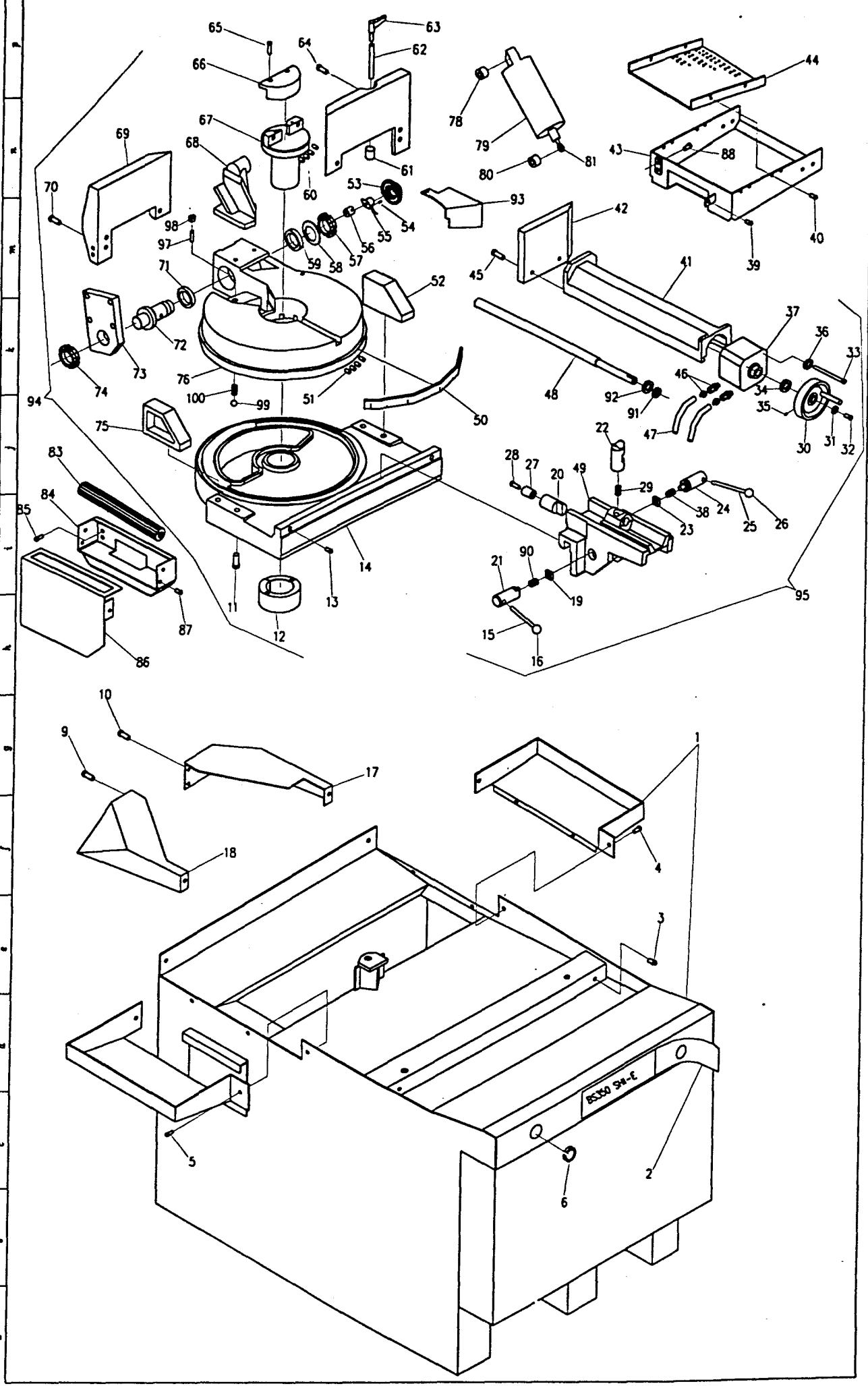


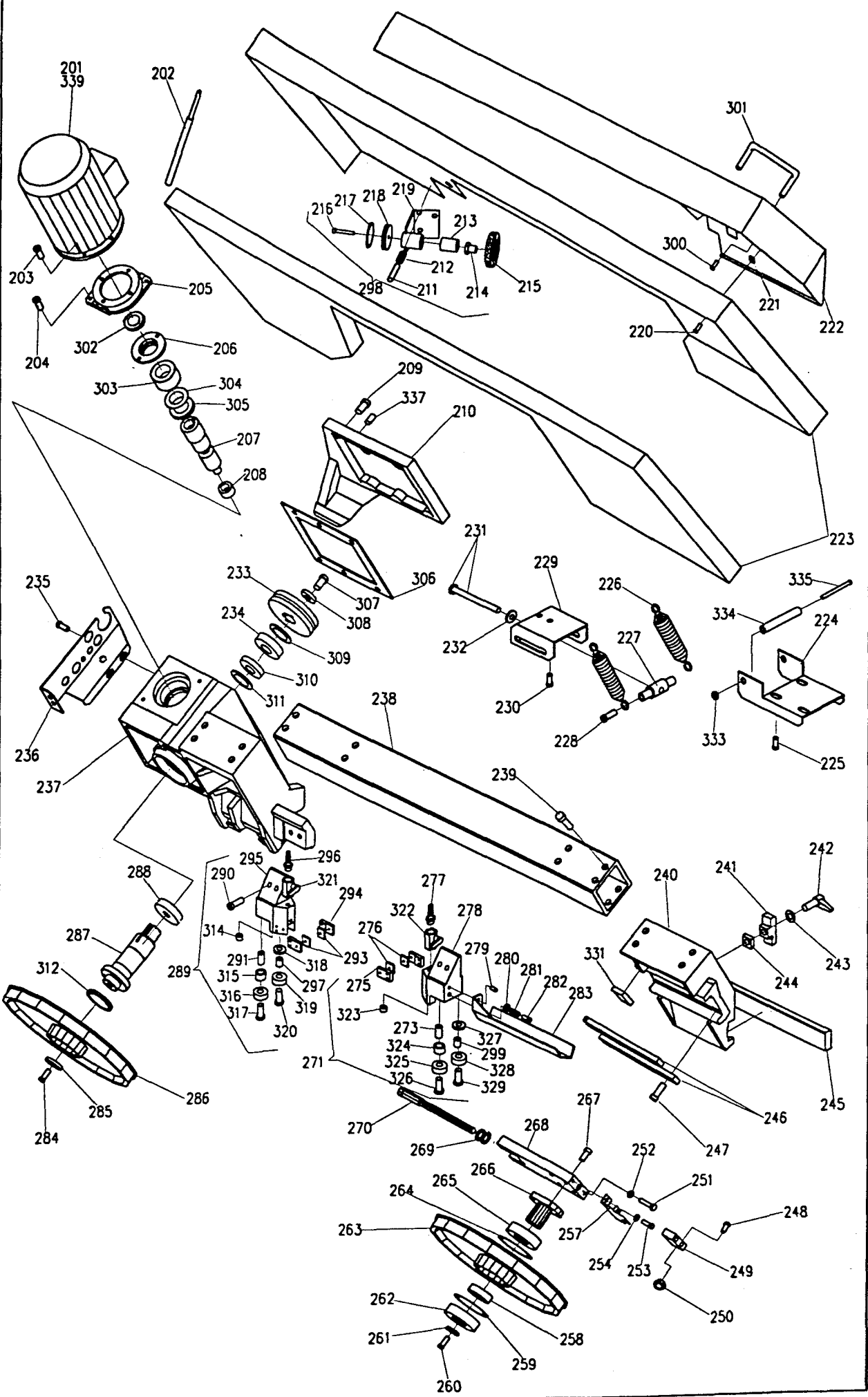
# KALAMAZOO MACHINE TOOL



N°	CODICE	DESCRIZIONE	Q	N°	CODICE	DESCRIZIONE	Q	N°	CODICE	DESCRIZIONE	Q
1	277510		1	51	758760		1	101			1
2			1	52	856999		1	102			1
3	970248		2	53	265797		1	103			1
4	970248		4	54	975910		2	104			2
5	970248		4	55	699743		1	105			1
6	630970		2	56	179350		1	106			1
7				57	497303		1	107			1
8				58	750180		1	108			1
9	970248		2	59	283020		1	109			1
10	970248		2	60	758760		1	110			1
11	973445		4	61	167257		1	111			1
12	118500		1	62	791620		1	112			1
13	277230		1	63	536675		1	113			1
14	141000		1	64	973445		2	114			2
15	529020		1	65	966445		1	115			1
16	513931		1	66	918592		1	116			1
17	729300		1	67	652790		1	117			1
18	729310		1	68	851799		1	118			1
19	157220		1	69	492800		1	119			1
20	144990		1	70	973445		2	120			2
21	330050		1	71	283020		1	121			1
22	144995		1	72	651530		1	122			1
23	157220		1	73	654710		1	123			1
24	330055		1	74	497303		1	124			1
25	529020		1	75	857100		1	125			1
26	513931		1	76	681000		1	126			1
27	144992		1	77	630970		1	127			1
28	976548		1	78	323380		1	128			1
29	547200		1	79	222828		1	129			1
30	964234		1	80	323385		1	130			1
31	741515		1	81	780850		1	131			1
32	964504		2	82			1	132			1
33	983556		1	83	759501		1	133			1
34	741509		1	84	698055		1	134			1
35	944204		1	85	971895		2	135			2
36	744500		4	86	267504		1	136			1
37	222760		1	87			1	137			1
38	547312		1	88	971895		2	138			2
39	971895		1	89			1	139			1
40			1	90	547312		1	140			1
41	184000		1	91	741509		1	141			1
42	486505		1	92	735602		1	142			1
43	698050		1	93	729295		1	143			1
44	267502		1	94	114100		1	144			1
45			1	95	154880		1	145			1
46			1	96			1	146			1
47			1	97	946780		1	147			1
48	957130		1	98	305050		1	148			1
49	851900		1	99	778615		1	149			1
50	911015		1	100	547316		1	150			1



# KALAMAZOO MACHINE TOOL



Dis. N R10172A2  
 RCD

# KALAMAZOO MACHINE TOOL



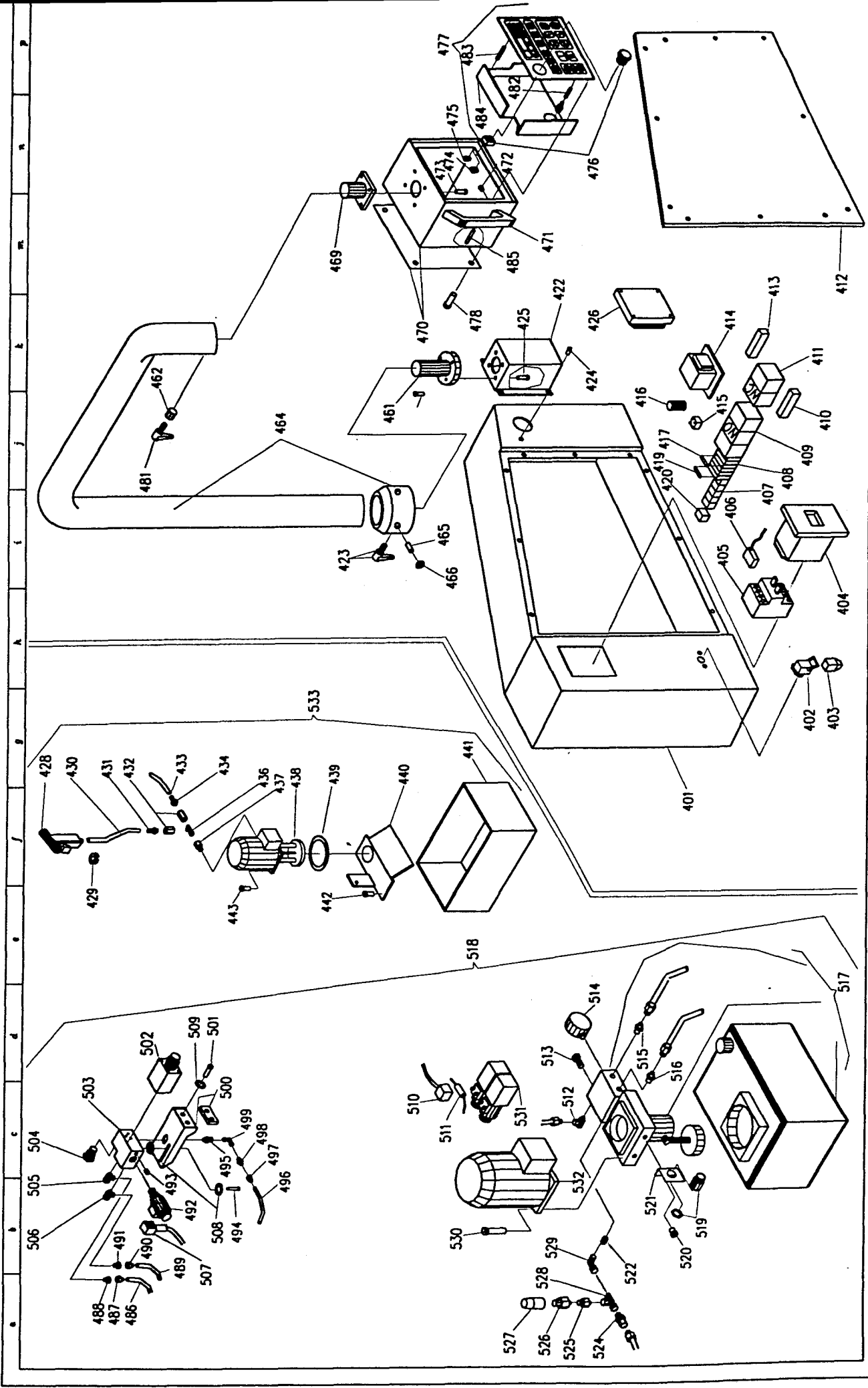
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N°	CODICE	DESCRIZIONE	Q	N°	CODICE	DESCRIZIONE	Q	N°	CODICE	DESCRIZIONE	Q
201	589120		1	251	994800		2	301			1
202	544800		1	252	306500		2	302			1
203	978095		4	253	976113		1	303			1
204	978095		2	254	748695		1	304			1
205	349351		1	255			1	305			1
206	349353		1	256			1	306			1
207	958930		1	257	699579		1	307			1
208	280765		1	258	327118		1	308			1
209	978095		6	259	128116		1	309			1
210	266299		1	260	964920		1	310			1
211	946607		2	261	742333		1	311			1
212	547200		2	262	291020		1	312			1
213	180052		1	263	707235		1	313			1
214	330010		1	264	128116		1	314			1
215	785770		1	265	291020		1	315			1
216	983250		1	266	113502		1	316			1
217	119840		1	267	978870		4	317			1
218	763200		1	268	658663		1	318			1
219	863150		1	269	546957		20	319			1
220	970200		3	270	792334		1	320			1
221	667770		3	271	631155		1	321			1
222	201500		1	272	284209		1	322			1
223	201501		1	273	180048		1	323			1
224	658270		1	274			1	324			1
225			1	275	697300		2	325			1
226	547652		2	276	515800		1	326			1
227	646550		1	277	695995		1	327			1
228			1	278	631097		1	328			1
229	522100		1	279	788220		1	329			1
230			1	280	749470		1	330			1
231	180808		1	281	547200		1	331			1
232	744987		1	282	976548		1	332			1
233	276668		1	283	728544		1	333			1
234	283070		1	284	956844		1	334			1
235	977650		2	285	735902		1	335			1
236	522630		1	286	707220		1	336			1
237	727299		1	287	114290		1	337			1
238	938500		1	288	283020		1	338			1
239	975822		8	289	631150		1	339			1
240	856000		1	290			1	340			1
241	798880		1	291	180048		1	341			1
242	536675		1	292	284209		2	342			1
243	747145		1	293	515800		2	343			1
244	279100		1	294	697300		2	344			1
245	688794		1	295	631095		2	345			1
246	658347		1	296	695220		1	346			1
247	995145		4	297	180050		1	347			1
248	975923		1	298	178570		1	348			1
249	520864		1	299	180050		1	349			1
250	294002		1	300	970273		2	350			1



# KALAMAZOO MACHINE TOOL

RCD \_\_\_\_\_ Dis. N. RI0172A2



RCD Dis. N RI0172A2



# KALAMAZOO MACHINE TOOL

N°	CODICE	DESCRIZIONE	Q	N°	CODICE	DESCRIZIONE	Q	N°	CODICE	DESCRIZIONE	Q
401	713110		1	451				501	967245		0
402	699750		1	452				502	727035		2
403	970248		4	453				503	727018		1
404	766198		1	454				504	202202		1
405	766165		1	455				505	714852		1
406	164908		1	456				506	714852		1
407	559092		5	457				507	260163		1
408	694765		6	458				508	744715		1
409	260750		3	459				509	749470		1
410	260820		1	460				510	260150		2
411	260745		4	461	205600		1	511	312207		2
412	265821		1	462	744100		1	512			2
413	260795		1	463	536521		1	513	865936		1
414	931200		1	464	169428		1	514	539877		1
415	723723		1	465	941640		3	515	616230		1
416	260080		1	466	303070		3	516	616230		1
417	390010		2	467	941650		1	517	205300		1
418				468				518	194060		1
419	390001		4	469	205900		1	519	718862		1
420	558810		1	470	712020		1	520	978870		1
421				471	536100		2	521	796809		1
422	521905		1	472	970273		4	522	727788		1
423	53653		1	473	970273		4	523			1
424	977650		6	474	260231		1	524	616230		1
425	977650		4	475	260397		1	525	727779		1
426	521200		1	476	709407		1	526	699897		1
427				477				527	182962		1
428	690814		1	478				528	722345		1
429	331925		2	479				529	716145		1
430				480	632788		1	530	994600		4
431	694925		1	481	536419		1	531	331541		2
432	755995		2	482	390001		1	532	562800		1
433	935500		m4	483	327209		4	533	330280		1
434	696346		1	484	728800		1	534			1
435				485	327201		2	535			1
436	722000		1	486	933697		1	536			1
437	616628		1	487	715300		1	537			1
438	331427		1	488	616230		1	538			1
439	510200		1	489	933569		1	539			1
440	697836		1	490	715000		1	540			1
441	940895		1	491	716834		1	541			1
442	976545		1	492	331699		1	542			1
443	976545		5	493	864825		1	543			1
444				494	994600		2	544			1
445				495	718812		1	545			1
446				496	933697		1	546			1
447				497	715300		1	547			1
448				498	616230		1	548			1
449				499	716145		1	549			1



**KALAMAZOO MACHINE TOOL**

H 350 SA

DEVICE DESIGNATIONS

- AT Main control
- B Proximity switch
- C Capacitor
- FU Fuse block
- KM Control master relay
- HL Pilot light
- L Filter suppressor
- M Motor
- PA Ampermeter
- QM Circuit breaker
- RP Potentiometer
- SA Selector switch
- SB Pushbutton
- SQ Limit switch
- ST Thermic switch
- TC Control circuit transformer
- TV Voltage transformer
- U Controller A.C.
- V Rectifier diode
- VC Rectifier bridge
- X Terminal block
- XS Plug
- XP Receptacle
- YW Solenoid valve

CODE TO NUMBER AUXILIARY CONDUCTORS  
(ABCD)

- AB = page's number
- CD = progressiv's conductor's number

CODE TO INITIALLING FOR ELECTRIC EQUIPMENT  
(A B C)

- A = page's number
- B = device designation
- C = progressiv's number

CODE TO LOCATE OF RELAY CONTACTS  
(A . B)

- A = page's number
- B = column's number

CODE TO REFER LINE  
(A / B)

- A = page's number
- B = column's number and letter's line

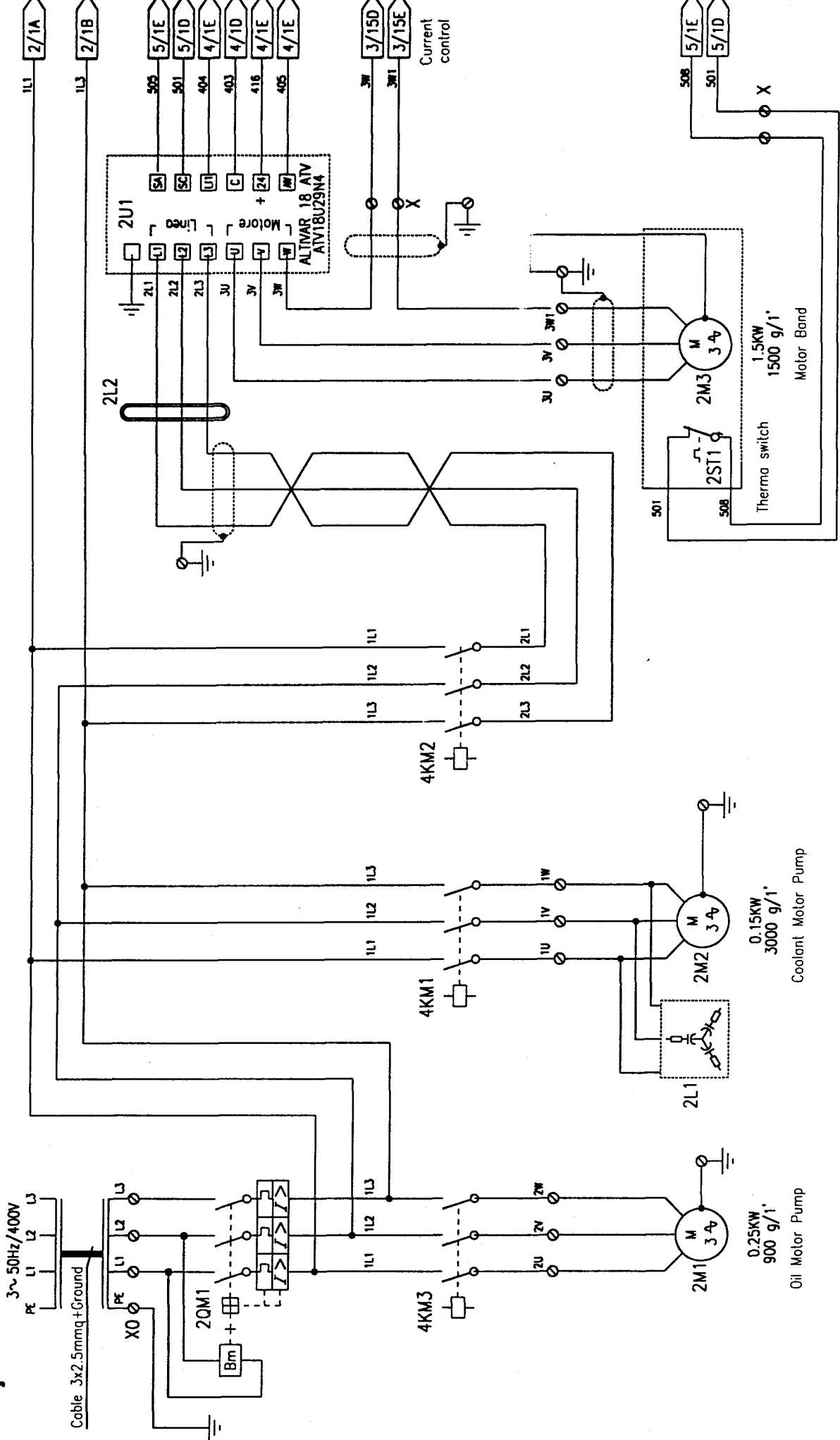


# KALAMAZOO MACHINE TOOL

H 350 SA

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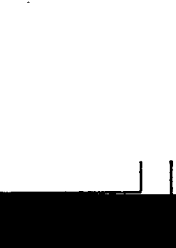
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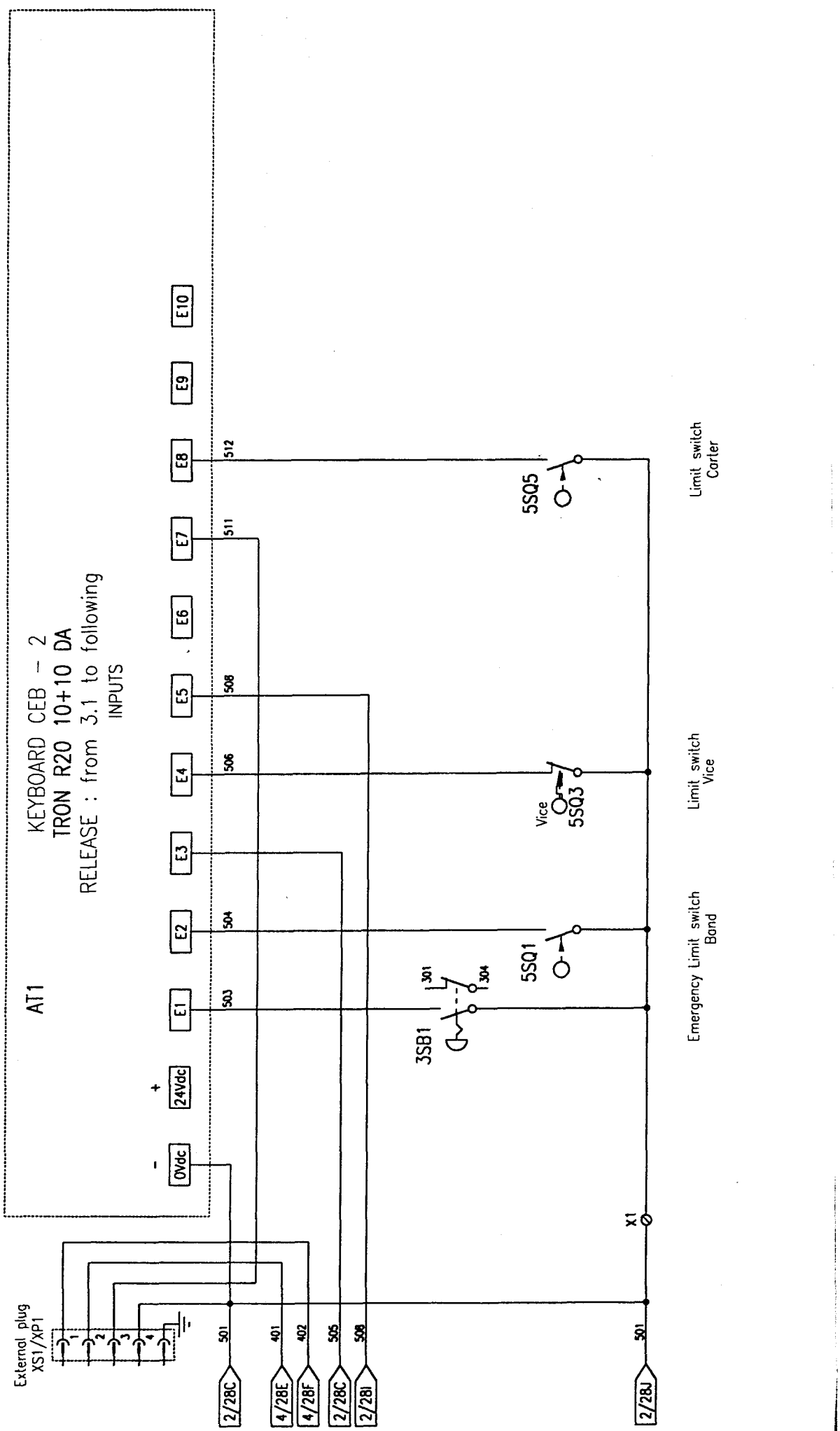
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**KALAMAZOO MACHINE TOOL**

**H 350 SA**



23 24 25 26 27 28



DISEGNO N° :	QE0097B2				
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Data :	02.1999				
Foglio N° :	5				
23	24	25	26	27	28



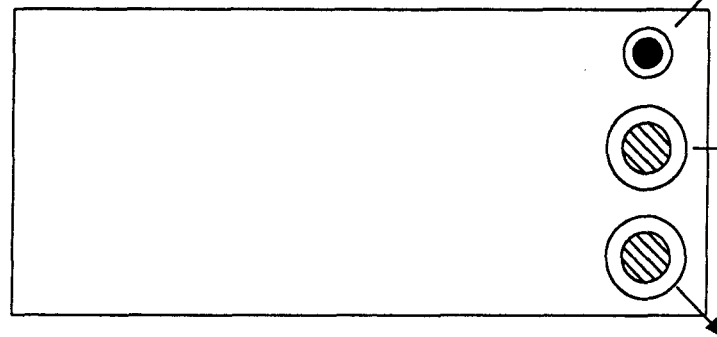
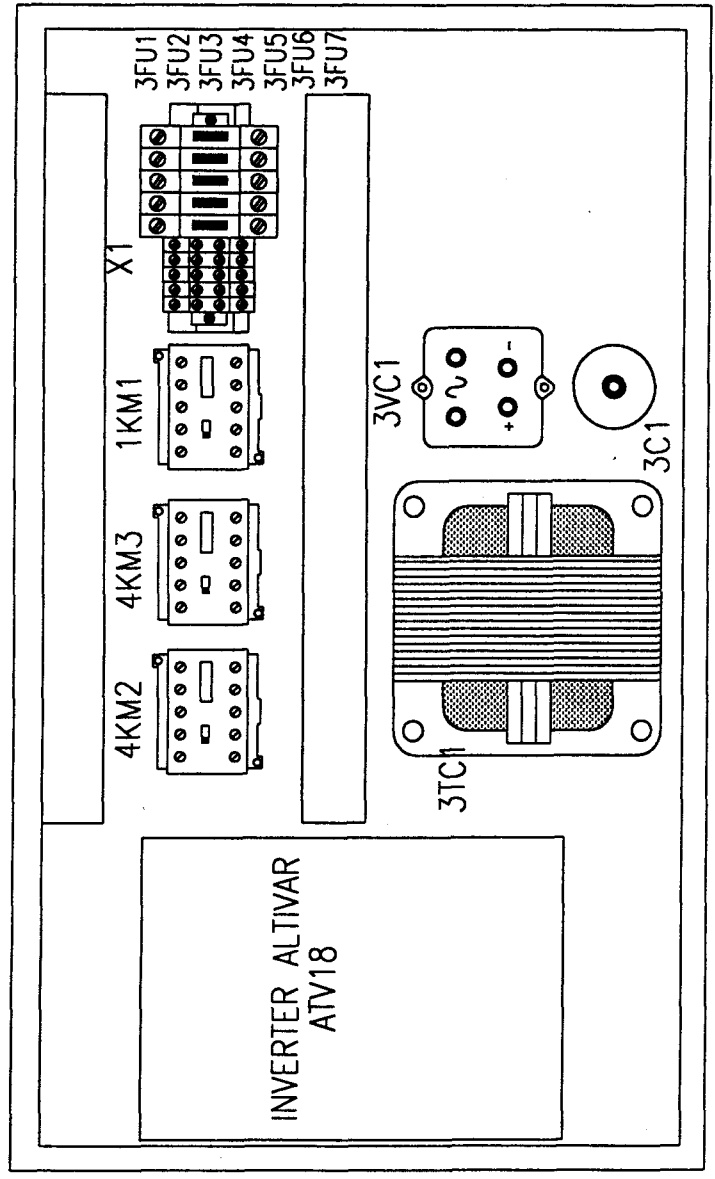
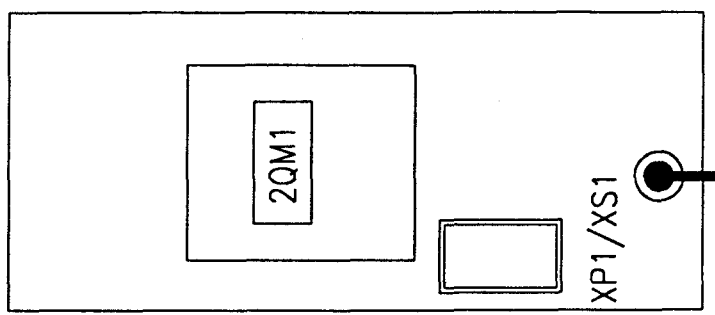
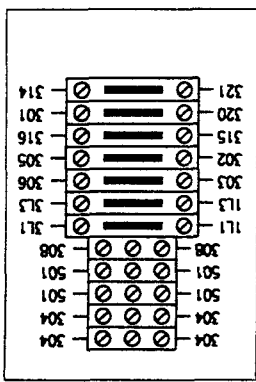
# KALAMAZOO MACHINE TOOL

H 350 SA





1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28



Cable cv0  
 Cable 3x2.5mmq+Ground  
 L1 L2 L3 PE  
 3~ 50Hz/400V



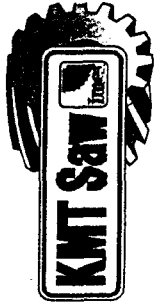
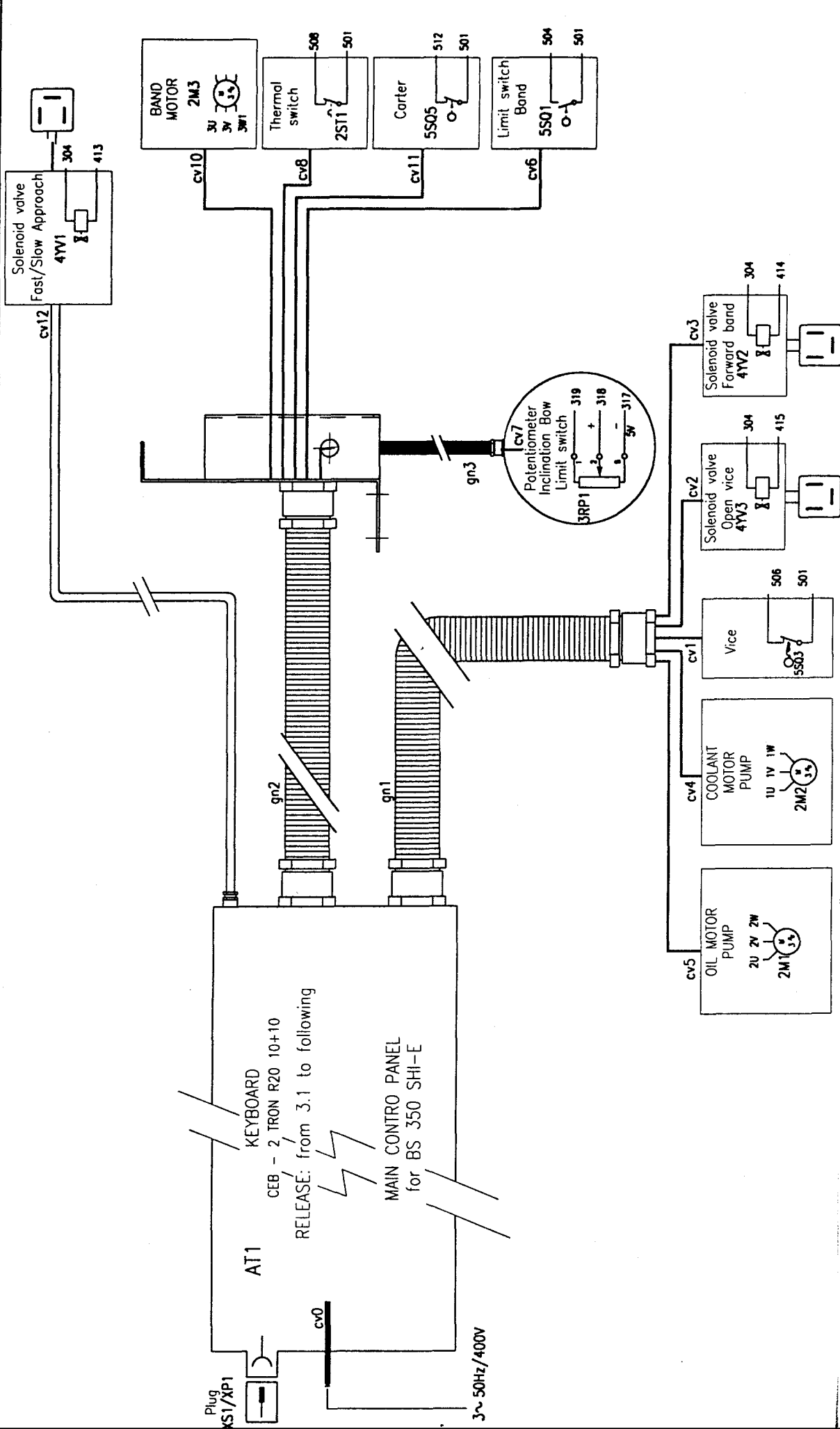
# KALAMAZOO MACHINE TOOL

H 350 SA

DISIGNO N° :	QE0097B2
FILE :	-
Data :	02.1999
Foglio N° :	7

23 24 25 26 27 28

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28



# KALAMAZOO MACHINE TOOL

H 350 SA

DISEGNO N° : QE0097B2	23	24	25	26	27	28
FILE : -						
Data : 02.1999						
Foglio N° : 6						

REF.	DEVICE	SPECIFICATIONS	FUNCTION	FACTORY	TYPE	ITEM N°	Q.TY
2QM1	Circuit breaker	3P-P.I. 6KA-4/6.3A-Rot. 4.5A	Main circuit breaker - Rating 4.5A	TELEMECANIQUE	GV2 M10-4/6.3A	766162	1
2QM1	Min. voltage relay	400V	Unloah main control	TELEMECANIQUE	GV2 AU385	164908	1
2QM1	Terminal box	IP55	Terminal box for main circuit breaker	TELEMECANIQUE	GV2 MP02+V01	766198	1
2M1	3 Phase motor	0.75KW-400V-900G/1'	Oil motor pump	ELD	B5 FC71 6Poli	562800	1
2M2	3 Phase motor	0.15KW-400V-3000G/1'	Coolant motor pump	OMCG	PMU60L P150	331524	1
2M3	3 Phase motor	1.5/1.8KW-400V-1500/3000G/1'	Motor band	ELETTROADDA	B5 FC90 2-4RL	590050	1
2L1	Filter (optional)	RC + Cable 575V	Noise suppressor	MPM	130809	334010	1
2ST1	Thermal switch	Classe B	Overcurrent protection motor band	TERMIK			3
2U1	Frequency drive unit	1.5KW-400V/3 Phase	Control speed motor band	TELEMECANIQUE	ALTIVAR 18ATV	521200	1
3AT1	Station control 10+10 DA	IP65 Code 2HI Release: from 3.1	Control unit and program	S & M			
3RP1	Potentiometer	5K0hm/308' ± 0.3%/IP65	Control gradient bow	C.E.B.	R20 8+8 DAC	XF91868	1
3FU1	Terminal block	4mmq./6.3A	Primary protection transformer	SIKO	SP2841001941	699743	1
3FU1	Fuse	5x25mm./size 2A	Primary protection transformer	WEBER	5TK 1 PA	694520	1
3FU2	Terminal block	4mmq./6.3A	Primary protection transformer	CUNTAQLIP	5x25mm./6A	390010	1
3FU2	Fuse	5x25mm./size 2A	Primary protection transformer	WEBER	5TK 1 PA	694520	1
3FU3	Terminal block	4mmq./6.3A	Secondary protection trasformer 0-20-24	WEBER	5x25mm./6A	390010	1
3FU3	Fuse	5x20mm./size 6.3A	Secondary protection trasformer 0-20-24	CUNTAQLIP	5TK 1 PA	694520	1
3FU4 / 6	Terminal block	4mmq./6.3A	Secondary protection trasformer 0-20-24	WEBER	5x20mm./3.2A	390001	1
3FU4 / 6	Fuse	5x20mm./size 6.3A	Secondary protection trasformer 15-0-15	CUNTAQLIP	5TK 1 PA	694520	1
3FU5 / 7	Terminal block	4mmq./6.3A	Secondary protection trasformer 15-0-15	WEBER	5x20mm./3.2A	390001	1
3FU5 / 7	Fuse	5x20mm./size 3.2A	Secondary protection trasformer 0-18	CUNTAQLIP	5TK 1 PA	694520	1
3TC1	Control circuit transformer	VA160/ve 400 Vu1 0-20-24 Vu2 15-0-15 Vu3 0-9 Vu4 0-18	Secondary protection trasformer 0-18 Main auxiliary supply	WEBER	5x20mm./3.2A	390001	1
				C.E.	T.T. CEI 14/6	931200	1
				2.E.	TR		



# KALAMAZOO MACHINE TOOL

H 350 SA

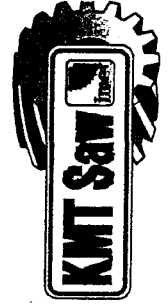
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FILE : -

Data : 02.1999

Foglio N° : 8

REF.	DEVICE	SPECIFICATIONS	FUNCTION	FACTORY	TYPE	ITEM N°	Q.TY
3SB1	Pushbutton (emergency)	ø40mm. - Clearing rotation	Emergency stop button	BRETER	RM 065R +	709170	1
3SB1	Normally close contact	NC - Red	Emergency stop button	CEMA	P9XR4RN		
3SB1	Normally open contact	NC - Green	Emergency stop button	BRETER	V 40 +	260231	1
3VC1	Rectifier bridge	24Vd.c./6A	Auxiliary 24Vd.c. supply	CEMA	P9B01UN		
3C1	Capacitor	2200µF 80WV	Auxiliary 24Vd.c. supply	BRETER	V 50	260397	1
4KM1	Control master relay	4KW-9A-24Vac	Power coolant motor pump	CEMA	P9B10UN		
4KM2	Control master relay	4KW-9A-24Vac	Power frequency drive unit and motor	FAGOR	CDFB 2504	723723	1
4KM3	Control master relay	4KW-9A-24Vac	Power hydraulic oil motor pump	DAEWOO		260080	1
				LOVATO	MC9-10 24V	260750	1
				C.G.E.	MC1A 10 24V		
				LOVATO	MC9-10 24V	260750	1
				C.G.E.	MC1A 10 24V		
				LOVATO	MC9-10 24V	260750	1
				C.G.E.	MC1A 10 24V		
4V1/2/3	Diode	700V/1A	No interference				
4Y1	Solenoid valve 2/2	Size M22 - 24Vdc	Control fasten speed band	COMATROL	IN 40007	312207	3
4Y2	Solenoid valve 4/2	CETOP 3 - 24Vdc	Control forward band	ARON	EVH 06C5 24C 00	331699	1
4Y3	Solenoid valve 4/2	CETOP 3 - 24Vdc	Control opening vice	ARON	A03 EA15 AM20	331541	1
				ARON	A03 EA15 AM20	331541	1
5SQ1	Limit switch	IP00 - NC/O/NO	Control band position	PIZZATO	MS 06	520916	1
5SQ5	Limit switch	IP67 with cable	Control carter closed	TELEMECANIQUE	XCMA1032 90ø	521000	1
5SQ3	Limit switch	IP67 with cable	Control vice closed	TELEMECANIQUE	XCMA1032 90ø	521000	1



# KALAMAZOO MACHINE TOOL

H 350 SA

DISIGNO N° :	QE0097B2
FILE :	-
Data :	02.1999
Foglio N° :	9

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28

REF.	DEVICE	SPECIFICATIONS	FUNCTION	FACTORY	TYPE	ITEM N°	Q.TY
XS1	PLUG NOT SUPPLIED	4 Poles/10A+Ground	Remote control	ILME	CK03V+CKM04	786745	1
XP1	Receptacle	4 Poles/10A+Ground	Remote control	ILME	CK31A+CKF04	699750	1
X1	Terminal block	Doble terminal 2.5mmq./4A	Connection external equipments	CONTACLIP	RKD 2.5 PA	559092	5
X	Terminal block (4 poles)	Doble terminal 2.5mmq./4A	Connection external equipments	SCHIAVI	ART.6904	558853	1
cv0	Flexible cable	4x2.5mmq.	Connection main supply			205213	1
cv1	Flexible cable	2x075mmq 3m	Connection solenoid valves and limit switch				1
cv2	Flexible cable	2x075mmq 50cm	Connection solenoid valves and limit switch				1
cv3	Flexible cable	2x075mmq 50cm	Connection solenoid valves and limit switch				1
cv4	Flexible cable	4x1.5mmq 1,5m	Connection coolant motor pump			205065	1
cv5	Flexible cable	4x1.5mmq 50cm	Connection oil motor pump			205065	1
cv6	Flexible cable	2x075mmq 2,2m	Connection solenoid valves and limit switch				1
cv7	Flexible cable	3x0.25+Shield	Connection potentiometer				1
cv8	Flexible cable	2x075mmq 50cm	Therminal swich				1
cv10	Flexible cable	1x1.5mmq 50cm	Connection motor band				1
cv11	Flexible cable	2x075mmq 2,2m	Connection solenoid valves and limit switch				1
cv12	Flexible cable	2x075mmq 1,5m	Connection solenoid valves and limit switch				1
gn1	Flexible tube	PVC 1"	Outputs for hydraulic oil 1,6m	TEAFLEX	PAS-G29B	507382	1
gn2	Flexible tube	PVC 1"	Outputs for motor bow 3,5m	TEAFLEX	PAS-G29B	507382	1
gn3	Flexible tube	PVC 1/4"	1,3m				1

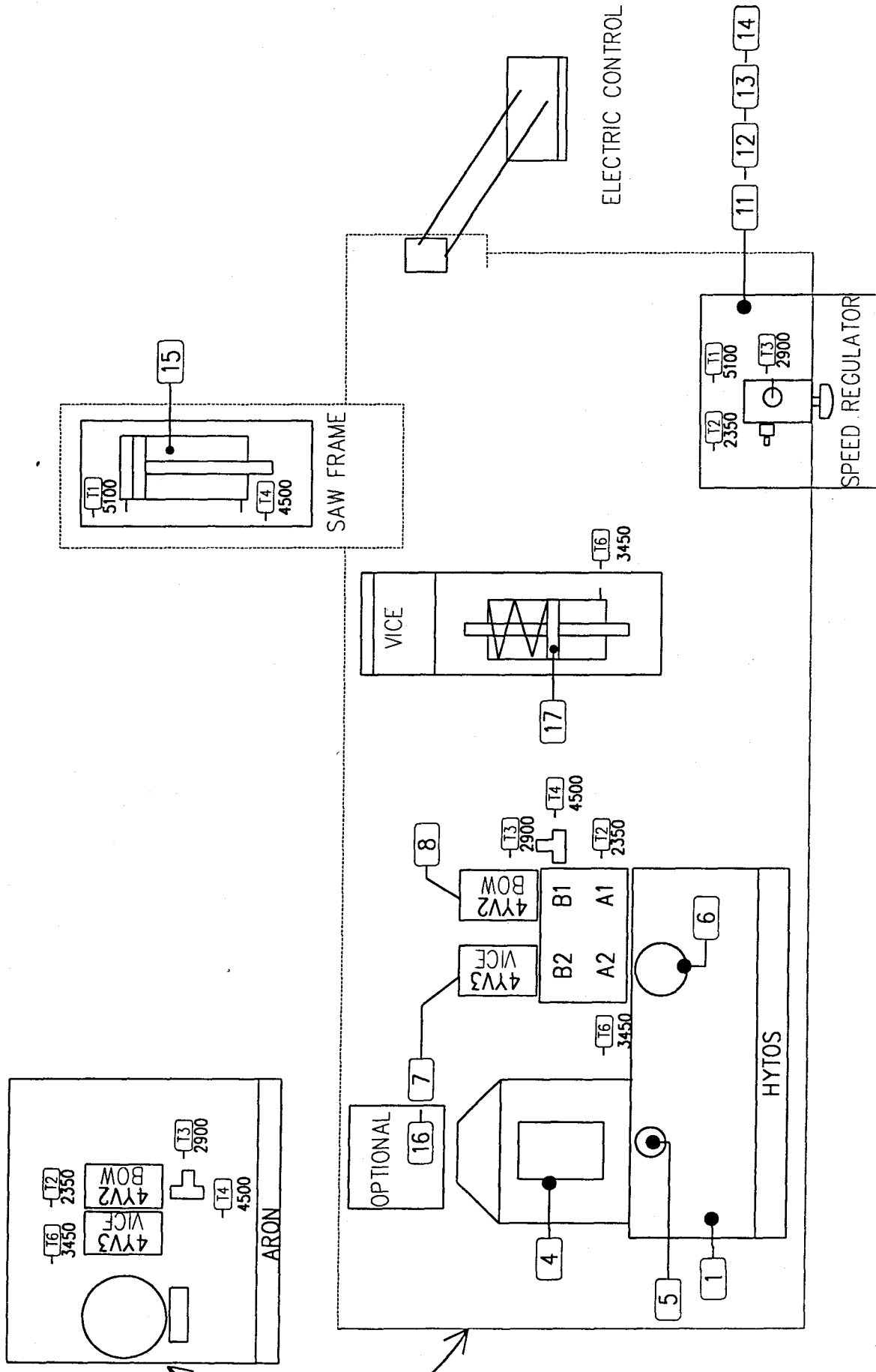


# KALAMAZOO MACHINE TOOL

H 350 SA

DISGNO N° : QE0097B2  
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 Data : 02.1999  
 Foglio N° : 10

23 24 25 26 27 28



IN COMPLIANCE WITH:		3		7		8		9		10		11		12		13		14		15		16		17		18		19		20		21		22		23		24		25		26		27		28	
ISO 1219		2		7		8		9		10		11		12		13		14		15		16		17		18		19		20		21		22		23		24		25		26		27		28	
EN 982		1		7		8		9		10		11		12		13		14		15		16		17		18		19		20		21		22		23		24		25		26		27		28	
N°		1		7		8		9		10		11		12		13		14		15		16		17		18		19		20		21		22		23		24		25		26		27		28	
DATA		1		7		8		9		10		11		12		13		14		15		16		17		18		19		20		21		22		23		24		25		26		27		28	
MODIFICHE		1		7		8		9		10		11		12		13		14		15		16		17		18		19		20		21		22		23		24		25		26		27		28	
LAYOUT OF COMPONENTS		1		7		8		9		10		11		12		13		14		15		16		17		18		19		20		21		22		23		24		25		26		27		28	
DESCRIZIONE :		1		7		8		9		10		11		12		13		14		15		16		17		18		19		20		21		22		23		24		25		26		27		28	
MACCHINA TIPO: BS 350 SHI-E		2		7		8		9		10		11		12		13		14		15		16		17		18		19		20		21		22		23		24		25		26		27		28	
DISEGNO N° : QE011983		3		7		8		9		10		11		12		13		14		15		16		17		18		19		20		21		22		23		24		25		26		27		28	
FILE : -		3		7		8		9		10		11		12		13		14		15		16		17		18		19		20		21		22		23		24		25		26		27		28	
Data : 06.1999		3		7		8		9		10		11		12		13		14		15		16		17		18		19		20		21		22		23		24		25		26		27		28	
Foglio N° : 3		3		7		8		9		10		11		12		13		14		15		16		17		18		19		20		21		22		23		24		25		26		27		28	



1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	
REF.	DESCRIPTION							SPECIFICATION									FACTORY			TYPE			PART NUMBER					Q.TY
1	COMPLETE HYDRAULIC UNIT							MODULAR ELEMENTS w/MOTOR 6POLES 0.25KW									IMET											
1	OIL FILTER							MODULAR ELEMENTS w/MOTOR 4POLES 0.25KW									HYTOS			870-0382								1
2	ONE-WAY CHECK VALVE							D. 80 X 28																				1
3	HYDRAULIC PUMP							CARTRIDGE TYPE																				1
4	MAX. PRESSURE CONTROL VALVE							9.2 cc MARZOCCHI - 5.9 cc HYTOS																				1
5	PRESSURE GAUGE							0 - 50 BAR																				1
6	DIRECTIONAL CONTROL VALVE/ONE POSITION							0 - 40 BAR									WIKA			113-13-063								1
7	DIRECTIONAL CONTROL VALVE/TWO WAY-TWO POS.							4/2 - Tensione 24Vd.c.									ARON			AD3E15A								1
8	SPEED REGULATOR							4/2 - Tensione 24Vd.c.									ARON			AD3E15A								1
10	SINGLE ACTING VICE CYLINDER							0.70 X 10									GHETTI											1
11	DIRECTIONAL CONTROL VALVE/TWO WAY-TWO POS.							CARTRIDGE TYPE									COMAIROL			EVH-06-C5-24C-00								1
12	ONE-WAY CHECK VALVE							CARTRIDGE TYPE									COMAIROL			RC 08-05-00								1
13	SPEED REGULATOR							FLOW RATE = 3 LI/MIN									ARON			OCV32CK2R								1
13	COMPLETE SPEED REGULATOR UNIT							FLOW RATE = 3 LI/MIN									HYTOS											1
14	DOUBLE ACTING SAW FRAME CYLINDER																IMET											1
15	OPTIONAL							D. 50									GHETTI											1
16	PILOT CHECK VALVE (only from 12/98)							PRESSURE REGULATOR VALVE									IMET											1
17								MIN PRESS.1 BAR									ARON o ATOS			AM3UPA1 o HR013/-								1
18								D2H11									IMET											1
T1	FLEXIBLE LINE FOR SAW FRAME CYLINDER							R7 1/4 L.5100									PBC											1
T2	FLEXIBLE LINE FOR SPEED REGULATOR							R6 3/8" L.2350									PBC											1
T3	FLEXIBLE LINE FOR SPEED REGULATOR							R7 3/16" L.2900									PBC											1
T4	FLEXIBLE LINE FOR SAW FRAME CYLINDER							R6 3/8" L.4500									PBC											1
T6	FLEXIBLE LINE FOR VICE CYLINDER							R6 3/8" 3450									PBC											1



IN COMPLIANCE WITH:  
**ISO 1219**  
**EN 982**

3  
 2  
 1  
 N° DATA

MODIFICHE

MACCHINA TIPO: BS 350 SHI-E  
 DESCRIZIONE :

GENERAL LIST OF COMPONENTS

DISEGNO N° : QE011983  
 FILE : -  
 Data : 06.1999  
 Foglio N° :

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
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