

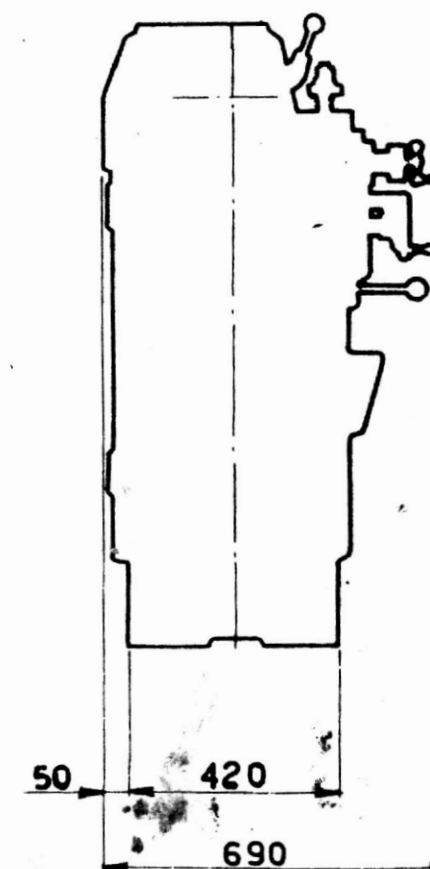
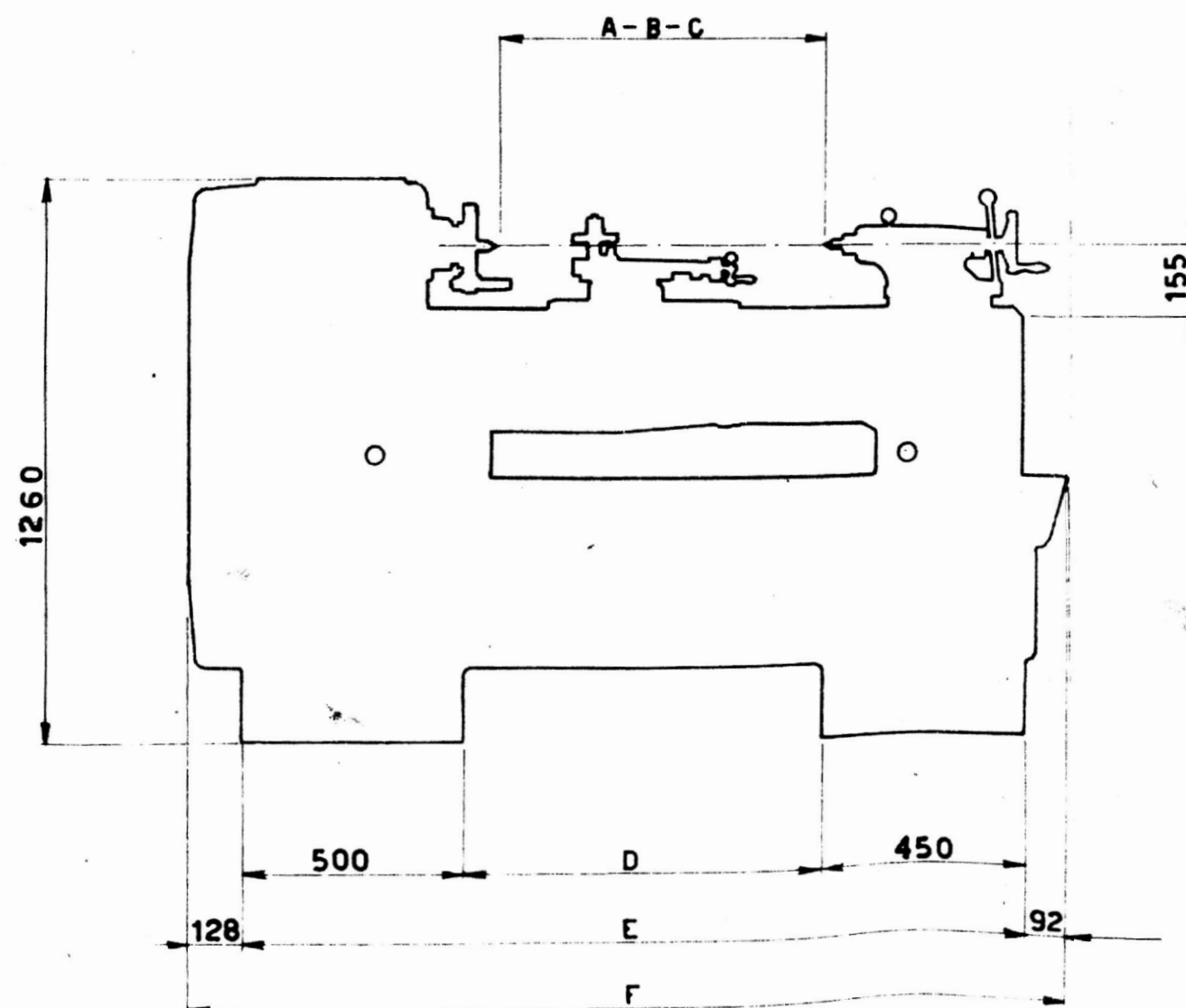


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TAB. N.º

1

		D	E	F
A	600	530	1480	1700
B	800	730	1680	1900
C	1000	930	1880	2100



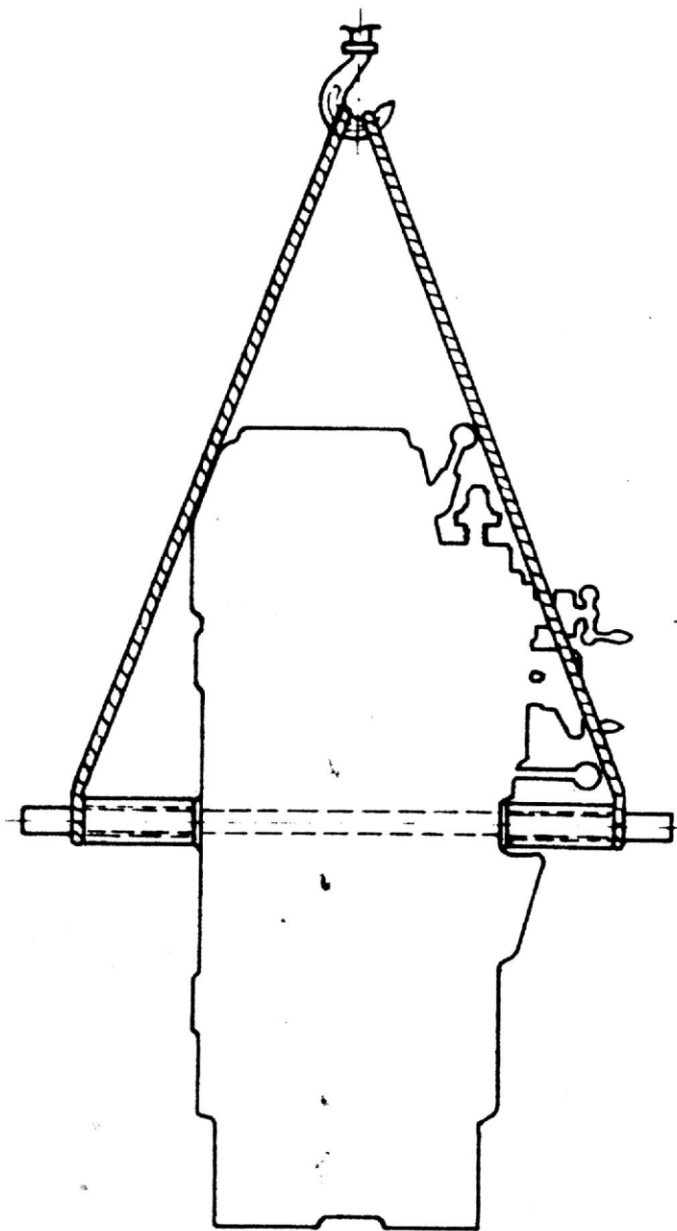
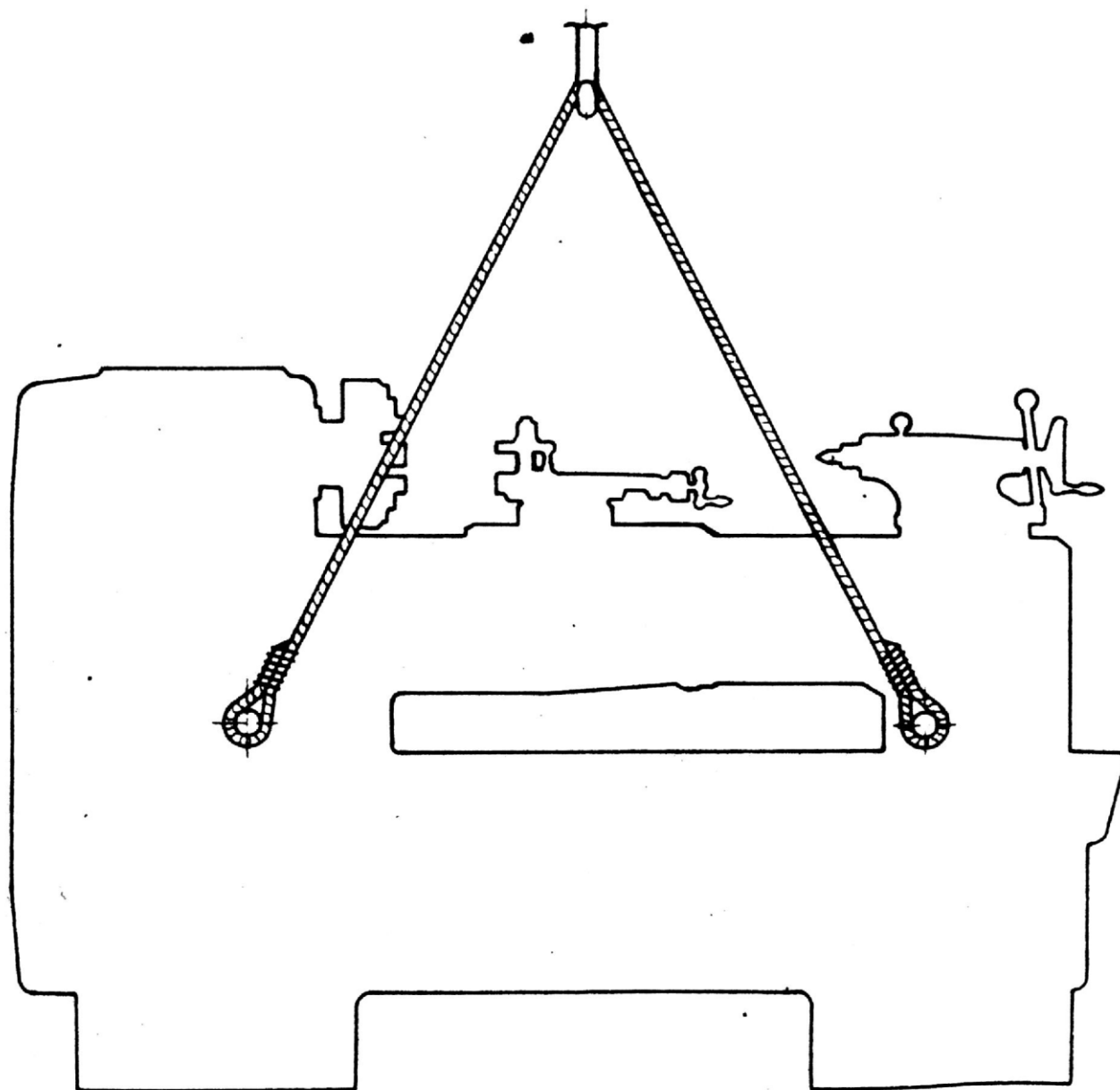


TORNIO
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TAB. N.º

2





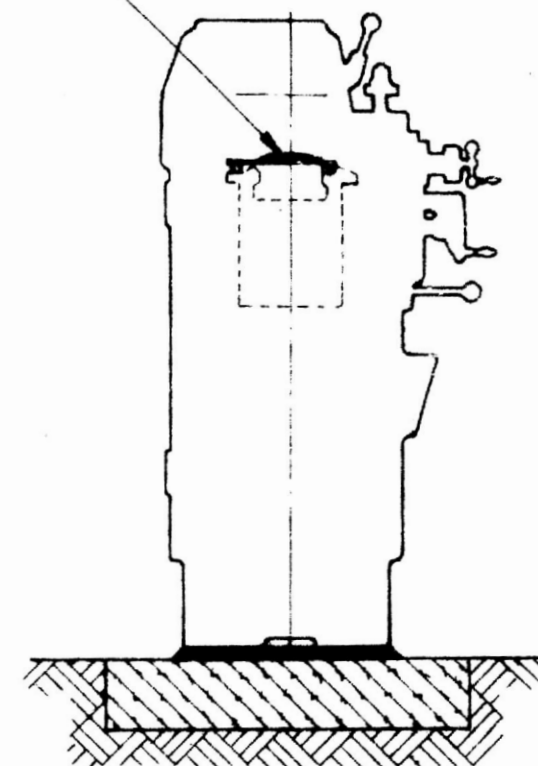
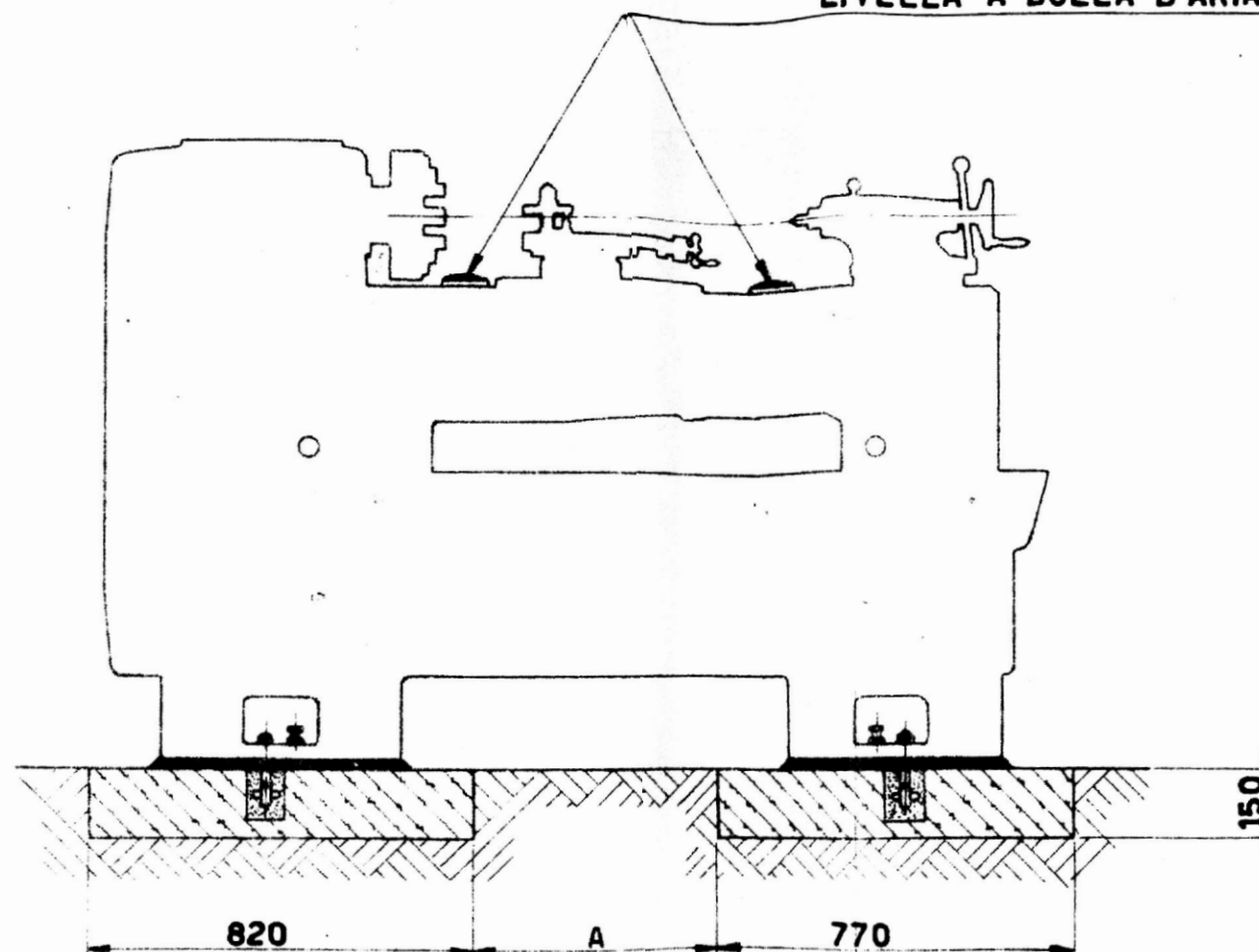
TORNIO
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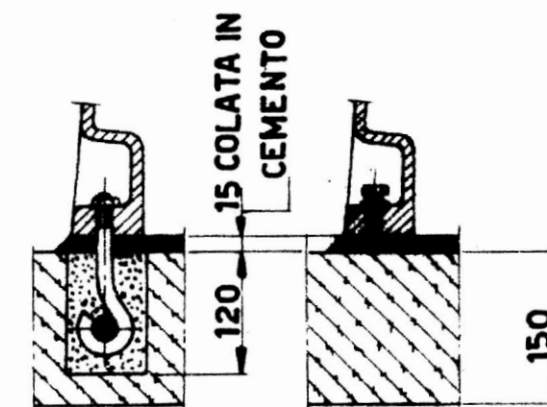
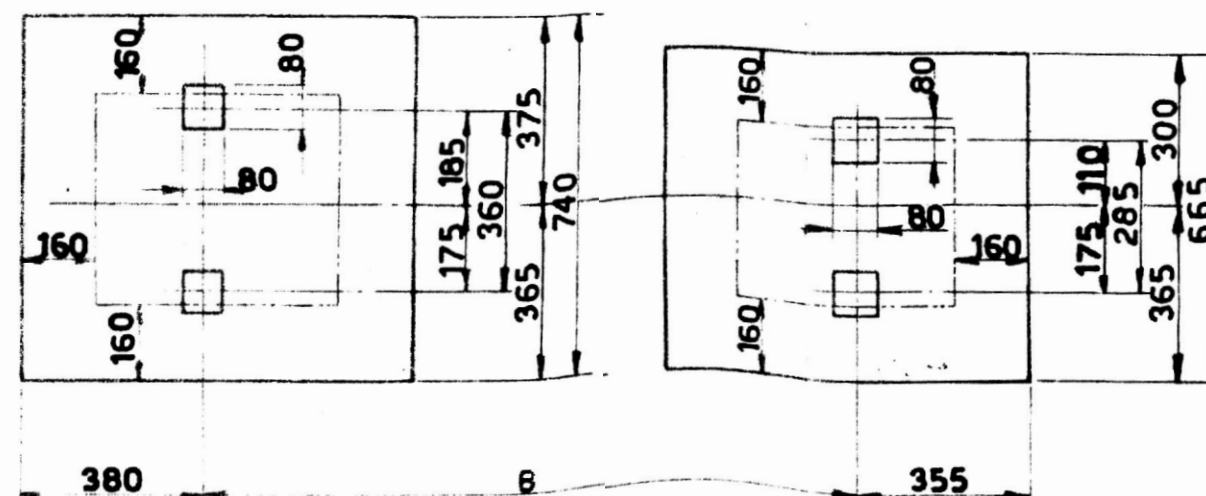
TAB. N°

3

LIVELLA A BOLLA D'ARIA



DISTANZA PUNTE	A	B
600	210	1065
800	410	1265
1000	610	1465





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4



CARICO OLIO



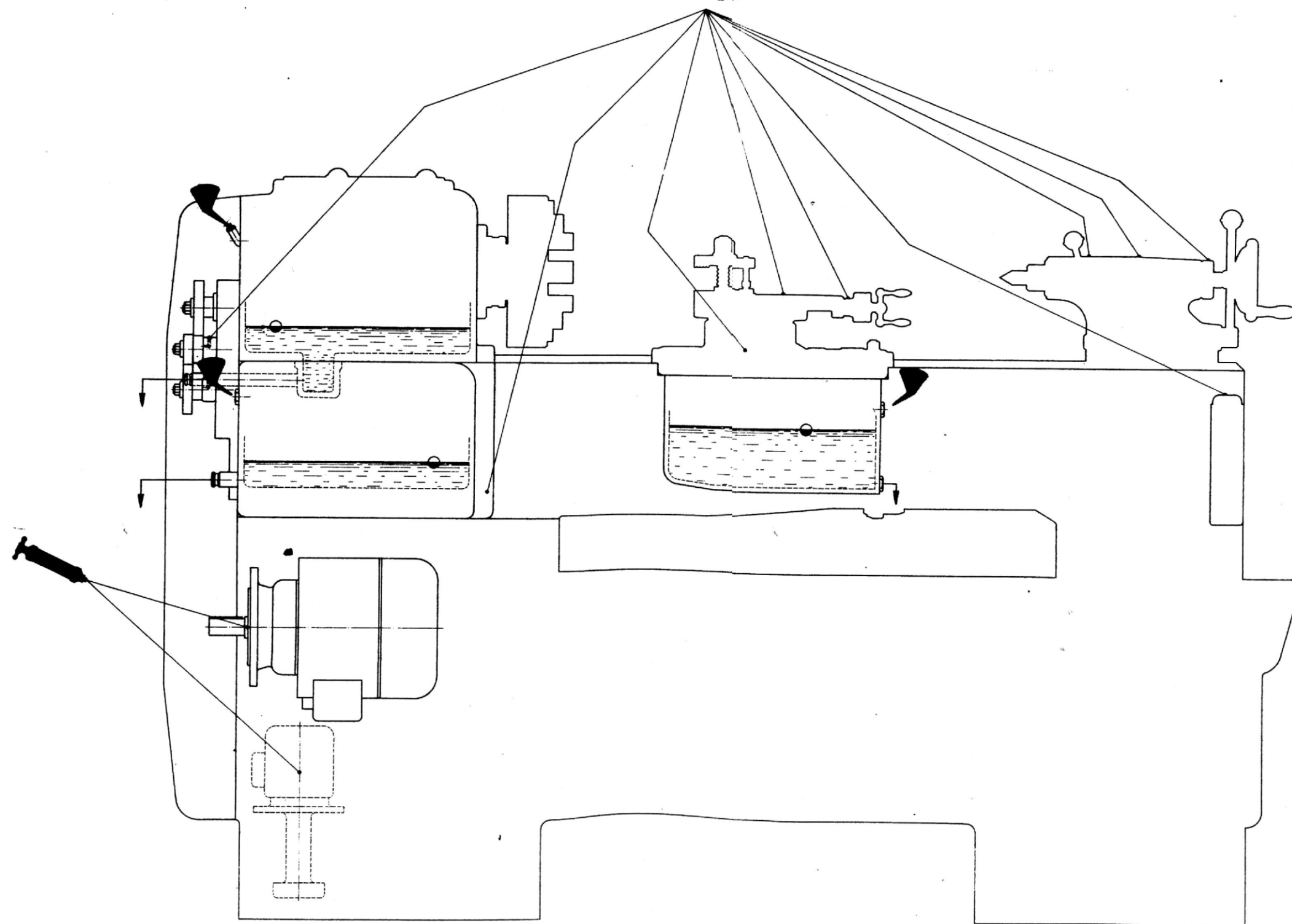
LIVELLO OLIO



INGRASSARE PERIODICAMENTE



LUBRIFICARE



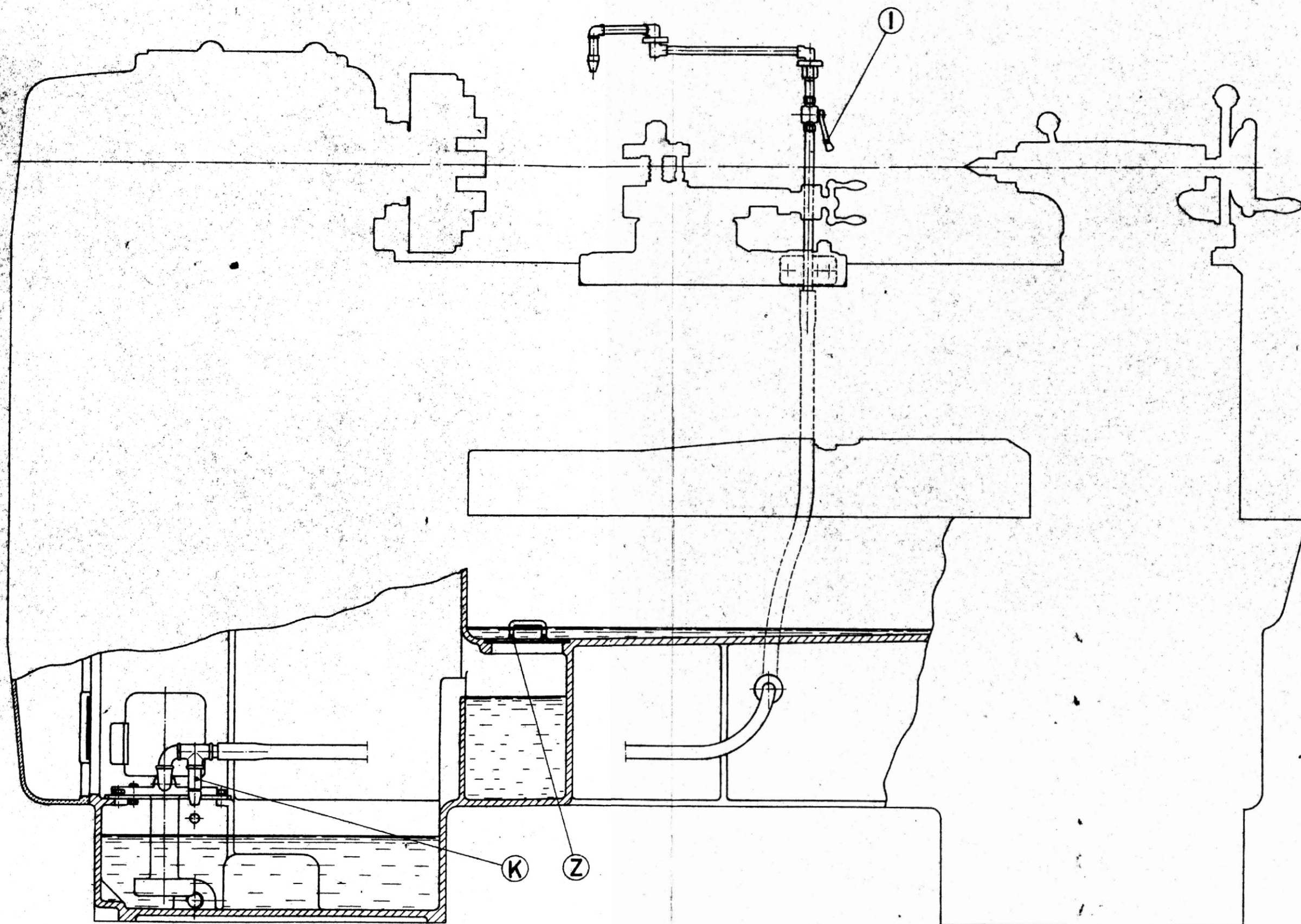


TORNIO
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TAB. N.

5



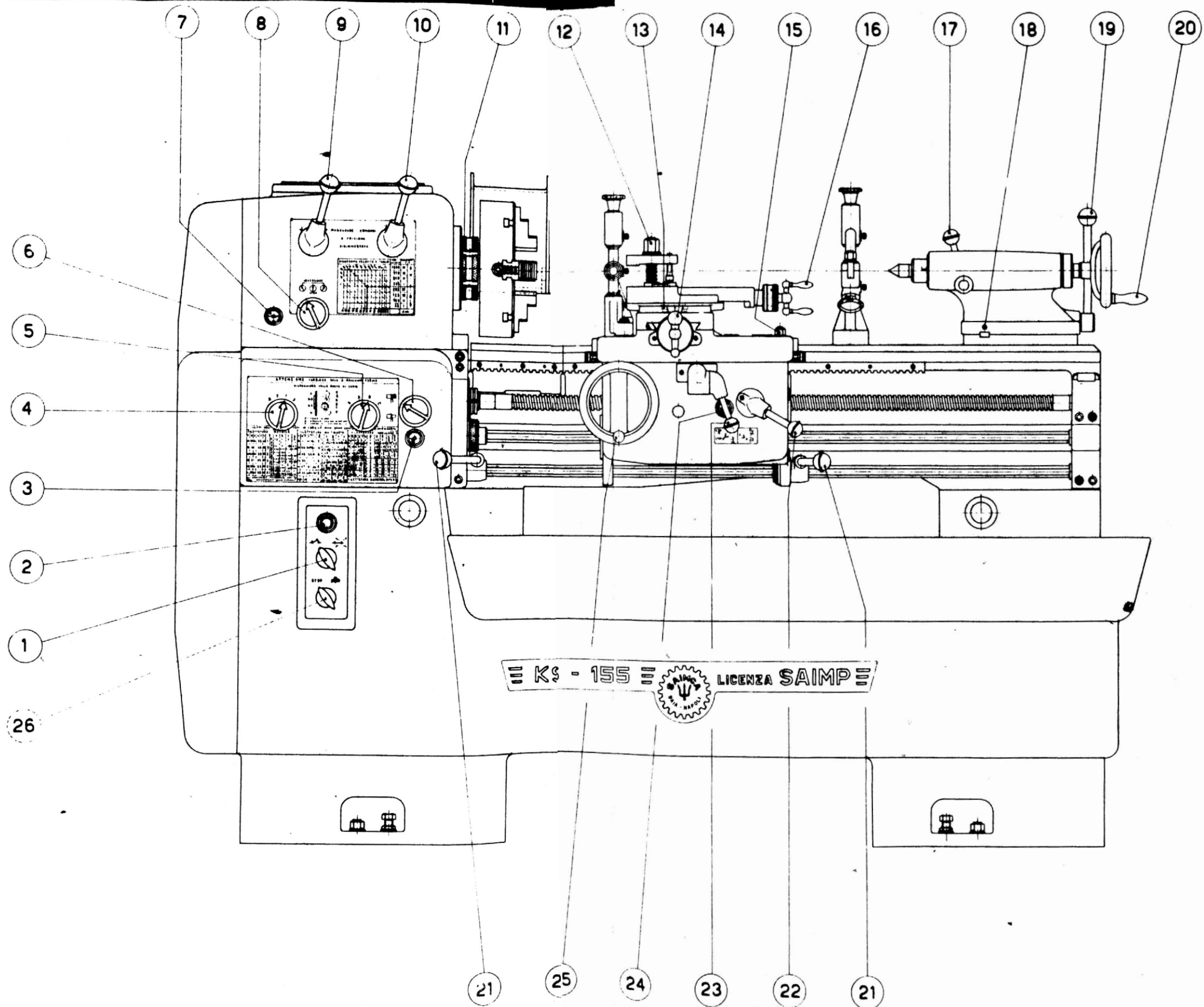


TORNIO
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TAB. N.

6

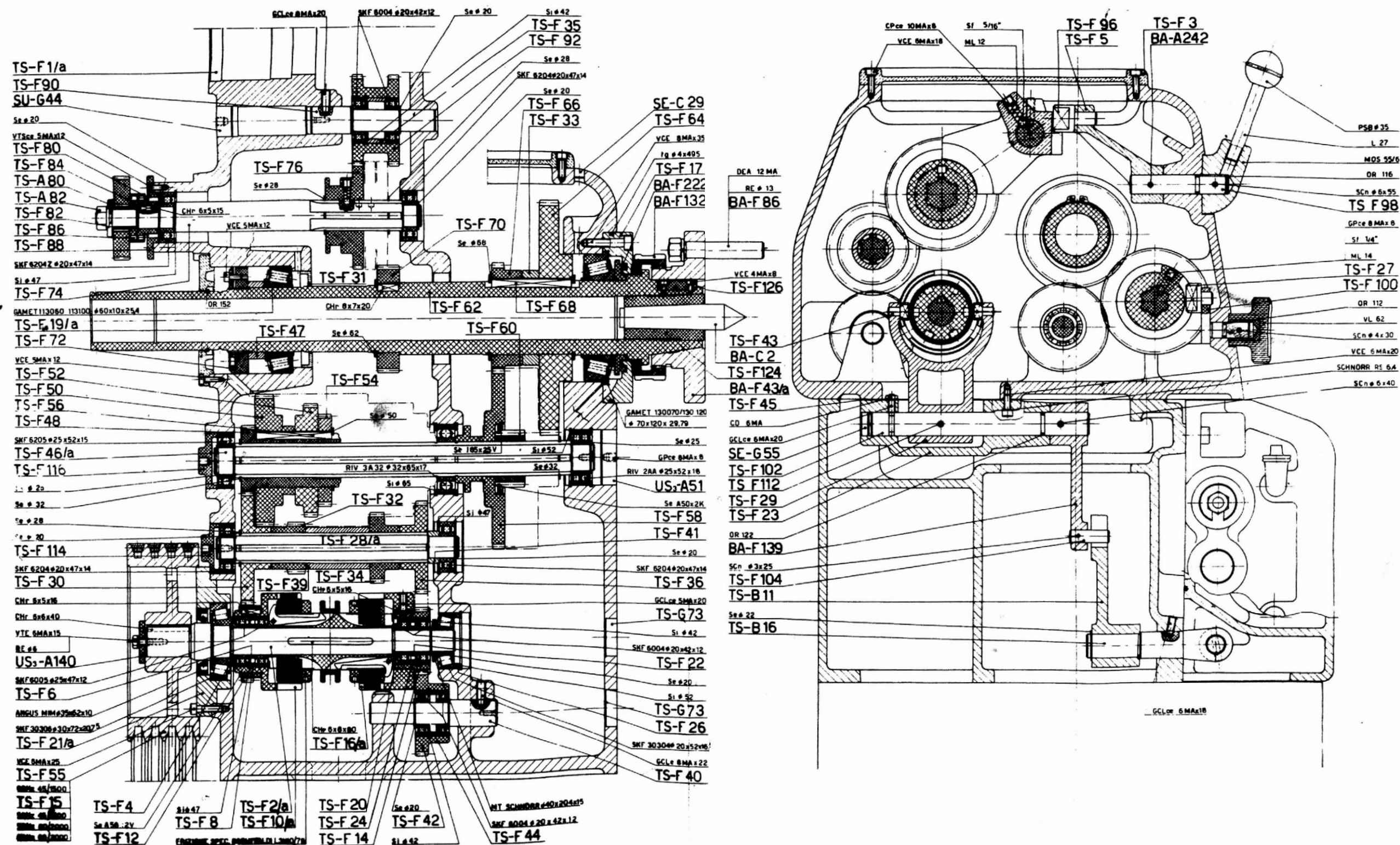


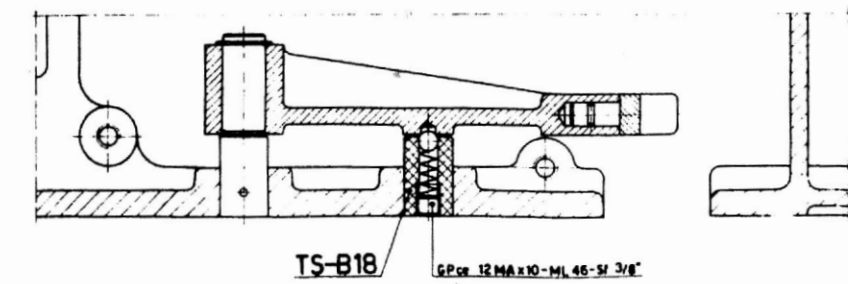
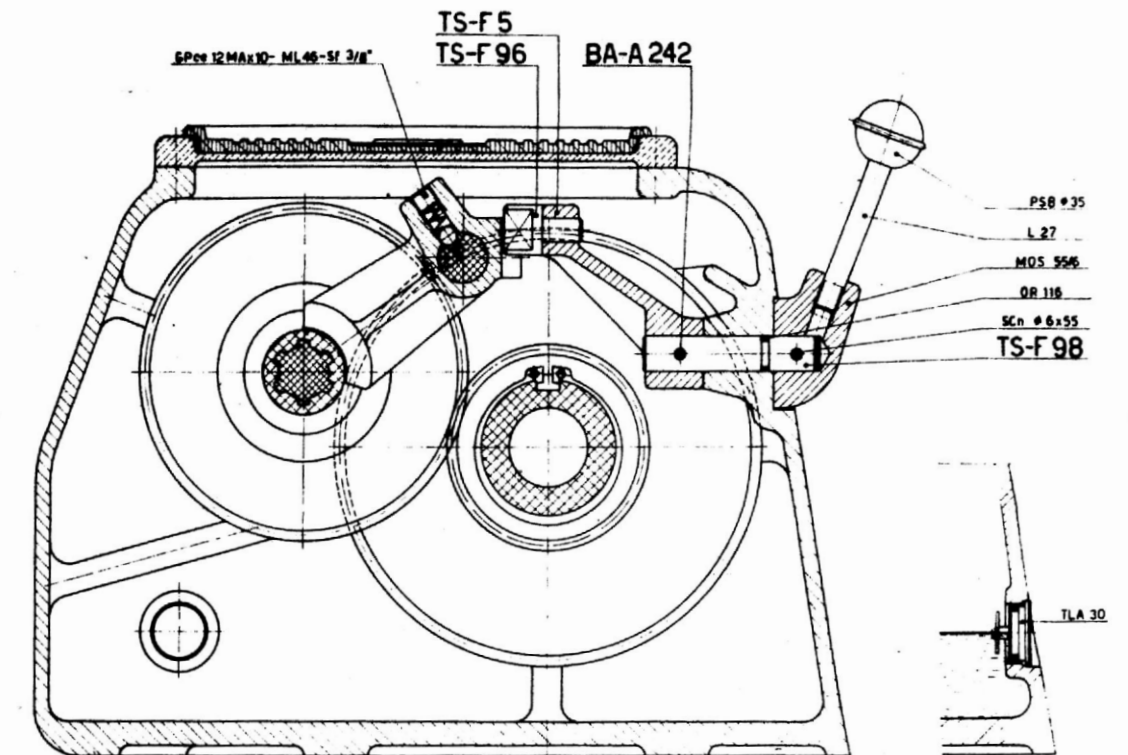
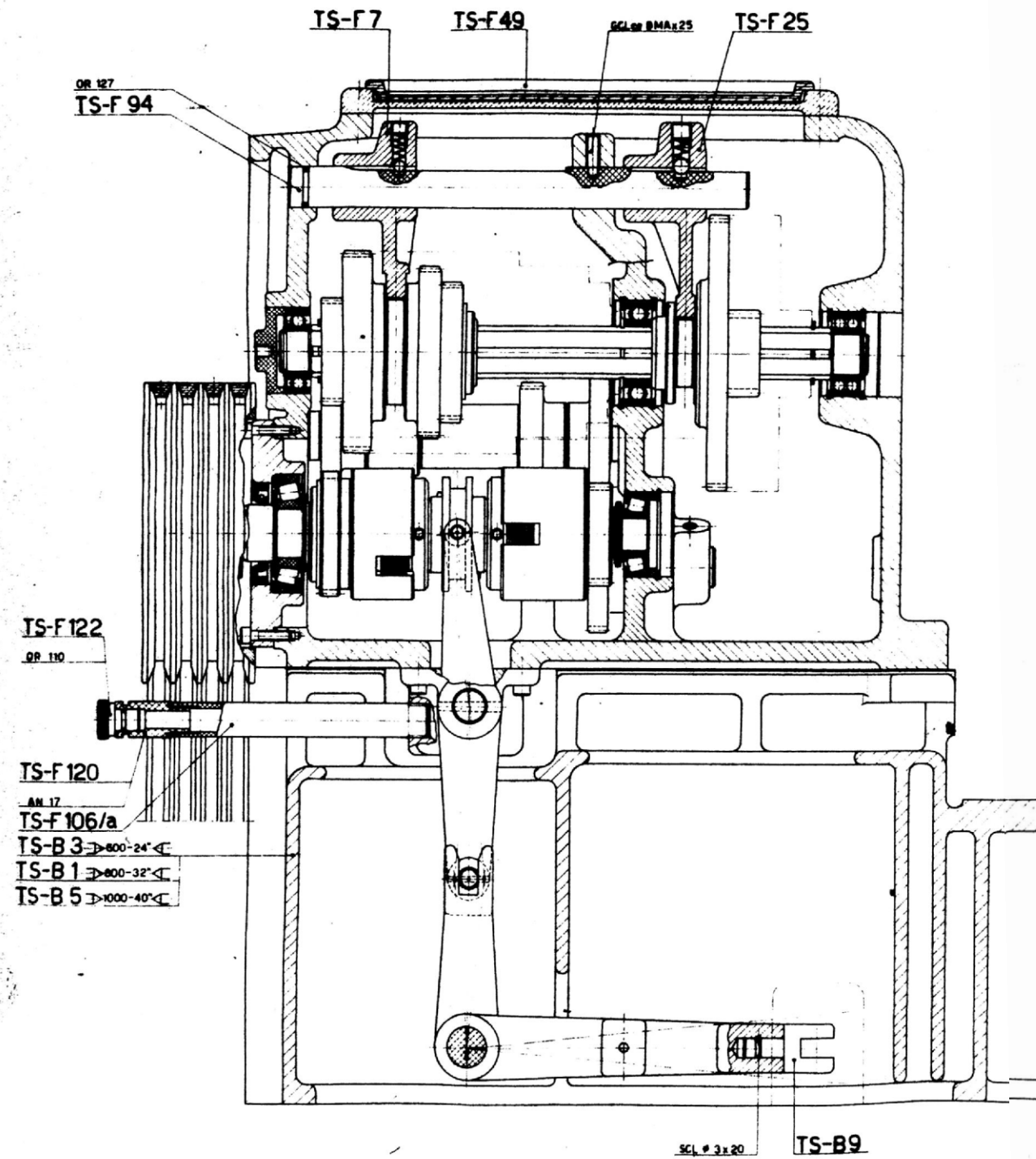


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TAB. N.°

7





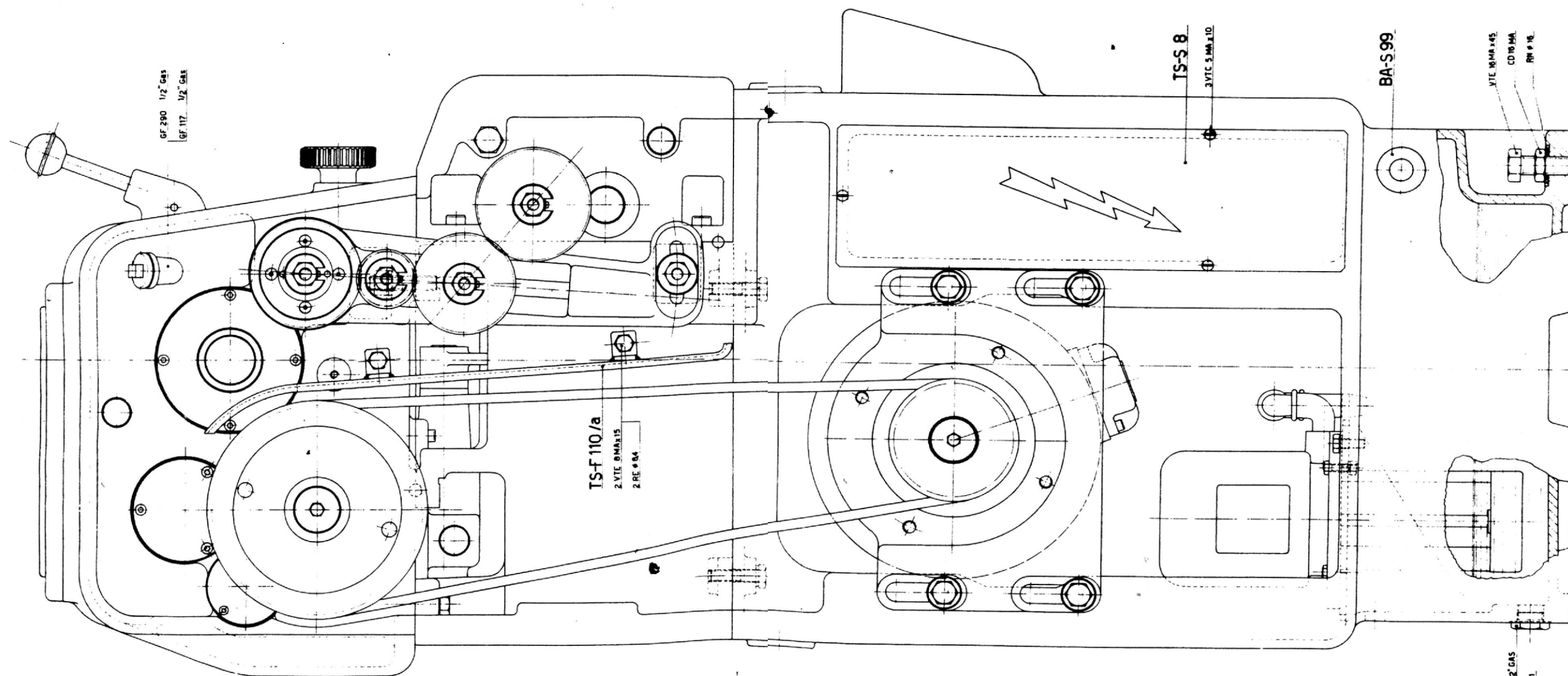


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9



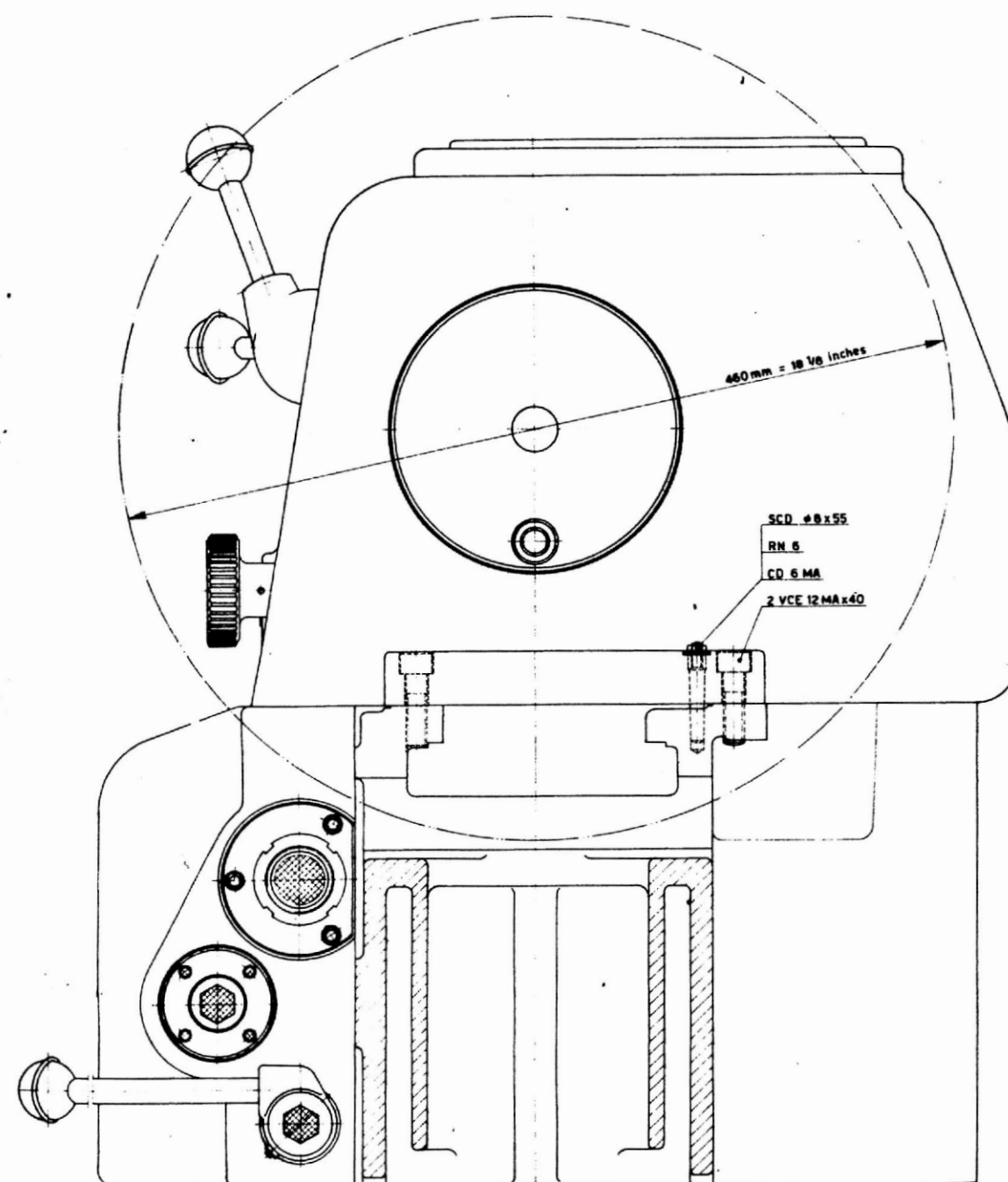


TORNIO
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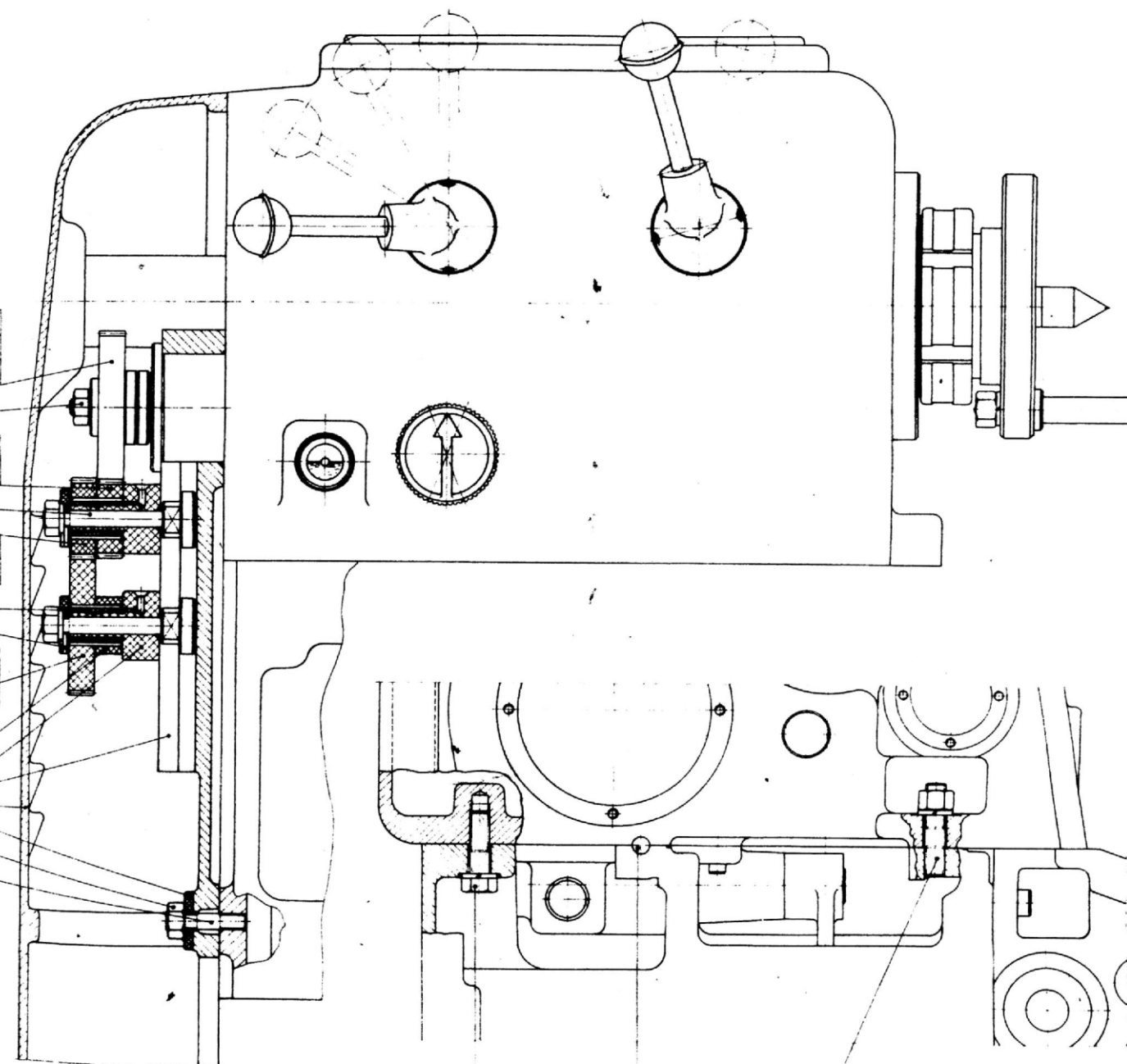
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10



TS-A 84 Z=30
TS-A 88 Z=36
TS-A 98 Z=55
TS-A 100 Z=57
TS-A 82
TS-A 86 Z=31
TS-A 92 Z=43
TS-A 96 Z=47
TS-A 72
TS-A 90 Z=39
TS-A 94 Z=45
TS-A 106 Z=70
TS-A 70
TS-A 80
TS-A 102 Z=60
TS-A 104 Z=62
TS-A 108 Z=75
TS-A 22
TS-A 74
TS-A 3
TS-F 9
TS-A 12
TS-A 14
TS-A 76



YTE 12 MAx40
RE # 13

SCL # 10x30

TS-F 108
DEA 12 MA
RE # 13

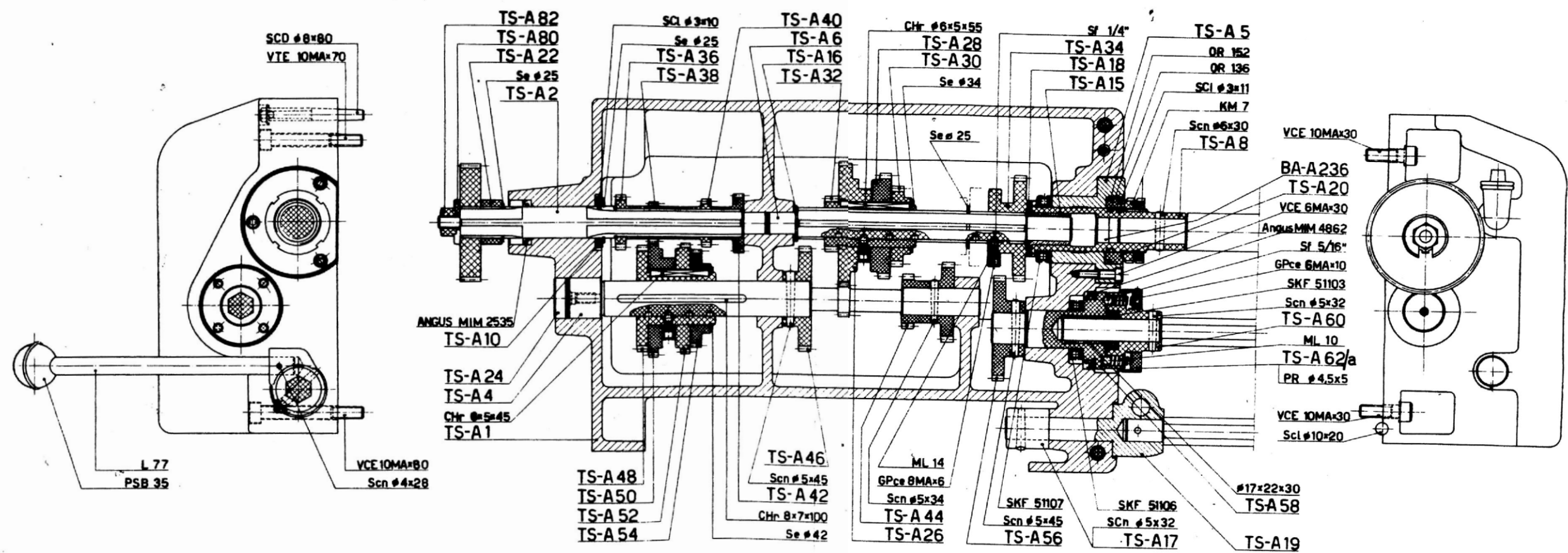


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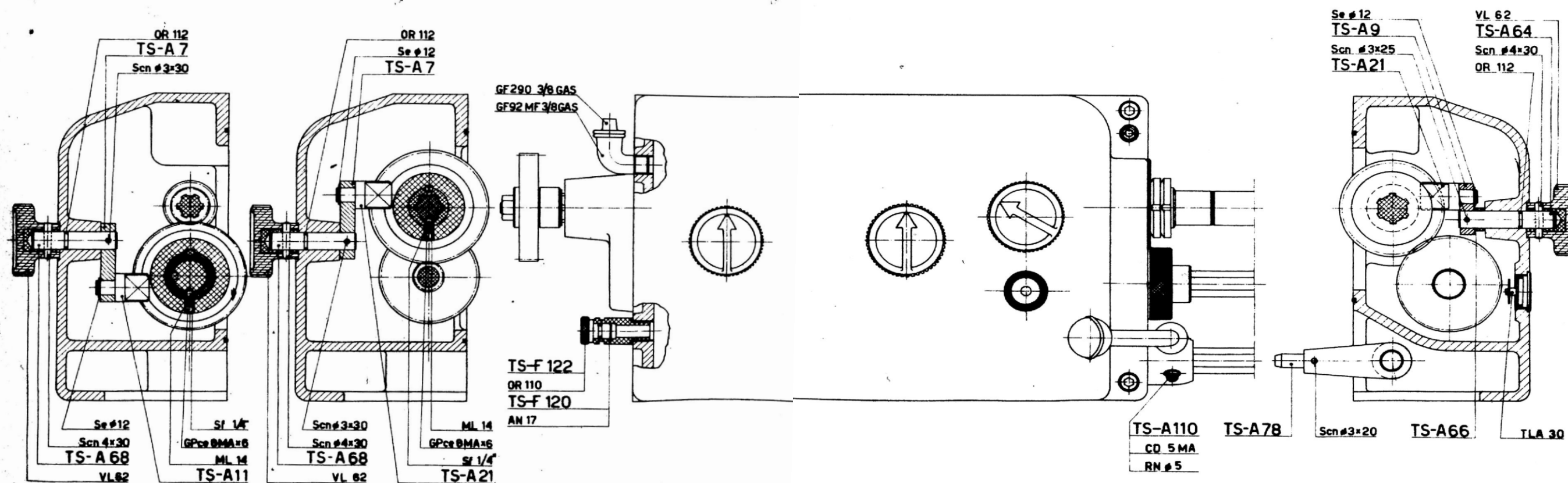


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12



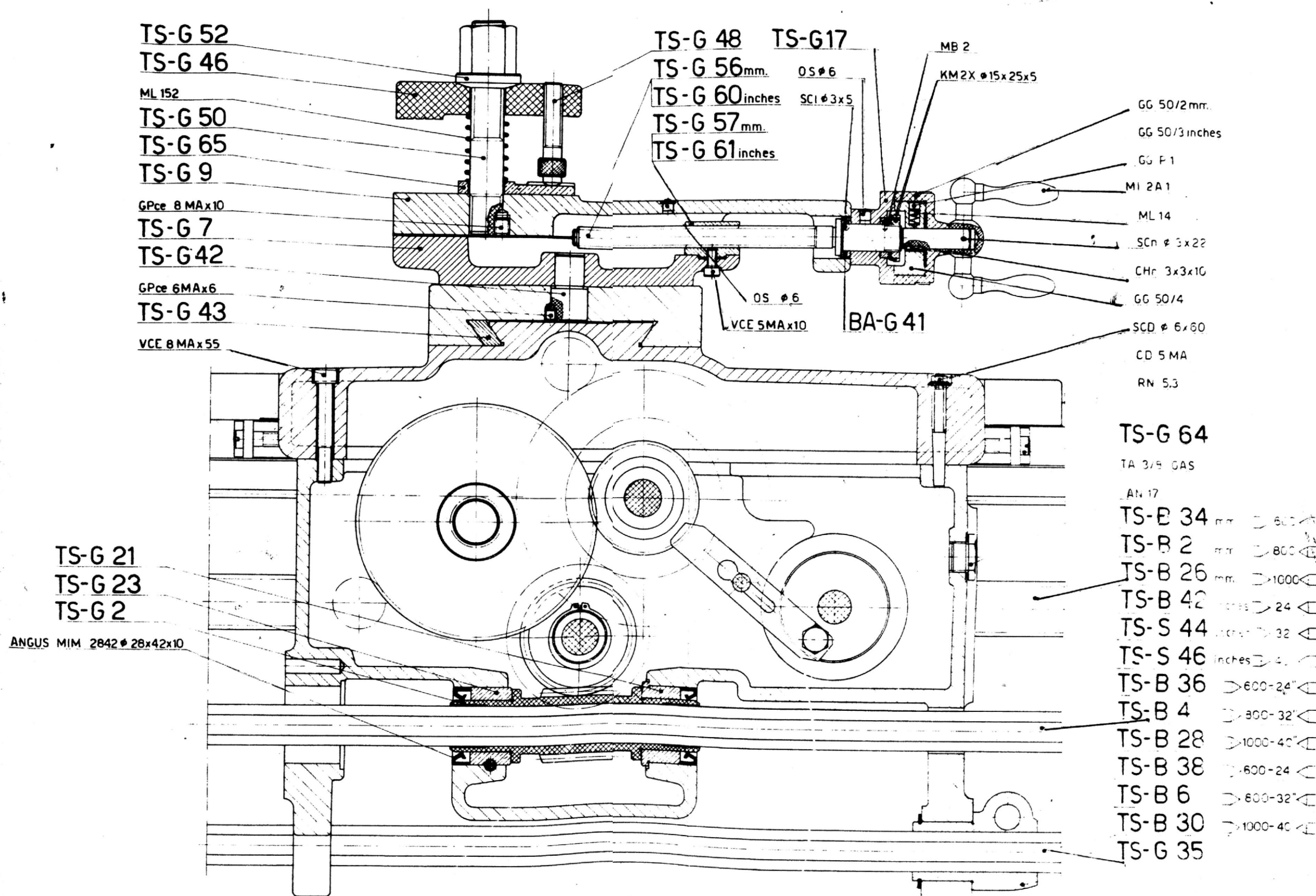


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13



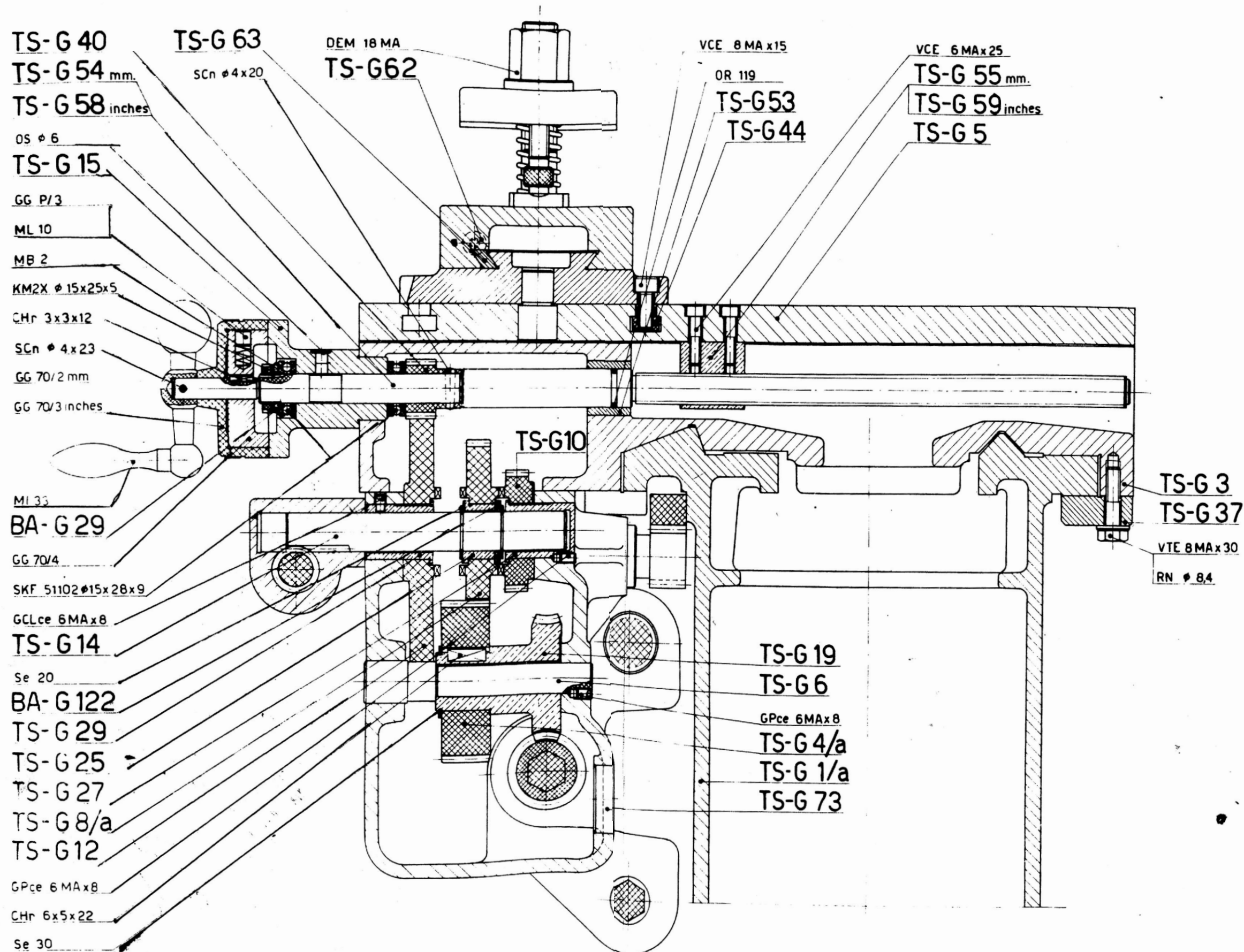


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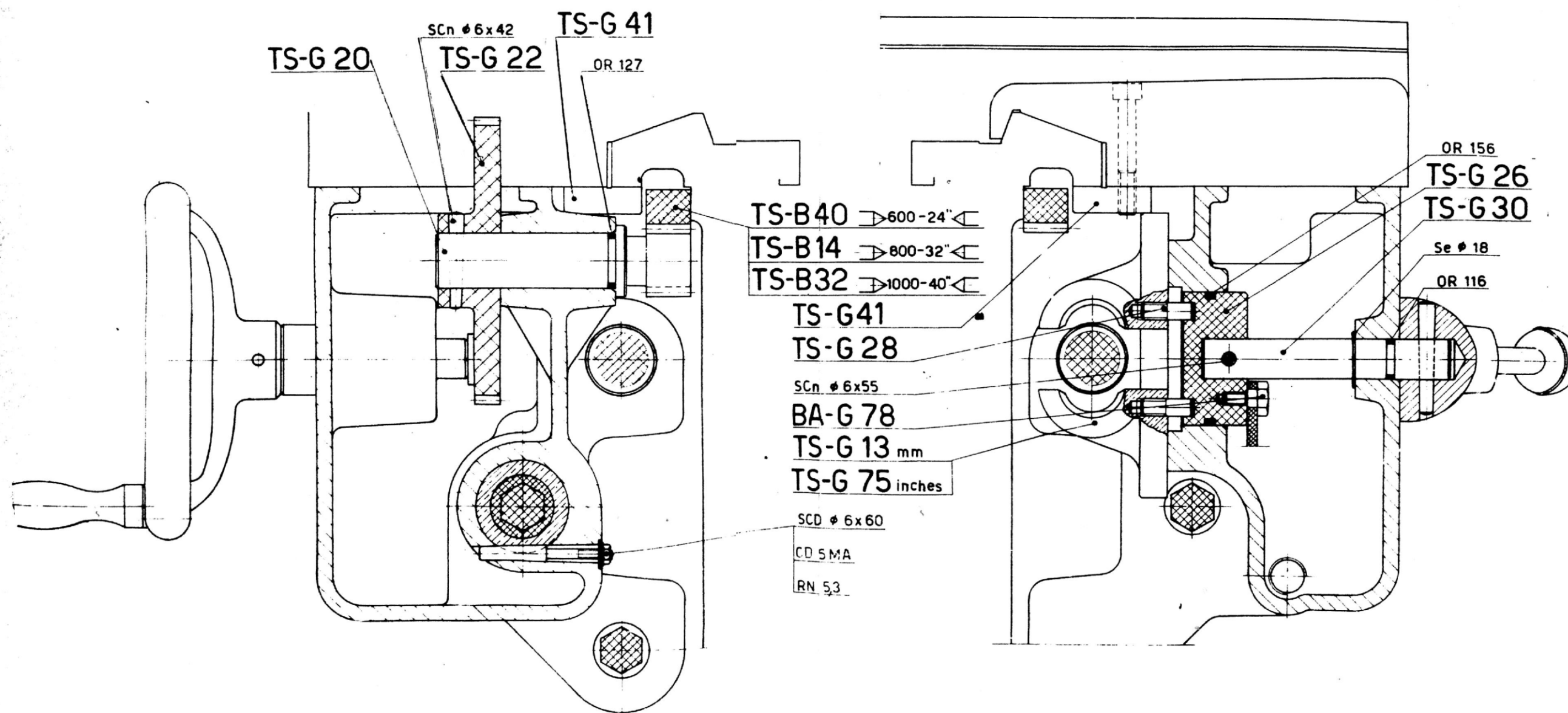


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15



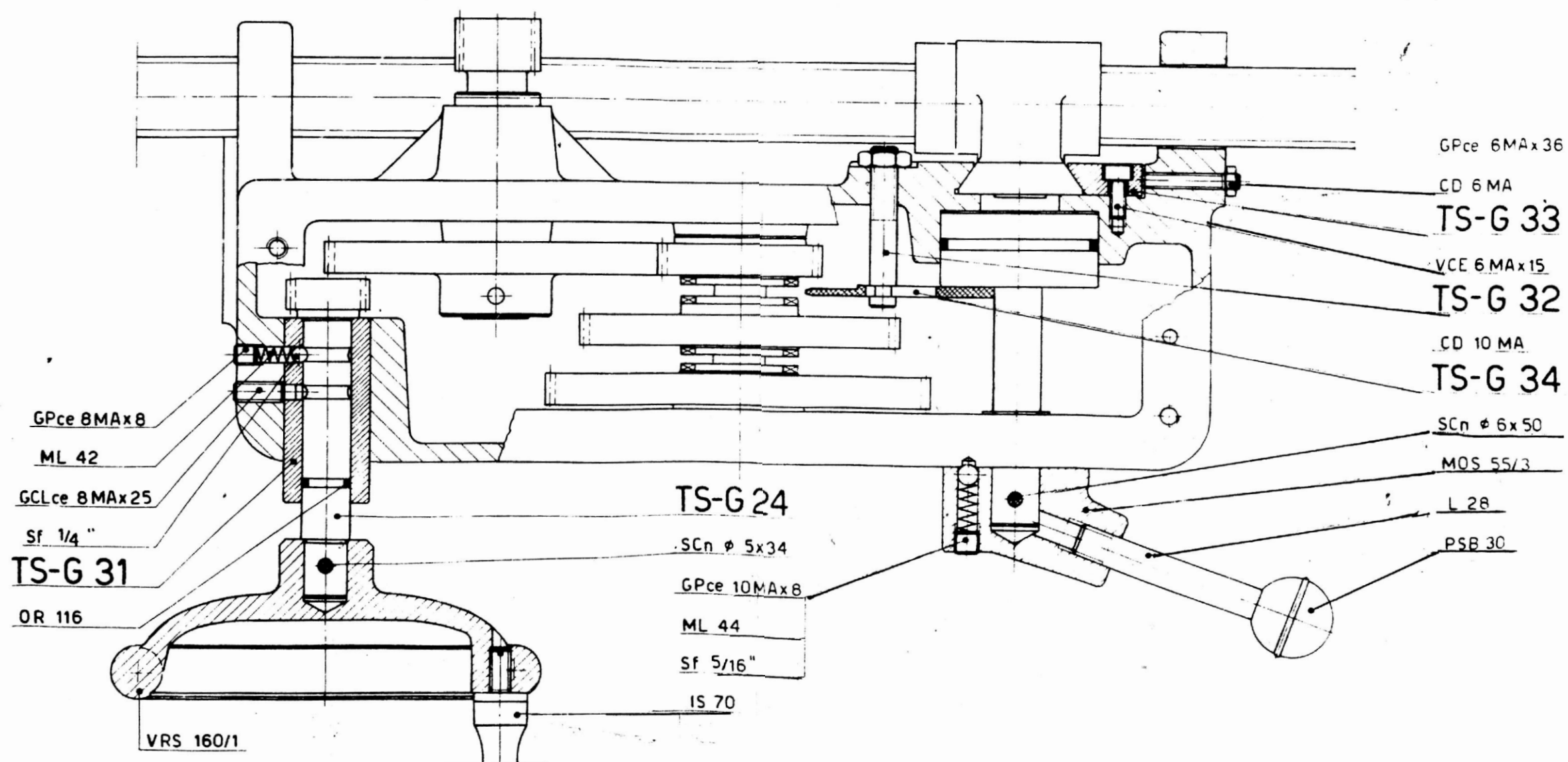


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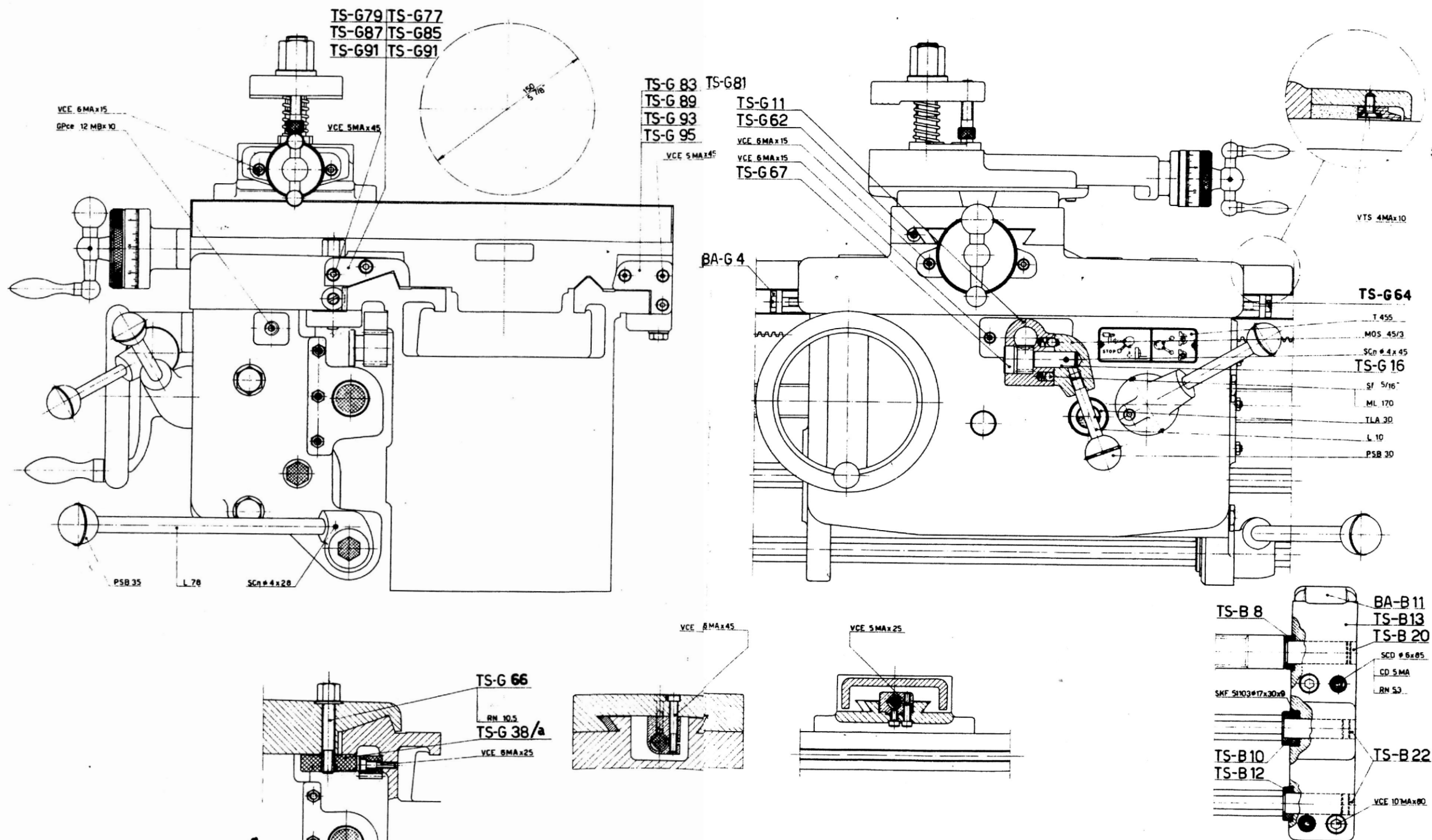


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TAB. N.°

17



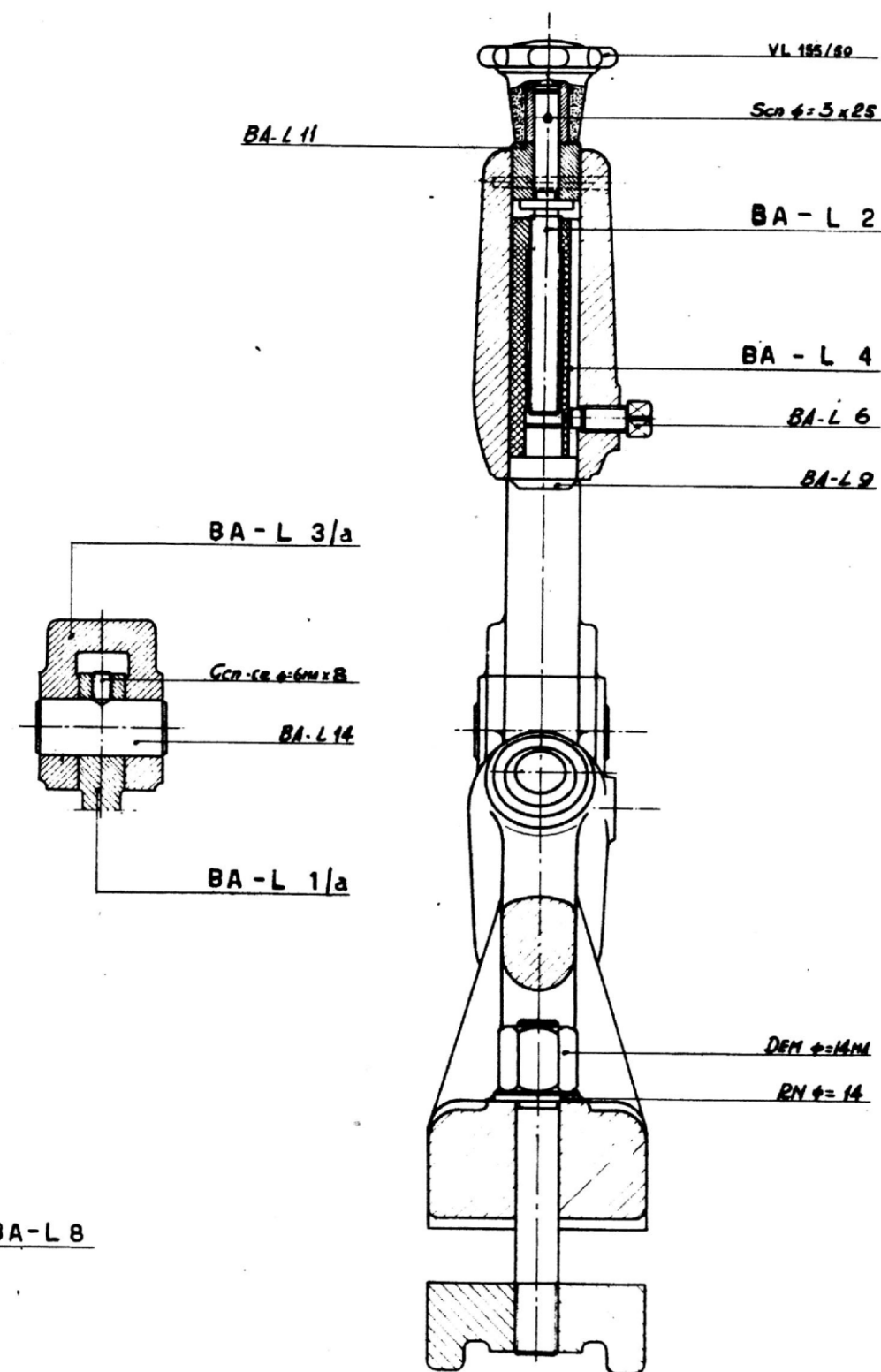
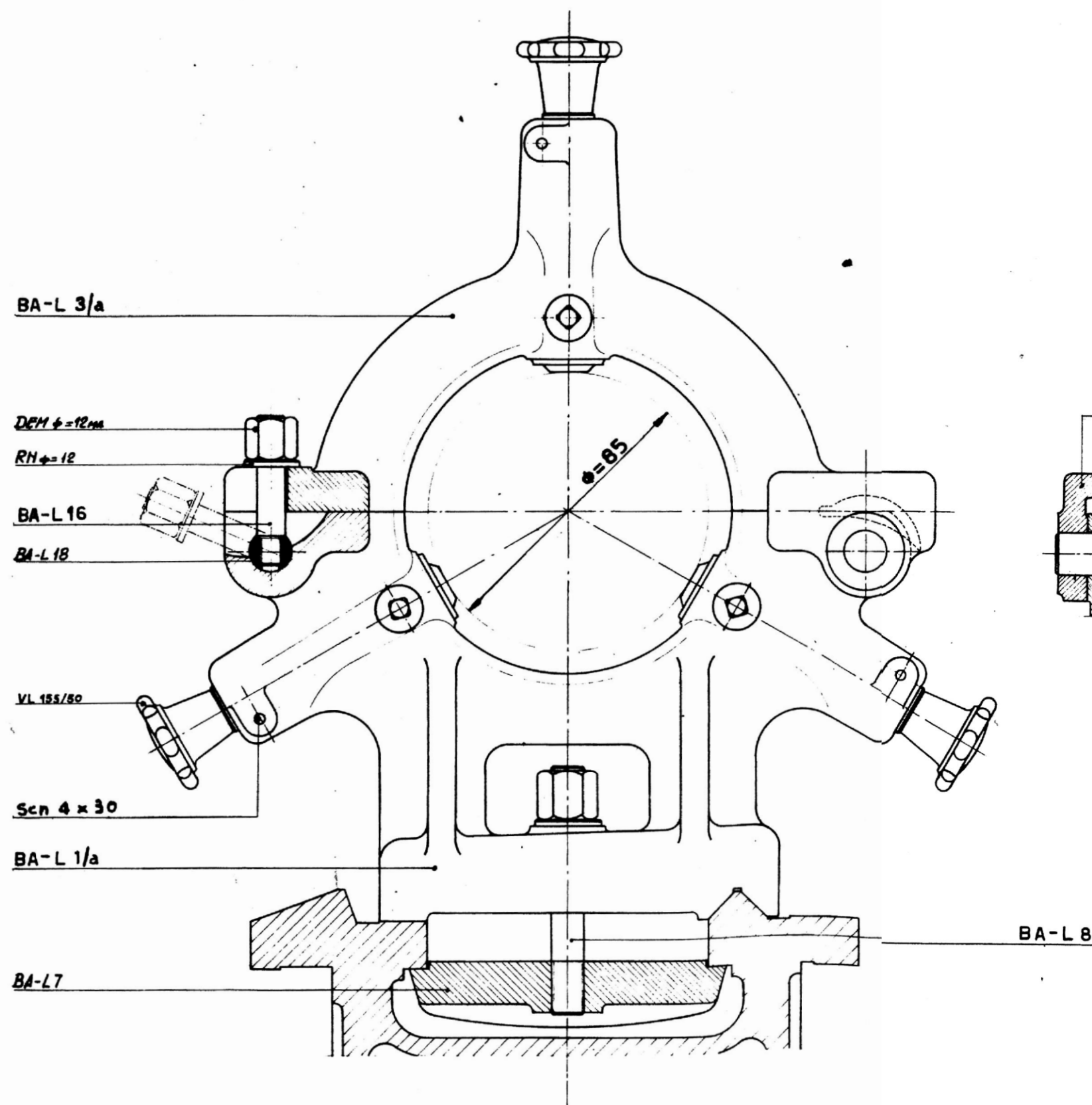


TORNIO
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TAB. N.

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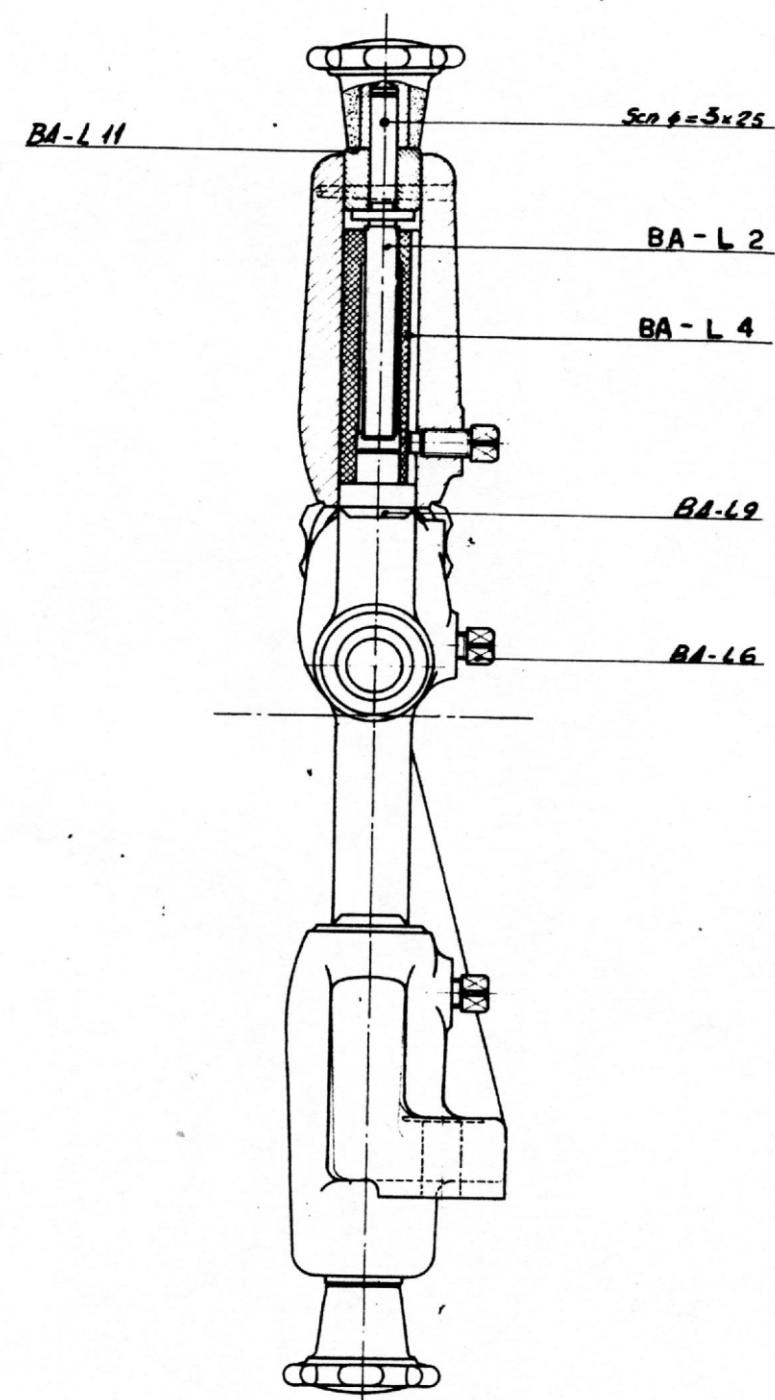
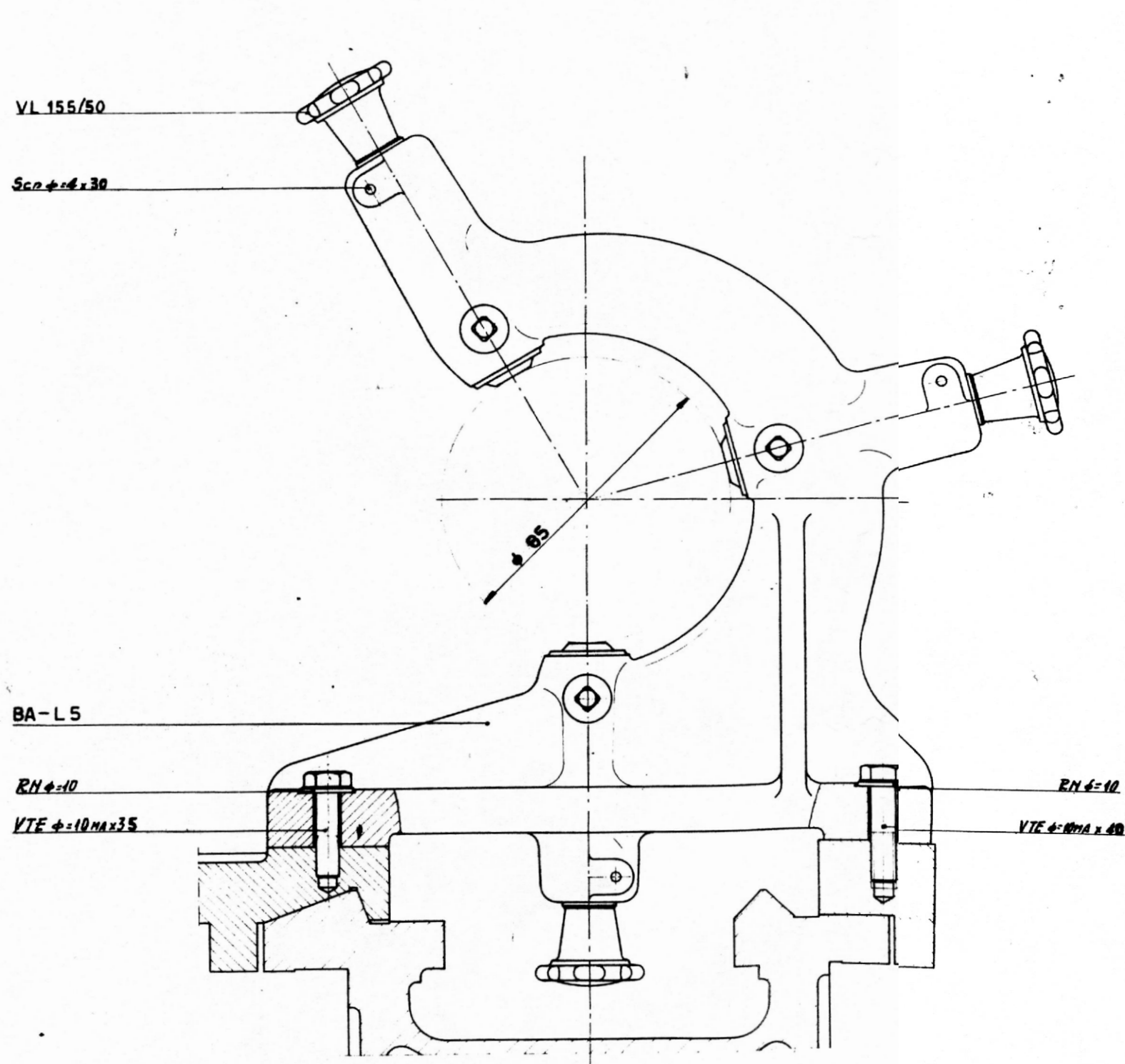


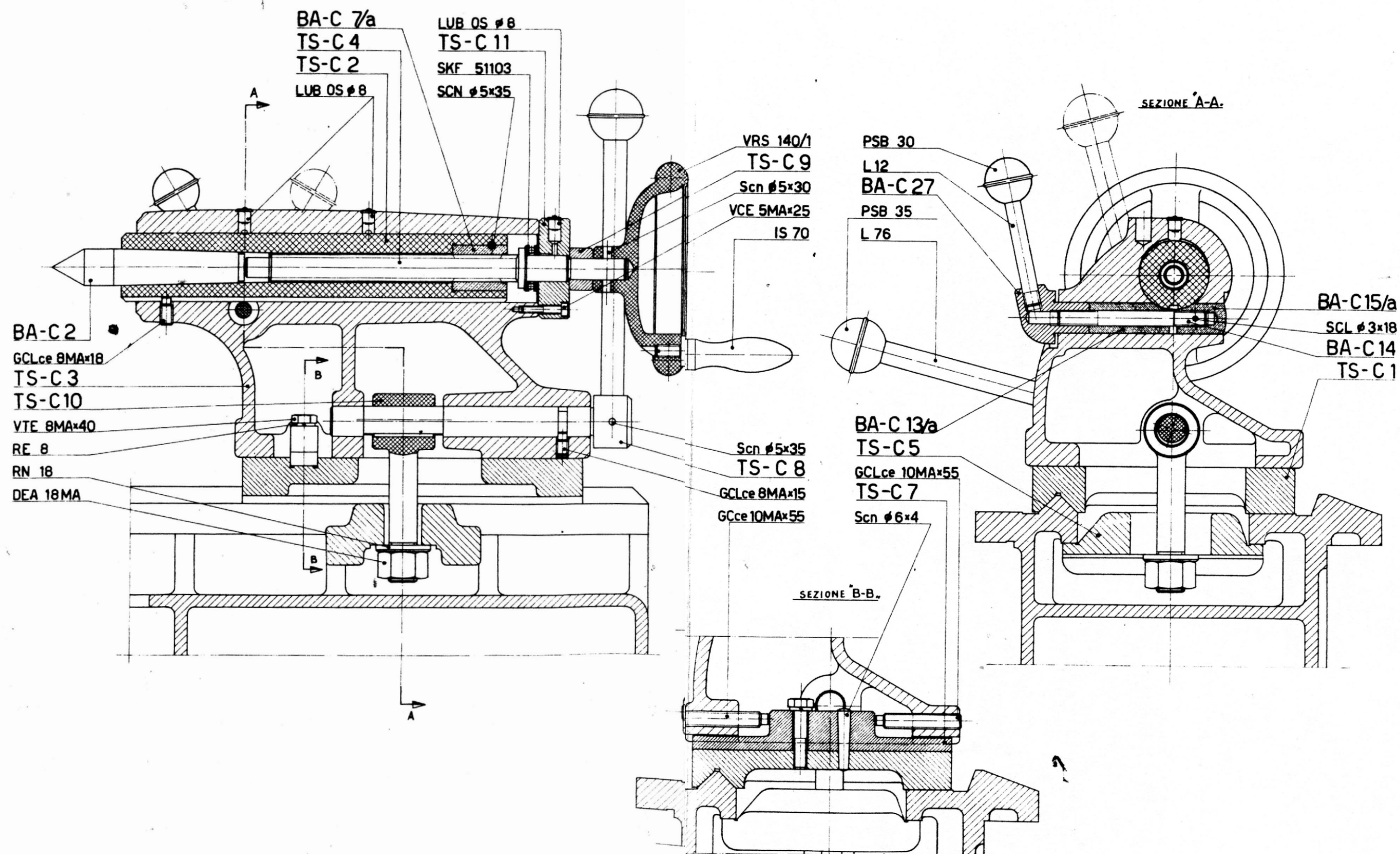
TORNIO
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TAB. N.°

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21

TS-S29 50 Hz n° 45/1500
TS-S27 50 Hz n° 45/1500
TS-S33 50 Hz n° 50/2000
TS-S31 50 Hz n° 50/2000

BA-S4

VTE 8 MAx25
RE 5

Ct. A58 n°5/1500
A50 / 50/2000

VTE 12 MAx40

TS-S2

TS-S7

TS-F9

ELETTROPOMPA

MCC. ALTE

SE-S36

GF 130

GF 94

GF 92

VTE 5 MAx22

VTE 8 MAx20

RE 84

TS-S10

QE 5 MA

RE 54

SF 3/8"

BA-S102

ML 66

BA-S104

VTE 10 MAx40

RE 10,5

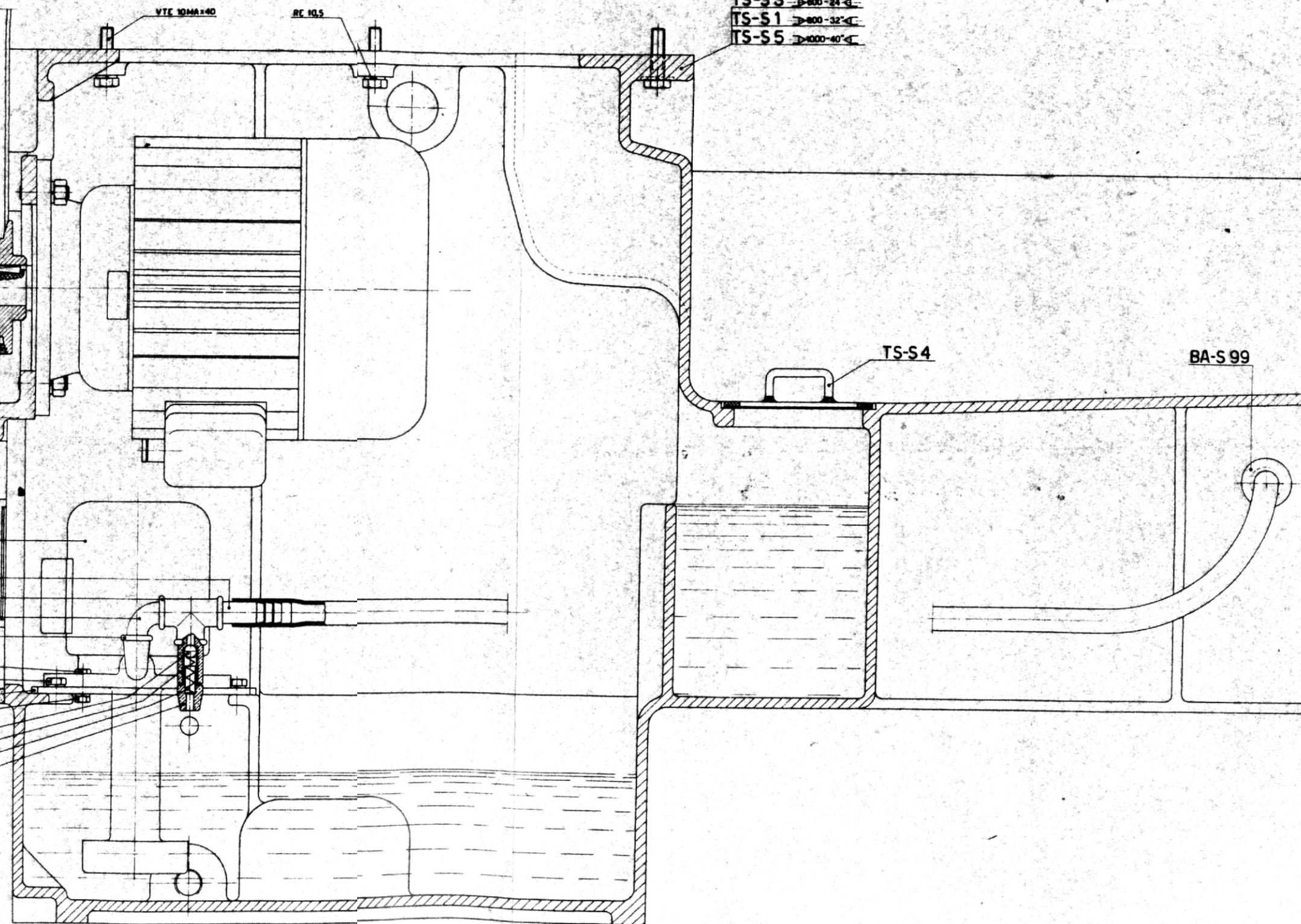
TS-S3 >400-24°<

TS-S1 >400-32°<

TS-S5 >4000-40°<

TS-S4

BA-S99



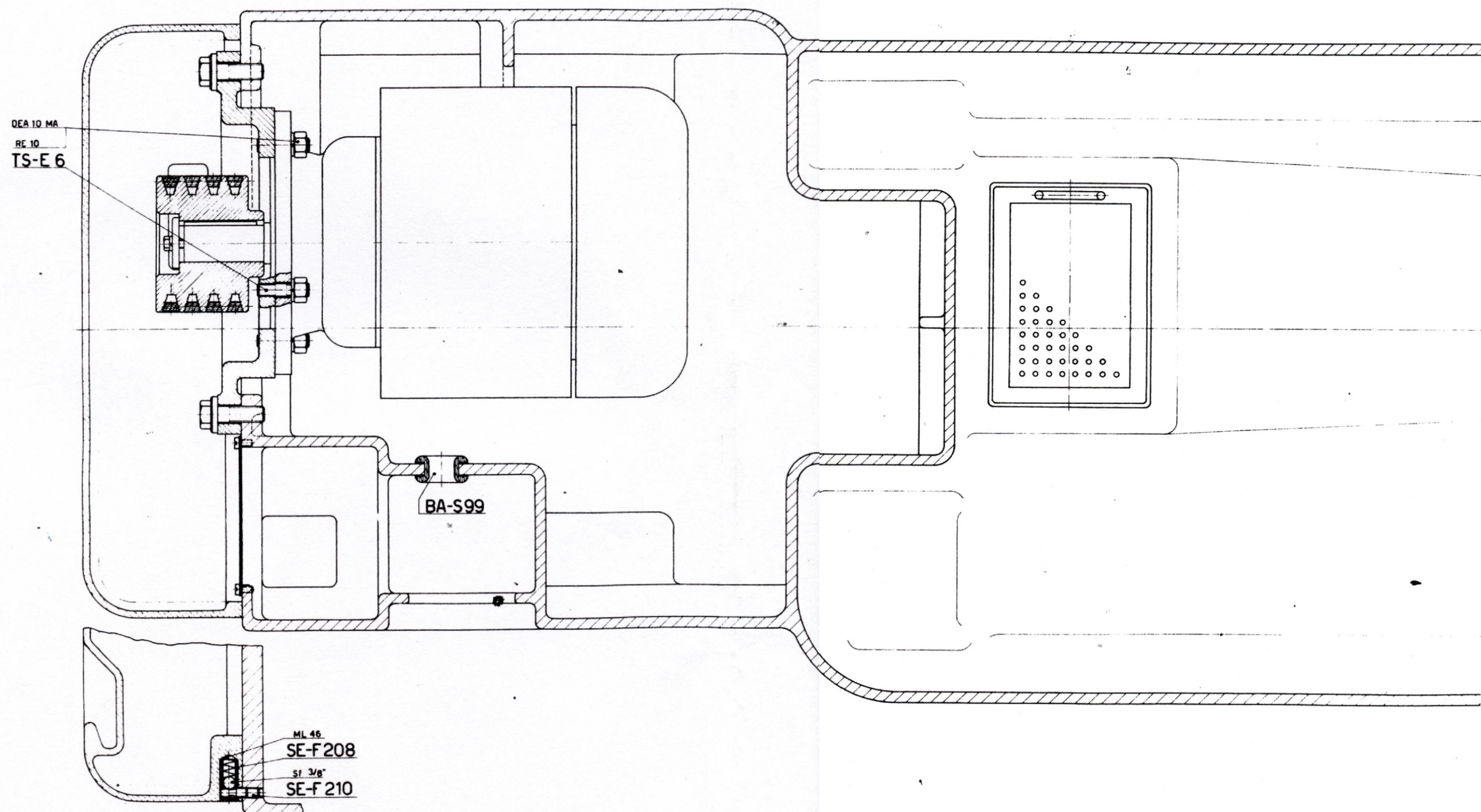


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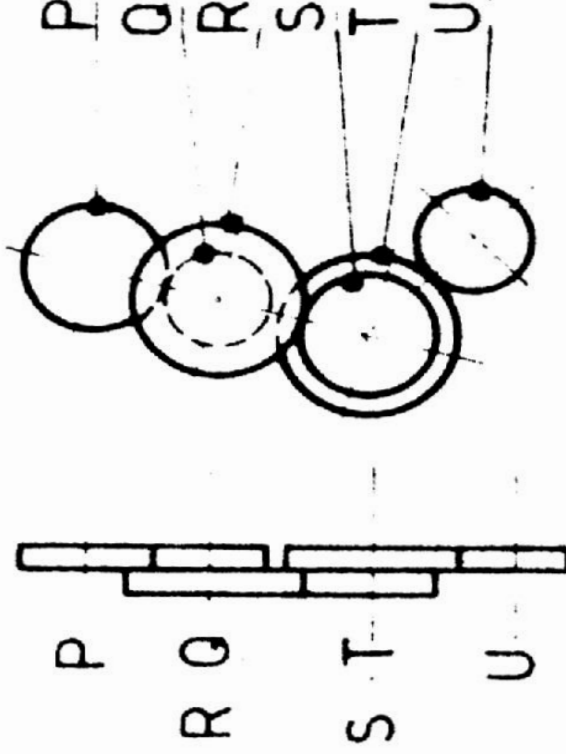
TAB. N.

22



FILETTATURE METRICHE

DISPOSIZIONE DELLE RUOTE DI SERIE



p = passo mm. a = avanzamento long. mm/giro.

P	Q	R	S	T	U	①	A	B	C	D
36	45	31	60	62	62	1	P 0.2	0.4	0.8	1.6
						a	0.040	0.080	0.160	0.320
31	60	36	55	62	62	3	P 0.225	0.45	0.9	1.8
						a	0.045	0.090	0.180	0.360
62	70	31	60	30	30	1	P 2	4	8	16
						a	0.400	0.800	1.600	3.200
62	31	45	70	30	30	3	P 2.25	4.5	9	18
						a	0.450	0.900	1.800	3.600
62	70	31	60	30	30	2	P 2.5	5	10	20
						a	0.500	1.000	2.000	4.000
62	31	55	70	30	30	3	P 2.75	5.5	11	22
						a	0.550	1.100	2.200	4.400
62	70	31	60	30	30	3	P 3	6	12	24
						a	0.600	1.200	2.400	4.800
62	31	65	70	30	30	3	P 3.25	6.5	13	26
						a	0.650	1.300	2.600	5.200
62	70	31	60	30	30	4	P 3.5	7	14	28
						a	0.700	1.400	2.800	5.600



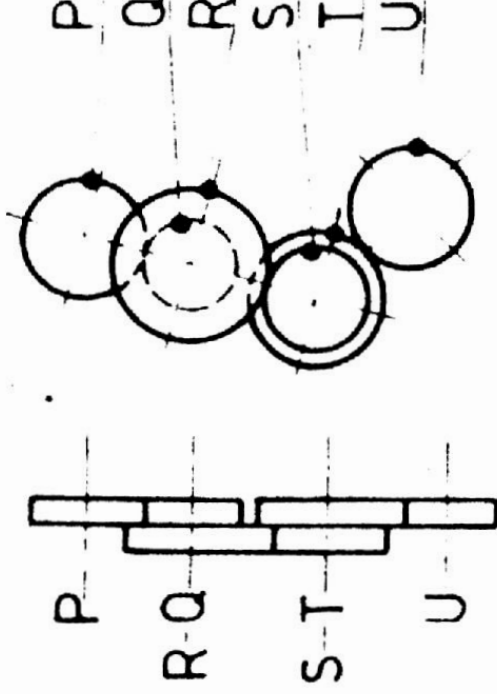
TORNIO
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TAB. N.
23

FILETTATURE WHITWORTH

DISPOSIZIONE DELLE RUOTE DI SERIE



n" = numero di filetti per pollice; a = avanz. ^{ro.} long. ^{le} mm. ^{giro}

P	Q	R	S	T	U	(1)	A	B	C	D
30	57	60	75	31		3	n" 28	14	7	3 1/2
							a 0,181	0,363	0,725	1,450
50	57	62	70	30		1	n" 27	13 1/2	6 3/4	3 3/8
							a 0,188	0,376	0,753	1,505
31	60	62	67	30		4	n" 26	13	6 1/2	3 1/4
				(2)			a 0,195	0,391	0,782	1,565
53	60	62	62	30		2	n" 23	11 1/2	5 3/4	2 7/8
(1)							a 0,221	0,442	0,883	1,765
62	60	57	57	47		4	n" 22	11	5 1/2	2 3/4
							a 0,231	0,462	0,925	1,850
50	57	62	62	31		3	n" 21	10 1/2	5 1/4	2 5/8
							a 0,242	0,484	0,968	1,935
45	60	62	62	31		4	n" 20	10	5	2 1/2
							a 0,254	0,508	1,016	2,032
60	62	75	50	45		4	n" 18	9	4 1/2	2 1/4
							a 0,282	0,565	1,130	2,260
60	57	62	75	30		4	n" 12	6	3	1 1/2
							a 0,422	0,845	1,690	3,380
65	43	70	30	45	50	3	n" 10 2/3	5 1/3	2 2/3	1 1/3
							a 0,476	0,952	1,905	3,810
45	70	31	75	30		4	n" 8	4	2	1
							a 0,635	1,270	2,540	5,080

(1) CON RUOTA SPECIALE Z = 53

(2) CON RUOTA SPECIALE Z = 67



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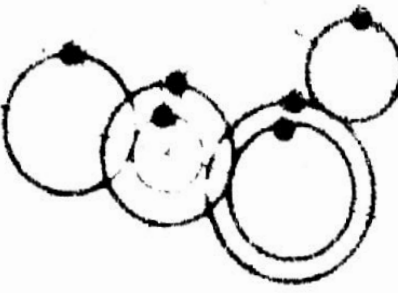
TAB. N.
24



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FILETTATURE	DISPOSIZIONE DELLE RUOTE DI SERIE											
	P	Q	R	S	T	U		A	B	C	D	
MODULARI	55	65	70	50	50	60	4	0,275	0,55	1,1	2,2	
	60	62	70	30	31	65	4	0,3	0,6	1,2	2,4	
	55	45	70	43	36	57	4	0,35	0,7	1,4	2,8	
	60	65	70	50	50	45	4	0,4	0,8	1,6	3,2	
	45	65	70	62	62	30	4	0,45	0,9	1,8	3,6	
	45	62	36	70	30	30	4	0,8125	1,625	3,25	6,5	
	60	30	55	57	75	43	4	0,9375	1,875	3,75	7,5	
	30	75	57	55	55	46	4	184	92	46	23	
	30	75	57	55	55	45	4	180	90	45	22 1/2	
	57	50	45	30	70	70	4	168	84	42	21	
DIAMETRAL PITCH	30	60	60	55	55	50	4	152	76	38	19	
	36	71	57	55	55	45	4	142	71	35 1/2	17 3/4	
	57	45	45	43	43	75	3	140	70	35	17 1/2	
	36	60	57	55	55	51	4	136	68	34	17	
	55	43	65	50	31	62	3	128	64	32	16	
	36	61	57	55	55	45	4	122	61	30 1/2	15 1/4	
	60	43	65	45	36	55	1	121	60 1/2	30 1/4	15 1/8	
	57	45	45	43	43	75	4	120	60	30	15	
	57	45	45	47	47	65	4	104	52	26	13	
	57	75	60	45	45	50	4	100	50	25	12 1/2	
FILETTATURE	57	55	55	47	47	60	4	96	48	24	12	
												
	P Q R S T U											
	R Q R S T U											
	P Q R S T U											

* RUOTA SPECIALE A RICHIESTA




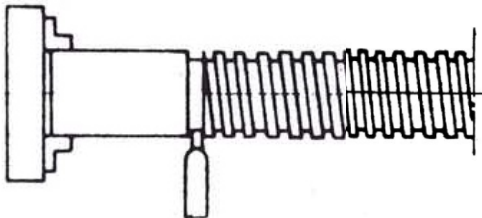
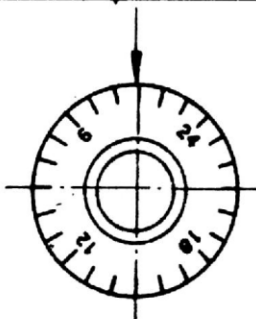
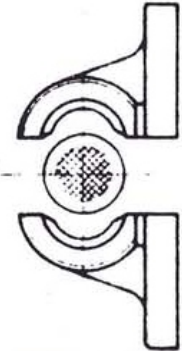
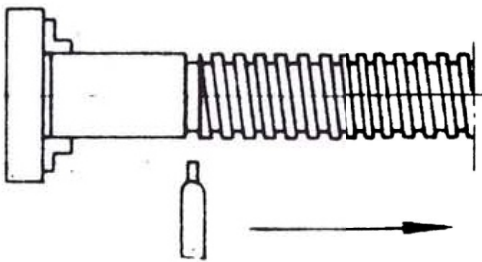
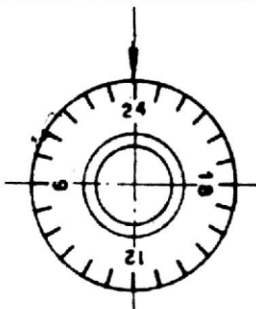
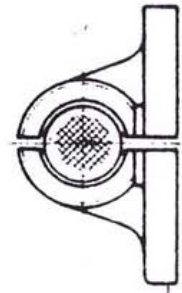
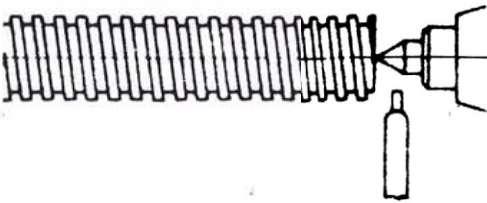
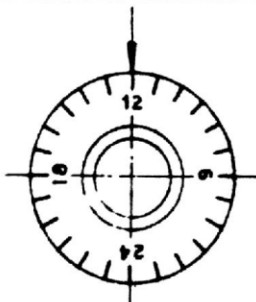
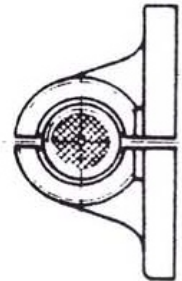
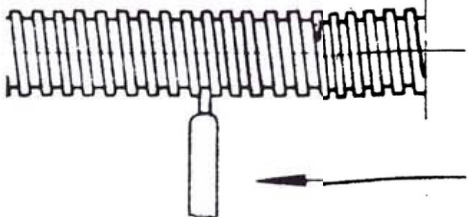
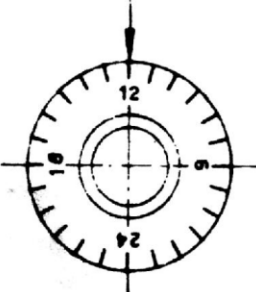
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ISTRUZIONI PER L'USO DEL DISPOSITIVO
DI RIPRESA DELLE FILETTATURE A PASSO METRICO

DISPOSIZIONE CHIOCCIOLA	PEZZO IN LAVORO	DISPOSIZIONE DISCO GRADUATO	DESCRIZIONE DELLE FASI PER UN CICLO DI ANDATA E RITORNO
			1ª FASE - TERMINE DELLA PRIMA PASSATA DI FILETTATURA SUL PEZZO IN LAVORO; UTENSILE IN PRESA; CHIOCCIOLA INNESTATA; INDICE POSIZIONE GENERICA.
			2ª FASE - L'OPERATORE DISINNESTA LA CHIOCCIOLA ED ALLONTANA L'UTENSILE DAL PEZZO; RUOTA IL TAMBURO FINCHÈ L'INDICE COINCIDA CON LA DIVISIONE 24 (V. TAB. 27) ED ARRETRA IL CARRO A MANO COL VOLANTINO.
			3ª FASE - L'OPERATORE ARRESTA IL CARRO QUANDO L'INDICE COINCIDE CON LA DIVISIONE 12 (V. TAB. 27); INNESTA LA CHIOCCIOLA E PORTA L'UTENSILE IN POSIZIONE DI LAVORO; QUINDI SI RIPETE LA SUCCESSIONE DELLE FASI.
			NELLE OPERAZIONI DI FILETTATURA IL DISCO GRADUATO NON RUOTA.

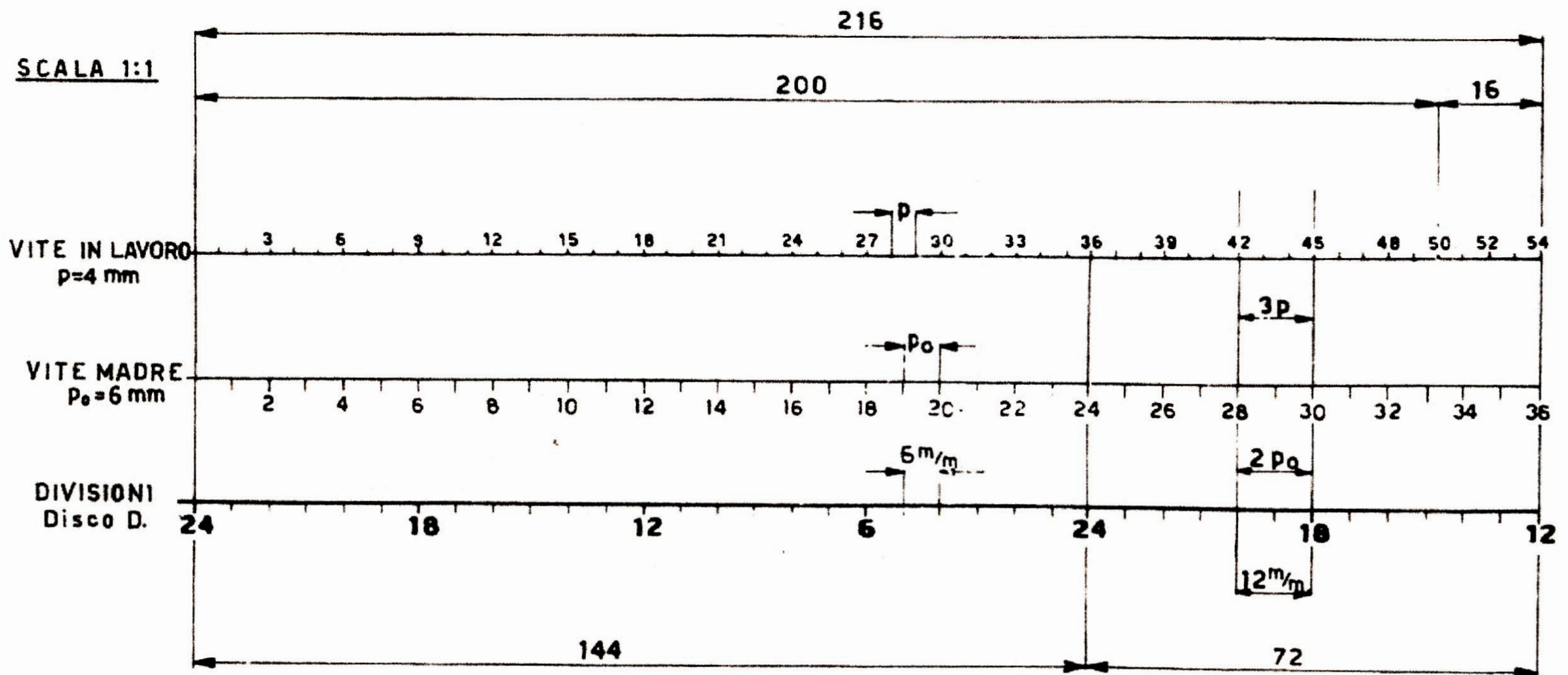


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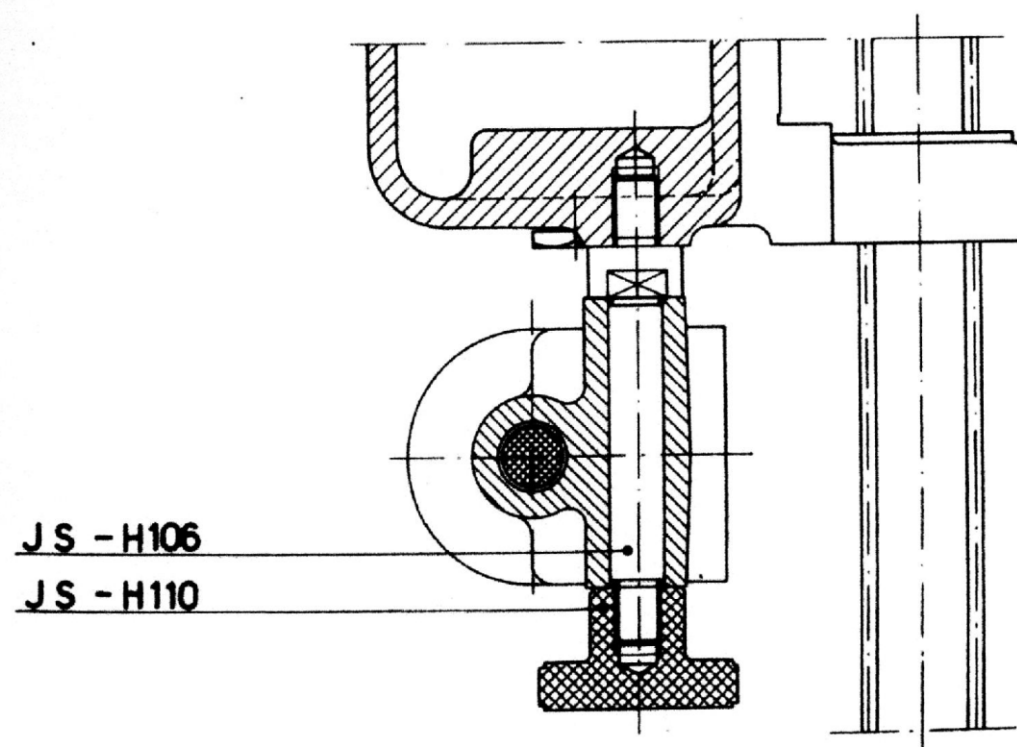
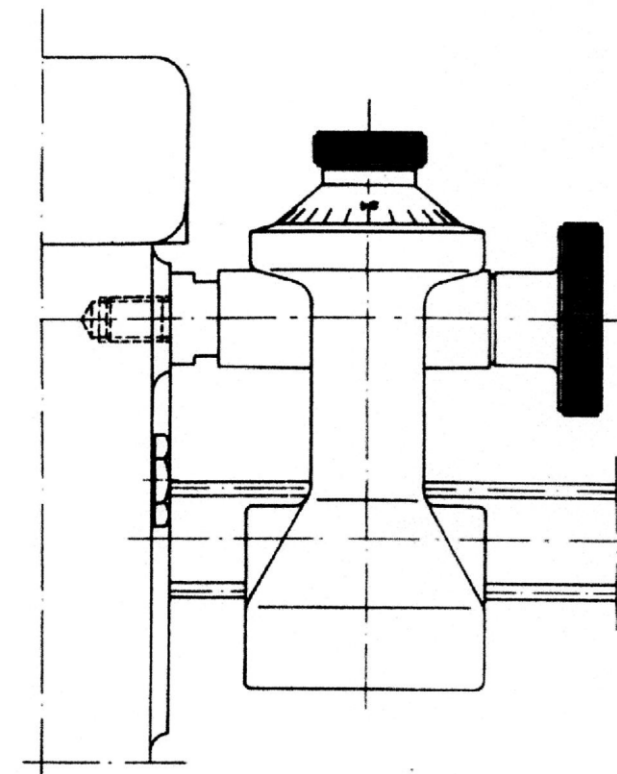
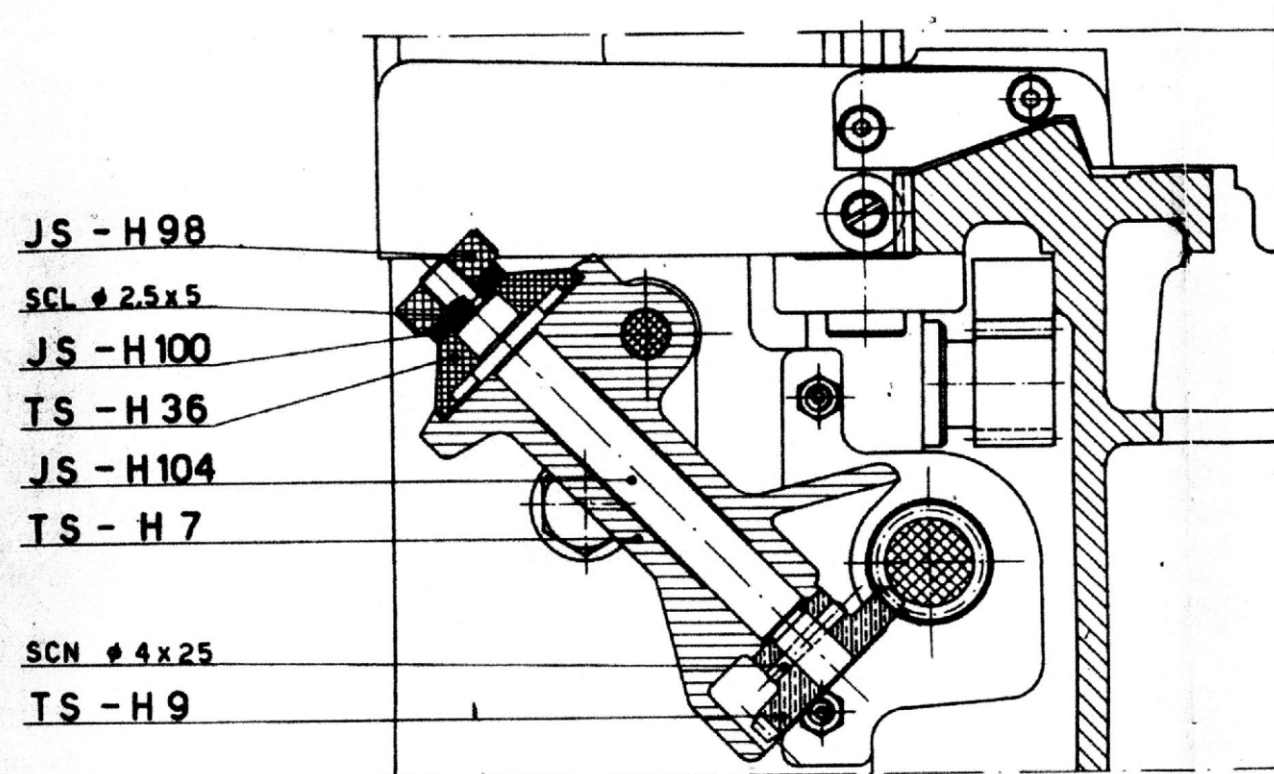


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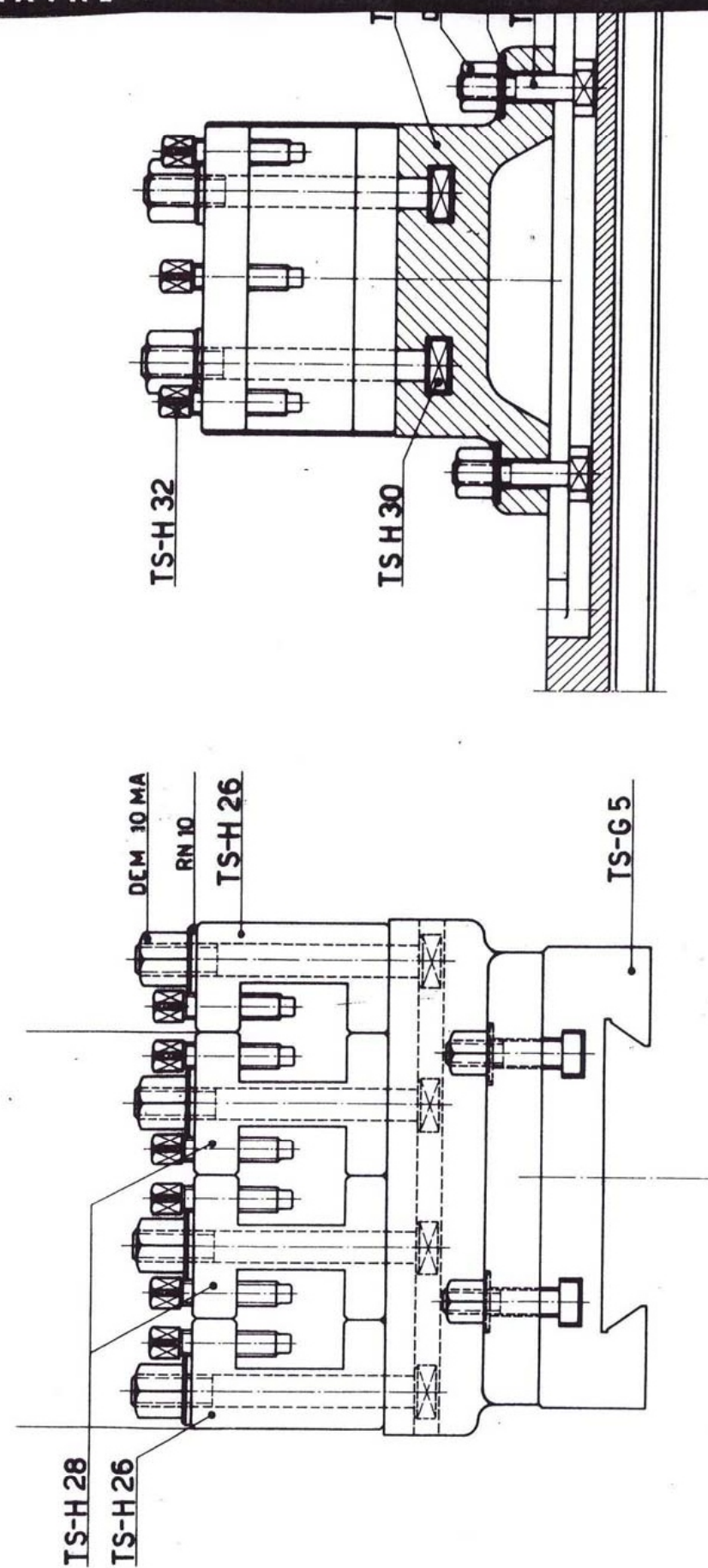


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TS-H 46

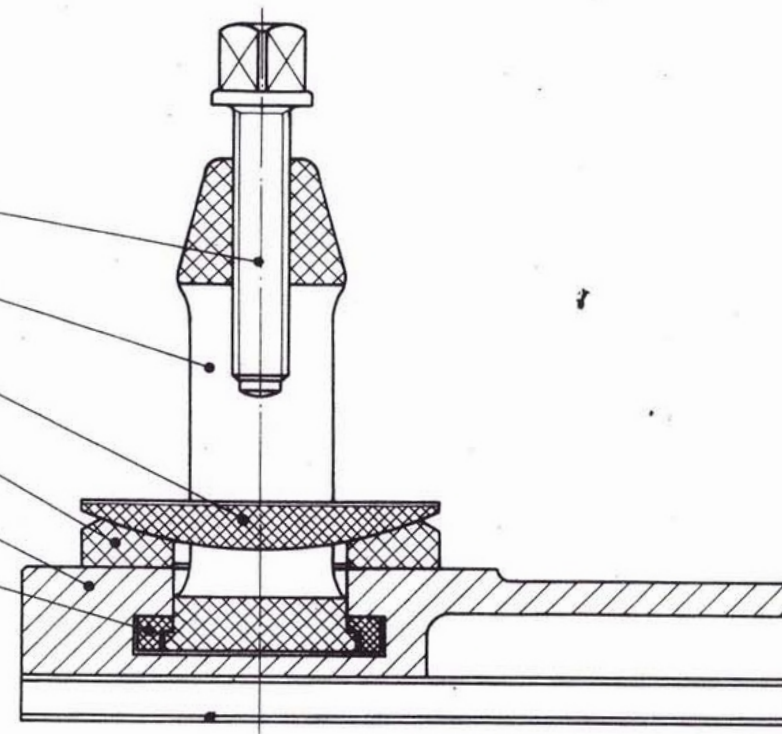
TS-H 38

TS-H 44

TS-H 42

TS-H 13

TS-H 40

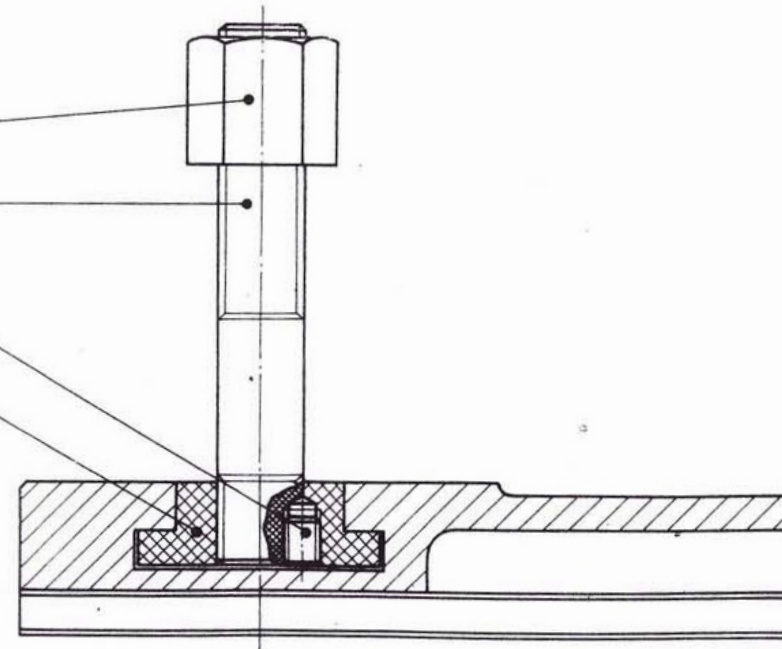


DEM 18 MA

TS-G 50

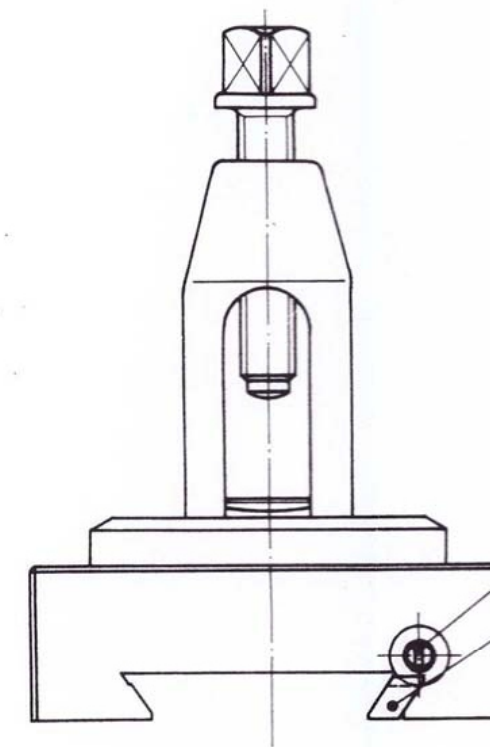
GPce 8 MAx10

TS-H 50



TS-H 48

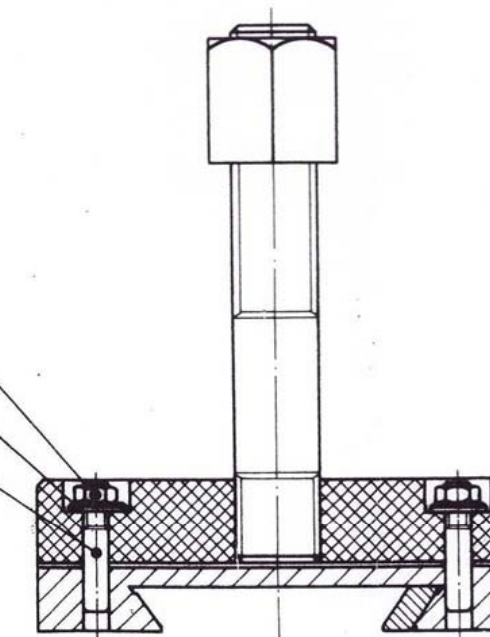
TS-H 15



CD 5MA

RN 5

TS-H 52



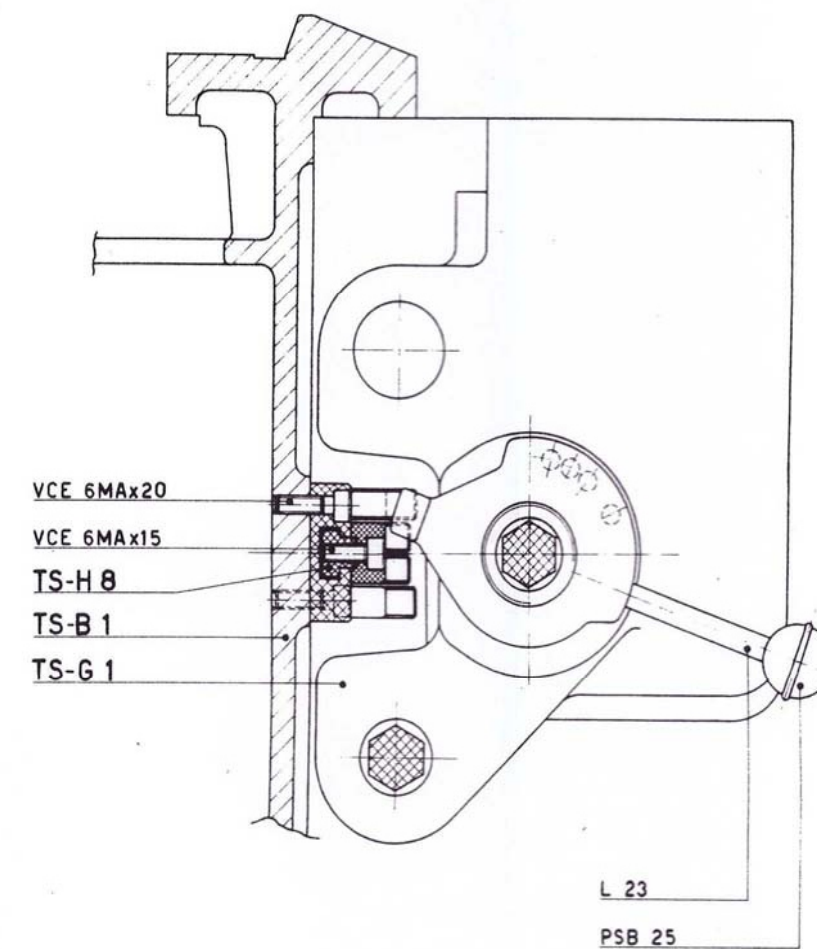
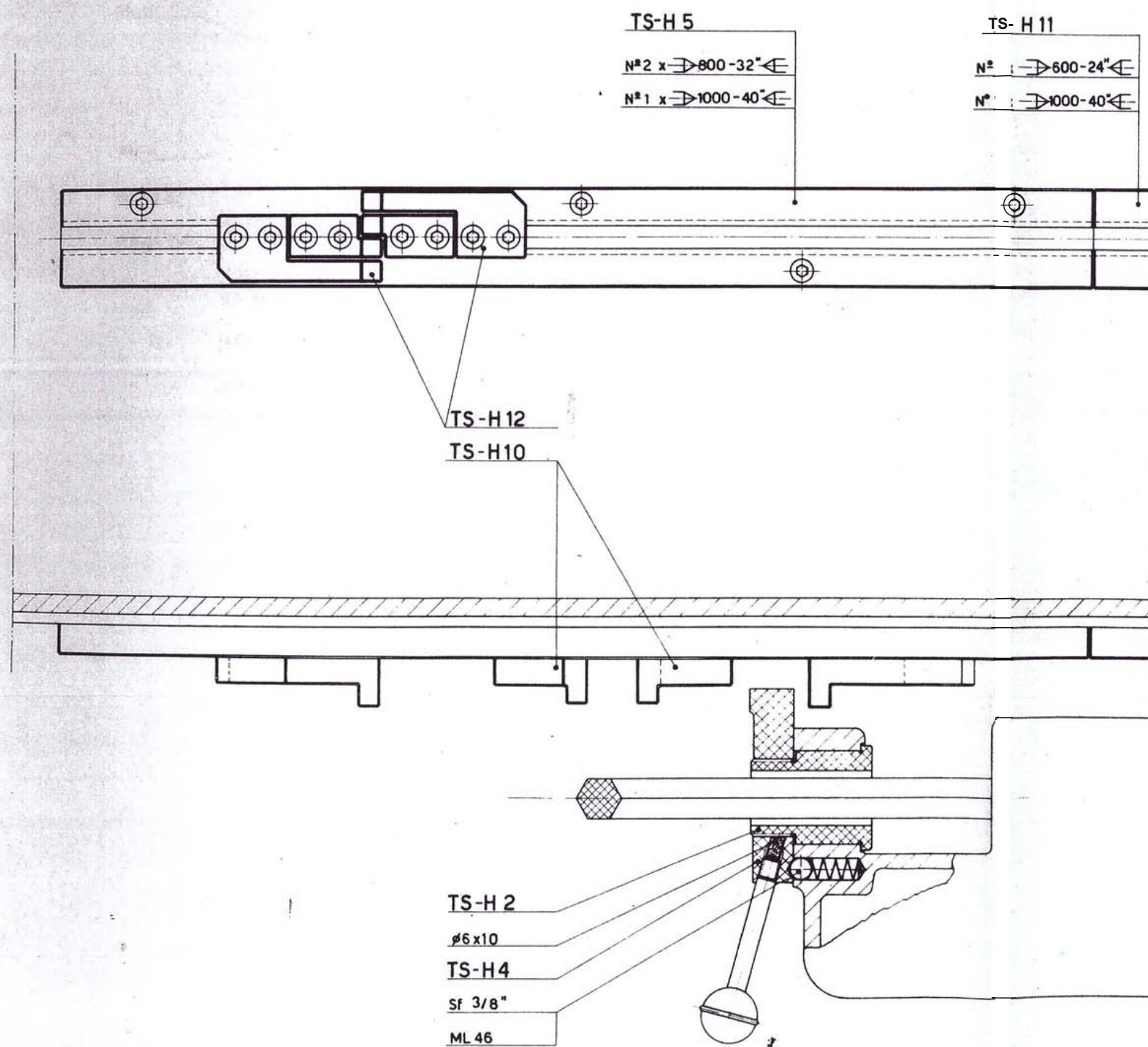


TORNIO
TOUR
TORNIO
DREHBANK
LATHE

KS - 155

TAB. N.°

31



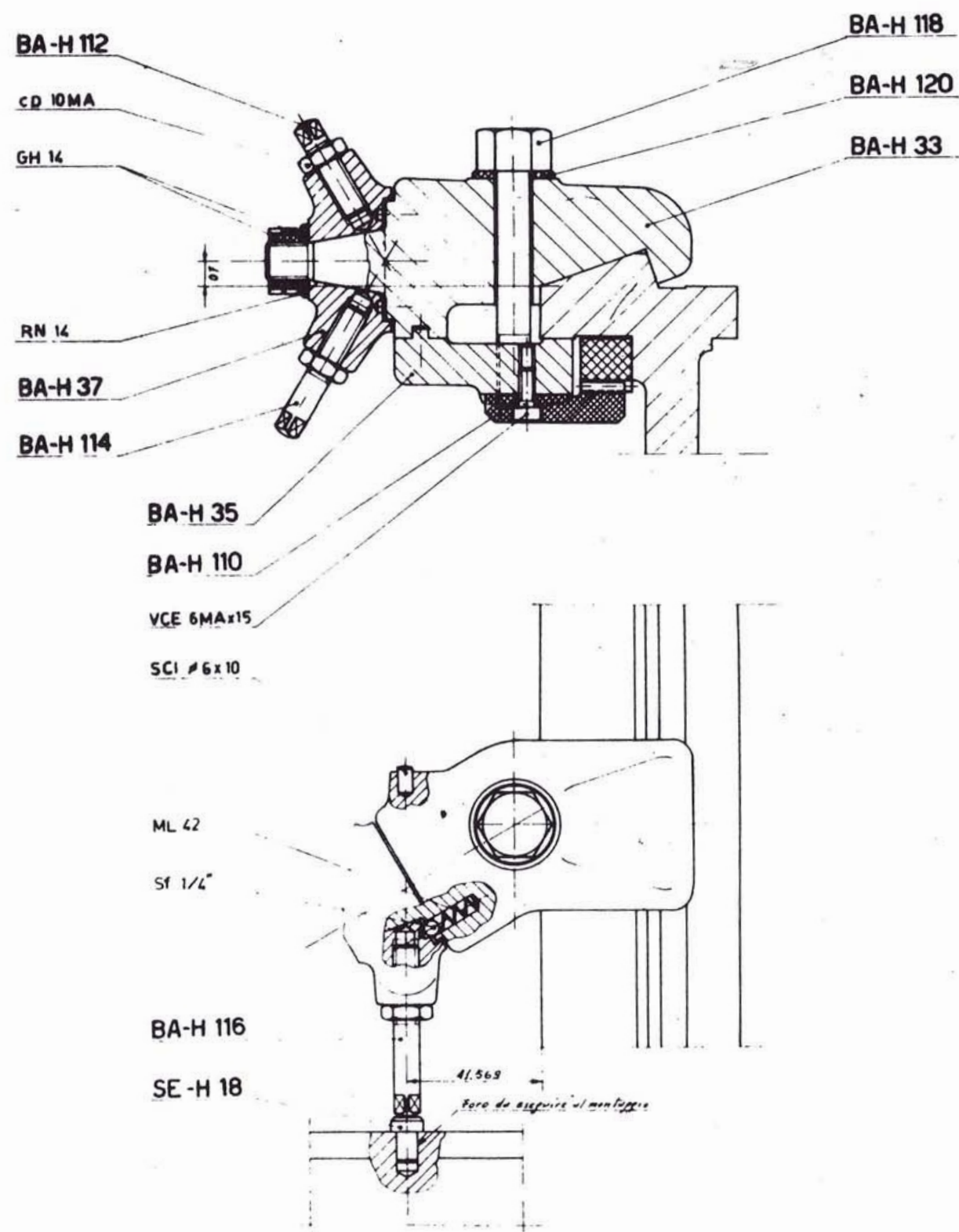


TORNIO
TOUR
TORNO
DREHBANK
LATHE

KS - 155

TAB. N.º

32



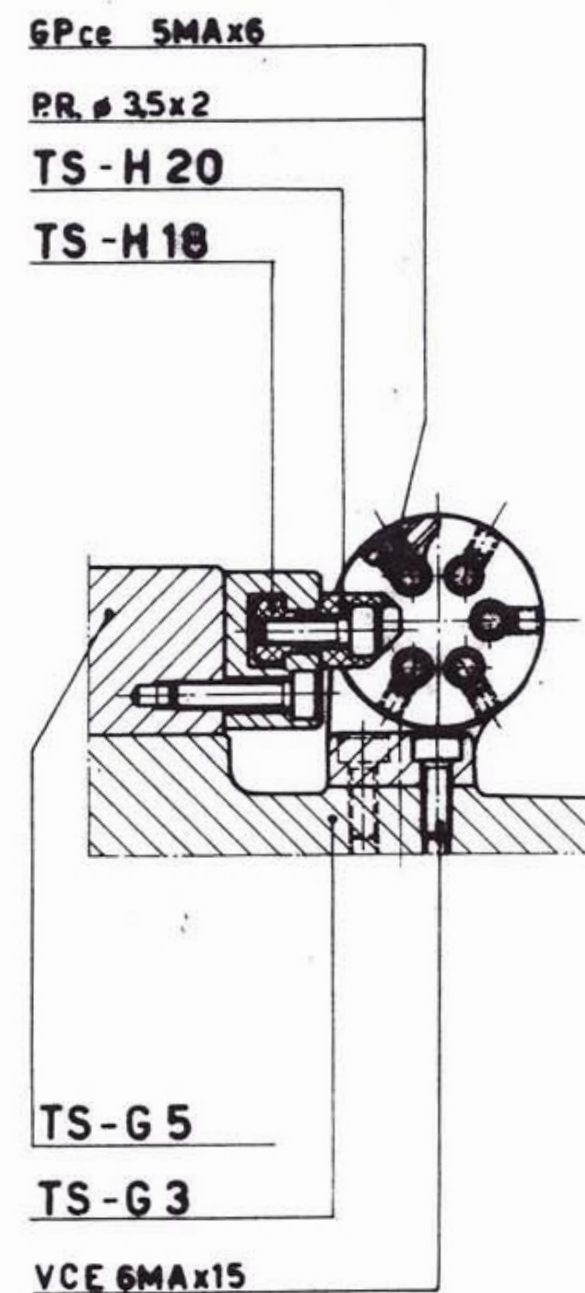
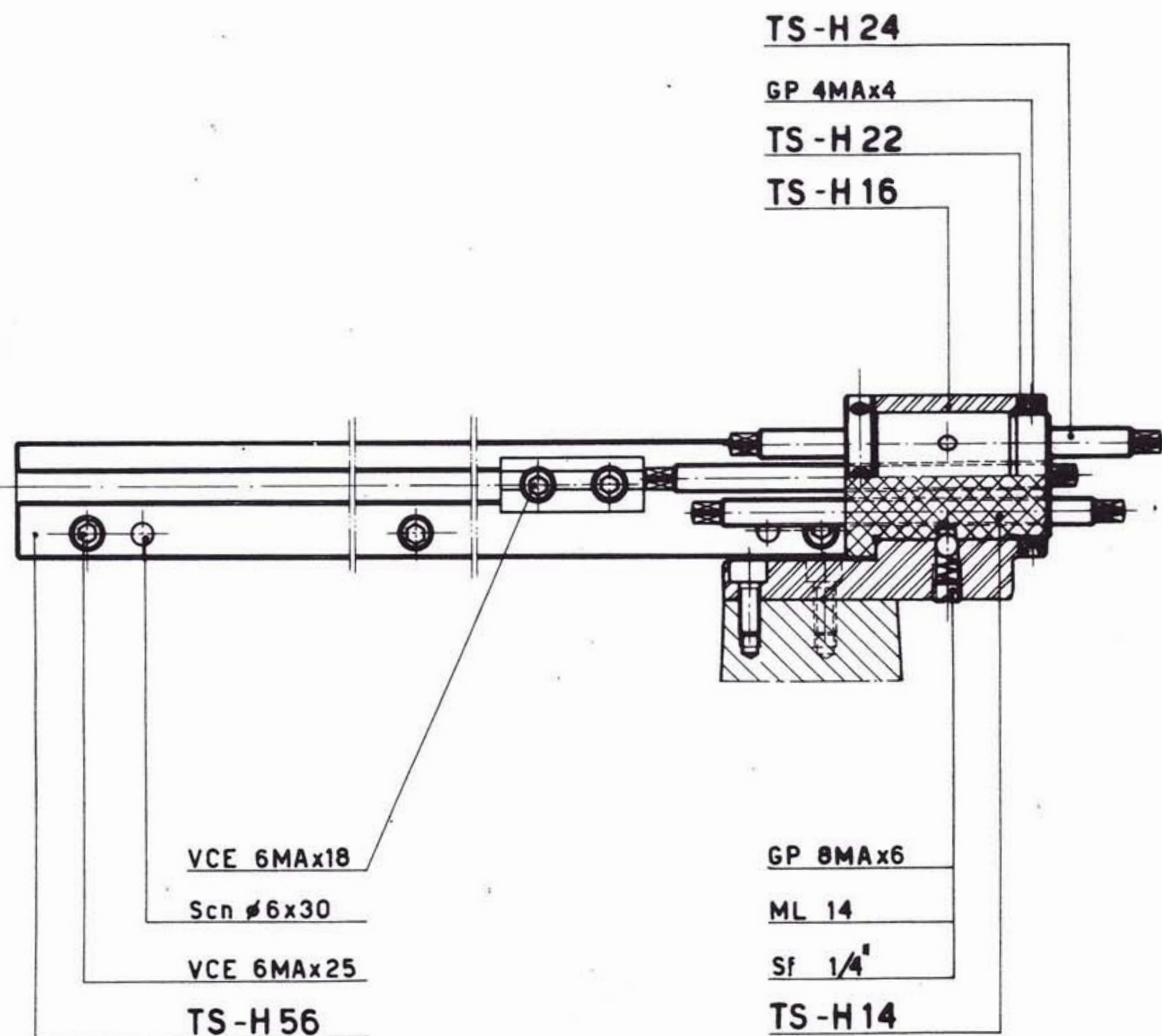


TORNIO
TOUR
TORNO
DREHBANK
LATHE

KS - 155

TAB. N.°

33



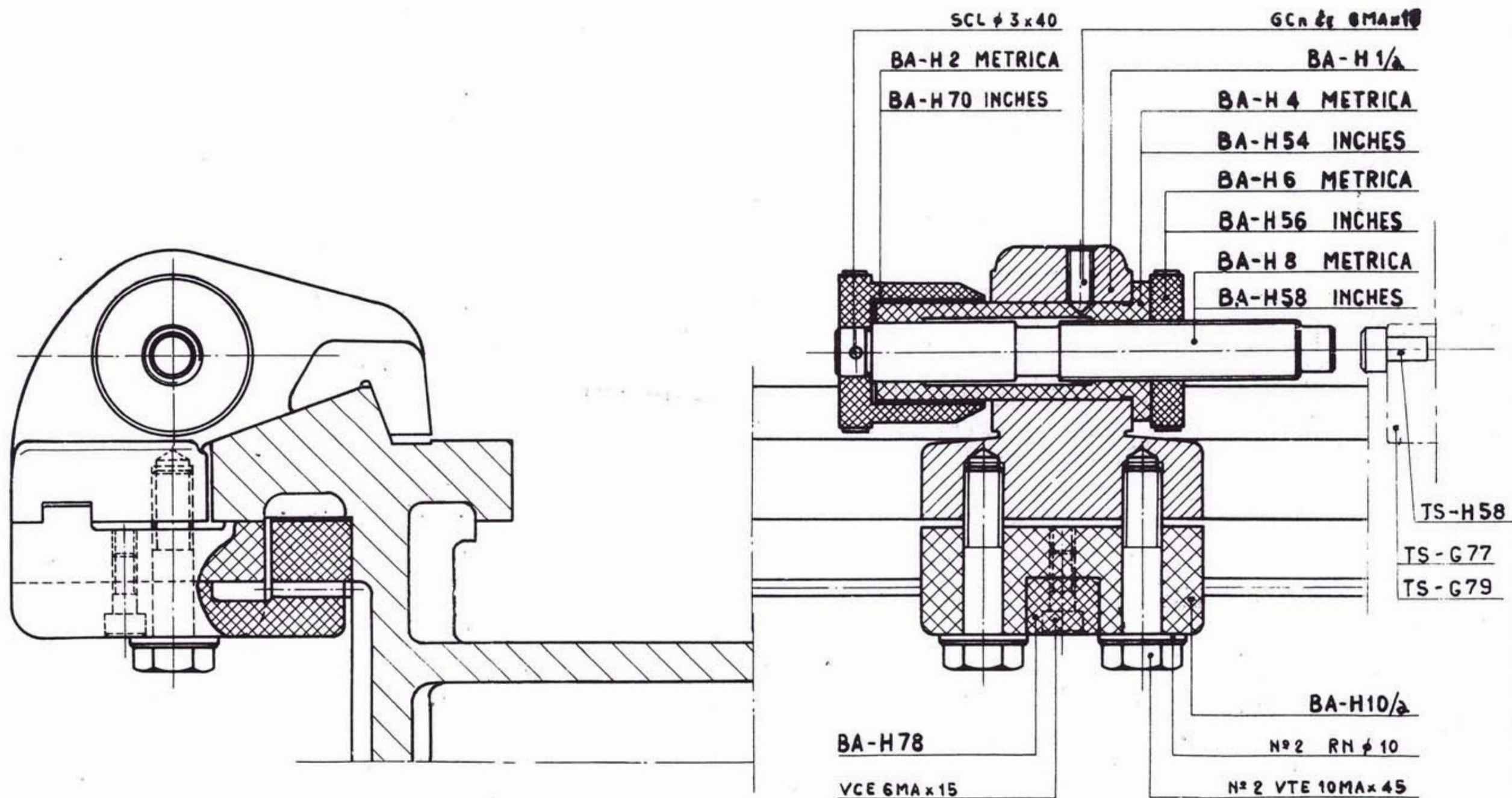


TORNIO
TOUR
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DREHBANK
LATHE

KS - 155

TAB. N.º

34



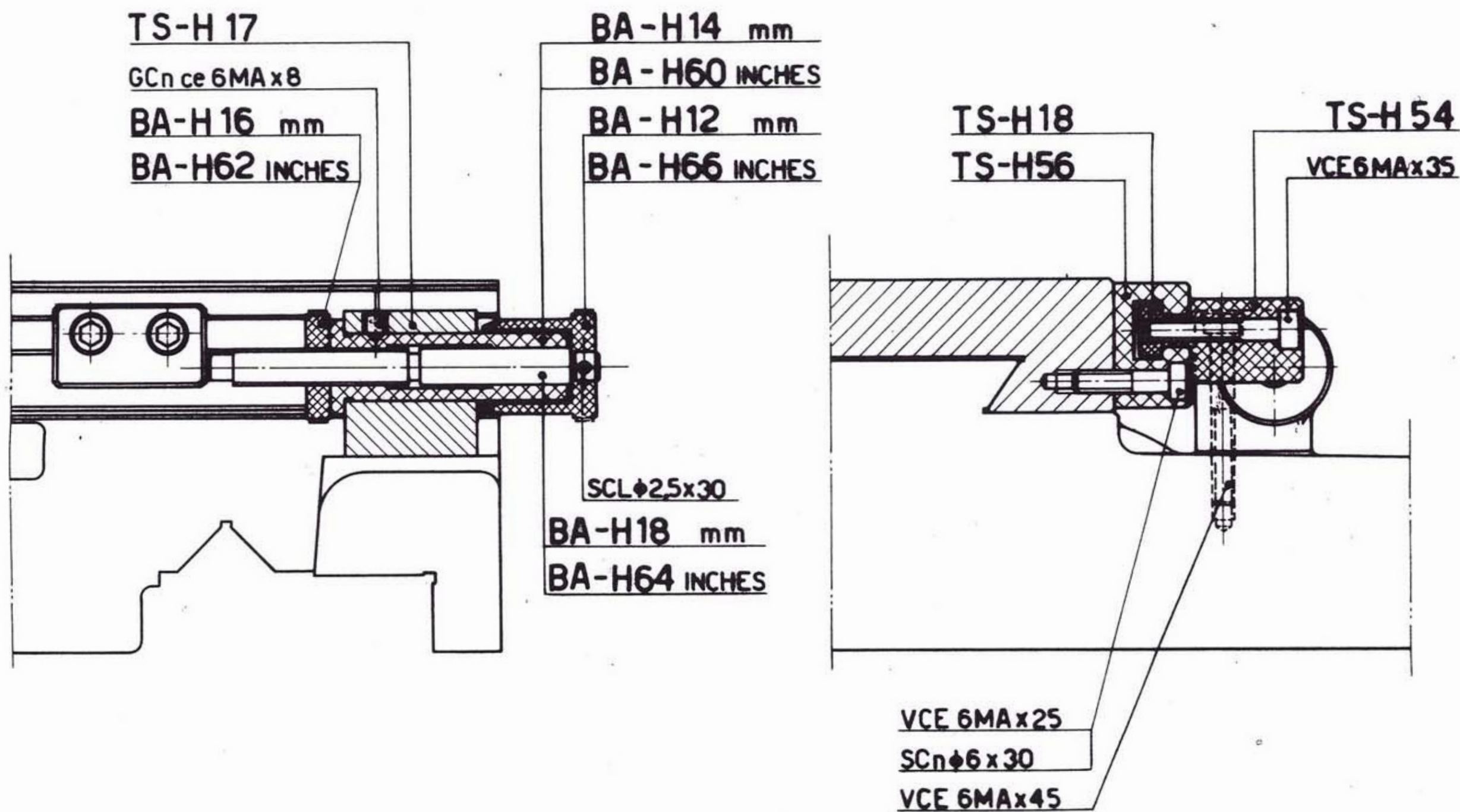


TORNIO
TOUR
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DREHBANK
LATHE

KS - 155

TAB. N.°

35



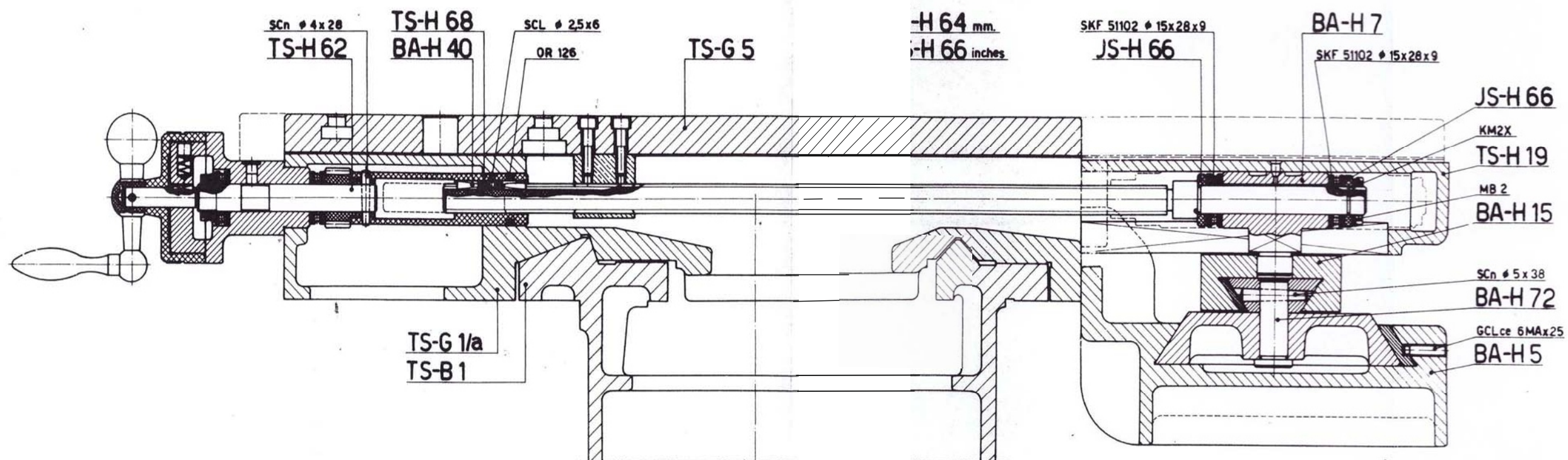


TORNIO
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LATHE

KS - 155

TAB. N.

36



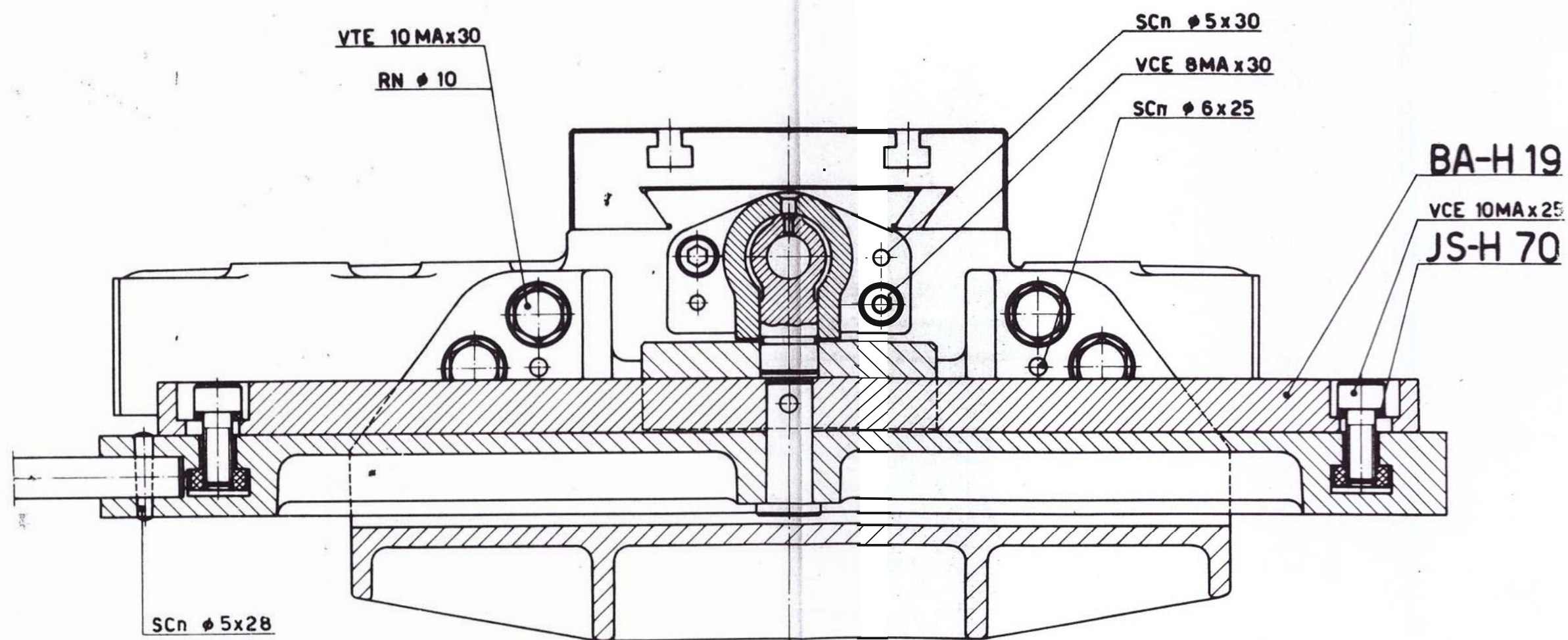


TORNIO
TOUR
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KS - 155

TAB. N.°

37



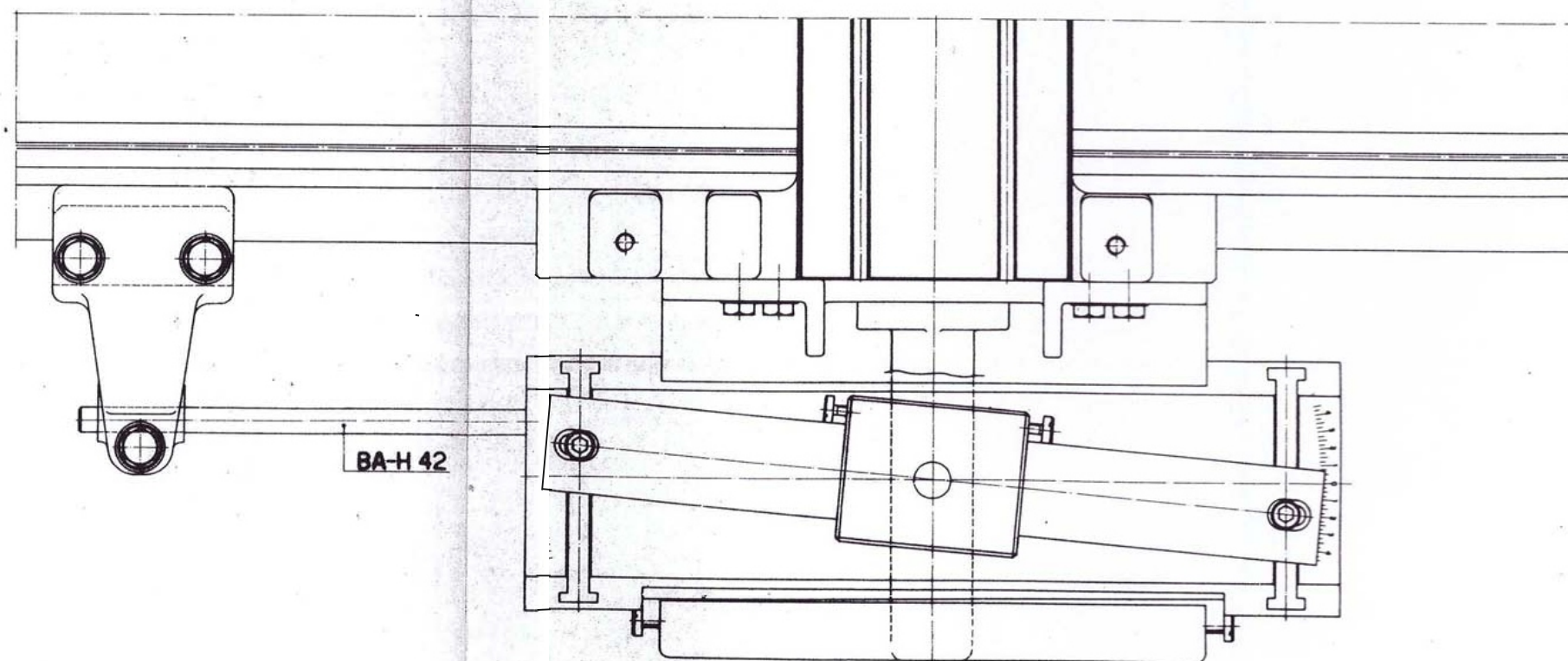
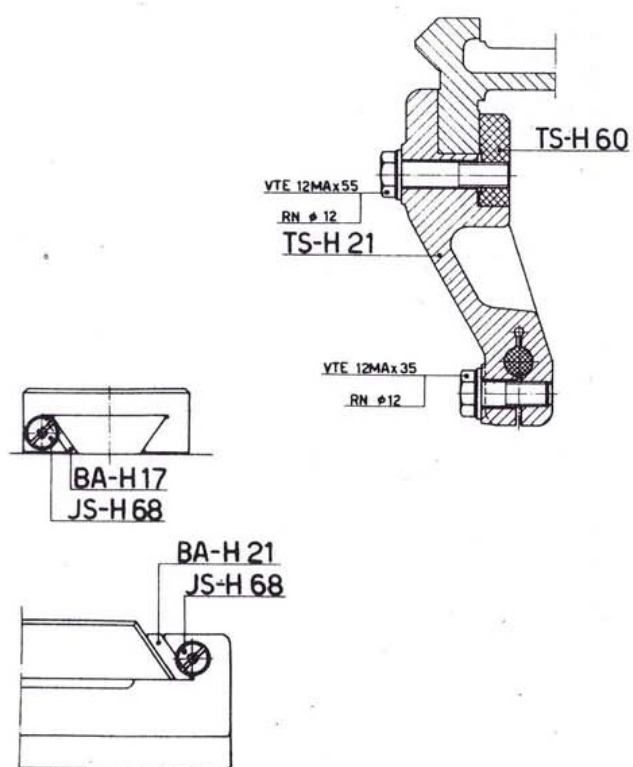


TORNIO
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KS - 155

TAB. N.°

38



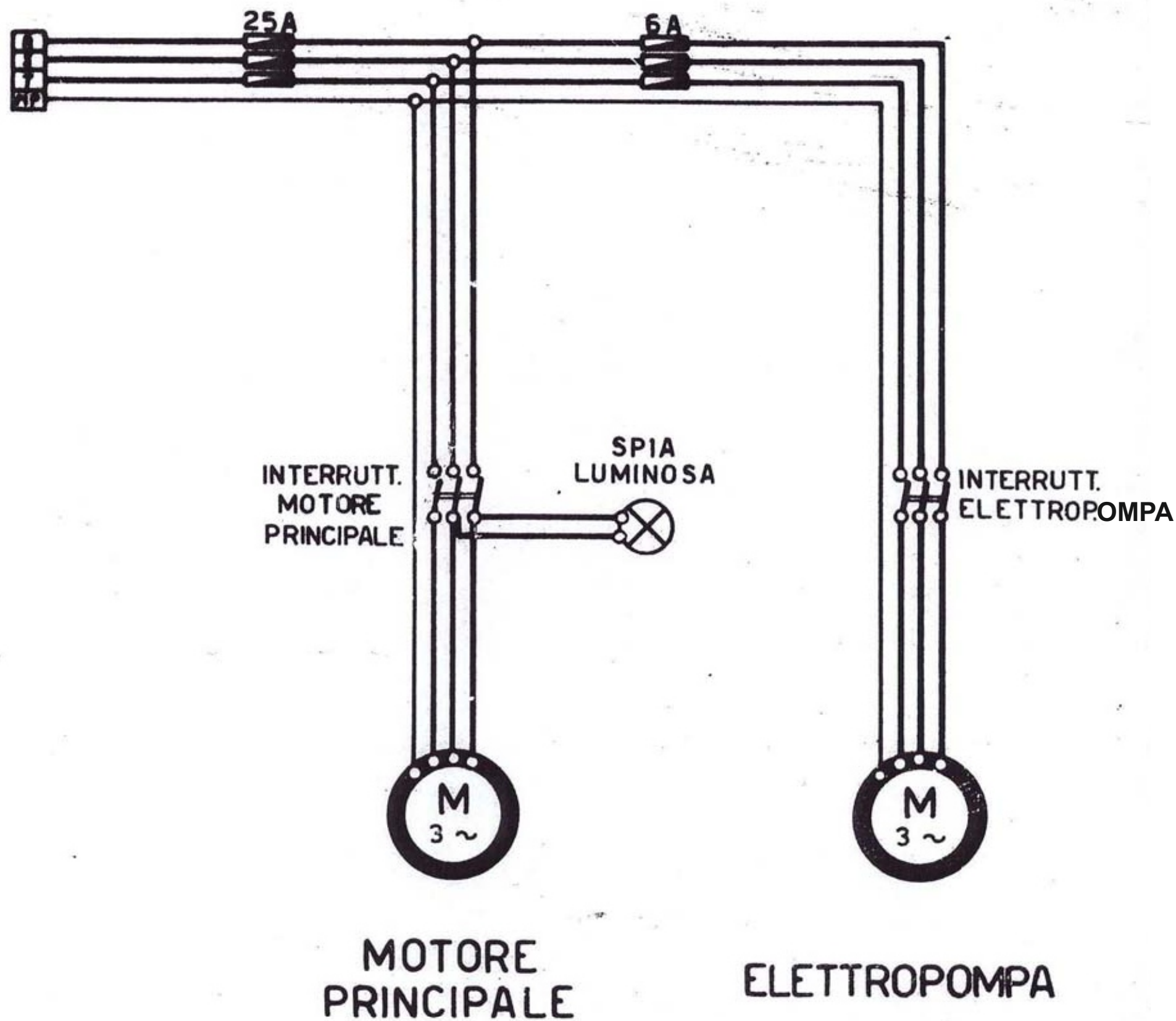


TORNIO
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LATHE

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TAB. N.°

39



OGGETTO DELLA MISURA		Errore in mm.	
		ammesso	costatato
Fig. 1	<p>BANCO</p> <p>A - Banco rettilineo longitudinalmente, lato della vite conduttrice (solo concessa la convessità).</p> <p>B - Idem, lato opposto (solo concessa la concavità).</p> <p>C - Banco piano trasversalmente (non è ammesso lo svergolamento).</p>	<p>su 1000 mm.</p> <p>da 0 a 0,02</p> <p>0,02</p> <p>± 0,02</p>	<p>0,02</p> <p>0,02</p> <p>0,01</p>
Fig. 2	<p>Guide del carrello rettilinee (solo per macchine di oltre 3 m. di distanza tra le punte); la misura ha luogo con microscopio e filo di misura, oppure con lunga riga o con cannocchiale.</p>	<p>su 1000 mm.</p> <p>0,02</p>	
Fig. 3	<p>Guide della contropunta parallele alla direzione del movimento del carrello.</p>	<p>su 1000 mm.</p> <p>0,02</p>	<p>0,02</p>
Fig. 4	<p>MANDRINO</p> <p>Oscillazione trasversale della punta.</p>	<p>0,01</p>	<p>0,005</p>
Fig. 5	<p>Oscillazione trasversale della parte cilindrica del mandrino.</p>	<p>0,01</p>	<p>0,005</p>
Fig. 6	<p>Oscillazione assiale del mandrino, misurata in due punti a 180°</p>	<p>0,01</p>	<p>0,005</p>
Fig. 7	<p>Oscillazione trasversale della sede conica del mandrino:</p> <p>1) vicino al naso del mandrino.</p> <p>2) a 300 mm. di distanza.</p>	<p>0,01</p> <p>0,03</p>	<p>0,025</p>
Fig. 8	<p>A - Asse del mandrino parallelo al banco nel piano verticale (può solo salire verso l'estremità libera del cilindro di prova).</p> <p>B - Idem, nel piano orizzontale (la estremità libera del cilindro di prova può deviare solo verso l'utensile).</p>	<p>su 300 mm.</p> <p>da 0 a 0,02</p> <p>da 0 a 0,02</p>	<p>0,02</p> <p>0,01</p>
Fig. 9	<p>SLITTE</p> <p>Movimento della slitta superiore parallelo nel piano verticale all'asse del mandrino.</p>	<p>su 100 mm.</p> <p>0,03</p>	<p>0,01</p>
Fig. 10	<p>CONTROPUNTA</p> <p>A - Asse del fuso della contropunta parallelo all'asse del banco nel piano verticale (può solo salire in avanti).</p> <p>B - Idem, nel piano orizzontale (può solo deviare verso l'utensile).</p>	<p>su 100 mm.</p> <p>da 0 a 0,02</p> <p>da 0 a 0,01</p>	<p>0,005</p> <p>0,01</p>
Fig. 11	<p>A - Asse della sede conica del fuso parallelo all'asse del banco nel piano verticale (può solo salire verso l'estremo libero del cilindro di prova).</p> <p>B - Idem, nel piano orizzontale (l'estremo libero del cilindro di prova può solo deviare verso l'utensile).</p>	<p>su 300 mm.</p> <p>da 0 a 0,03</p> <p>da 0 a 0,02</p>	<p>0,01</p> <p>0,02</p>
Fig. 12	<p>Asse di lavoro (cilindro montato fra le punte) parallelo all'asse del banco nel piano verticale (può solo salire verso la contropunta).</p>	<p>da 0 a 0,02</p>	<p>0,015</p>
<p>PRECISIONE DI LAVORO DELLA MACCHINA</p> <p>Precisione della tornitura circolare.</p> <p>Precisione della tornitura cilindrica: a) tra le punte.</p> <p>b) dal mandrino.</p> <p>(Per ogni 1000 mm. in più si aumenta di 0,01 mm. sino ad un massimo di 0,05 mm.)</p>		<p>0,01</p> <p>0,02 su 300 mm.</p> <p>0,02 su 200 mm.</p>	<p>0,01</p>
Fig. 13	<p>Precisione della tornitura piana (ammessa solo la concavità).</p>	<p>su 300 mm. di Ø</p> <p>da 0 a 0,02</p>	<p>0,015</p>