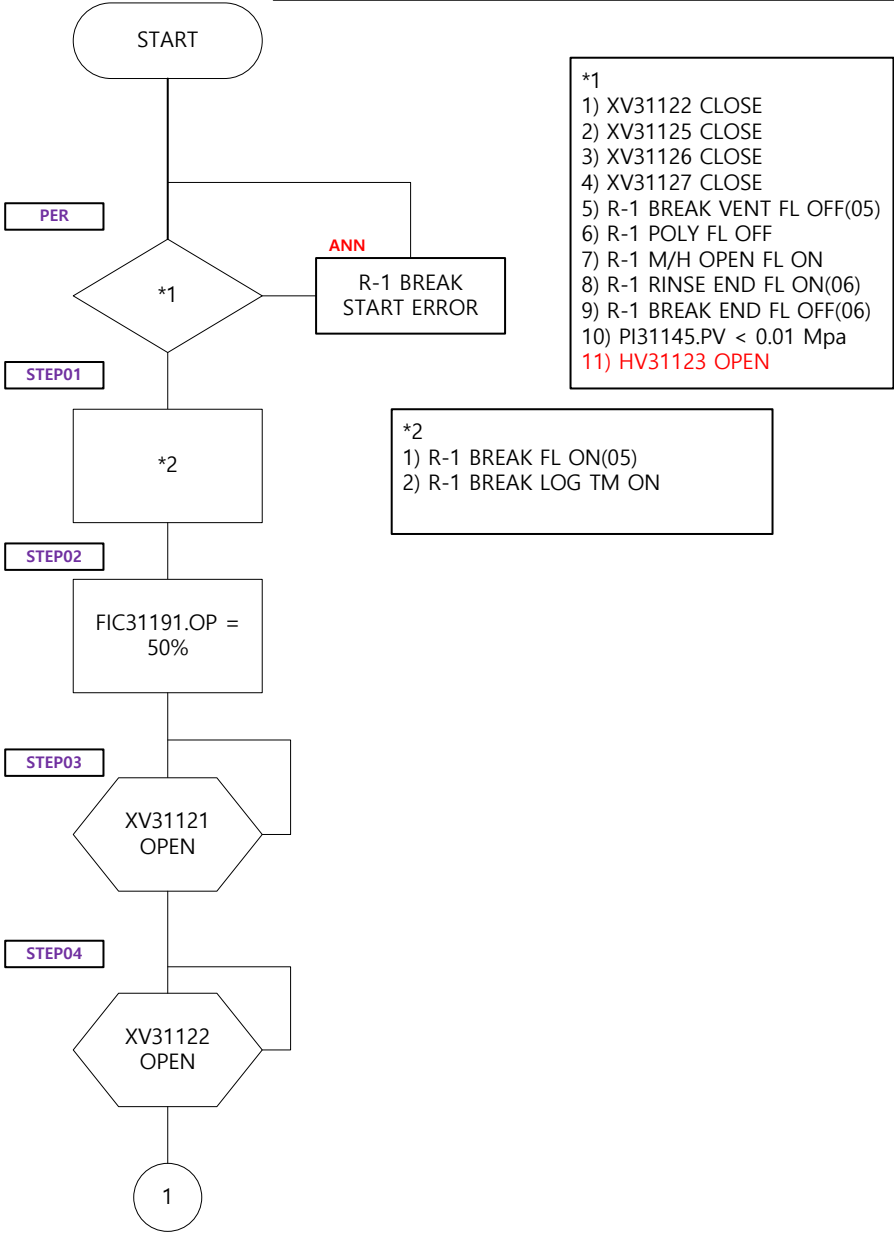




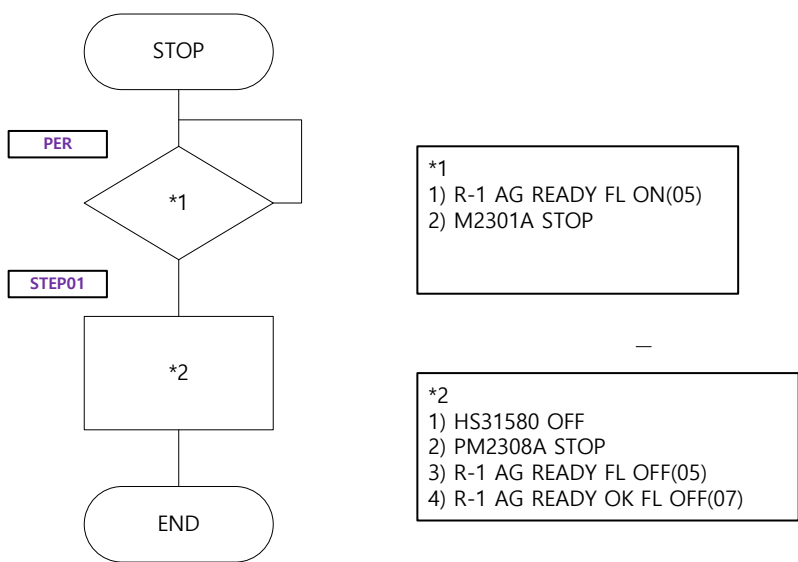
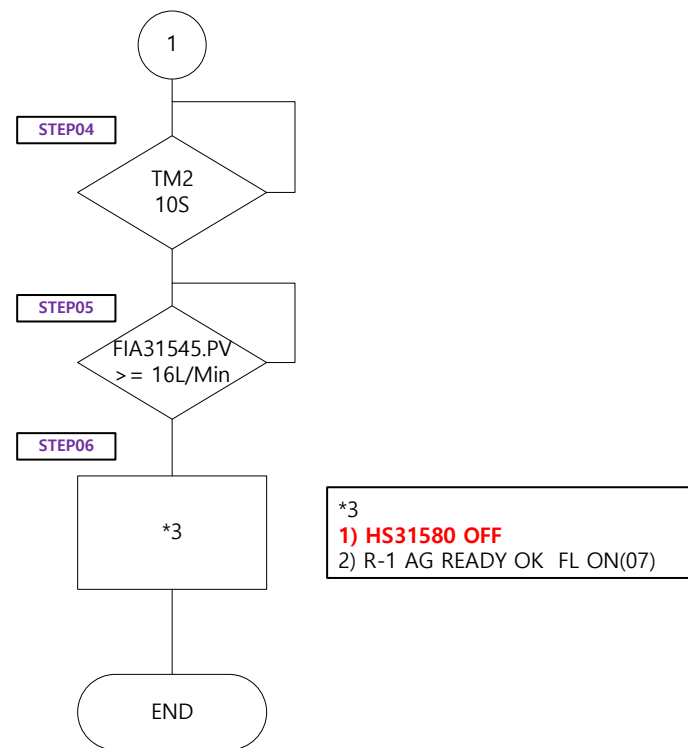
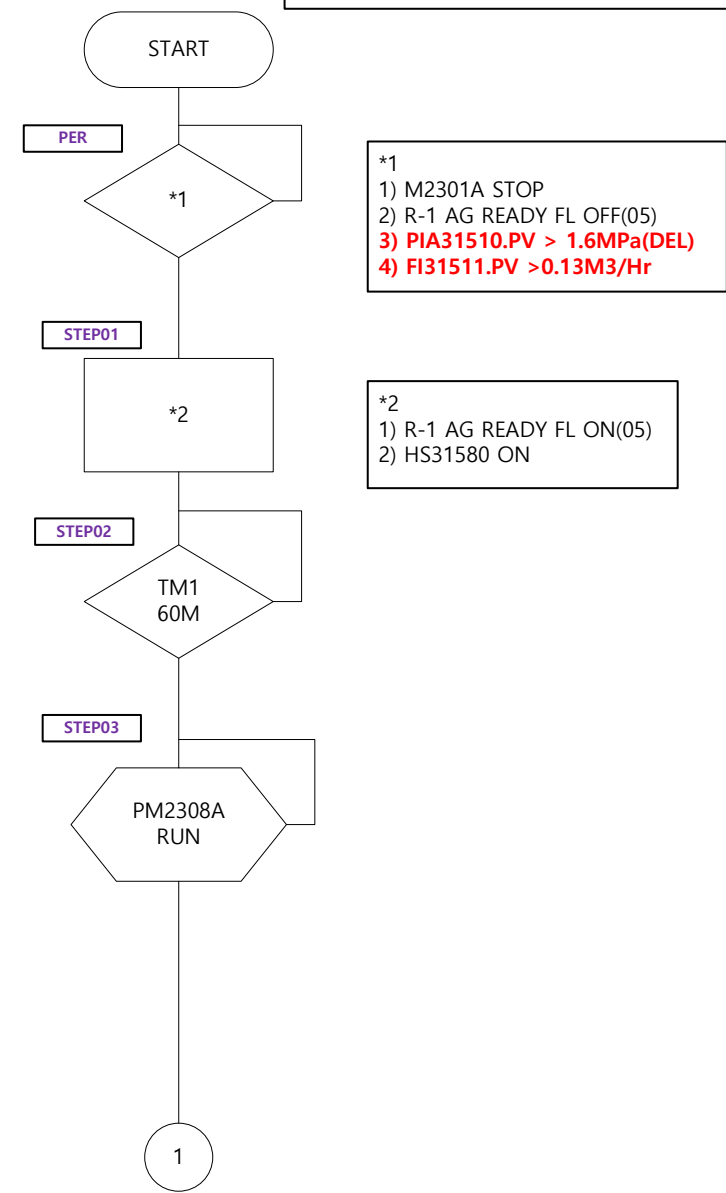
8134 R-1 MONOMER VACUUM



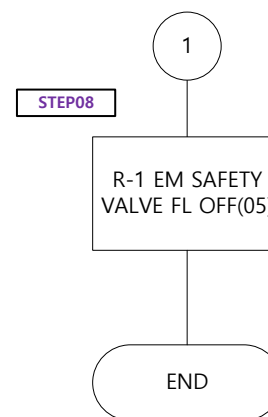
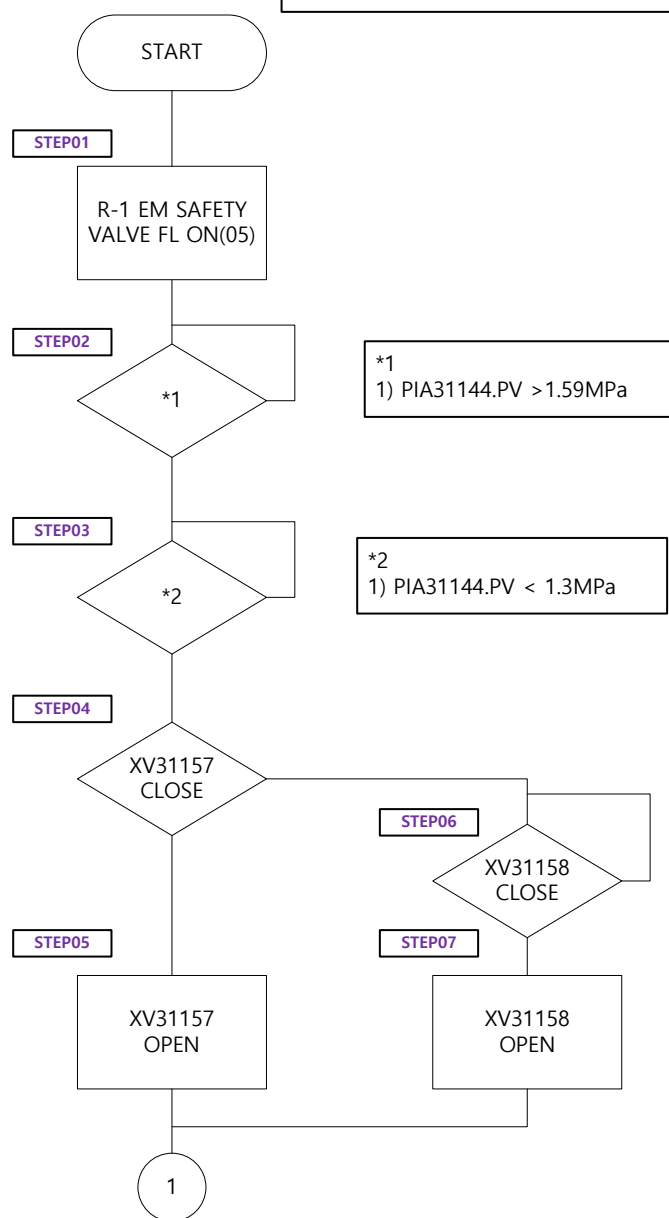
8135 R-1 BREAK VAC AND VENT



8136 R-1 AGITATOR READY



## 8137 R-1 EM SAFETY VALVE

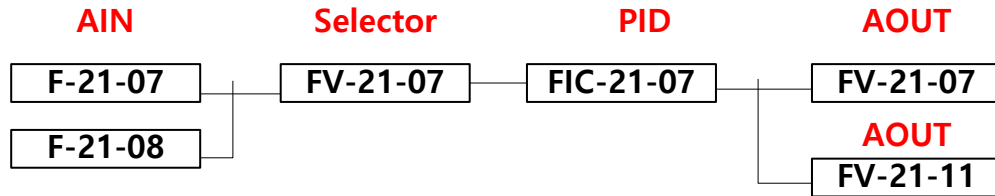


01STR  
02STP  
03PER  
04TOT  
05EXE  
06END  
07OK  
08SOK  
09EMS

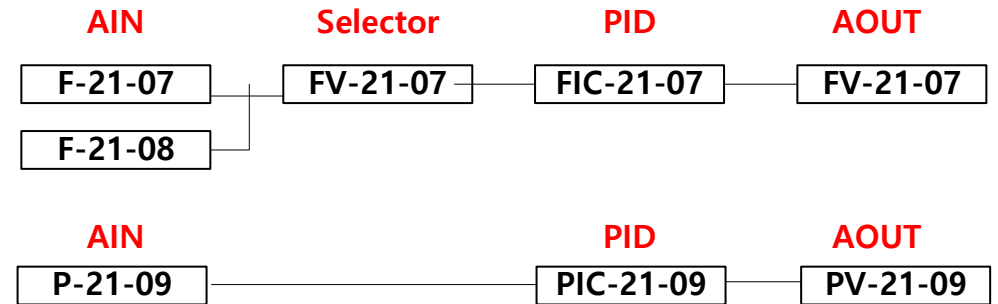
01. 1101SW.01STR.PVFL  
02. 1101SW.02STP.PVFL  
03. 1101SW.03PER.PVFL  
04. 1101SW.04TOT.PVFL  
05. 1101SW.05EXE.PVFL  
06. 1101SW.06END.PVFL  
07. 1101SW.07OK.PVFL  
08. 1101SW.08SOK.PVFL  
09. 1101SW.09EMS.PVFL

PER	STEP11	STEP21	STEP31	STEP41
STEP01	STEP12	STEP22	STEP32	STEP42
STEP02	STEP13	STEP23	STEP33	STEP43
STEP03	STEP14	STEP24	STEP34	STEP44
STEP04	STEP15	STEP25	STEP35	STEP45
STEP05	STEP16	STEP26	STEP36	STEP46
STEP06	STEP17	STEP27	STEP37	STEP47
STEP07	STEP18	STEP28	STEP38	STEP48
STEP08	STEP19	STEP29	STEP39	STEP49
STEP09	STEP20	STEP30	STEP40	STEP50
STEP10				

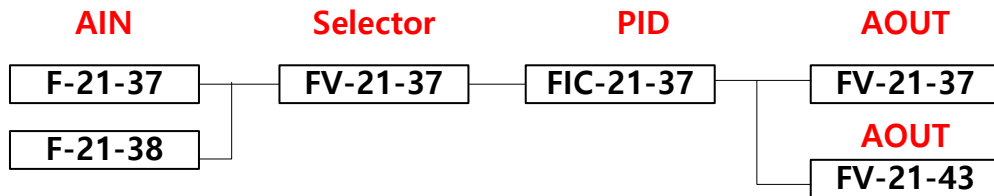
### BEFORE



### AFTER



### BEFORE



### AFTER

