



ELECTRICAL CIRCUIT DIAGRAMS

SET NO. DD242041001

SET NO. DL242LA00F0

ELEMENTARY DIAGRAM LIST

SET NO. : DD242041001

No.	ITEM	SPECIFICATION
1	MACHINE TYPE	FH480, FH580/40
2	MACHINE NO.	STANDARD
3	CNC TYPE	M-PLUS
4	SPINDLE TYPE	MDS-A-SP-260
5	PLC ROM No.	STANDARD
6	AUX. 1 ROM NO.	
7	AUX. 2 ROM NO.	
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Drawn By: H. Kodama

Checked By: A. HATASU

Approved By: M. Kunita 7/2/76

Remarks

DATE 96.5.31

Option

No.	DRAWING NUMBER	TITLE
1	24204110300.0	POWER SUPPLY LIST
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3	24204130010.0	MACHINE SIDE COMPONENTS LAYOUT 1
4	24204130021.0	MACHINE SIDE COMPONENTS LAYOUT 2
5	24204130030.0	MACHINE SIDE COMPONENTS LAYOUT 3
6	24204130040.0	MACHINE SIDE COMPONENTS LAYOUT 4
7	24204130050.0	MACHINE SIDE COMPONENTS LAYOUT 5
8	24204130060.0	MACHINE SIDE COMPONENTS LAYOUT 6
9	24204130070.0	MACHINE SIDE COMPONENTS LAYOUT 7
10	24204130080.0	MACHINE SIDE COMPONENTS LAYOUT 8
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13	24204170010.0	NC OPERATING PANEL LAYOUT
14	24204170010.1	OPERATING PANEL PARTS LIST
15	24204170020.0	SUB CONTROL PANEL
16	24204170030.0	DATA I/F PANEL
17	24204170040.0	2 PALLET CHANGER SWITCH BOX
18	24204170050.0	MAGAZINE SWITCH BOX
19	24204170060.0	6 PC SW. BOX LAYOUT
20	24204170060.1	6 PC SW. BOX PARTS LIST
21	24204170070.0	FMC CONTROL PANEL (OPTION)
22	24204170080.0	HAND PULSE BOX OPTION
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SET NO. : DD242041001

No.	DRAWING NUMBER	TITLE
26	24204150010.0	ELECTRIC CABINET LAYOUT
27	24204150010.1	ELECTRIC CABINET PARTS LIST
28	24204150020.0	XT2 PANEL LAYOUT
29	24204150020.1	XT2 PANEL PARTS LIST
30	24204150030.0	POWER UNIT LAYOUT
31	24204150030.1	POWER UNIT PARTS LIST (1/2)
32	24204150030.2	POWER UNIT PARTS LIST (2/2)
33	24204150040.0	6PC BOX LAYOUT
34	24204150040.1	6PC BOX PARTS LIST
35	24204150090.0	DC-PCB LAYOUT
36	24204150090.1	AC-PCB LAYOUT
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38	24204140011.0	MAIN TRANSFORMER JAPAN, USA
39	24204140010.1	MAIN TRANSFORMER EXPORT
40	24204140011.2	EARTH LEAKAGE BREAKER
41	24204140010.3	TRANSFORMER UNIT USA (OPTION)
42	24204140041.0	LINE POWER SUPPLY
43	24204140040.1	LINE POWER SUPPLY
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45	24204140050.0	LINE POWER SUPPLY AC LINE
46	24204140050.1	LINE POWER SUPPLY AC LINE
47	24204140050.2	WORK LIGHT
48	24204140050.3	SHOW LIGHT & ADDITIONAL LIGHT OPTION
49	24204140060.0	LINE POWER SUPPLY NC POWER
50	24204140070.0	RS232C CONNECTION
51		
52	24204140080.0	LINE POWER SUPPLY MOTOR POWER (1)
53	24204140080.1	LINE POWER SUPPLY MOTOR POWER (2)
54	24204140080.2	LINE POWER SUPPLY MOTOR POWER (3)
55	24204140080.3	LINE POWER SUPPLY MOTOR POWER (4)
56	24204140080.4	OIL SKIMMER (OPTION)
57	24204140080.5	COOLANT TEMPERATURE CONTROLLER (OPTION)
58	24204140080.6	SPINDLE THROUGH (JE) MOTOR (OPTION)
59	24204140081.7	GUN DRILL OPTION (JE FILTER TYPE)
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NO.	DRAWING NUMBER	TITLE
61	24204140101.0	SPINDLE DRIVE (1)
62	24204140111.0	SPINDLE DRIVE (1) 25000min ⁻¹
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68	24204140130.0	TABLE DRIVE (INVERTER)
69	24204140130.1	TABLE CONTROL (INVERTER)
70	24204140130.2	TABLE CONTROL (INVERTER)
71	24204140130.3	TABLE CONTROL (INVERTER)
72	24204140160.0	X AXIS ENCODER
73	24204140160.2	X AXIS ENCODER (MAGNESCALE)
74	24204140160.3	POWER UNIT FOR MAGNESCALE OPTION
75	24204140170.0	Y AXIS ENCODER
76	24204140170.2	Y AXIS ENCODER (MAGNESCALE)
77	24204140180.0	Z AXIS ENCODER
78	24204140180.2	Z AXIS ENCODER (MAGNESCALE)
79	24204140190.0	4 AXIS ENCODER ABSOLUTE TYPE
80	24204140190.1	4 AXIS (OPTION) INDUCTOSYN FEEDBACK
81	24204140200.0	Y AXIS BRAKE SDL
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88	24204140210.0	EMERGENCY STOP SWITCH
89	24204140210.1	EMERGENCY STOP INPUT
90	24204140220.0	MACHINE DOOR INTERLOCK
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SET No. : DD242041001

NO.	DRAWING NUMBER	TITLE
96	24204140230.0	MOTION SWITCH INPUT ALARM 1
97	24204140231.1	MOTION SWITCH INPUT ALARM 2
98	24204140230.2	MOTION SWITCH INPUT ALARM 3
99	24204140230.3	MOTION SWITCH INPUT ALARM 4
100	24204140230.4	MOTION SWITCH INPUT ALARM 1 (25000rpm spec)
101	24204140240.0	JE FILTER OIL LEVEL SWITCH (OPTION)
102	24204140240.1	LINE FILTER ALARM (OPTION)
103	24204140251.0	THERMOMETER ANALOG INPUT
104	24204140251.1	MOTION SWITCH INPUT HEAD
105	24204140260.0	MOTION SWITCH INPUT ATC UNIT
106	24204140280.0	MOTION SWITCH INPUT TABLE
107	24204140290.0	MOTION SWITCH INPUT 90/120 TOOLS (OPTION)
108	24204140290.1	MOTION SWITCH INPUT 90/120 TOOLS (OPTION)
109	24204140300.0	MAGAZINE ENCODER SIGNAL INPUT
110	24204240300.1	MAGAZINE ENCODER SIGNAL INPUT (2)
111	24204140310.0	MOTION SWITCH INPUT 2 PALLET CHANGER
112	24204140310.2	2 PC DOOR INTERLOCK (AUTO DOOR)
113	24204140310.3	2 PC AUTO DOOR (FMS TYPE)
114	24204140320.0	2 PC SWITCH BOX INPUT
115	24204140320.1	MAGAZINE SWITCH BOX INPUT
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120	24204140360.0	AXIS ZERO RETURN DECELERATION
121	24204140370.0	SUB CONTROL PANEL (1)
122	24204140370.1	SUB CONTROL PANEL (2)
123	24204140380.0	HANDLE BOX (1) (OPTION)
124	24204140380.1	HANDLE BOX (2) (OPTION)
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NO.	DRAWING NUMBER	TITLE
131	24204140390.0	AC-PCB AP102 POWER SUPPLY
132	24204140400.0	AC SOLENOID OUTPUT (1) (ATC)
133	24204140400.1	AC SOLENOID OUTPUT (1) (ATC)
134	24204140410.0	AC SOLENOID OUTPUT (2) (MAGAZINE SHIFTER)
135	24204140420.0	AC SOLENOID OUTPUT (3) (HEAD)
133	24204140420.1	AC SOLENOID OUTPUT (3) (HEAD)
137	24204140420.2	AC SOLENOID OUTPUT (3) (HEAD)
138	24204140420.3	AC SOLENOID OUTPUT (3) (HEAD)
139	24204140430.0	AC SOLENOID OUTPUT (4) (OILMIST COOLANT)
140	24204140440.0	AC SOLENOID OUTPUT (5) (MAGAZINE ROT.)
141	24204140450.0	AC SOLENOID OUTPUT (6) (PALLET CHANGE)
142	24204140450.3	2 PALLET CHANGER DOOR
143	24204140470.0	AC SOLENOID OUTPUT (8) (TABLE & PALLET)
144	24204140480.0	AC SOLENOID OUTPUT (9) (MOTOR)
145	24204140480.1	MOTOR CONTROL
146	24204140480.2	MOTOR CONTROL
147	24204140490.0	AC SOLENOID OUTPUT (10) (90/120 TOOLS OP)
148	24204140500.0	DISPLAY DRIVE OUTPUT (1)
149	24204140510.0	TOOL LENGTH MEASURE BUZZER
150	24204140520.0	RELAY DRIVE OUTPUT
151	24204140530.0	RELAY DRIVE OUTPUT (REVOLVING LIGHT)
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157	24204140600.0	MMS INTERFACE
158	24204140600.1	MMS INTERFACE
159	24204140620.0	SPINDLE CHILLER LINE POWER SUPPLY
160	24204140620.1	SPINDLE CHILLER LINE POWER SUPPLY (25000min ⁻¹ spec)
161	24204140630.0	OIL CHILLER UNIT (25000min ⁻¹ spec) (MAC-45C-MR-V-4F)
162	24204140640.0	HEATER CONTROL UNIT (25000min ⁻¹ SPEC)
163	24204140700.0	MAZATROL-FMS (1) MACHINE I/F (OPTION)
164	24204140700.1	2 PC SWITCH BOX INPUT (MAZATROL-FMS)
165	24204140710.0	MAZATROL-FMS (2) MACHINE I/F (OPTION)

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SET No. : DD242041001

NO.	DRAWING NUMBER	TITLE
166	24204140710.1	MAZATROL-FMS (3) MACHINE I/F (OPTION)
167	24204140800.0	REVOLVING LIGHT (OPTION)
168	24204140820.0	REMOTE CONTROL COOLANT NOZZLE
169	24204140850.0	BREAKER TRIP
170	24204140850.1	EARTH LEAKAGE BREAKER (OPTION)
171	24204140890.0	AUTO POWER OFF
172	24204140900.0	AUTO POWER ON/OFF (1) OPTION
173	24204140910.0	AUTO POWER ON/OFF (2) OPTION
174	24204140920.0	DNC CONNECTION (MAZATROL FMS)
175	24204140920.1	DNC CONNECTION (MAZATROL FMS)
176	24204140930.0	DNC CONNECTION (A-TYPE)
177	24204140940.0	DNC CONNECTION (B-TYPE)
178	24204140951.0	DNC CONNECTION (C-TYPE)
179	24204140960.0	DNC CONNECTION (D-TYPE)
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182	24204141000.0	6 PALLET LINE POWER SUPPLY (1)
183	24204141000.1	6 PALLET LINE POWER SUPPLY (2)
184	24204141010.0	6PC OPERATION PANEL INPUT
185	24204141010.1	6PC OPERATION INPUT (TILT & WASH)
186	24204141020.0	6 PALLET MOTION SWITCH INPUT (1)
187	24204141020.1	6 PALLET CHANGER DOOR INTERLOCK
188	24204141030.0	6 PALLET MOTION SWITCH INPUT (2)
189	24204141040.0	6 PALLET MOTION SWITCH INPUT (3)
190	24204141050.0	6PC OPERATION PANEL OUTPUT
191	24204141060.0	6 PC AC SOLENOID OUTPUT
192	24204141060.1	6 PC AC SOLENOID OUTPUT
193	24204141060.2	6 PC AC SOLENOID OUTPUT
194	24204141060.3	6 PC AC SOLENOID OUTPUT
195	24204141060.4	6 PC AC SOLENOID OUTPUT
196	24204141070.0	FMC CONTROL PANEL PLC INPUT
197	24204141070.1	FMC CONTROL PANEL PLC INPUT
198	24204141070.2	FMC CONTROL PANEL PLC INPUT
199	24204141070.3	FMC CONTROL PANEL PLC INPUT
200	24204141070.4	FMC CONTROL PANEL PLC INPUT

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SET No. : DD242041001

NO.	DRAWING NUMBER	TITLE
201	24204141150.0	RAMDOM ATC INPUT (OPTION & YMC)
202	24204141150.1	RAMDOM ATC OUTPUT 1 (OPTION & YMC)
203	24204141150.2	RAMDOM ATC OUTPUT 2 (OPTION & YMC)
204	24204141500.0	TOOL ID
205	24204141510.0	PALLET ID (1)
206	24204141510.1	PALLET ID (2)
207	24204141520.0	ID CHANGE (TOOL ID & PALLET ID)
208	24204141520.1	TOOL ID
209	24204141520.2	PALLET ID
210	24204141600.0	COOLANT WIPER (OPTION)
211	24204141610.0	CHIP CONVEYER SLIP ALARM (OPTION)
212	24204141620.0	MIST COLLECTOR (OPTION)
213	24204141630.0	TAP COOLANT (OPTION)
214	24204142920.0	HIGHT PRESSURE COOLANT MOTOR
215	24204142920.1	HIGH PRESSURE COOLANT CONTROL INTERFACE
216	24204146000.0	DNC CONNECTION (FMS FLAT TYPE)
217	24204146010.0	FMS FLAT TYPE PMC-M/C
218	24204146020.0	FMS FLAT TYPE PMC-M/C
219	24204146030.0	FMS FLAT TYPE PMC-M/C
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223	24204130200.0	CONNECTION DIAGRAM ELECTRIC CABINET 1
224	24204130200.1	CONNECTION DIAGRAM ELECTRIC CABINET 2
225	24204130200.2	CONNECTION DIAGRAM ELECTRIC CABINET 3
226	24204130200.3	CONNECTION DIAGRAM ELECTRIC CABINET 4
227	24204130200.4	CONNECTION DIAGRAM ELECTRIC CABINET 5
228	24204130200.5	CONNECTION DIAGRAM ELECTRIC CABINET 6
229	24204130200.6	CONNECTION DIAGRAM ELECTRIC CABINET 7
230	24204130220.0	ELECTRIC CABINET CABLE LIST 1
231	24204130220.1	ELECTRIC CABINET CABLE LIST 2
232	24204130231.0	FLEX. PLATE CABLE LIST 1
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SET No. : DD242041001

NO.	DRAWING NUMBER	TITLE
236	24204130300.0	JB31 LAYOUT SPIRAL CONVEYER
237	24204130310.0	X90106.X90206 (1/2) CONNECTION DIAGRAM
238	24204130310.1	X90106.X90206 (2/2) CONNECTION DIAGRAM
239	24204130320.0	X90302 CONNECTION DIAGRAM
240	24204130320.1	X90302 25000mm ⁴ CONNECTION DIAGRAM
241	24204130330.0	X90211.X90111 (1/2) CONNECTION DIAGRAM
242	24204130340.0	X90211.X90111 (2/2) CONNECTION DIAGRAM
243	24204130350.0	X90301.X90300.X90101.X90201 DIAGRAM 1
244	24204130351.1	X90301.X90300.X90101.X90201 DIAGRAM 2
245	24204130351.2	X90301.X90300.X90101.X90201 DIAGRAM 1 (25000mm ⁴ SPEC)
246	24204130360.0	X90105.X90205.X90115 DIAGRAM 1
247	24204130360.1	X90105.X90205.X90115 DIAGRAM 2
248	24204130360.2	X90105.X90205.X90115 DIAGRAM 3
249	24204130360.3	X90105.X90205.X90115 DIAGRAM 4
250	24204130370.0	JB73 LAYOUT 90/120 TOOLS ONLY
251	24204130380.0	X90102.X90202 (1/2) CONNECTION DIAGRAM
252	24204130390.0	X90102.X90202 (2/2) CONNECTION DIAGRAM
253	24204130400.0	X90109.X90209 (2/3) CONNECTION DIAGRAM (INDEX TABLE INVERTER SERVO TYPE)
254	24204130410.0	X90109.X90209 (3/3) CONNECTION DIAGRAM (4th AXIS OPTION)
255	24204130420.0	X90108.X90208 (1/2) CONNECTION DIAGRAM
256	24204130430.0	X90108.X90208 (2/2) CONNECTION DIAGRAM
257	24204130440.0	X AXIS SERVO MOTOR
258	24204130450.0	Z AXIS SERVO MOTOR
259	24204130480.0	MIST COLLECTOR (OPTION)
260	24204130480.1	HIGH PRESSURE COOLANT CONNECTION DIAGRAM
261	24204130490.0	SHOW LIGHT (OPTION)
262	24204130520.0	6 PALLETS HYD. MOTOR etc.
263	24204130530.0	6 PALLETS P. TABLE CONNECTION
264	24204130540.0	6 PALLETS LOADING STATION CONNECTION
265	24204130550.0	6 PALLETS OPERATING PANEL CONNECTION
266	24204130550.1	FMC CONTROL PANEL CONNECTION
267	24204130550.2	OPERATING PANEL TILT & WASH OPTION
268	24204130560.0	6 PALLETS SIGNAL LINE CONNECTION
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SET NO. : DD242041001

No.	DRAWING NUMBER	TITLE
271	24204110110.0	PLC PARAMETER LIST (1)
272	24204110120.0	PLC PARAMETER LIST (2)
273	24204110130.0	PLC PARAMETER LIST (3)
274	24204110140.0	PLC PARAMETER LIST (4)
275	24204110150.0	PLC PARAMETER LIST (5)
276	24204110160.0	PLC PARAMETER LIST (6)
277	24204110170.0	PLC PARAMETER LIST (7)
278	24204110180.0	PLC PARAMETER LIST (8)
279	24204110190.0	PLC PARAMETER LIST (9)
280	24204110200.0	PLC-CMN PARAMETER LIST (1)
281	24204110210.0	PLC-CMN PARAMETER LIST (2)
282	24204110220.0	PLC-CMN PARAMETER LIST (3)
283	24204110230.0	PLC-CMN PARAMETER LIST (4)
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