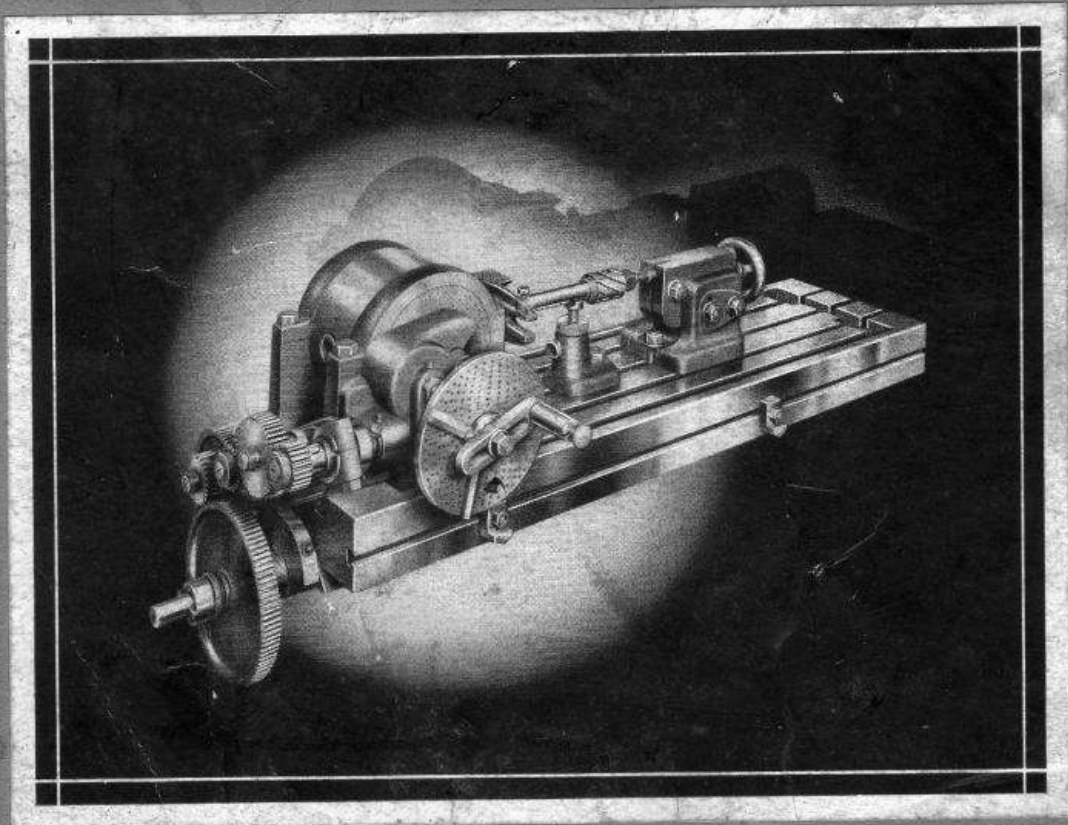


G. THINTON



BRITISH MADE



**PRECISION
UNIVERSAL DIVIDING HEADS**



VICTORIA

Precision Universal Dividing Heads

FOREWORD

ORIGIN.

The "VICTORIA" High Precision Universal Dividing Heads are of entirely British workmanship, being designed and manufactured by the Victoria Machine Tool Co., Victoria Works, London, after long and careful research into the problems peculiar to the manufacture of this type of Precision Instruments.

ACCURACY.

These Universal Dividing Heads are measuring instruments used for fine work mainly on milling machines, and dimensions of mathematical exactness must be obtained by their application, which means that accuracy is of the highest importance.

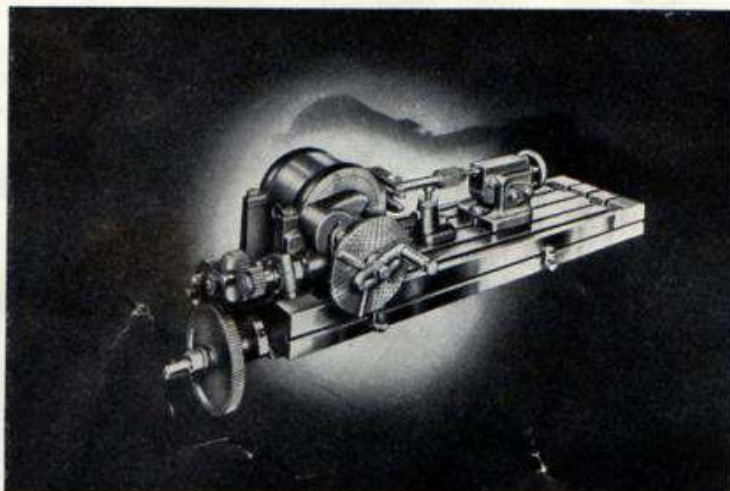
The "VICTORIA" Universal Dividing Heads are subjected to most stringent inspection during every stage of their construction and the use of jigs and fixtures ensures that every head is accurate to the finest working limits. The final test of the "VICTORIA" Dividing Heads is made by a microscopic optical testing apparatus which is capable of reading to an accuracy of five seconds.

CONSTRUCTION.

Only the best materials are used in the construction of these heads, the more important castings being made of Meehanite Iron, ensuring a closer grain of casting and also a longer life. All spindles are of a special alloy steel and the worm wheel is made of the highest grade Phosphor Bronze which is split so that adjustment between the worm and the worm wheel can easily be made.

TAILSTOCK ADJUSTMENT.

The Tailstocks are of the vertically adjustable type enabling slightly tapered work to be machined.



VICTORIA Precision Universal DIVIDING HEAD

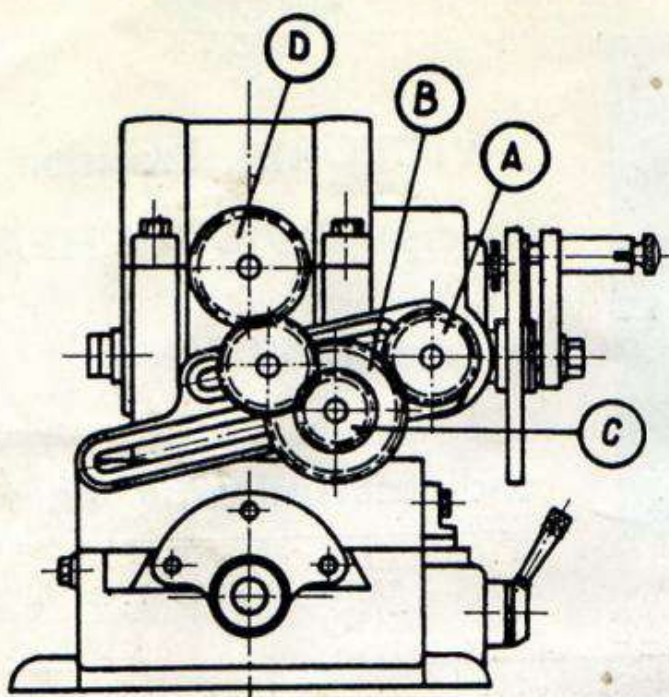
BRITISH MADE

Indirect Indexing Chart

VICTORIA PRECISION UNIVERSAL DIVIDING HEAD

RATIO OF HEAD 1:40

Standard Plates				Hole Circles								Extra Plates				Hole Circles, distinguishable by *								
Index plate 1				15, 18, 20, 23, 27, 31, 37, 41, 47								Index plate 3				24, 51, 61, 71, 81, 91								
" 2				16, 17, 19, 21, 29, 33, 39, 43, 49								" 4				53, 63, 73, 83, 93								
												" 5				57, 67, 77, 87, 97								
												" 6				59, 69, 79, 89, 99								
No. of divisions	Hole circle	Number of revolutions of the index-arm the holes in the circle		No. of divisions	Hole circle	Number of revolutions of the index-arm the holes in the circle		No. of divisions	Hole circle	Number of revolutions of the index-arm the holes in the circle		No. of divisions	Hole circle	Holes in the circle		No. of divisions	Hole circle	Holes in the circle		No. of divisions	Hole circle	Holes in the circle		
2	—	20	—	18	18	2	4/18	38	19	1	1/19	*61	61	40	61	85	17	8/17	124	31	10/31	190	19	4/19
3	39	13	13/39	19	19	2	2/19	39	39	1	1/39	62	31	20	31	86	43	20/43	128	16	5/16	195	39	8/39
	27	13	9/27	20	—	2	—	40	—	1	—	*63	63	40	63	*87	87	40/87	130	39	12/39	196	49	10/49
4	—	10	—	21	21	1	19/21	41	41	—	40/41	64	16	10	16	88	33	15/33	132	33	10/33	200	20	4/20
5	—	8	—	22	33	1	27/33	42	21	—	20/21	65	39	24	39	*89	89	40/89	135	27	8/27	205	41	8/41
6	39	6	26/39	23	23	1	17/23	43	43	—	40/43	66	33	20	33	90	27	12/27	136	17	5/17	210	21	4/21
	27	6	18/27	24	39	1	26/39	44	33	—	30/33	*67	67	40	67	*91	91	40/91	140	49	14/49	215	43	8/43
7	49	5	35/49	27	1	18/27	45	27	—	24/27	68	17	10	17	92	23	10/23	144	18	5/18	216	27	5/27	
	21	5	15/21	25	20	1	12/20	46	23	—	20/23	*69	69	40	69	*93	93	40/93	145	29	8/29	220	33	6/33
8	—	5	—	26	39	1	21/39	47	47	—	40/47	70	49	28	49	94	47	20/47	148	37	10/37	230	23	4/23
9	27	4	12/27	27	27	1	13/27	48	18	—	15/18	*71	71	40	71	95	19	8/19	150	15	4/15	232	29	5/29
	18	4	8/18	28	49	1	21/49	49	49	—	40/49	72	27	15	27	*96	24	10/24	152	19	5/19	235	47	8/47
10	—	4	—	21	1	9/21	50	20	—	16/20	*73	73	40	73	*97	97	40/97	155	31	8/31	240	18	3/18	
11	33	3	21/33	29	29	1	11/29	*51	51	—	40/51	74	37	20	37	98	49	20/49	156	39	10/39	245	49	8/49
12	39	3	13/39	30	39	1	13/39	52	39	—	30/39	75	15	8	15	*99	99	40/99	160	20	5/20	248	31	5/31
	27	3	9/27	27	1	9/27	*53	53	—	40/53	76	19	10	19	100	20	8/20	164	41	10/41	260	39	6/39	
13	39	3	3/39	31	31	1	9/31	54	27	—	20/27	*77	77	40	77	104	39	15/39	165	33	8/33	264	33	5/33
14	49	2	42/49	32	20	1	5/20	55	33	—	24/33	78	39	20	39	105	21	8/21	168	21	5/21	270	27	4/27
	21	2	18/21	33	33	1	7/33	56	49	—	35/49	*79	79	40	79	108	27	10/27	170	17	4/17	280	49	7/49
15	39	2	26/39	34	17	1	3/17	*57	57	—	40/57	80	20	10	20	110	33	12/33	172	43	10/43	290	29	4/29
	27	2	18/27	35	49	1	7/49	58	29	—	20/29	*81	81	40	81	115	23	8/23	180	27	6/27	296	37	5/37
16	20	2	10/20	21	1	3/21	*59	59	—	40/59	82	41	20	41	116	29	10/29	18	4/18	300	15	2/15		
17	17	2	6/17	36	27	1	3/27	60	39	—	26/39	*83	83	40	83	120	39	13/39	184	23	5/23	360	18	2/18
18	27	2	6/27	37	37	1	3/37	27	—	18/27	84	21	10	21	27	9/27	185	37	8/37	27	3/27			
																			188	47	10/47	400	20	2/20



DIVIDING - TABLE

FOR DIFFERENTIAL DIVIDING WITH A
DIVIDING APPARATUS THE RATIO OF
GEARING OF WHICH IS $1 = 40$

PITCH CIRCLES PROVIDED : 15, 16, 17, 18,
19, 20, 21, 23, 27, 29, 31, 33, 37, 39, 41, 43,
47, 49 holes.

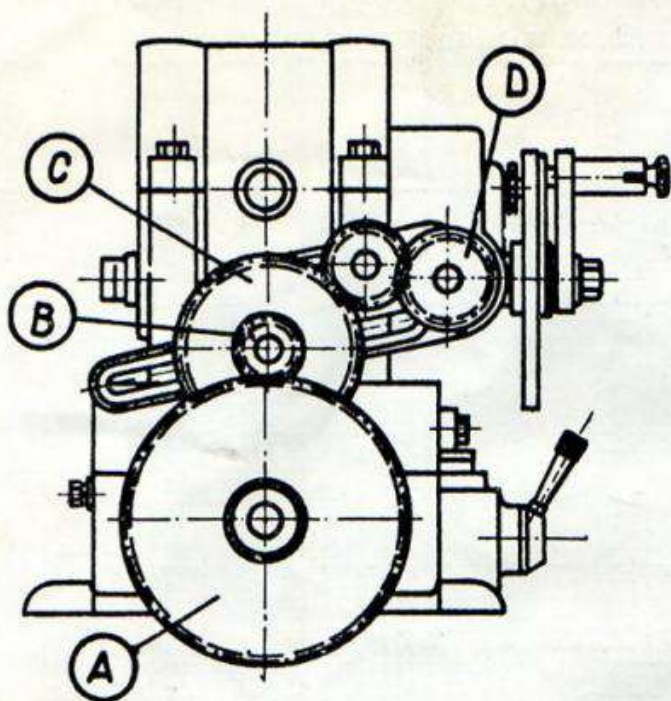
Dividing number	Pitch circle	Revolution of the index arm	Wheel on the shaft of the dividing disc	Wheel on the bolt	Wheel on the bolt	Wheel on the spindle of the dividing head	Number of intermediate wheels	Dividing number	Pitch circle	Revolution of the index arm	Wheel on the shaft of the dividing disc	Wheel on the bolt	Wheel on the bolt	Wheel on the spindle of the dividing head	Number of intermediate wheels
			A	B	C	D					A	B	C	D	
51	17	14/17	24	—	—	48	2	113	39	13/39	24	—	—	56	1
53	49	35/49	56	40	24	72	—	114	39	13/39	24	—	—	48	1
57	49	35/49	56	—	—	40	2	117	33	11/33	24	—	—	24	1
59	33	22/33	48	—	—	32	1	118	39	13/39	48	—	—	32	1
61	33	22/33	48	—	—	32	2	119	39	13/39	72	—	—	24	1
63	33	22/33	24	—	—	48	2	121	39	13/39	72	—	—	24	2
67	49	28/49	28	—	—	48	1	122	39	13/39	48	—	—	32	2
69	20	12/20	40	—	—	56	2	123	39	13/39	24	—	—	24	2
71	27	15/27	72	—	—	40	1	125	39	13/39	24	—	—	40	2
73	49	28/49	28	—	—	48	2	126	39	13/39	24	—	—	48	2
77	20	10/20	32	—	—	48	1	127	39	13/39	24	—	—	56	2
79	20	10/20	48	—	—	24	1	129	39	13/39	24	—	—	72	2
81	20	10/20	48	—	—	24	2	131	20	6/20	40	—	—	40	2
83	20	10/20	32	—	—	48	2	133	49	14/49	24	—	—	56	2
87	15	7/15	40	—	—	24	2	134	49	14/49	28	—	—	72	2
89	27	12/27	72	—	—	32	1	137	49	14/49	28	—	—	40	2
91	39	18/39	24	—	—	48	2	138	49	14/49	56	—	—	40	2
93	27	12/27	24	—	—	32	2	139	49	14/49	56	32	48	32	2
96	49	21/49	28	—	—	32	2	141	18	5/18	48	—	—	32	2
97	20	8/20	40	—	—	48	1	142	49	14/49	56	—	—	64	2
99	20	8/20	56	28	40	32	—	143	49	14/49	28	—	—	24	2
101	20	8/20	72	24	40	48	1	146	49	14/49	28	—	—	48	2
102	20	8/20	40	—	—	32	2	147	49	14/49	24	—	—	48	2
103	20	8/20	40	—	—	48	2	149	49	14/49	28	—	—	72	2
106	43	16/43	86	24	24	48	—	151	20	5/20	32	—	—	72	1
107	20	8/20	40	56	32	64	1	153	20	5/20	32	—	—	56	1
109	16	6/16	32	—	—	28	2	154	20	5/20	32	—	—	48	1
111	39	13/39	24	—	—	72	1	157	20	5/20	32	—	—	24	1
112	33	11/33	24	—	—	64	1	158	20	5/20	48	—	—	24	1

DIVIDING-TABLE—contd.

FOR DIFFERENTIAL DIVIDING WITH A DIVIDING APPARATUS THE RATIO OF GEARING OF WHICH IS 1 = 40

PITCH CIRCLES PROVIDED : 15, 16, 17, 18, 19, 20, 21, 23, 27, 29, 31, 33, 37, 39, 41, 43, 47, 49 holes.

Dividing number	Pitch circle	Revolution of the index arm	Wheel on the shaft of the dividing disc	Wheel on the bolt	Wheel on the bolt	Wheel on the spindle of the dividing head	Number of intermediate wheels	Dividing number	Pitch circle	Revolution of the index arm	Wheel on the shaft of the dividing disc	Wheel on the bolt	Wheel on the bolt	Wheel on the spindle of the dividing head	Number of intermediate wheels	Dividing number	Pitch circle	Revolution of the index arm	Wheel on the shaft of the dividing disc	Wheel on the bolt	Wheel on the bolt	Wheel on the spindle of the dividing head	Number of intermediate wheels
A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D
202	20	4/20	72	24	40	48	1	266	49	7/49	32	—	—	64	1	325	16	2/16	64	—	—	40	2
203	20	4/20	40	—	—	24	2	267	27	4/27	72	—	—	32	1	326	16	2/16	32	—	—	24	2
204	20	4/20	40	—	—	32	2	268	49	7/49	28	—	—	48	1	327	16	2/16	32	—	—	28	2
206	20	4/20	40	—	—	48	2	269	20	3/20	64	32	40	28	1	329	16	2/16	64	24	24	72	1
207	20	4/20	40	—	—	56	2	271	49	7/49	56	—	—	72	1	331	16	2/16	64	44	24	48	1
208	20	4/20	40	—	—	64	2	272	49	7/49	56	—	—	64	1	332	16	2/16	32	—	—	48	2
209	20	4/20	40	—	—	72	2	273	49	7/49	24	—	—	24	1	333	27	3/27	24	—	—	72	1
211	16	3/16	64	—	—	28	1	274	49	7/49	56	—	—	48	1	334	16	2/16	32	—	—	56	2
212	43	8/43	86	24	24	48	—	275	49	7/49	56	—	—	40	1	335	33	4/33	72	48	44	40	1
213	27	5/27	72	—	—	40	1	276	49	7/49	56	—	—	32	1	336	16	2/16	32	—	—	64	2
214	20	4/20	40	56	32	64	1	277	49	7/49	56	—	—	24	1	337	43	5/43	86	40	32	56	—
217	21	4/21	48	—	—	64	2	278	49	7/49	56	32	48	24	—	338	16	2/16	32	—	—	72	2
218	16	3/16	64	—	—	56	2	279	27	4/27	24	—	—	32	2	339	27	3/27	24	—	—	56	1
219	21	4/21	28	—	—	48	2	281	49	7/49	72	24	56	24	1	341	43	5/43	86	24	32	40	—
221	17	3/17	24	—	—	24	1	282	43	6/43	86	24	24	56	—	342	27	3/27	32	—	—	64	1
222	18	3/18	24	—	—	72	1	283	49	7/49	56	—	—	24	2	343	15	2/15	40	64	24	86	1
223	43	8/43	86	48	24	64	1	284	49	7/49	56	—	—	32	2	345	27	3/27	24	—	—	40	1
224	18	3/18	24	—	—	64	1	285	49	7/49	56	—	—	40	2	346	27	3/27	72	56	32	64	—
225	27	5/27	24	—	—	40	2	286	49	7/49	56	—	—	48	2	347	43	5/43	86	24	32	40	1
226	18	3/18	24	—	—	56	1	287	49	7/49	24	—	—	24	2	348	27	3/27	24	—	—	32	1
227	49	8/49	56	64	28	72	—	288	49	7/49	28	—	—	32	2	349	27	3/27	72	44	24	48	—
228	18	3/18	24	—	—	48	1	289	49	7/49	56	—	—	72	2	350	27	3/27	72	40	32	64	—
229	18	3/18	24	—	—	44	1	291	15	2/15	40	—	—	48	1	351	27	3/27	24	—	—	24	1
231	18	3/18	32	—	—	48	1	292	49	7/49	28	—	—	48	2	352	27	3/27	72	24	24	64	—
233	18	3/18	40	—	—	56	1	293	15	2/15	48	32	40	56	—	353	27	3/27	72	—	—	56	1
234	18	3/18	24	—	—	24	1	294	49	7/49	24	—	—	48	2	354	27	3/27	72	—	—	48	1
236	18	3/18	48	—	—	32	1	295	15	2/15	48	—	—	32	1	355	27	3/27	72	—	—	40	1
237	18	3/18	48	—	—	24	1	297	33	4/33	28	48	24	56	—	356	27	3/27	72	—	—	32	1
238	18	3/18	72	—	—	24	1	298	49	7/49	28	—	—	72	2	357	27	3/27	72	—	—	24	1
239	18	3/18	72	24	64	32	—	299	23	3/23	24	—	—	24	1	358	27	3/27	72	32	48	24	—
241	18	3/18	72	24	64	32	1	301	43	6/43	24	—	—	48	2	359	43	5/43	86	48	32	100	1
242	18	3/18	72	—	—	24	2	302	16	2/16	32	—	—	72	1	361	19	2/19	32	—	—	64	1
243	18	3/18	64	—	—	32	2	303	15	2/15	72	24	40	48	1	362	27	3/27	72	28	56	32	1
244	18	3/18	48	—	—	32	2	304	16	2/16	24	—	—	48	1	363	27	3/27	72	—	—	24	2
246	18	3/18	24	—	—	24	2	305	15	2/15	48	—	—	32	2	364	27	3/27	72	—	—	32	2
247	18	3/18	48	—	—	56	2	306	15	2/15	40	—	—	32	2	365	20	2/20	32	48	24	56	—
249	18	3/18	32	—	—	48	2	307	15	2/15	72	48	40	56	1	366	27	3/27	48	—	—	32	2
250	18	3/18	24	—	—	40	2	308	16	2/16	32	—	—	48	1	367	27	3/27	72	—	—	56	2
251	18	3/18	48	44	32	64	1	309	15	2/15	40	—	—	48	2	368	27	3/27	72	24	24	64	1
252	18	3/18	24	—	—	48	2	311	16	2/16	64	24	24	72	—	369	41	4/41	32	56	28	64	—
253	33	5/33	24	—	—	40	1	313	16	2/16	32	—	—	28	1	371	21	2/21	32	56	24	64	—
254	18	3/18	24	—	—	56	2	314	16	2/16	32	—	—	24	1	372	27	3/27	48	—	—	64	2
255	18	3/18	48	40	24	72	1	315	16	2/16	64	—	—	40	1	373	20	2/20	40	48	32	72	—
256	18	3/18	24	—	—	64	2	316	16	2/16	64	—	—	32	1	374	27	3/27	72	64	32	56	1
257	49	8/49	56	48	28	64	1	317	16	2/16	64	—	—	24	1	375	27	3/27	24	—	—	40	2
258	43	7/43	32	—	—	64	2	318	16	2/16	56	28	48	24	—	377	29	3/29	24	—	—	24	1
259	49	7/49	24	—	—	72	1	319	29	4/29	48	64	24	72	1	378	27	3/27	32	—	—	64	2
261	29	4/29	48	64	24	72	—	321	16	2/16	72	24	64	24	1	379	20	2/20	48	56	40	72	—
262	20	3/20	40	—	—	28	1	322	23	3/23	32	—	—	64	2	381	27	3/27	24	—	—	56	2
263	49	8/49	56	64	28	72	1	323	16	2/16	64	—	—	24	2	382	20	2/20	40	—	—	72	1
265	49	7/49	56	40	24	72	—	324	16	2/16	64	—	—	32	2								



TABLE

FOR SPIRAL MILLING WITH THE UNIVERSAL DIVIDING

Ratio of gearing of the dividing head $1 = 40$.

Pitch of the table spindle $= \frac{1}{4}$ inch.

Change gear wheels provided : 24, 24, 28, 32,
40, 48, 56, 64, 72, 86, 100 teeth.

The spirals at which the change wheels do not
gear into each other must be milled with the
aid of two intermediate wheels.

Pitch per .1 revolution expressed in inches	Wheel on the table spindle	driven wheel on the change gear quadrant	driving wheel on the dividing head bearing	Diameter of the work pieces expressed in inches.																			
				$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	$1\frac{3}{4}$	2	$2\frac{1}{4}$	$2\frac{1}{2}$	$2\frac{3}{4}$	3	$3\frac{1}{4}$	$3\frac{1}{2}$	$3\frac{3}{4}$	4
				Angles expressed in degrees for adjusting the table.																			
A	B	C	D																				
1.46	72	28	64	24	$14\frac{3}{4}$	28	$38\frac{1}{2}$																
1.56	100	56	86	24	$13\frac{3}{4}$	$26\frac{1}{2}$	37																
1.67	72	32	64	24	$12\frac{3}{4}$	25	$34\frac{3}{4}$	$43\frac{1}{4}$															
1.94	72	28	64	32	$11\frac{1}{4}$	22	31	39	45														
2.08	72	40	64	24	$10\frac{1}{4}$	$20\frac{1}{4}$	$29\frac{1}{2}$	37	$43\frac{1}{4}$														
2.22	72	28	56	32	$9\frac{3}{4}$	$19\frac{1}{4}$	$27\frac{1}{2}$	35	$41\frac{1}{4}$														
2.50	72	48	64	24	$8\frac{3}{4}$	17	25	32	38	$43\frac{1}{4}$													
2.78	72	28	56	40	8	$15\frac{1}{2}$	23	$29\frac{1}{2}$	$35\frac{1}{2}$	$40\frac{1}{2}$	$44\frac{3}{4}$												
2.92	72	56	64	24	$7\frac{1}{2}$	15	$21\frac{3}{4}$	$28\frac{1}{2}$	34	39	$43\frac{1}{4}$												
3.24	72	28	48	40	$6\frac{3}{4}$	$13\frac{1}{4}$	20	$25\frac{3}{4}$	$31\frac{1}{4}$	36	$40\frac{1}{2}$	$44\frac{1}{4}$											
3.70	72	32	48	40	6	$11\frac{3}{4}$	$17\frac{1}{2}$	23	28	$32\frac{1}{2}$	$36\frac{1}{2}$	$40\frac{1}{2}$											
3.89	72	24	48	56	$5\frac{1}{2}$	$11\frac{1}{4}$	$16\frac{3}{4}$	22	$26\frac{3}{4}$	$31\frac{1}{4}$	$35\frac{1}{4}$	39											
4.17	64	48	72	40	$5\frac{1}{4}$	$10\frac{1}{2}$	$15\frac{3}{4}$	$20\frac{1}{2}$	$25\frac{1}{4}$	$29\frac{1}{2}$	$33\frac{1}{2}$	37	$43\frac{1}{4}$										
4.46	86	32	40	48	$4\frac{3}{4}$	$9\frac{3}{4}$	$14\frac{3}{4}$	$19\frac{1}{4}$	$23\frac{3}{4}$	$27\frac{3}{4}$	$31\frac{1}{2}$	35	$41\frac{1}{2}$										
4.86	72	56	64	40	$4\frac{1}{2}$	9	$13\frac{1}{2}$	$17\frac{3}{4}$	22	$25\frac{3}{4}$	$29\frac{1}{2}$	33	39	$44\frac{1}{4}$									
5.33	72	32	40	48	4	$8\frac{1}{4}$	$12\frac{1}{4}$	$16\frac{1}{2}$	$20\frac{1}{4}$	$23\frac{3}{4}$	$27\frac{1}{4}$	$30\frac{1}{2}$	$36\frac{1}{2}$	$41\frac{1}{2}$									
5.44	72	28	40	56	4	8	12	16	20	$23\frac{1}{2}$	$26\frac{3}{4}$	30	36	41									
6.12	64	28	40	56	$3\frac{1}{2}$	$7\frac{1}{4}$	11	$14\frac{1}{2}$	$17\frac{3}{4}$	21	$24\frac{1}{4}$	27	33	$37\frac{3}{4}$	42								
6.22	72	32	40	56	$3\frac{1}{2}$	7	$10\frac{3}{4}$	$14\frac{1}{4}$	$17\frac{1}{2}$	$20\frac{3}{4}$	$23\frac{3}{4}$	$26\frac{3}{4}$	$32\frac{1}{2}$	$37\frac{1}{4}$	$41\frac{1}{2}$								
6.48	72	40	48	56	$3\frac{1}{4}$	$6\frac{3}{4}$	$10\frac{1}{4}$	$13\frac{1}{2}$	$16\frac{3}{4}$	20	23	$25\frac{3}{4}$	$31\frac{1}{2}$	$36\frac{1}{4}$	$40\frac{1}{4}$	$44\frac{1}{4}$							
6.67	56	28	48	64	$3\frac{1}{4}$	$6\frac{1}{2}$	10	$13\frac{1}{4}$	$16\frac{1}{2}$	$19\frac{1}{2}$	$22\frac{1}{2}$	$25\frac{1}{4}$	$30\frac{3}{4}$	$35\frac{1}{2}$	$39\frac{1}{2}$	$43\frac{1}{2}$							
7.29	64	40	48	56	3	$6\frac{1}{4}$	$9\frac{1}{4}$	$12\frac{1}{2}$	15	18	$20\frac{1}{2}$	$23\frac{1}{2}$	$28\frac{1}{2}$	33	37	41	$44\frac{1}{4}$						
7.41	72	40	48	64	3	6	9	12	$14\frac{3}{4}$	$17\frac{3}{4}$	$20\frac{1}{4}$	$22\frac{3}{4}$	$28\frac{1}{4}$	$32\frac{1}{2}$	$36\frac{1}{2}$	$40\frac{1}{4}$	$43\frac{3}{4}$						
7.62	56	32	48	64	$2\frac{3}{4}$	$5\frac{3}{4}$	$8\frac{3}{4}$	$11\frac{1}{2}$	$14\frac{1}{2}$	$17\frac{1}{4}$	$19\frac{3}{4}$	$22\frac{1}{4}$	$27\frac{1}{2}$	32	36	$39\frac{1}{2}$	43						
8.33	72	40	32	48	$2\frac{1}{2}$	$5\frac{1}{4}$	8	$10\frac{1}{2}$	$13\frac{1}{4}$	$15\frac{3}{4}$	$18\frac{1}{4}$	$20\frac{1}{2}$	$25\frac{1}{2}$	$29\frac{1}{2}$	$33\frac{1}{2}$	37	$40\frac{1}{2}$	$43\frac{1}{2}$					

TABLE—contd.

FOR SPIRAL MILLING WITH
THE UNIVERSAL DIVIDING

Ratio of gearing of the dividing head 1 = 40.

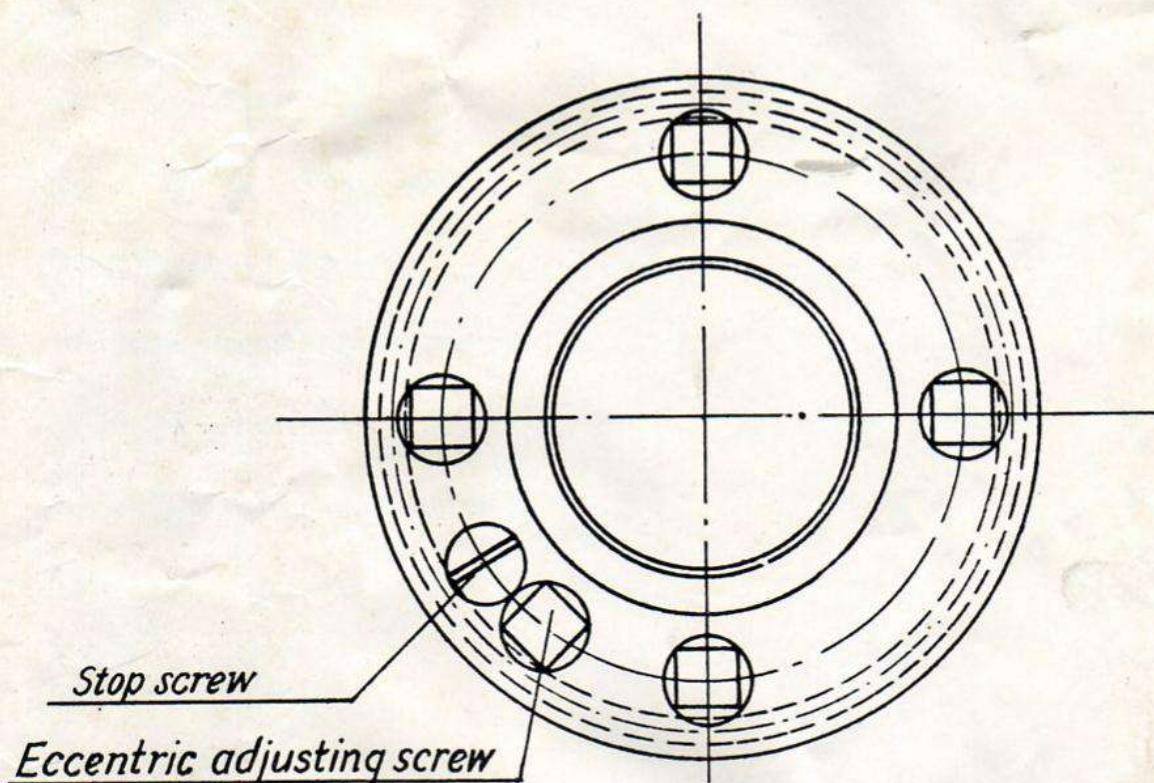
Pitch of the table spindle = $\frac{1}{4}$ inch.

Change gear wheels provided : 24, 24, 28, 32, 40, 48, 56, 64, 72, 86, 100 teeth.

The spirals at which the change wheels do not gear into each other must be milled with the aid of two intermediate wheels.

Pitch per .1 revolution expressed in inches	Wheel on the table spindle A	driven wheel on the change quadrant B	driving wheel on the change quadrant C	Wheel on the dividing head bearing D	Diameter of the work pieces expressed in inches.															
					$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	$1\frac{3}{4}$	2	$2\frac{1}{4}$	$2\frac{1}{2}$	$2\frac{3}{4}$	3
					Angles expressed in degrees for adjusting the table.															
8.95	56	28	48	86	$2\frac{1}{2}$	5	$7\frac{1}{2}$	10	$12\frac{1}{2}$	$14\frac{3}{4}$	17	$19\frac{1}{4}$	24	28	$31\frac{3}{4}$	$35\frac{1}{4}$	$38\frac{1}{2}$	$41\frac{1}{4}$	44	
9.33	72	48	40	56	$2\frac{1}{4}$	$4\frac{3}{4}$	$7\frac{1}{4}$	$9\frac{1}{2}$	$11\frac{3}{4}$	14	$16\frac{1}{4}$	$18\frac{1}{2}$	23	27	$30\frac{1}{2}$	34	$37\frac{1}{4}$	$40\frac{1}{4}$	43	
9.52	56	40	48	64	$2\frac{1}{4}$	$4\frac{1}{2}$	7	$9\frac{1}{4}$	$11\frac{1}{2}$	$13\frac{3}{4}$	16	$18\frac{1}{4}$	$22\frac{1}{2}$	$26\frac{1}{2}$	30	$33\frac{1}{2}$	$36\frac{1}{2}$	$39\frac{1}{2}$	$42\frac{1}{2}$	45
10.29	56	32	40	72	2	$4\frac{1}{4}$	$6\frac{1}{2}$	$8\frac{3}{4}$	$10\frac{3}{4}$	$12\frac{3}{4}$	15	$17\frac{1}{4}$	21	$24\frac{3}{4}$	$28\frac{1}{4}$	$31\frac{1}{2}$	$34\frac{1}{4}$	$37\frac{1}{4}$	$39\frac{3}{4}$	$42\frac{1}{4}$
10.37	72	56	48	64	2	$4\frac{1}{4}$	$6\frac{1}{2}$	$8\frac{1}{2}$	$10\frac{1}{2}$	$12\frac{1}{2}$	$14\frac{1}{2}$	17	$20\frac{1}{2}$	$24\frac{1}{2}$	28	$31\frac{1}{4}$	$34\frac{1}{4}$	$37\frac{1}{4}$	$39\frac{3}{4}$	$42\frac{1}{4}$
10.50	64	56	40	48	2	$4\frac{1}{4}$	$6\frac{1}{4}$	$8\frac{1}{2}$	$10\frac{1}{2}$	$12\frac{1}{2}$	$14\frac{1}{2}$	$16\frac{3}{4}$	$20\frac{1}{2}$	$24\frac{1}{4}$	$27\frac{3}{4}$	31	34	$36\frac{3}{4}$	$39\frac{1}{2}$	42
10.67	72	48	40	64	2	4	$6\frac{1}{4}$	$8\frac{1}{4}$	$10\frac{1}{4}$	$12\frac{1}{4}$	$14\frac{1}{4}$	$16\frac{1}{2}$	$20\frac{1}{4}$	24	$27\frac{1}{4}$	$30\frac{1}{2}$	$33\frac{1}{2}$	$36\frac{1}{2}$	39	$41\frac{1}{2}$
10.94	64	40	32	56	2	4	6	$8\frac{1}{4}$	$10\frac{1}{4}$	12	14	$16\frac{1}{4}$	20	$23\frac{1}{2}$	$26\frac{3}{4}$	30	33	$35\frac{1}{2}$	$38\frac{1}{4}$	$40\frac{3}{4}$
11.11	72	40	32	64	2	4	6	8	10	$11\frac{3}{4}$	$13\frac{3}{4}$	16	$19\frac{3}{4}$	23	$26\frac{1}{2}$	$29\frac{1}{2}$	$32\frac{1}{2}$	$35\frac{1}{2}$	38	$40\frac{1}{4}$
11.66	72	48	32	56	$1\frac{3}{4}$	$3\frac{3}{4}$	$5\frac{3}{4}$	$7\frac{1}{2}$	9	$11\frac{1}{4}$	$13\frac{1}{4}$	$15\frac{1}{4}$	$18\frac{1}{2}$	22	$25\frac{1}{4}$	$28\frac{1}{2}$	$31\frac{1}{4}$	34	$36\frac{1}{2}$	39
12.00	48	32	40	72	$1\frac{3}{4}$	$3\frac{3}{4}$	$5\frac{1}{2}$	$7\frac{1}{4}$	9	11	$12\frac{3}{4}$	15	$18\frac{1}{4}$	$21\frac{1}{2}$	$24\frac{3}{4}$	$27\frac{3}{4}$	$30\frac{3}{4}$	$33\frac{1}{4}$	$35\frac{1}{4}$	38
13.12	64	48	32	56	$1\frac{1}{2}$	$3\frac{1}{2}$	$5\frac{1}{4}$	$6\frac{3}{4}$	$8\frac{1}{2}$	$10\frac{1}{2}$	$11\frac{3}{4}$	$13\frac{1}{2}$	$16\frac{3}{4}$	20	$22\frac{3}{4}$	$25\frac{3}{4}$	$28\frac{1}{4}$	31	$33\frac{1}{4}$	$35\frac{3}{4}$
13.33	72	48	28	56	$1\frac{1}{2}$	$3\frac{1}{4}$	5	$6\frac{1}{2}$	$8\frac{1}{4}$	10	$11\frac{1}{2}$	$13\frac{1}{4}$	$16\frac{1}{2}$	$19\frac{1}{2}$	$22\frac{1}{2}$	$25\frac{1}{2}$	28	$30\frac{1}{2}$	33	$35\frac{1}{2}$
13.71	56	48	40	64	$1\frac{1}{2}$	$3\frac{1}{4}$	$4\frac{3}{4}$	$6\frac{1}{2}$	8	9	$11\frac{1}{2}$	13	16	19	22	$24\frac{3}{4}$	$27\frac{1}{4}$	30	$32\frac{1}{4}$	$34\frac{1}{2}$
15.24	72	48	28	64	$1\frac{1}{2}$	3	$4\frac{1}{2}$	$5\frac{3}{4}$	$7\frac{1}{4}$	$8\frac{3}{4}$	$10\frac{1}{4}$	$11\frac{3}{4}$	$14\frac{1}{4}$	$17\frac{1}{4}$	20	$22\frac{1}{2}$	25	$27\frac{1}{4}$	$29\frac{1}{2}$	$31\frac{3}{4}$
15.56	72	56	32	64	$1\frac{1}{4}$	$2\frac{3}{4}$	$4\frac{1}{4}$	$5\frac{3}{4}$	$7\frac{1}{4}$	$8\frac{3}{4}$	10	$11\frac{1}{2}$	$14\frac{1}{4}$	17	$19\frac{1}{2}$	22	$24\frac{1}{2}$	27	29	$31\frac{1}{4}$
15.75	40	72	64	56	$1\frac{1}{4}$	$2\frac{3}{4}$	$4\frac{1}{4}$	$5\frac{1}{2}$	7	$8\frac{1}{2}$	$9\frac{3}{4}$	$11\frac{1}{4}$	14	$16\frac{3}{4}$	$19\frac{1}{4}$	$21\frac{3}{4}$	$24\frac{1}{4}$	$26\frac{1}{2}$	$28\frac{1}{4}$	31
16.87	64	48	32	72	$1\frac{1}{4}$	$2\frac{1}{2}$	4	$5\frac{1}{4}$	$6\frac{3}{4}$	$7\frac{3}{4}$	$9\frac{1}{4}$	$10\frac{1}{2}$	$13\frac{1}{4}$	$15\frac{3}{4}$	$18\frac{1}{2}$	$20\frac{1}{2}$	$22\frac{3}{4}$	25	27	$29\frac{1}{4}$
17.14	56	48	32	64	$1\frac{1}{4}$	$2\frac{1}{2}$	4	$5\frac{1}{4}$	$6\frac{1}{2}$	$7\frac{3}{4}$	9	$10\frac{1}{4}$	13	$15\frac{1}{2}$	$17\frac{3}{4}$	$20\frac{1}{4}$	$22\frac{1}{4}$	$24\frac{3}{4}$	$26\frac{1}{4}$	29
18.75	48	40	32	72	1	$2\frac{1}{4}$	$3\frac{1}{2}$	$4\frac{3}{4}$	6	$7\frac{1}{4}$	$8\frac{1}{4}$	$9\frac{1}{2}$	12	$14\frac{1}{4}$	$16\frac{1}{4}$	$18\frac{1}{2}$	$20\frac{3}{4}$	$22\frac{3}{4}$	25	$26\frac{3}{4}$
19.29	56	48	32	72	1	$2\frac{1}{4}$	$3\frac{1}{2}$	$4\frac{1}{2}$	$5\frac{3}{4}$	$6\frac{3}{4}$	8	$9\frac{1}{4}$	$11\frac{1}{2}$	$13\frac{3}{4}$	16	$18\frac{1}{4}$	$20\frac{1}{4}$	$22\frac{1}{4}$	24	26
19.59	56	48	28	64	1	$2\frac{1}{4}$	$3\frac{1}{4}$	$4\frac{1}{2}$	$5\frac{3}{4}$	$6\frac{3}{4}$	8	$9\frac{1}{4}$	$11\frac{1}{2}$	$13\frac{1}{2}$	$15\frac{3}{4}$	18	20	22	$23\frac{3}{4}$	$25\frac{3}{4}$
19.69	64	56	32	72	1	$2\frac{1}{4}$	$3\frac{1}{4}$	$4\frac{1}{2}$	$5\frac{3}{4}$	$6\frac{3}{4}$	8	9	$11\frac{1}{2}$	$13\frac{1}{2}$	$15\frac{3}{4}$	$17\frac{3}{4}$	20	$21\frac{3}{4}$	$23\frac{3}{4}$	$25\frac{1}{2}$
21.43	56	40	24	72	1	2	$3\frac{1}{4}$	$4\frac{1}{4}$	$5\frac{1}{4}$	$6\frac{1}{4}$	$7\frac{1}{2}$	$8\frac{1}{2}$	$10\frac{1}{2}$	$12\frac{1}{2}$	$14\frac{1}{2}$	$16\frac{1}{2}$	$18\frac{1}{2}$	$20\frac{1}{4}$	22	$23\frac{3}{4}$
22.50	64	56	28	72	1	2	3	4	5	6	7	8	10	12	$13\frac{3}{4}$	$15\frac{3}{4}$	$17\frac{1}{2}$	$19\frac{1}{4}$	21	$22\frac{3}{4}$
23.33	48	56	32	64	1	2	3	4	5	$5\frac{3}{4}$	$6\frac{3}{4}$	$7\frac{3}{4}$	$9\frac{1}{4}$	$11\frac{1}{2}$	$13\frac{1}{4}$	$15\frac{1}{4}$	17	$18\frac{3}{4}$	$20\frac{1}{2}$	22
26.25	64	56	24	72	1	$1\frac{1}{4}$	$2\frac{3}{4}$	$3\frac{1}{2}$	$4\frac{1}{4}$	5	6	7	$8\frac{1}{2}$	$10\frac{1}{4}$	12	$13\frac{1}{2}$	15	$16\frac{3}{4}$	$18\frac{1}{4}$	$19\frac{3}{4}$
26.67	48	56	28	64	$\frac{3}{4}$	$1\frac{3}{4}$	$2\frac{3}{4}$	$3\frac{1}{2}$	$4\frac{1}{4}$	5	6	$6\frac{3}{4}$	$8\frac{1}{2}$	10	$11\frac{3}{4}$	$13\frac{1}{4}$	$14\frac{3}{4}$	$16\frac{1}{2}$	18	$19\frac{1}{2}$
28.00	40	56	32	64	$\frac{3}{4}$	$1\frac{3}{4}$	$2\frac{1}{2}$	$3\frac{1}{4}$	4	$4\frac{3}{4}$	$5\frac{3}{4}$	$6\frac{1}{2}$	8	$9\frac{1}{2}$	$11\frac{1}{4}$	$12\frac{3}{4}$	$14\frac{1}{4}$	$15\frac{3}{4}$	$17\frac{1}{4}$	20
30.86	40	48	28	72	$\frac{3}{4}$	$1\frac{1}{2}$	$2\frac{1}{4}$	3	$3\frac{3}{4}$	$4\frac{1}{2}$	5	$5\frac{3}{4}$	$7\frac{1}{4}$	$8\frac{3}{4}$	10	$11\frac{1}{2}$	13	$14\frac{1}{4}$	$15\frac{1}{2}$	17
31.50	40	56	32	72	$\frac{3}{4}$	$1\frac{1}{2}$	$2\frac{1}{4}$	3	$3\frac{1}{2}$	$4\frac{1}{4}$	5	$5\frac{3}{4}$	$7\frac{1}{4}$	$8\frac{1}{4}$	10	$11\frac{1}{4}$	$12\frac{3}{4}$	14	$15\frac{1}{4}$	$16\frac{1}{2}$
36.00	40	64	32	72	$\frac{1}{2}$	$1\frac{1}{4}$	2	$2\frac{1}{2}$	$3\frac{1}{4}$	$3\frac{3}{4}$	$4\frac{1}{2}$	5	$6\frac{1}{4}$	$7\frac{1}{2}$	$8\frac{1}{2}$	10	11	$12\frac{1}{4}$	$13\frac{1}{2}$	$14\frac{3}{4}$
41.14	40	64	28	72	$\frac{1}{2}$	1	$1\frac{3}{4}$	$2\frac{1}{4}$	$2\frac{3}{4}$	$3\frac{1}{4}$	4	$4\frac{1}{2}$	$5\frac{1}{2}$	$6\frac{1}{2}$	$7\frac{3}{4}$	$8\frac{3}{4}$	$9\frac{3}{4}$	$10\frac{3}{4}$	$11\frac{3}{4}$	13
45.00	32	56	28	72	$\frac{1}{2}$	1	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	5	6	7	8	9	10	11	$11\frac{3}{4}$
48.00	40	64	24	72	$\frac{1}{2}$	1	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{4}$	$3\frac{3}{4}$	$4\frac{3}{4}$	$5\frac{1}{2}$	$6\frac{1}{2}$	$7\frac{1}{2}$	$8\frac{1}{2}$	$9\frac{1}{4}$	$10\frac{1}{4}$	$11\frac{1}{4}$
51.43	32	64	28	72	$\frac{1}{2}$	$\frac{3}{4}$	$1\frac{1}{2}$	$1\frac{3}{4}$	$2\frac{1}{4}$	$2\frac{3}{4}$	3	$3\frac{1}{2}$	$4\frac{1}{2}$	$5\frac{1}{2}$	6	7	$7\frac{3}{4}$	$8\frac{3}{4}$	$9\frac{1}{2}$	$10\frac{1}{2}$
60.00	32	64	24	72	$\frac{1}{2}$	$\frac{3}{4}$	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{4}$	$2\frac{1}{2}$	3	$3\frac{3}{4}$	$4\frac{1}{2}$	$5\frac{1}{4}$	6	$6\frac{3}{4}$	$7\frac{1}{2}$	$8\frac{1}{4}$	9
68.57	28	64	24	72	$\frac{1}{4}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{3}{4}$	2	$2\frac{1}{4}$	$2\frac{1}{2}$	$3\frac{1}{4}$	4	$4\frac{1}{4}$	$5\frac{1}{4}$	$5\frac{3}{4}$	$6\frac{1}{2}$	$7\frac{1}{4}$	8

ADJUSTMENT OF THE WORM WHEEL



The worm and worm wheel are manufactured with great care, but in the event of possible wear of both parts after considerable use, they can be easily adjusted. A slight turn of the eccentric screw will be sufficient. The worm wheel consists of two parts held together by four screws. The wheel must be adjusted on the spindle. After the screws have been loosened the eccentric screw should be turned right until the play in the worm wheel has been taken up. The screws must then be securely tightened again.

SPECIFICATIONS

Height of centres	...	...	...	...	...	...	3½"	...	...	4¾"
Spindle Bores	...	...	...	...	...	...	¾"	...	...	1"
Worm Gear Ratios	...	...	...	...	...	...	1 : 40	...	...	1 : 40
Morse Taper of Dividing Spindles	...	...	...	...	...	...	No. 3	...	...	No. 4
Morse Taper in Tailstocks	...	...	...	...	...	...	No. 1	...	...	No. 1
Total Base lengths with centres touching...	...	...	...	...	...	...	12¾"	...	...	17¼"
Height in Vertical position	...	...	...	...	...	...	7"	...	...	9¼"
Recommended for table lengths	...	...	...	...	...	...	20-32"	...	...	27-39"
Nett weight (approx.)	...	...	...	...	...	...	...	...	...	106 lbs.
CODE WORDS	...	...	...	...	...	...	VICME	...	...	VICMA

STANDARD EQUIPMENT.

One tailstock with centre, one centre with carrier, one dividing arm, one pair of indicators with spring, one change gear fork with two change gear bolts ; one set of dividing plates, one differential bolt.

SPECIAL EQUIPMENT.

One set of eleven change wheels for differential divisions and spiral milling work, one three-jaw chuck with fitted backplate ; special dividing plates with circle pitch as desired up to 100 holes and any number of notches up to 80. Packing Plates 1" thick to increase centre height of 4¾" model to 5¾".

THE VICTORIA MACHINE TOOL CO., LTD.,
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WILlesden 7173.

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