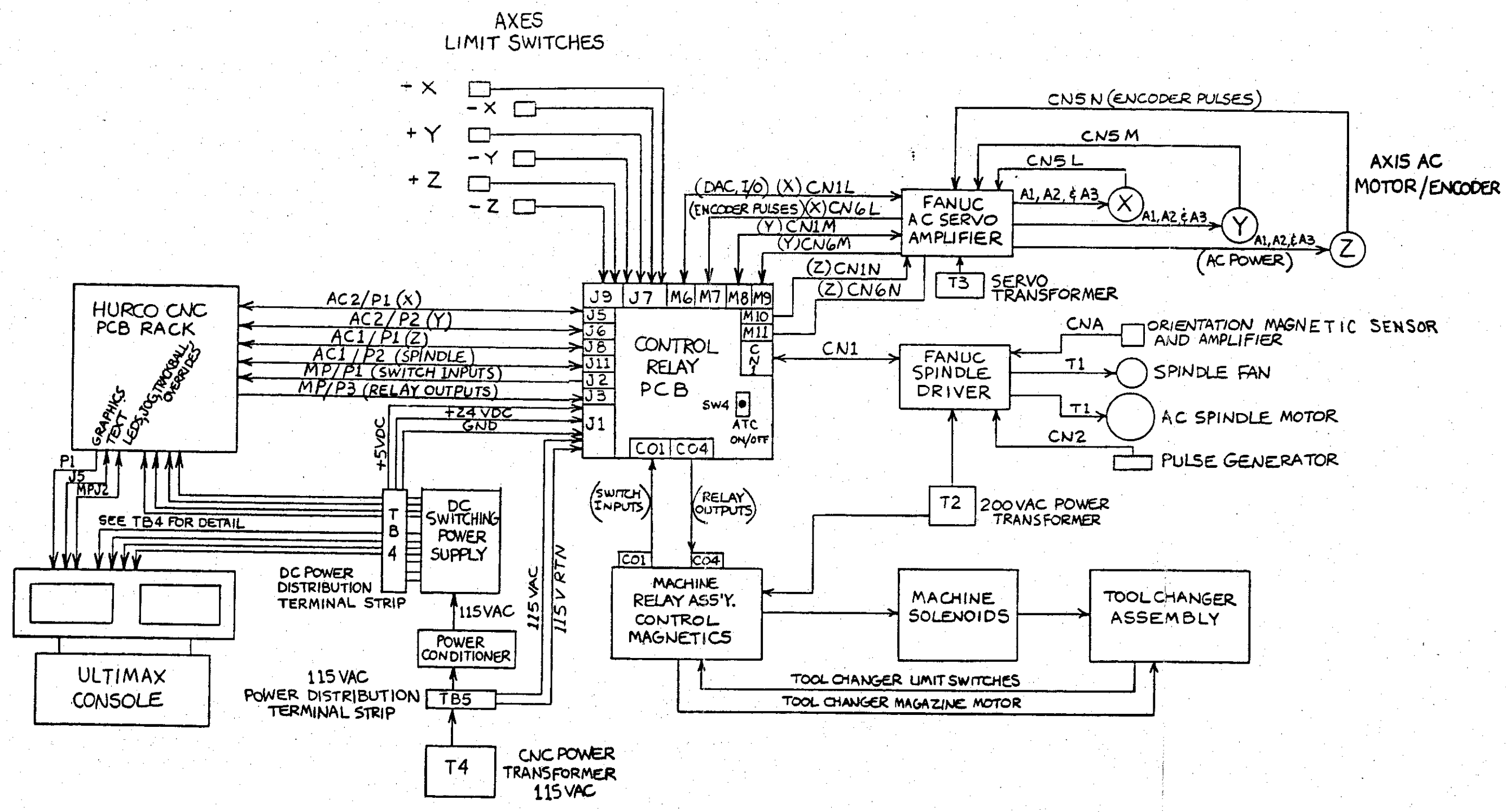


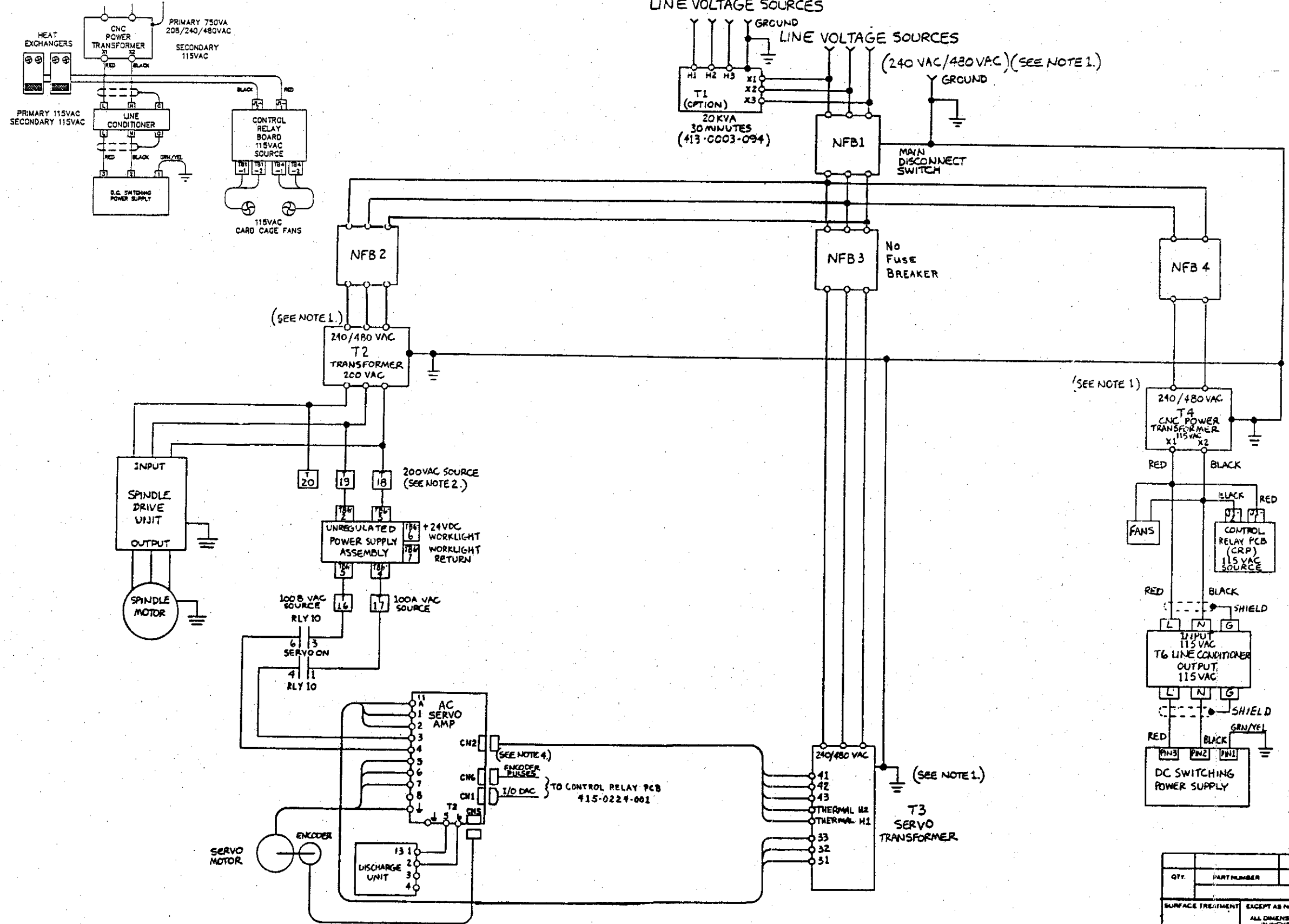
MURCO MANUFACTURING COMPANY, INC. INDIANAPOLIS, IN U.S.A.					
DESCRIPTION SCHEMATIC, TB-4					
DRAWN BY R. G. WILSON	DATE AD. FEB 66	DESIGNED DATE	APPROVED DATE	DATE: TB 83 APR	
SCALE N. 1/2	SIZE D	DRAWING 002-3210-001	SHEET 1	TOTAL 2	REV A
UNIT OF MEAS. INCHES					



SURFACE TREATMENT		EXCEPT AS NOTED		HURCO MANUFACTURING COMPANY, INC. INDIANAPOLIS, IN U.S.A.	
HEAT TREATMENT		ALL DIMENSIONS IN INCHES		DESCRIPTION	
FIRST USED ON		TOLERANCES DECIMAL		SYSTEM BLOCK DIAGRAM	
BMC 30/40/50		0 ± .030 00 ± .015 000 ± .008 0000 ± .0008 ANGULAR ± 0°30'		DRAWN DATE CHECKED DATE OF APPROVED DATE 20	
THIRD ANGLE PROJECTION		BREAK ALL SHARP EDGES		SCALE SIZE	
UNIT OF MEAS		C		DRAWING 002-3210-002	
		REV. 1		REV. A	

OPTIONAL (208VAC, 250-280VAC, 600VAC) (SEE NOTE 1.)

LINE VOLTAGE SOURCES



CONTROL VOLTAGE SCHEMATIC
BMC 30/40

LINE VOLTAGE	240VAC	480VAC
NFB1	75A	50A
NFB2	50A	30A
NFB3	15A	10A
NFB4	10A	5A
T2	10KVA	10KVA
T3	2.5/3.5/5KVA	2.5/3.5/5KVA
T4	750VA	750VA

BMC 50

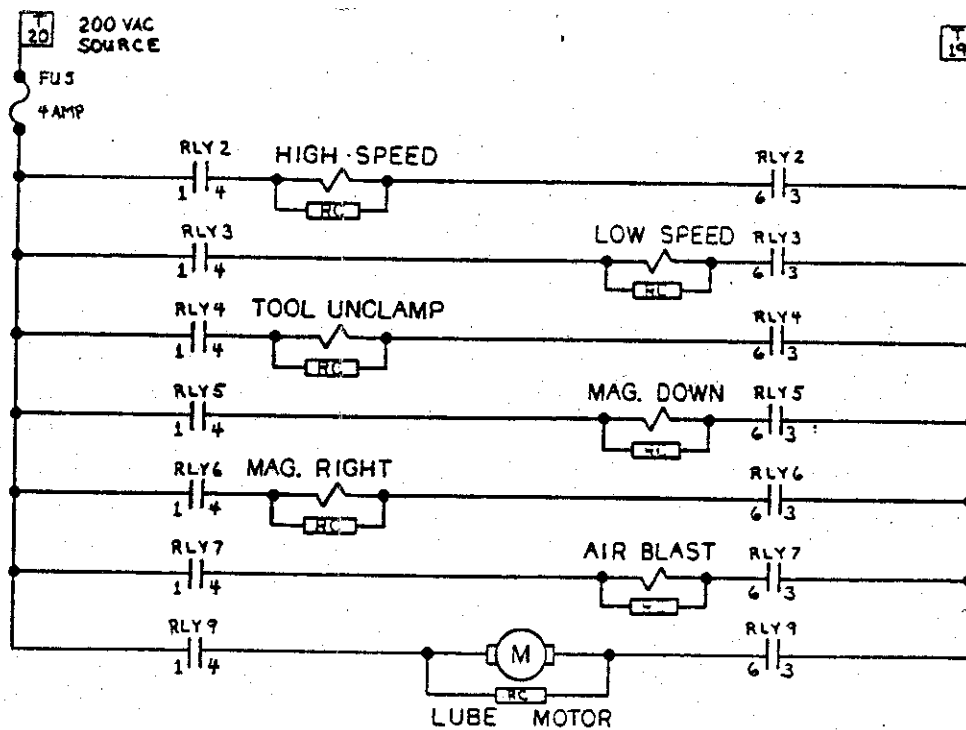
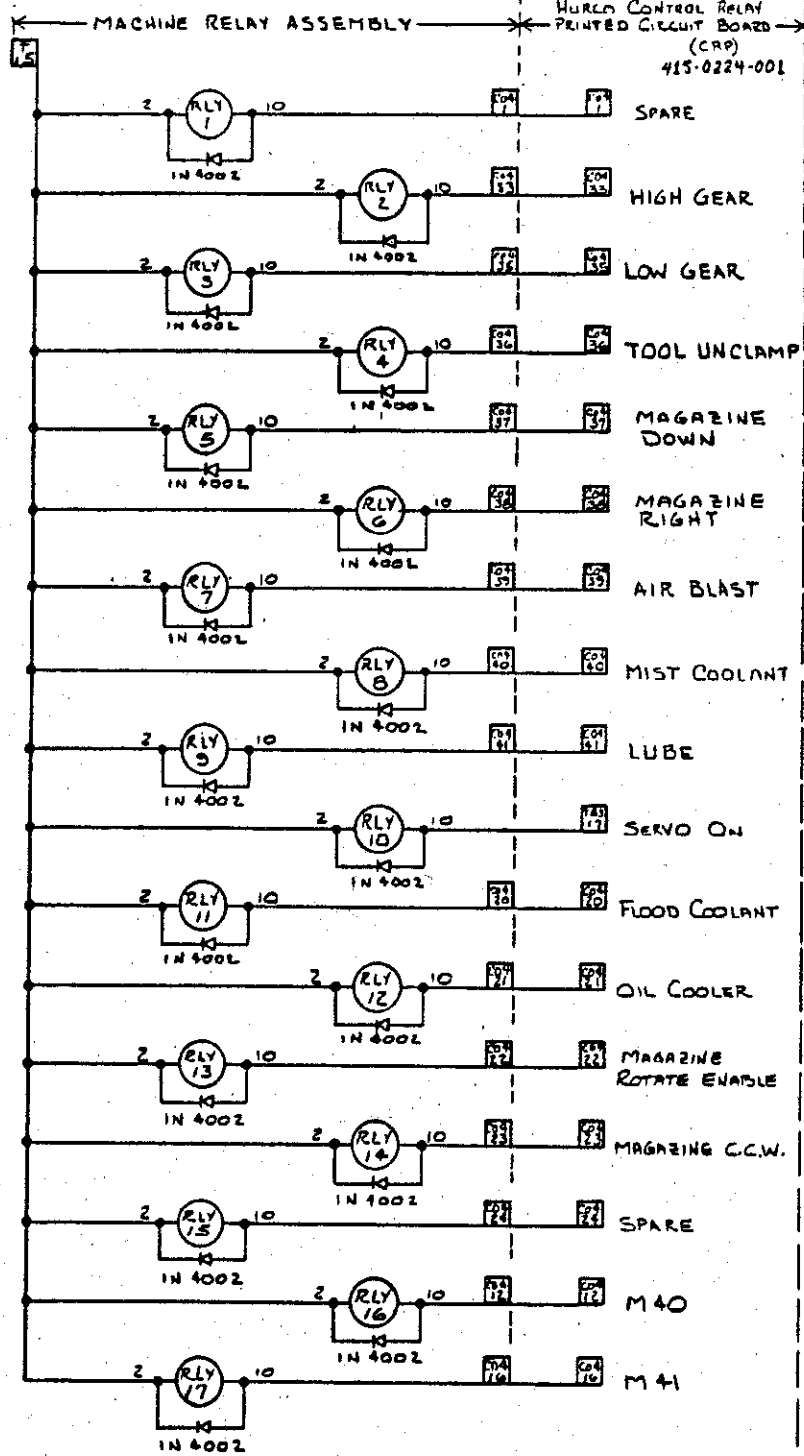
LINE VOLTAGE	240VAC	480VAC
NFB1	100A	75A
NFB2	75A	50A
NFB3	30A	20A
NFB4	10A	5A
T2	15KVA	15KVA
T3	5KVA	5KVA
T4	750VA	750VA

NOTES:

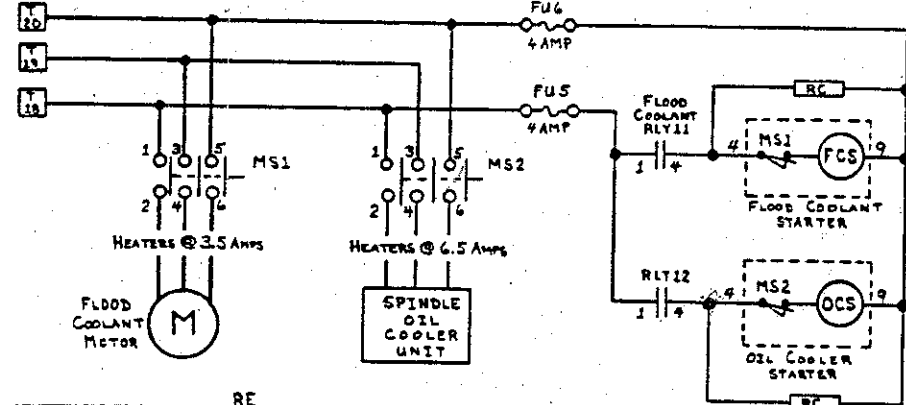
- 1) SELECT APPROPRIATE PRIMARY TAPS ON T1, T2, T3, T4 TO MATCH LINE VOLTAGE SOURCE.
- 2) [] NUMBERS ARE TERMINAL STRIP PIN NUMBERS LOCATED ON THE MACHINE RELAY ASSEMBLY.
- 3) TB4 => DC POWER DISTRIBUTION
TB5 => 115 VAC POWER DISTRIBUTION
TB6 => UNREGULATED POWER SUPPLY.
- 4) X => CN6L
CN1L
Y => CN6M
CN1M
Z => CN6N
CN1N

QTY.	PART NUMBER	ITEM DESCRIPTION	ITEM
PARTS LIST			
SURFACE TREATMENT EXCEPT AS NOTED.			
ALL DIMENSIONS IN INCHES			
TOLERANCES DECIMAL			
0 = 0.00			
00 = 0.01			
000 = 0.005			
0000 = 0.0005			
ANGULAR ± 0°30'			
BREAK ALL SHARP EDGES			
THIRD ANGLE PROJECTION			
FIRST USED ON			
BMC 30/40/50			
DRAWN		DATE	CHECKED
SCALE		DATE	DATE
SIZE		DATE	DATE
UNIT OF MEAS		DATE	DATE
D		002-3210-003	REV
A			

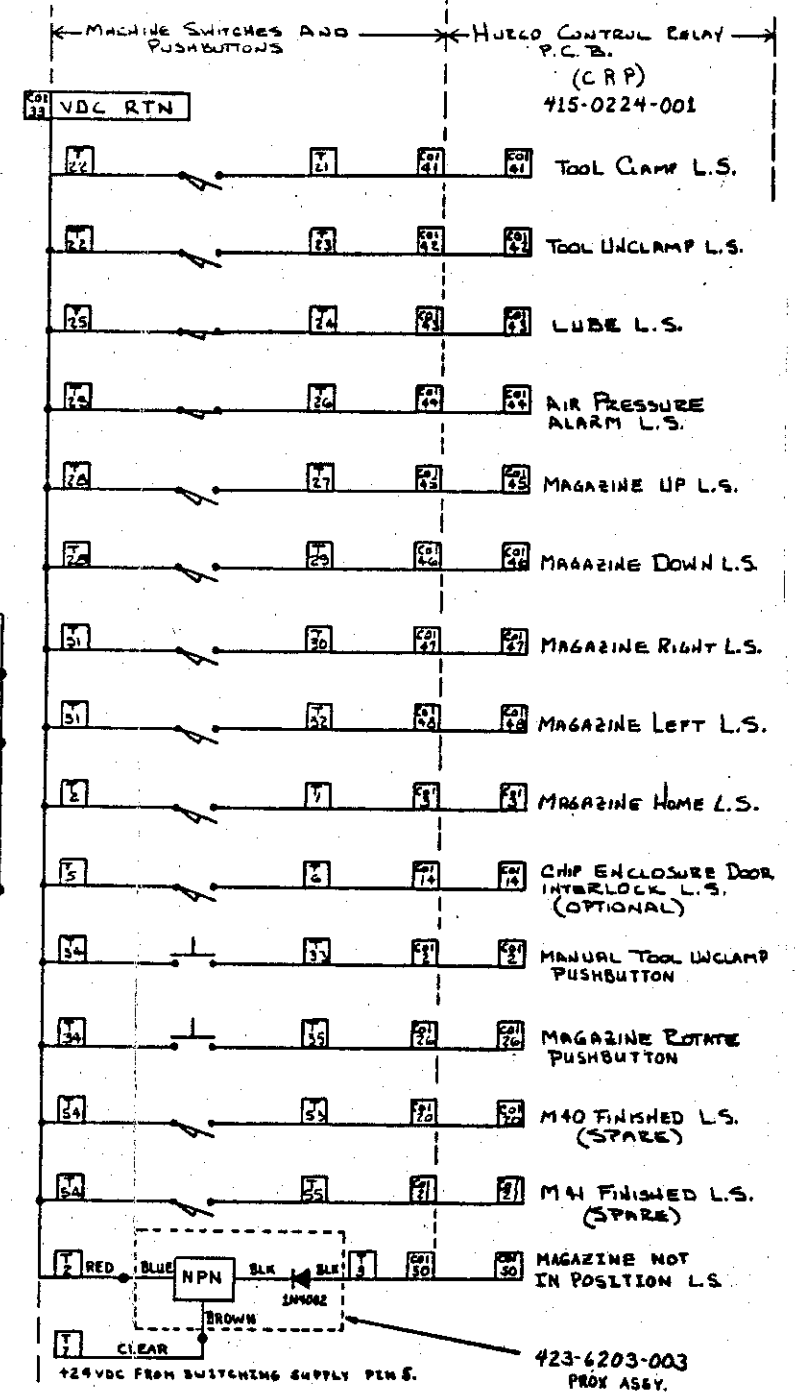
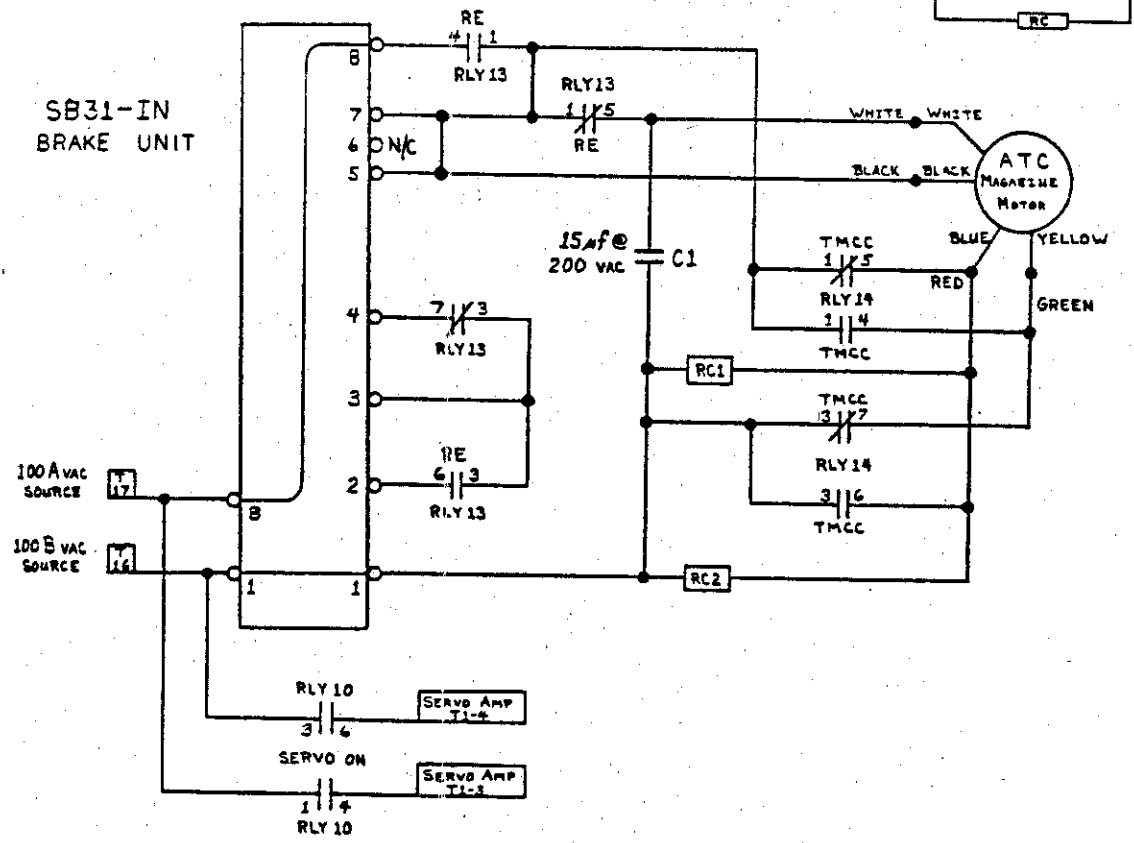
+24V SWITCHED FROM CRP-TB3-12



200 VAC SOURCE FROM T2 TRANSFORMER

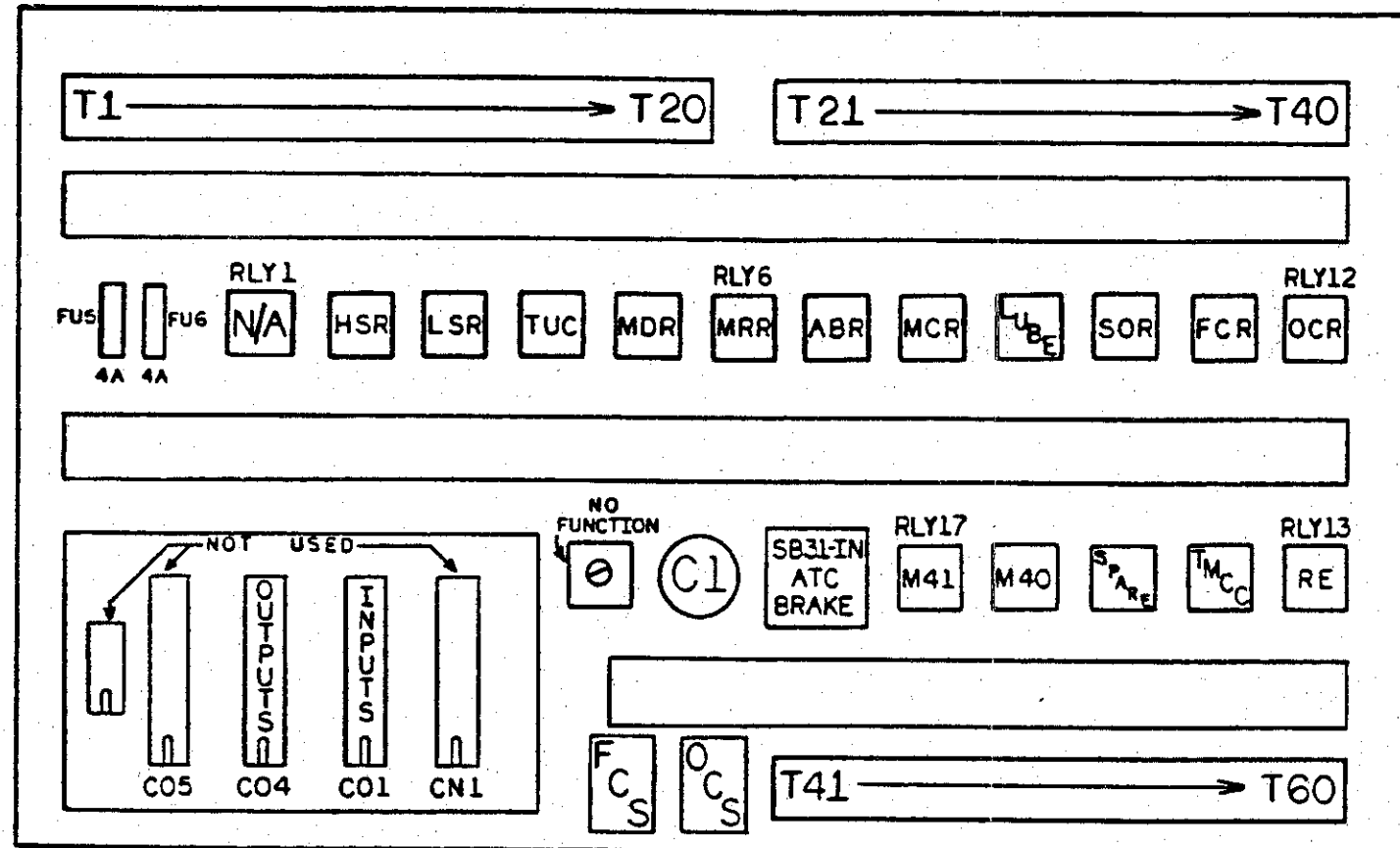


SB31-IN BRAKE UNIT



QTY	PART NUMBER	ITEM DESCRIPTION	ITEM
PARTS LIST			
SURFACE TREATMENT		EXCEPT AS NOTED	HURCO MANUFACTURING COMPANY, INC. INDIANAPOLIS, IN U.S.A.
HEAT TREATMENT		ALL DIMENSIONS IN INCHES	
FIRST USED ON		TOLERANCES DECIMAL	DESCRIPTION MACHINE RELAY ASSEMBLY SCHEMATIC 10MA
B.M.C. 30, 19, 30		0 .030 00 .008 000 .006 0000 .0008 ANGULAR ±0°30'	
DRAWN		DATE	CHECKED
DATE		DATE	DATE
SCALE		SIZE	DRAWING
UNIT OF MEAS.		D	002-3210-004
APPROVED		DATE	REV
BY		DATE	REV
BY		DATE	REV
BY		DATE	REV

IOMA MACHINE RELAY ASSEMBLY LAYOUT

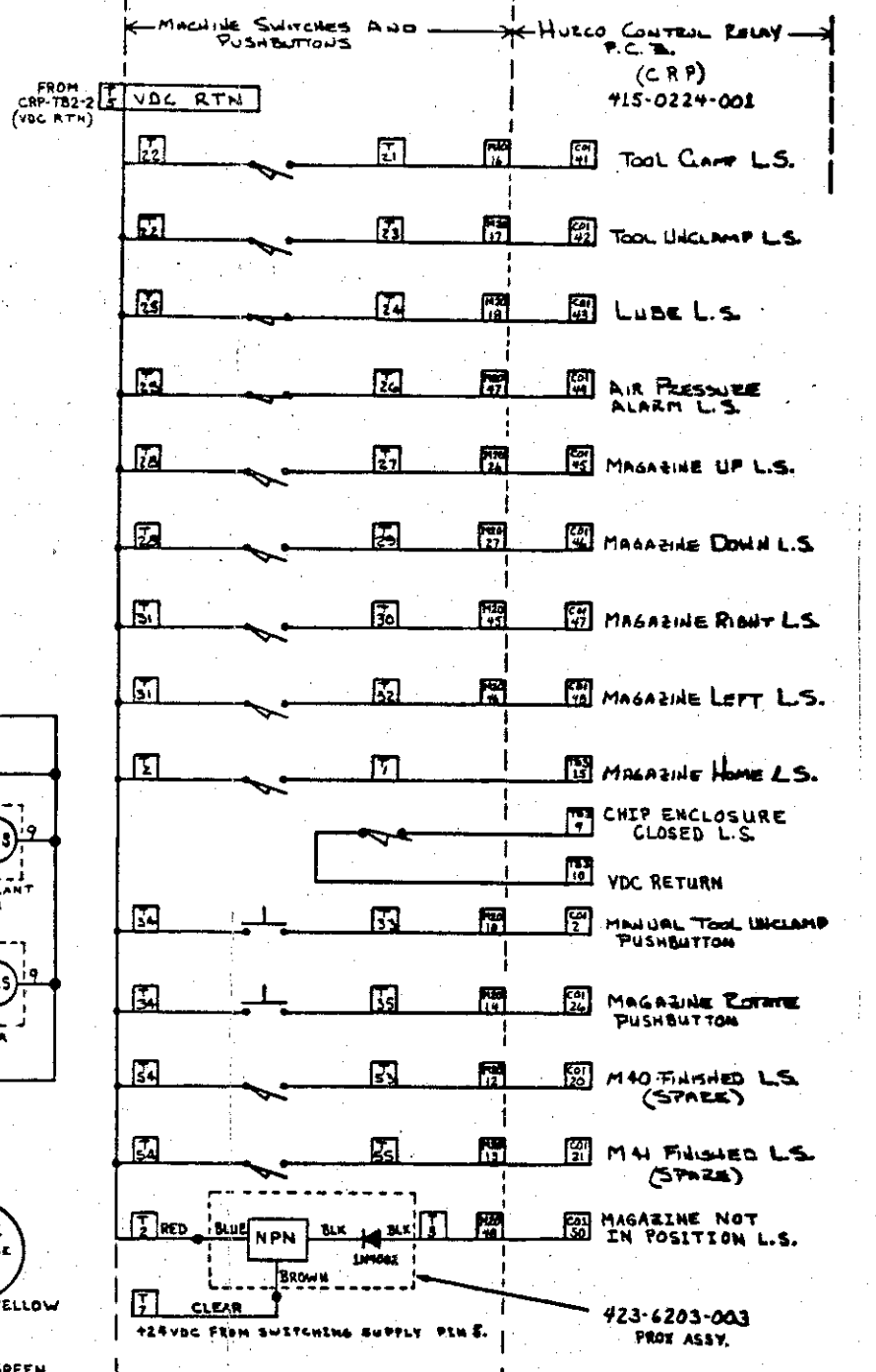
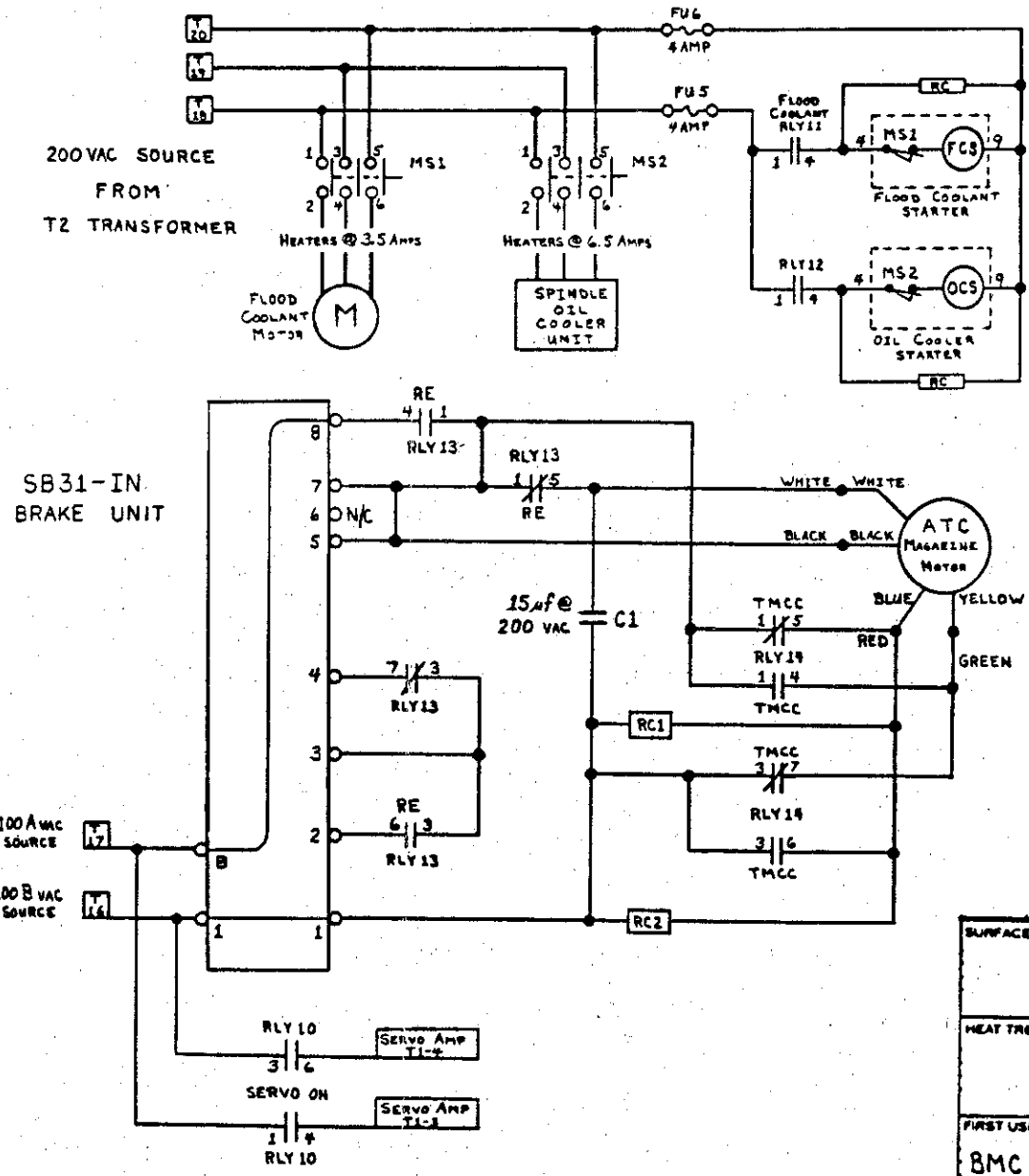
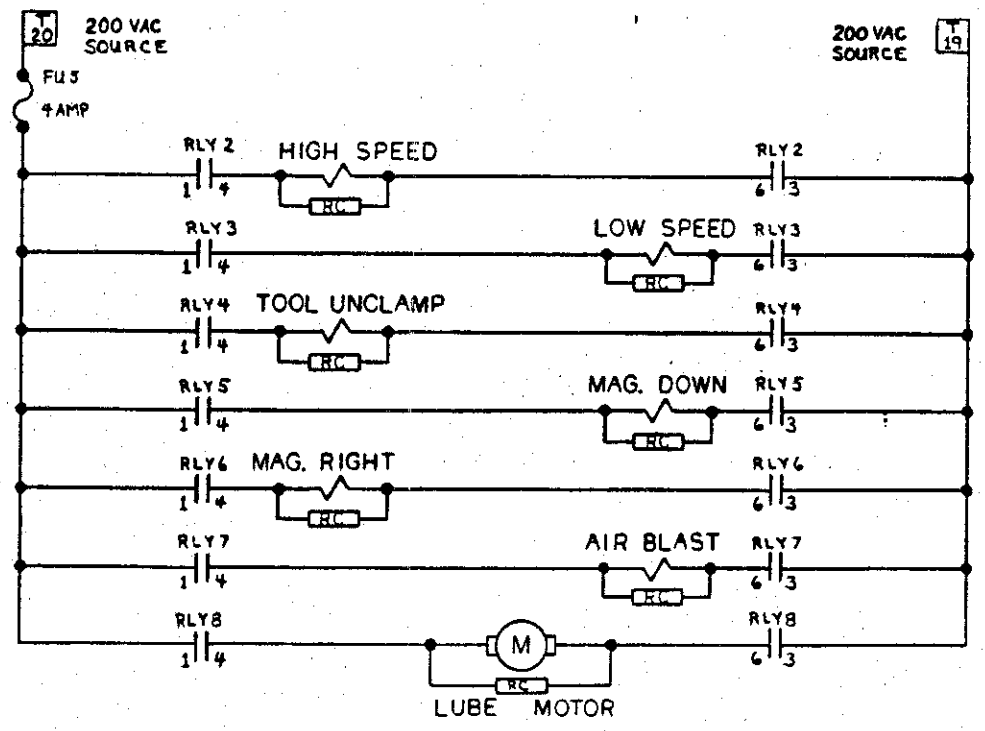
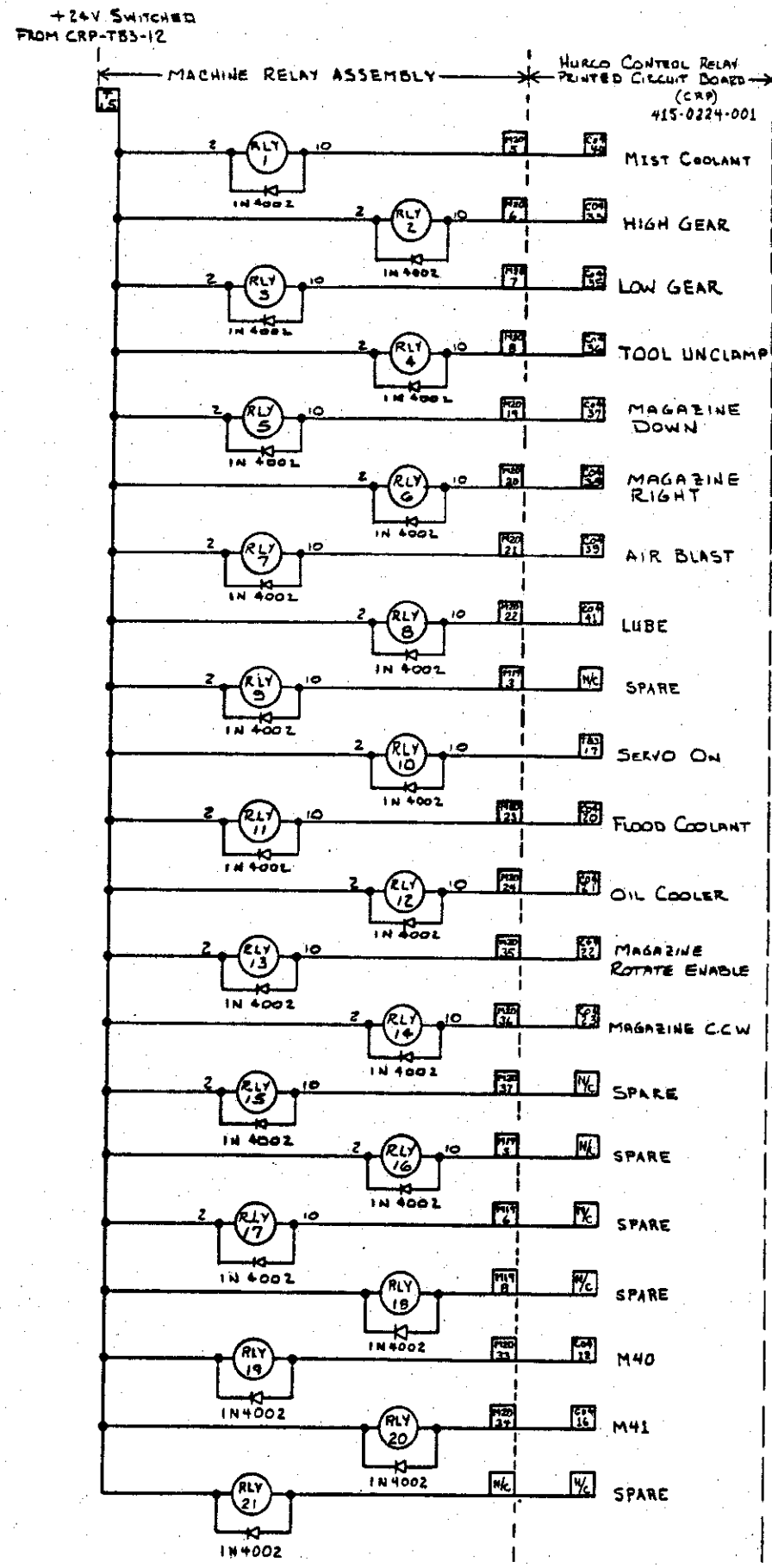


1	MAGAZINE HOME L.S. (To CRP-T83-15)
2	RETURN FOR T1/T3
3	MAGAZINE NOT IN POSITION L.S.
4	+24 RTN FROM DC SWITCHER PIN 7
5	RETURN FOR T6
6	CHIP DOOR L.S.
7	+24VDC FROM DC SWITCHER PIN 5
8	---
9	---
10	---
11	---
12	---
13	---
14	---
15	+24VDC SWITCHED SOURCE FROM CRP
16	100 B VAC SOURCE
17	100 A VAC SOURCE
18	200 U VAC SOURCE
19	200 V VAC SOURCE
20	200 W VAC SOURCE

21	SPINDLE CLAMPED L.S.
22	RETURN FOR T21/T22
23	SPINDLE UNCLAMPED L.S.
24	LUBE ALARM L.S.
25	RETURN FOR T24/T24
26	AIR PRESSURE ALARM L.S.
27	MAGAZINE UP L.S.
28	RETURN FOR T27/T29
29	MAGAZINE DOWN L.S.
30	MAGAZINE RIGHT L.S.
31	RETURN FOR T30/T32
32	MAGAZINE LEFT L.S.
33	SPINDLE UNCLAMP PUSHBUTTON
34	RETURN FOR T33/T35
35	MAGAZINE ROTATE PUSHBUTTON
36	---
37	---
38	---
39	---
40	---

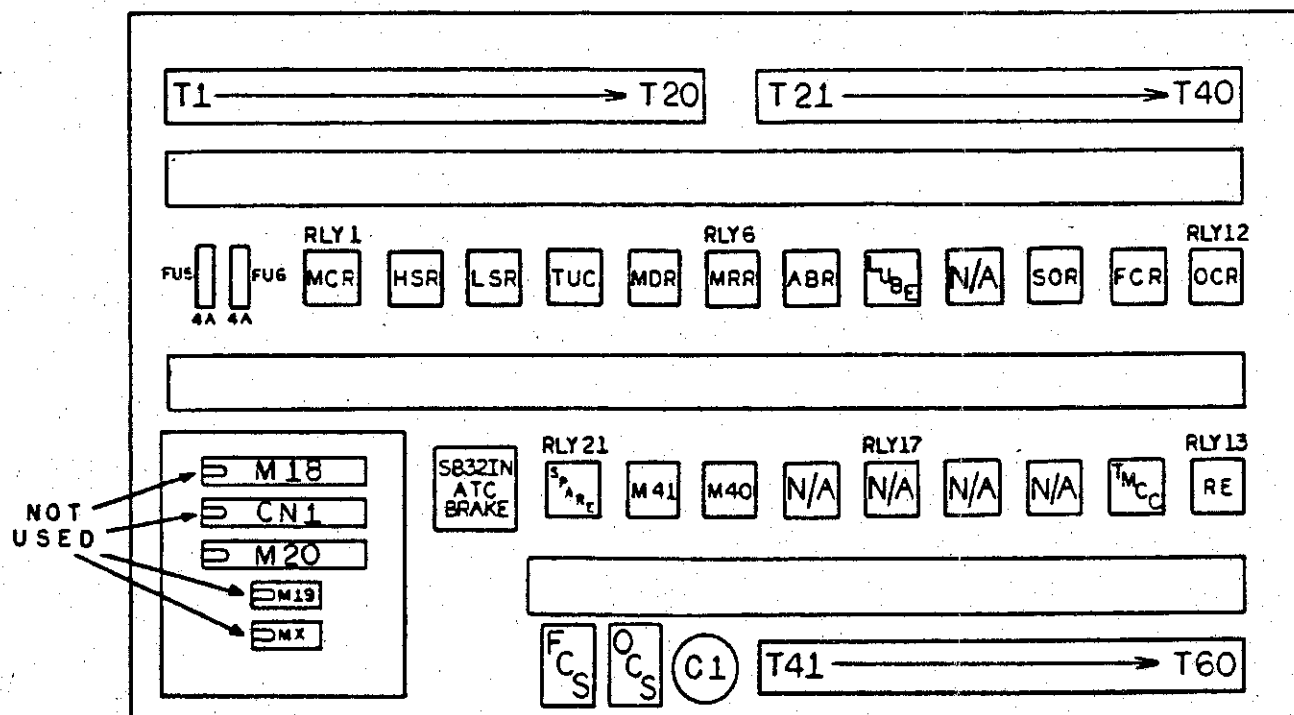
41	---
42	VDC RETURN
43	---
44	---
45	VDC RETURN
46	---
47	---
48	---
49	---
50	---
51	VDC RETURN
52	---
53	M40 FINISHED
54	M40/M41 FINISHED RETURN
55	M41 FINISHED
56	---
57	VDC RETURN
58	---
59	---
60	---

QTY.	PART NUMBER	ITEM DESCRIPTION	ITEM
PARTS LIST			
SURFACE TREATMENT	EXCEPT AS NOTED. ALL DIMENSIONS IN INCHES TOLERANCES DECIMAL 0 .030 00 .015 000 .008 0000 .0008 ANGULAR ± 0°30'	HURCO HURCO MANUFACTURING COMPANY, INC. INDIANAPOLIS, IN U.S.A.	
HEAT TREATMENT	BREAK ALL SHARP EDGES THIRD ANGLE PROJECTION	DESCRIPTION MACHINE RELAY ASSEMBLY LAYOUT IOMA	
FIRST USED ON	BMC 30	DRAWN DATE CHECKED DATE 21 APPROVED DATE 26	REV. SHT. 1 REV. A
		SCALE UNIT OF MEAS	DRAWING NO. 002-3210-005 REV. 1



SURFACE TREATMENT	EXCEPT AS NOTED	HURCO MANUFACTURING COMPANY, INC. INDIANAPOLIS, IN U.S.A.			
HEAT TREATMENT	ALL DIMENSIONS IN INCHES TOLERANCES DECIMAL: 0 .030 00 .015 000 .008 0000 .0008 ANGULAR ± 0°30'	DESCRIPTION MACHINE RELAY ASSEMBLY SCHEMATIC OMA			
FIRST USED ON	BREK ALL SHARP EDGES THIRD ANGLE PROJECTION	DRAWN	DATE	CHECKED	DATE
BMC 30/40/50		TRM	NOV 86	JM	NOV 86
		SCALE	SIZE	DRAWING	REV
		UNIT OF MEAS	C	002-3210-006	1 A

OMA MACHINE RELAY ASSEMBLY LAYOUT



1	MAGAZINE HOME L.S. (To CRP-TBS-18)
2	RETURN FOR T1/T3
3	MAGAZINE NOT IN POSITION L.S.
4	+24 RTN FROM DC SWITCHER PIN 7
5	RETURN FOR T6
6	CHOP DOOR L.S.
7	+24 VDC FROM DC SWITCHER PIN 5
8	---
9	---
10	---
11	---
12	---
13	---
14	---
15	+24 VDC SWITCHED SOURCE FROM CRP
16	100 B VAC SOURCE
17	100 A VAC SOURCE
18	200 U VAC SOURCE
19	200 V VAC SOURCE
20	200 W VAC SOURCE

21	SPINDLE CLAMPED L.S.
22	RETURN FOR T2/T22
23	SPINDLE UNCLAMPED L.S.
24	LUBE ALARM L.S.
25	RETURN FOR T2/T24
26	AIR PRESSURE ALARM L.S.
27	MAGAZINE UP L.S.
28	RETURN FOR T2/T29
29	MAGAZINE DOWN L.S.
30	MAGAZINE RIGHT L.S.
31	RETURN FOR T30/T32
32	MAGAZINE LEFT L.S.
33	SPINDLE UNCLAMP PUSHBUTTON
34	RETURN FOR T33/T35
35	MAGAZINE ROTATE PUSHBUTTON
36	---
37	---
38	---
39	---
40	---

41	---
42	VDC RETURN
43	---
44	---
45	VDC RETURN
46	---
47	---
48	---
49	---
50	---
51	VDC RETURN
52	---
53	M40 FINISHED
54	M40/M41 FINISHED RETURN
55	M41 FINISHED
56	---
57	VDC RETURN
58	---
59	---
60	---

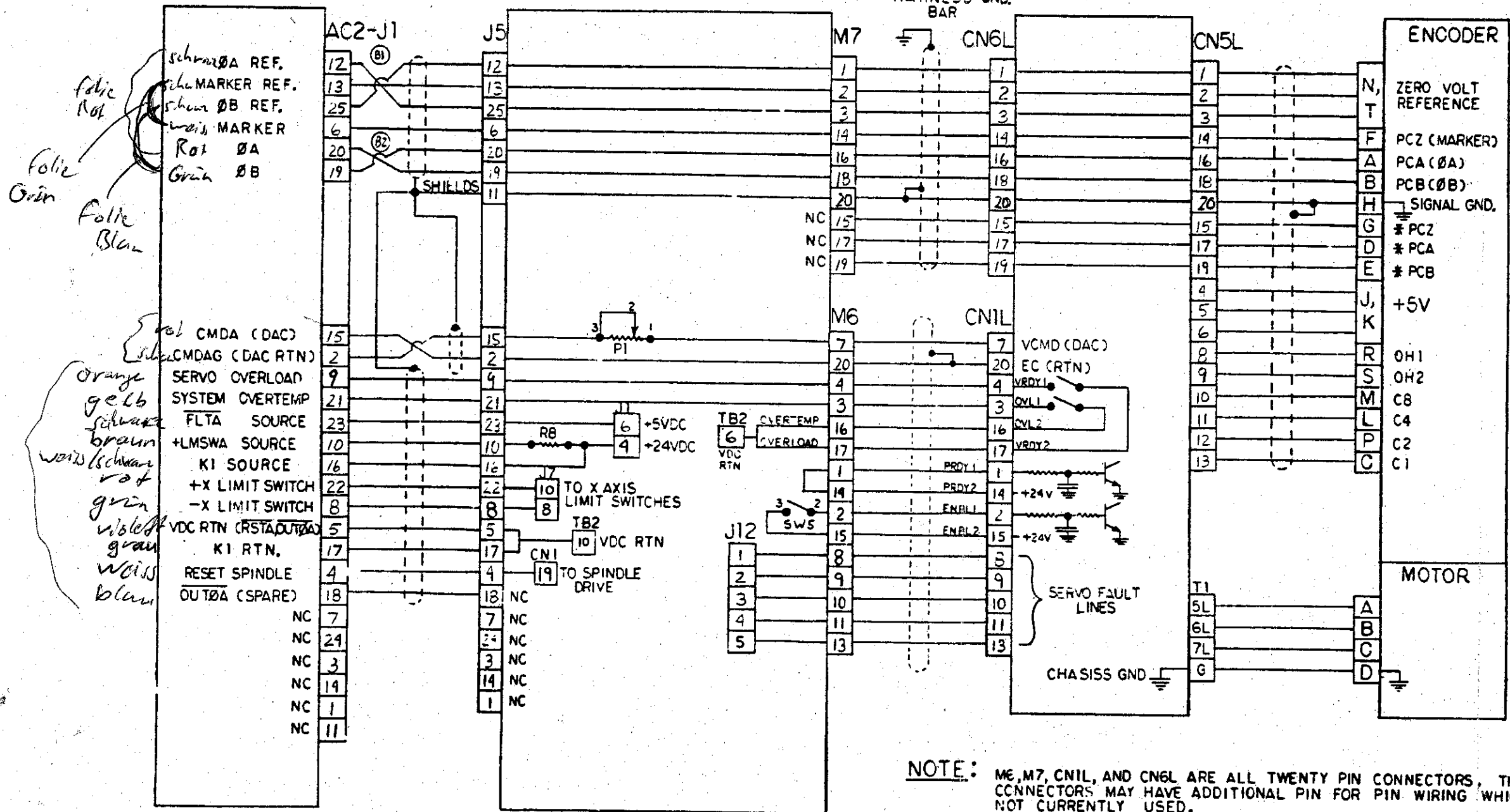
QTY.	PART NUMBER	ITEM DESCRIPTION	ITEM
PARTS LIST			
SURFACE TREATMENT		EXCEPT AS NOTED ALL DIMENSIONS IN INCHES TOLERANCES DECIMAL 0 = 0.30 00 = 0.15 000 = 0.08 0000 = 0.008 ANGULAR ± 0.30°	HURCO MANUFACTURING COMPANY, INC. INDIANAPOLIS, IN U.S.A. DESCRIPTION MACHINE RELAY ASSEMBLY LAYOUT OMA DRAWN: TRM DATE: NOV 86 CHECKED: JMM DATE: NOV 86 APPROVED: JMM DATE: NOV 86
HEAT TREATMENT		BREAK ALL SHARP EDGES THIRD ANGLE PROJECTION	
FIRST USED ON	SCALE	SIZE	UNIT OF MEAS
BMC 30	C	002-3210-007	A

DUAL AXIS BOARD
415-0176-008

CONTROL RELAY BOARD
415-0224-001

FANUC AC SERVO
CHASSIS

FANUC
MOTOR/ENCODER



NOTE: M6, M7, CNIL, AND CN6L ARE ALL TWENTY PIN CONNECTORS, THESE CONNECTORS MAY HAVE ADDITIONAL PIN FOR PIN WIRING WHICH IS NOT CURRENTLY USED.

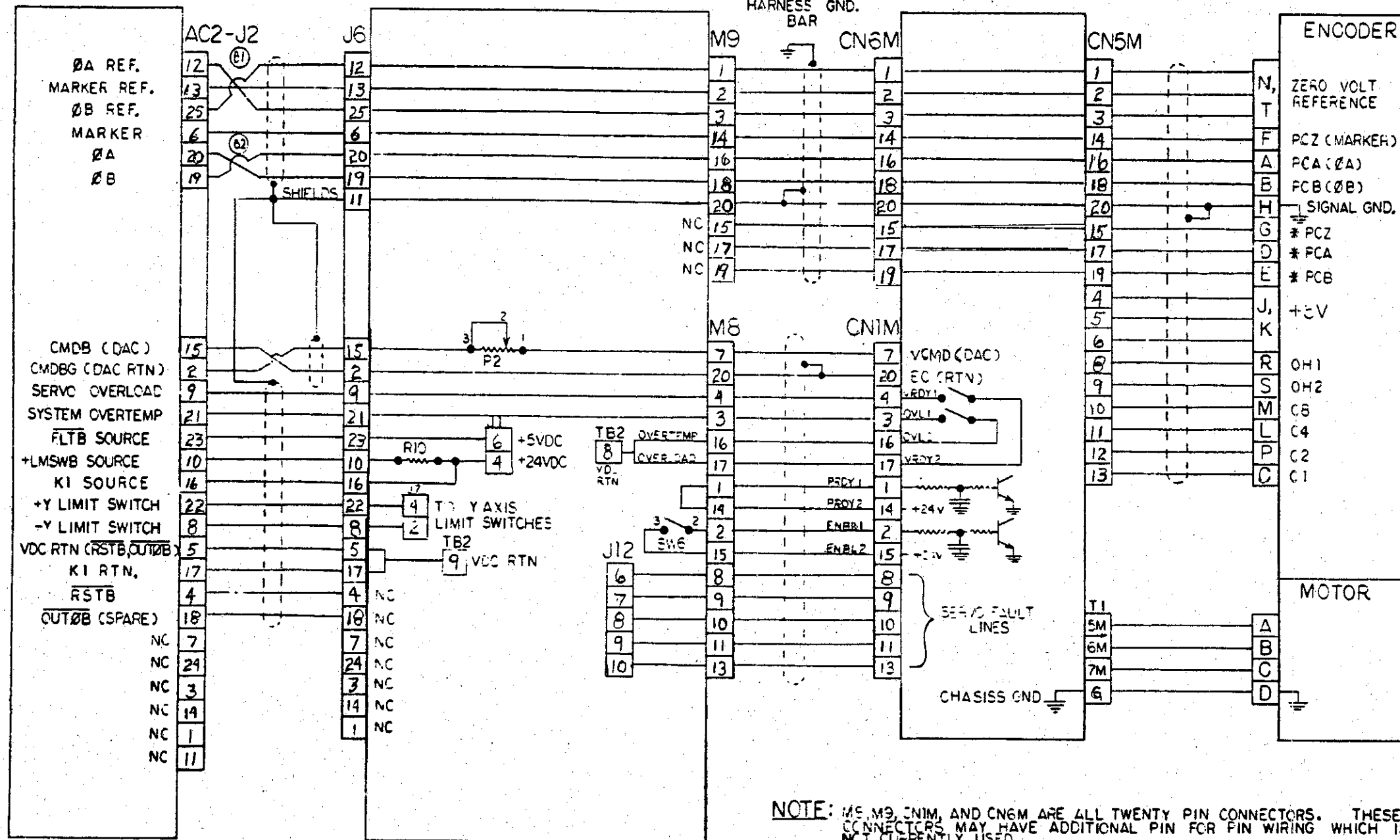
HURCO MANUFACTURING COMPANY, INC. INDIANAPOLIS, IN U.S.A.					
DESCRIPTION					
X AXIS CONNECTION DIAGRAM					
DRAWN	DATE	CHECKED	DATE 21	APPROVED	DATE 21
		TRM	NOV 86	TRM	NOV 86
SCALE	SIZE	DRAWING		SHT.	REV.
		C 002-3210-008		1	B
UNIT OF MEAS.					

DUAL AXIS BOARD
415-0176-008

CONTROL RELAY BOARD
415-0224-001

FANUC AC SERVO
CHASSIS

FANUC
MOTOR/ENCODER



NOTE: M8, M9, CN1M, AND CN6M ARE ALL TWENTY PIN CONNECTORS. THESE CONNECTORS MAY HAVE ADDITIONAL PIN FOR FIN WIRING WHICH IS NOT CURRENTLY USED.

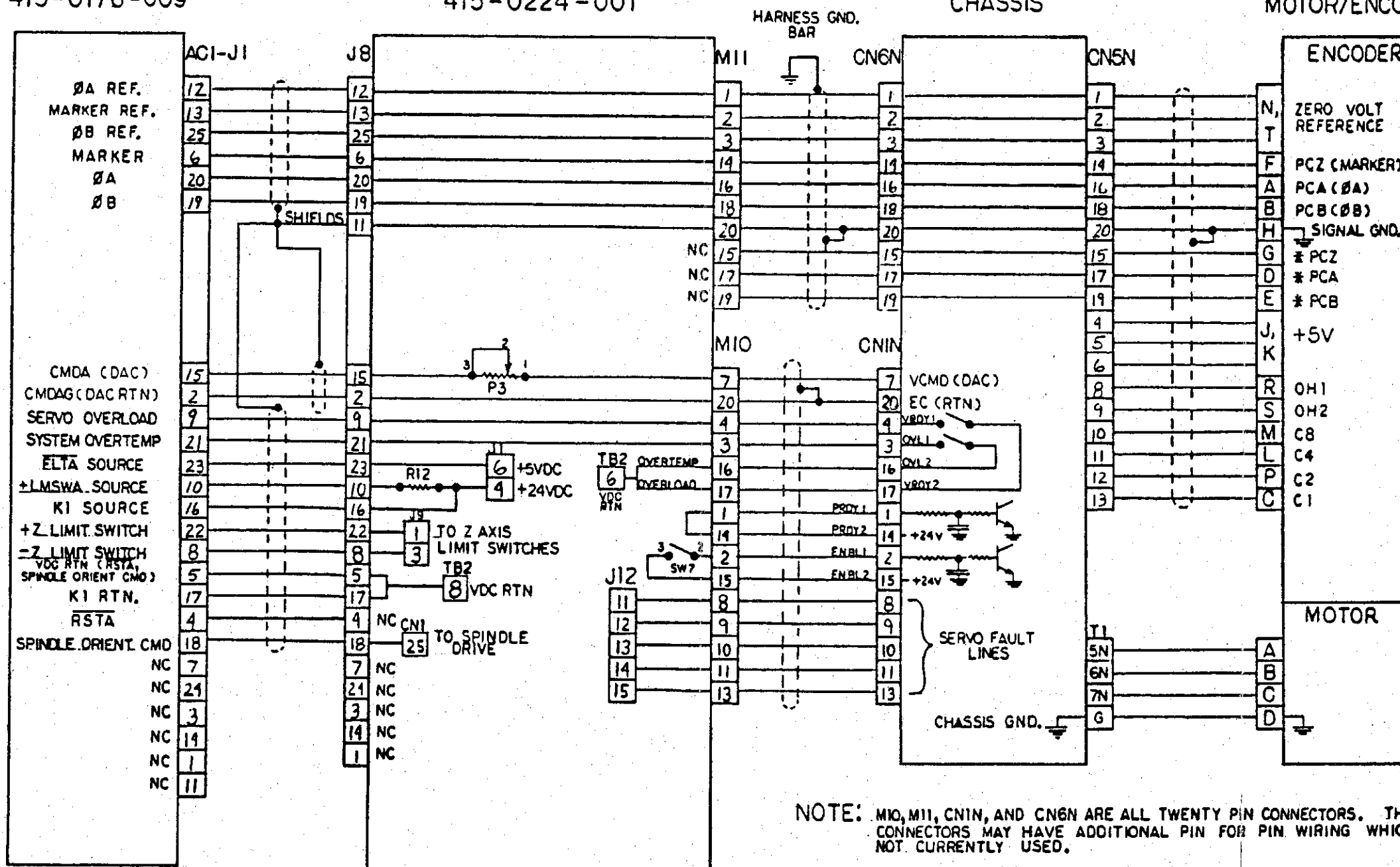
HURCO MANUFACTURING COMPANY, INC. INDIANAPOLIS, IN U.S.A.					
DESCRIPTION					
Y AXIS CONNECTION DIAGRAM					
DRAWN	DATE	CHECKED	DATE	APPROVED	DATE
		TKM	NOV 82	TKM	NOV 82
SCALE	SIZE	DRAWING		SHT	REV.
		002-3210-009		1	B
UNIT OF MEAS.	C				

DUAL AXIS BOARD
415-0176-009

CONTROL RELAY BOARD
415-0224-001

FANUC AC SERVO
CHASSIS

FANUC
MOTOR/ENCODER



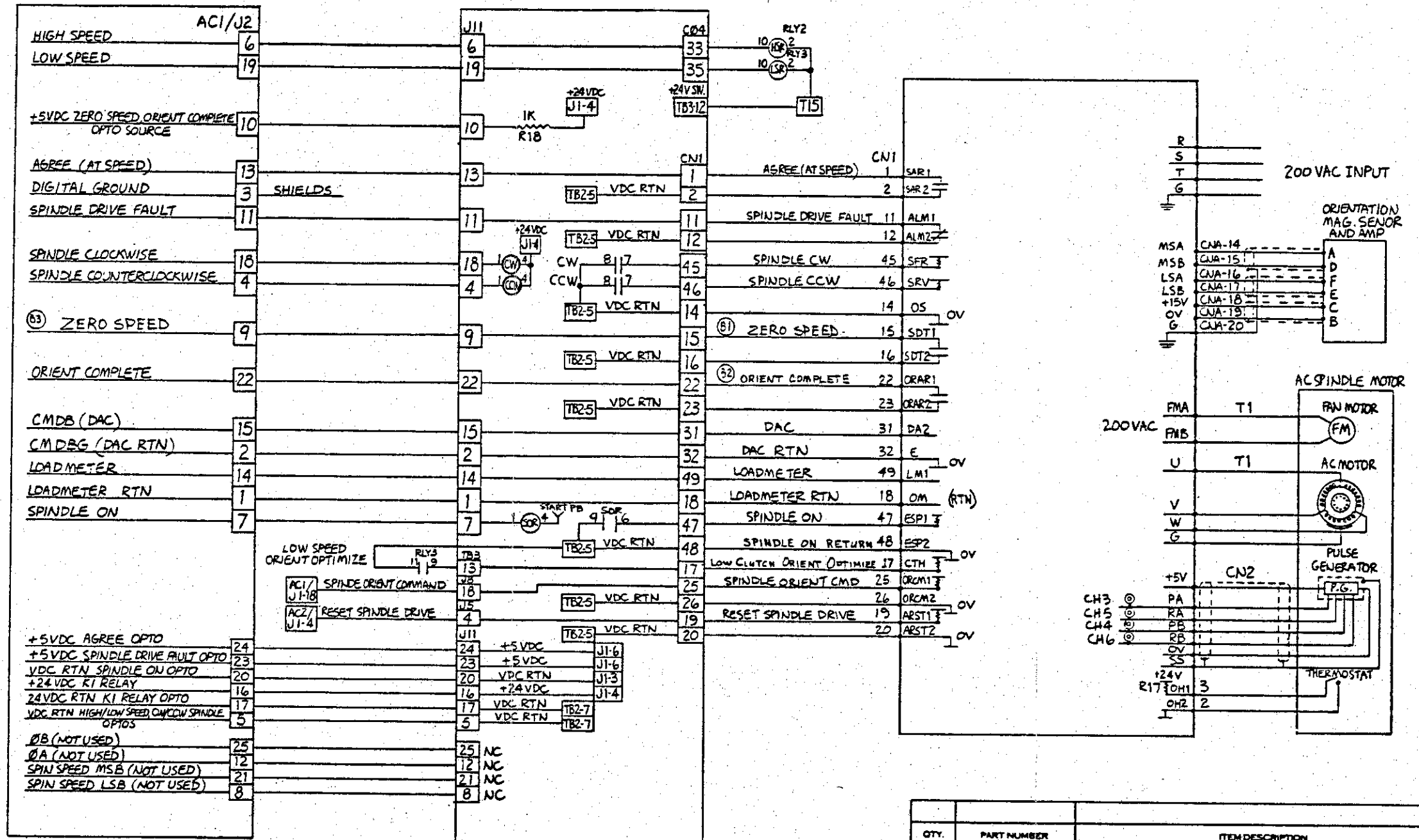
NOTE: M10, M11, CN1N, AND CN6N ARE ALL TWENTY PIN CONNECTORS. THESE CONNECTORS MAY HAVE ADDITIONAL PIN FOR PIN WIRING WHICH IS NOT CURRENTLY USED.

EXCEPT AS NOTED		HURCO		HURCO MANUFACTURING COMPANY, INC. INDIANAPOLIS, IN U.S.A.			
ALL DIMENSIONS IN INCHES		DESCRIPTION Z AXIS CONNECTION DIAGRAM					
TOLERANCES DECIMAL		DRAWN		DATE	CHECKED	DATE	APPROVED
0	± 0.30	TRM		ADY 86	TRM	ADY 86	TRM
00	± 0.15	SCALE		SIZE	DRAWING	SHT.	REV.
000	± 0.05	UNIT OF MEAS		C	002-3210-010	of 1	A
0000	± 0.005						
ANGULAR	± 0°30'						

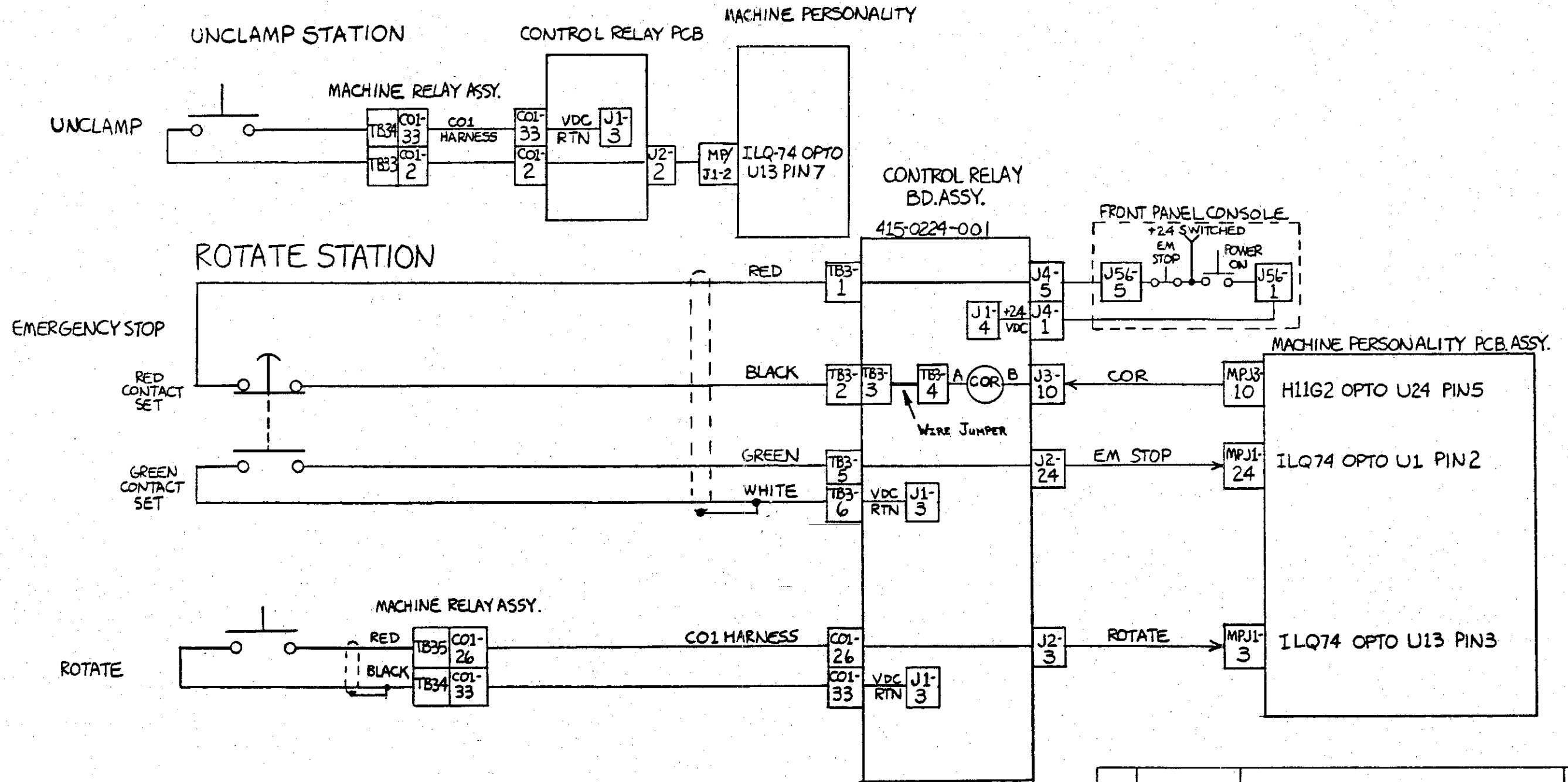
Z, SPINDLE DUAL AXIS PCB
415-0176-009

CONTROL RELAY PCB
415-0224-001

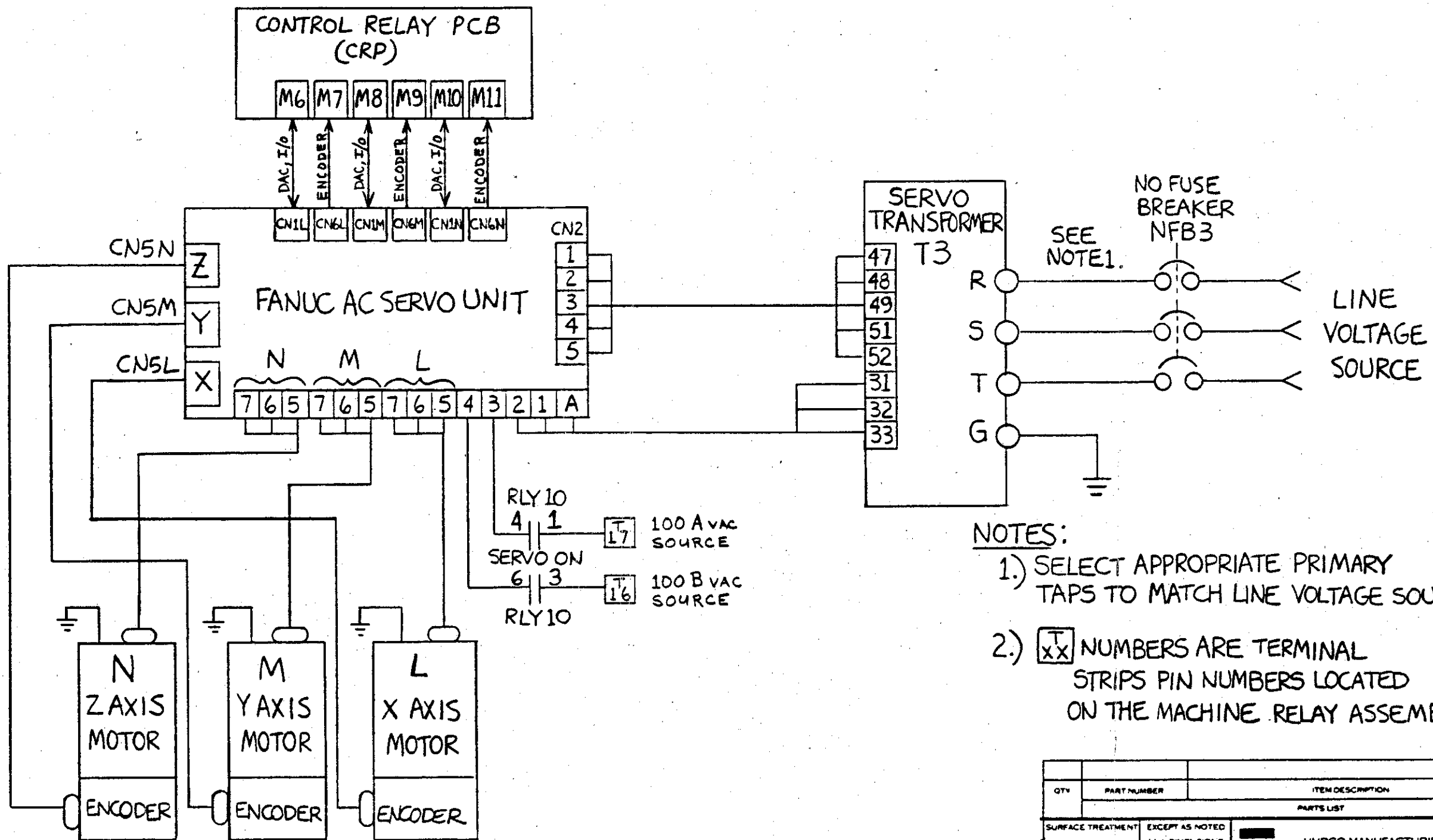
FANUC AC SPINDLE DRIVE



QTY.	PART NUMBER	ITEM DESCRIPTION	ITEM
PARTS LIST			
SURFACE TREATMENT		EXCEPT AS NOTED: ALL DIMENSIONS IN INCHES TOLERANCES DECIMAL .1 = .030 .00 = .015 .000 = .005 .0000 = .0005 ANGULAR ± 0°30'	MURCO MANUFACTURING COMPANY, INC. INDIANAPOLIS, IN U.S.A.
MEAT TREATMENT		BREAK ALL SHARP EDGES THIRD ANGLE PROJECTION	
FIRST USED ON BMC 30/40/50		DESCRIPTION SPINDLE AXIS CONNECTION DIAGRAM	
SCALE	SIZE	CHECKED T M W	DATE 26 NOV 86
UNIT OF MEAS.	C	DRAWING	APPROVED DATE 26 NOV 86
		SHT. 1 OF 1	
		REV. B	



QTY	PART NUMBER	ITEM DESCRIPTION	ITEM
PARTS LIST			
SURFACE TREATMENT		EXCEPT AS NOTED	HURCO MANUFACTURING COMPANY INC. INDIANAPOLIS, IN U.S.A.
HEAT TREATMENT		ALL DIMENSIONS IN INCHES TOLERANCES DECIMAL 0 ± 0.30 00 ± 0.15 000 ± 0.08 0000 ± 0.05 ANGULAR ± 0.30	
FIRST USED ON		BREAK ALL SHARP EDGES	
THIRD ANGLE PROJECTION		DESCRIPTION Rotate And Unclamp Station Schematic DRAWN DATE CHECKED DATE 2/ APPROVED DATE 2/ REV BMC 30/10/50 TRM WDB 7/77 ADV 8	
SCALE		SIZE	UNIT OF MEAS B
DRAWING		REV	002-3210-012 1 A



- NOTES:**
- 1.) SELECT APPROPRIATE PRIMARY TAPS TO MATCH LINE VOLTAGE SOURCE.
 - 2.) [TXX] NUMBERS ARE TERMINAL STRIPS PIN NUMBERS LOCATED ON THE MACHINE RELAY ASSEMBLY.

QTY	PART NUMBER	ITEM DESCRIPTION	ITEM
PARTS LIST			
SURFACE TREATMENT		EXCEPT AS NOTED ALL DIMENSIONS IN INCHES.	HURCO MANUFACTURING COMPANY INC INDIANAPOLIS, IN U.S.A.
HEAT TREATMENT		TOLERANCES DECIMAL 0 : 0.30 00 : 0.15 000 : 0.05 0000 : 0.005 ANGULAR : 0°-30'	
FIRST USED ON		THIRD ANGLE PROJECTION	DESCRIPTION AXES DRIVE CONNECTION DIAGRAM
BMC 30/40/50		DRAWN: TRM DATE: NOV 26 CHECKED: JMM DATE: NOV 26 SCALE: B SIZE: 002-3210-013 UNIT OF MEAS: A	DRAWING SHEET 1 OF 1 REV. A