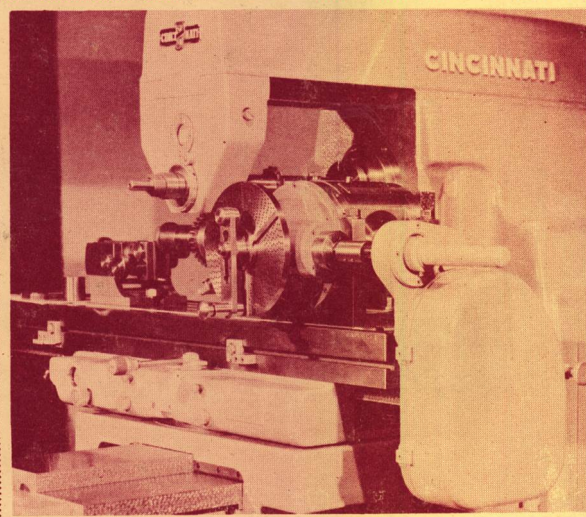


PARTS LIST CATALOG



UNIVERSAL DIVIDING HEADS AND ACCESSORIES

Identification Nos. CUA-DD, CVA-DD, CWA-DD

Publication No. M-2364-1

WHEN ORDERING REPAIR PARTS

1. Give complete Serial Number of Machine.
2. Give Part Number and Name.
3. Give Amount Required.

UNLESS THE ABOVE DATA IS INCLUDED WE CANNOT FILL YOUR ORDER

This Booklet should be Filed in Tool Crib and issued by Tool Check only

MILLING MACHINE DIVISION

THE CINCINNATI MILLING MACHINE CO.

CINCINNATI, OHIO 45209 U. S. A.

PARTS LIST CATALOG

FOR

CINCINNATI[®]

UNIVERSAL DIVIDING HEADS AND ACCESSORIES

No. 50 Series Spindle Nose



This catalog was prepared to expedite the ordering of repair parts for your CINCINNATI Dividing Heads and Accessories.

At the time of writing, the data contained herein was completely up-to-date. However due to continual improvements in design, it is possible that some of the information or appearance of the component parts may vary slightly from those of the attachments delivered to you. This merely indicates that the attachment has been improved to better fulfill your requirements.

MILLING MACHINE DIVISION

THE CINCINNATI MILLING MACHINE CO.

CINCINNATI, OHIO 45209 U. S. A.

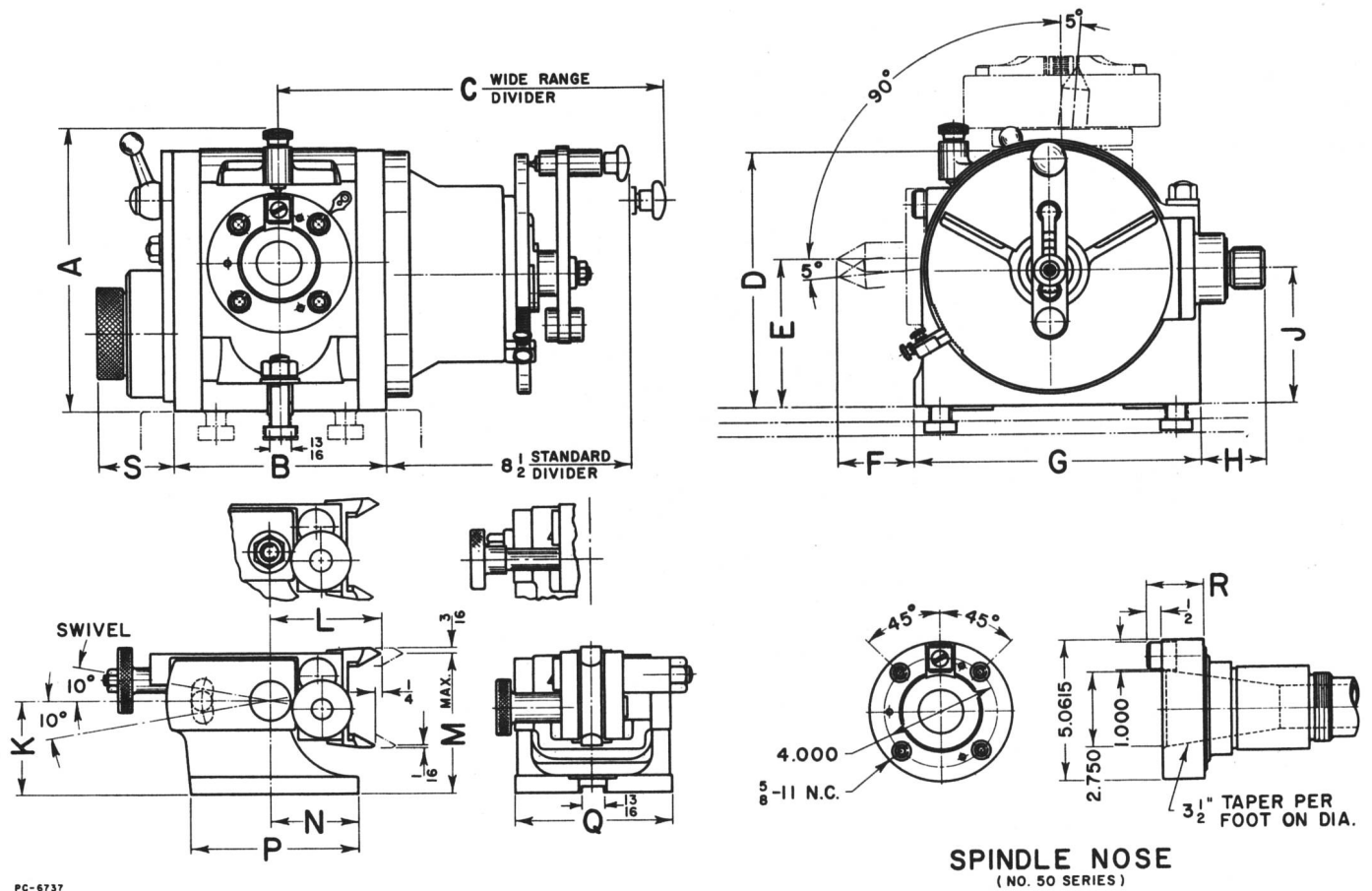
PARTS LIST CATALOG

THIS CATALOG TO BE USED ONLY FOR ATTACHMENTS WHOSE SERIAL
NUMBERS BEGIN WITH EITHER "CU", "CV" OR "CW"

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Plate - Standard and Wide Range Universal Dividing Head	4
Lubrication Instructions and Specifications - Dividing Head	5
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Driving Mechanism for 10", 12" and 14" Universal Dividing Heads (Unit CWA)	34-51

The design and specifications of the attachments illustrated
and described herein are subject to change without notice.



Size of Head	A	B	C	D	E	F	G	H	J	K	L		M	N	P	Q	R	S
											Min.	Max.						
10"	10-3/4	7-7/8	12-11/16	9-5/8	5-7/16	2-3/4	10-1/2	2-1/2	5	3-7/16	4	4-7/8	6-5/16	3-1/8	6	5-1/2	2-3/16	2-1/16
12"	12	9-13/16	13-11/16	11-3/8	6-3/4	2-1/2	12-9/16	2-1/2	6-1/16	4-5/16	4-3/16	5-5/16	7-3/4	3-5/8	6-1/2	6-1/8	2-5/16	2-5/16
14"	13	9-13/16	13-11/16	12-3/8	7-3/4	2-1/2	12-9/16	2-1/2	7-1/16	5-5/16	4-3/16	5-5/16	8-3/4	3-5/8	6-1/2	6-1/8	2-5/16	2-5/16

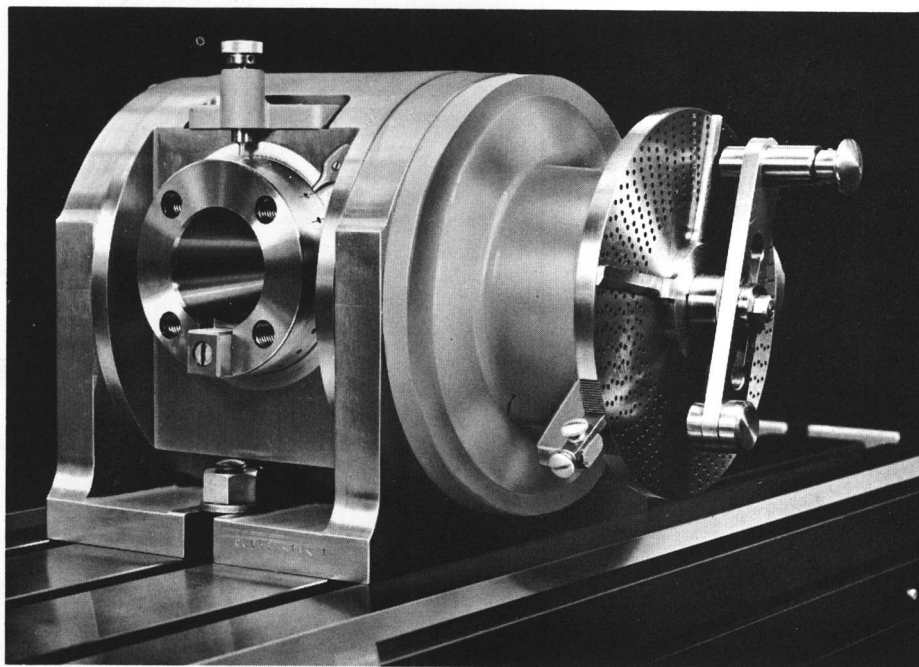


Figure 4A

CINCINNATI Universal Dividing Head

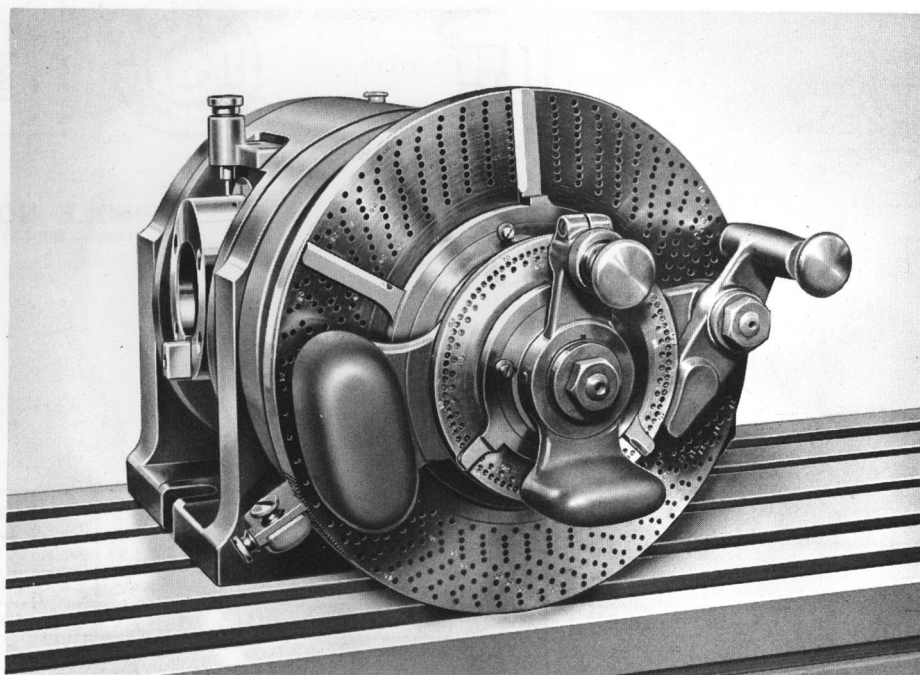


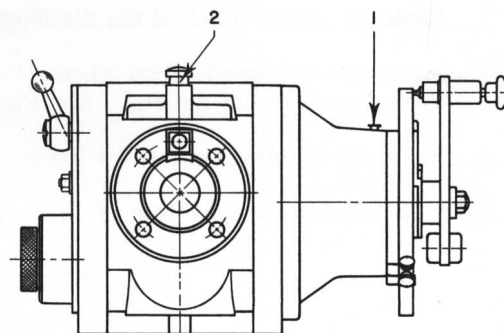
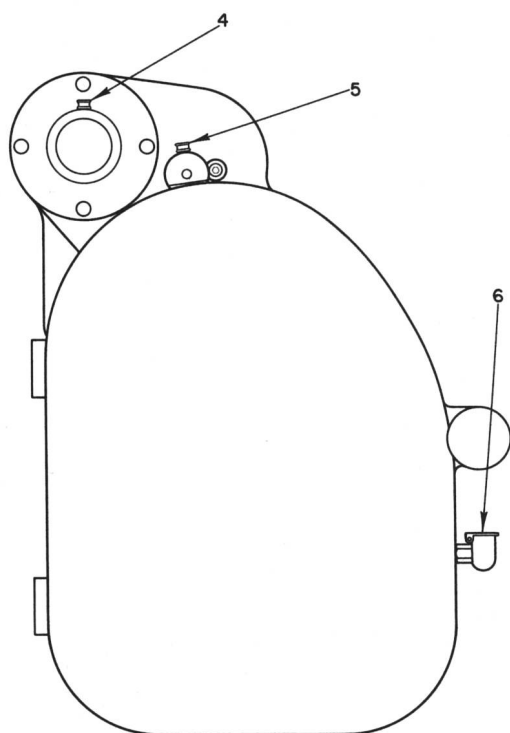
Figure 4B

CINCINNATI Universal Wide Range Dividing Head

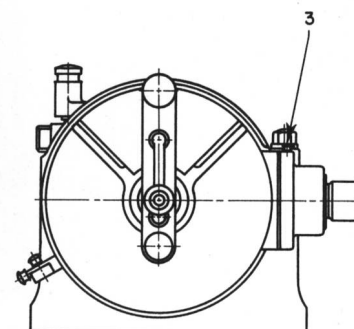
**LUBRICATION INSTRUCTIONS AND SPECIFICATIONS
FOR 10", 12" and 14" DIVIDING HEADS**

When to Oil	Station Number	Instructions	Parts Lubricated	Specifications
Daily	1	Spring cap oilers.	Front and rear bearing of miter gear shaft.	P-55. A good quality paraffinic base, rust and oxidation inhibited oil. Viscosity 200-220 S. U. S. at 100° F.*
	2		Worm and wormwheel, internal gearing, rear bearing of index shaft, front and rear bearing of worm shaft and spindle bearing.	
	3		Bevel gearing and front bearing of index shaft.	
	4		Spline shaft.	
	5		Drive idler gear.	
	6		Drive housing.	

*See Publication No. M-2258 for list of approved lubricants.



Note: There is one additional oiler on Wide Range Dividing Heads, located between the large and small index plates, to lubricate the differential indexing mechanism (see page 16, No. 168).



**Figure 5A
Lubrication Diagram**

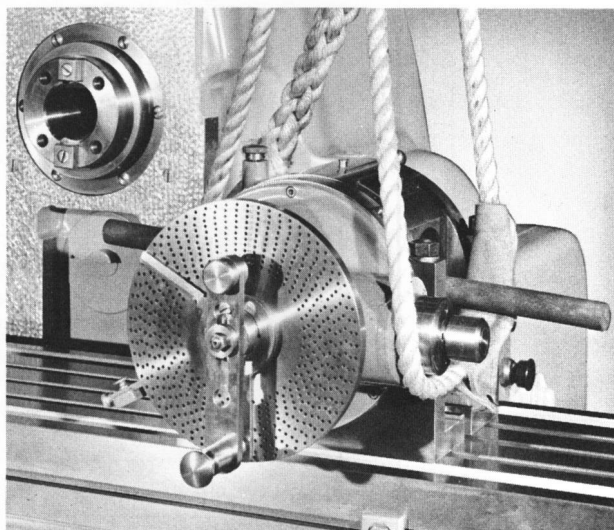


Figure 6A

Mounting a Universal Dividing Head on a Milling Machine Table

Lifting the Dividing Head.

1. Lock the swivel block of the dividing head so the spindle is in a horizontal position.
2. Insert a round wooden rod (about 1" diameter) through spindle of dividing head and fasten a rope sling around each end of the rod. See Figure 6A.
3. Raise the dividing head to the table of the machine, locate it in the most convenient T-slot and clamp.

Note: If the drive mechanism is used, the dividing head must be clamped in the center T-slot.



Figure 6B

Enclosed Driving Mechanism

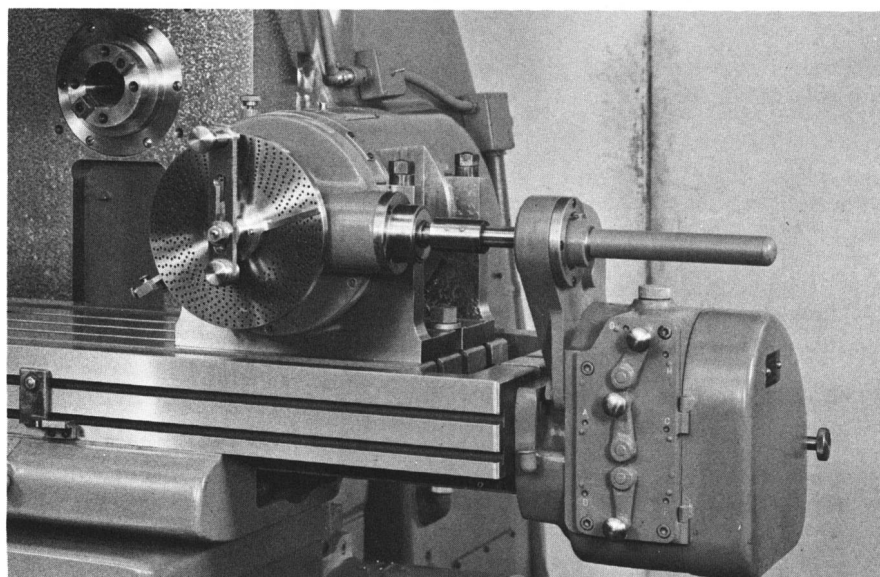


Figure 7A

Long and Short Lead Attachment

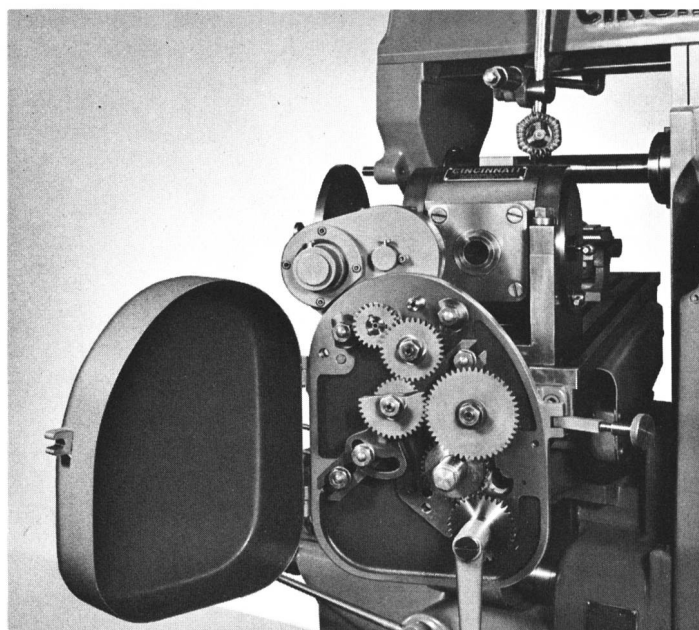


Figure 7B

Dividing Head Set Up with Enclosed
Driving Mechanism for Milling Spirals

ADJUSTING THE DIVIDING HEAD WORM

Proper adjustment between the worm and worm wheel in the dividing head has been pre-set at the factory. However, if for some reason the head develops backlash in the future, the following adjustments can be made:

1. Engage worm and worm wheel by turning engage and disengage knob in the extreme left position as shown in Figure 8A. Caution should be exercised when engaging worm and worm wheel. Follow instructions on plate, located on housing of the dividing head. This will insure longer life and accuracy to the head.
2. Loosen screw "A" and turn screw "B" until tight.
3. Rotate spindle by hand to see if it rotates freely with no evidence of backlash.
4. If spindle does not rotate freely, reverse procedure by loosening screw "B" and turning screw "A" until tight and check again for free rotation of spindle.

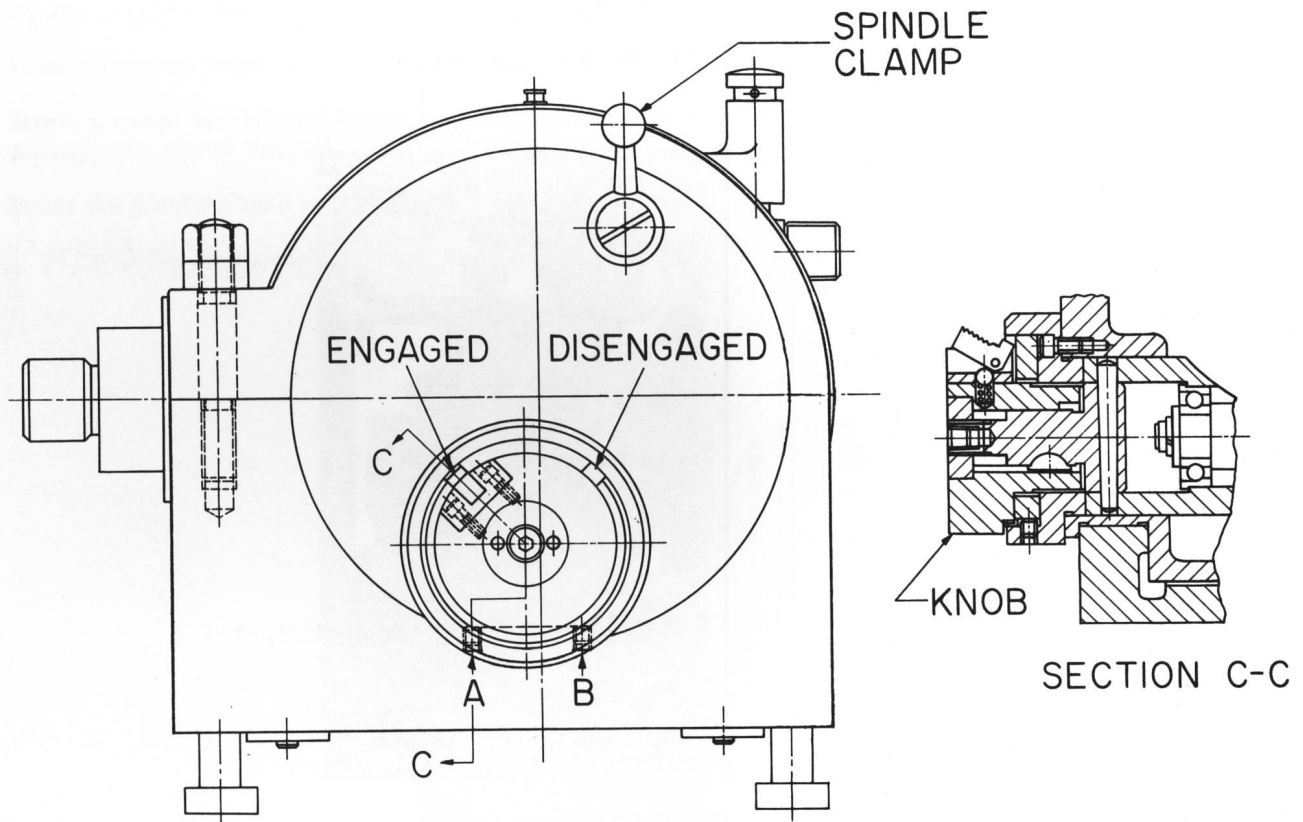


Figure 8A

Eccentric Worm Adjustment

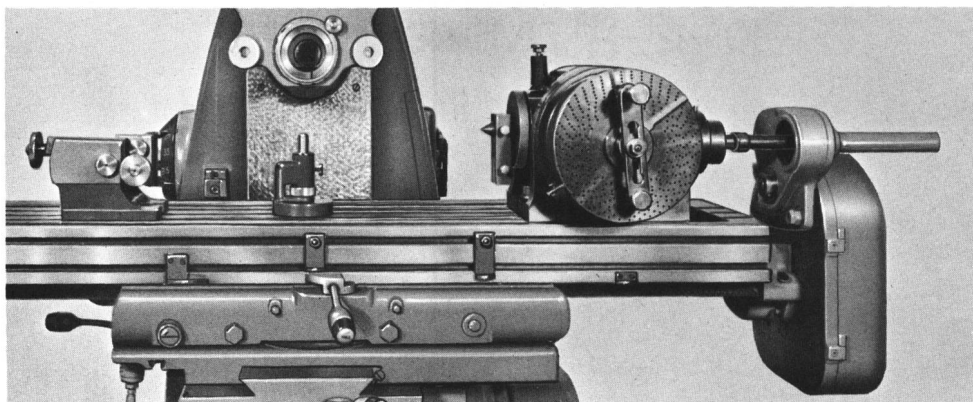


Figure 9A

Universal Dividing Head Equipment
This illustration shows the Driving Mechanism for a No. 2 Dial Type
Universal Milling Machine

HOW TO ORDER REPAIR PARTS

You will receive quicker and better service when ordering repair parts by adhering strictly to the following instructions.

1. State amount wanted.
2. Give catalog key number, part number and name. If ordering parts by part number only, please advise where the number was obtained. (See paragraph A, below.)
3. Give complete serial number of machine (on which attachment is used) found on face of column either directly above or below front spindle bearing and right front edge of table. Serial number of dividing head is found on face of base below spindle.
4. Specify how and where to ship. (See paragraph B, below.)

Paragraph A

When ordering parts by number only, kindly advise how the number was obtained, namely:

1. Number stamped on part
2. Prior Invoice
3. Parts list catalog (Give identification and publication numbers on front cover.)

Paragraph B

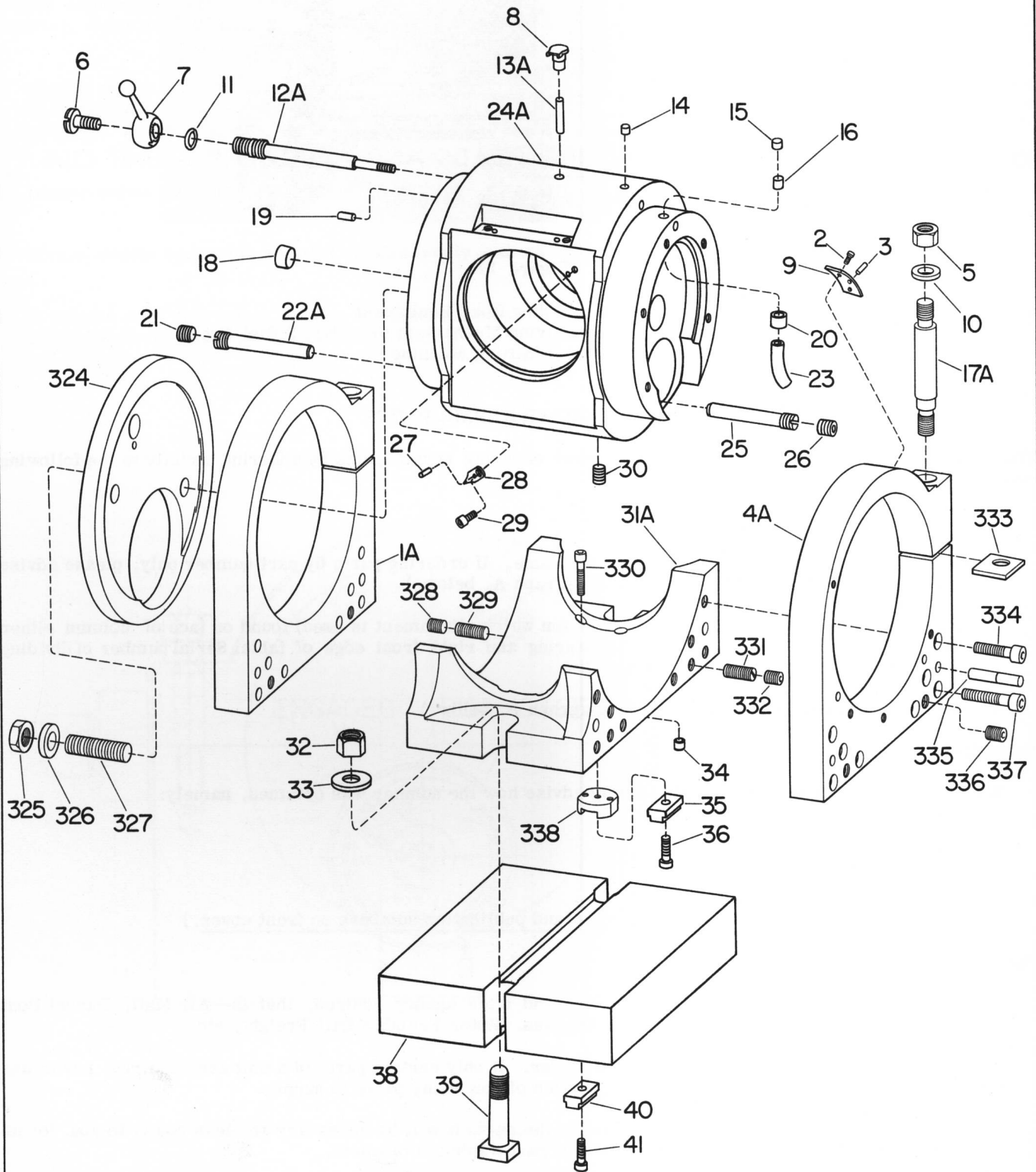
Do not say, "Ship quickest way." Be definite and state agency desired, that is--Air Mail, Parcel Post (Special Delivery), Parcel Post (Regular), Express, Motor Freight, Rail Freight, etc.

Specify each individual piece required in the order. If only certain parts of a unit are required, never use the word "complete"; it always raises the question of how many parts to supply.

However, in some cases, due to the nature of the part, it will be necessary and less costly to you, for us to supply additional related pieces, especially if part wanted is obsolete.

Note: If you wish to convert your dividing head into a Wide Range Divider Universal Head, or for any major repair work, make arrangements to have the job done by the factory.

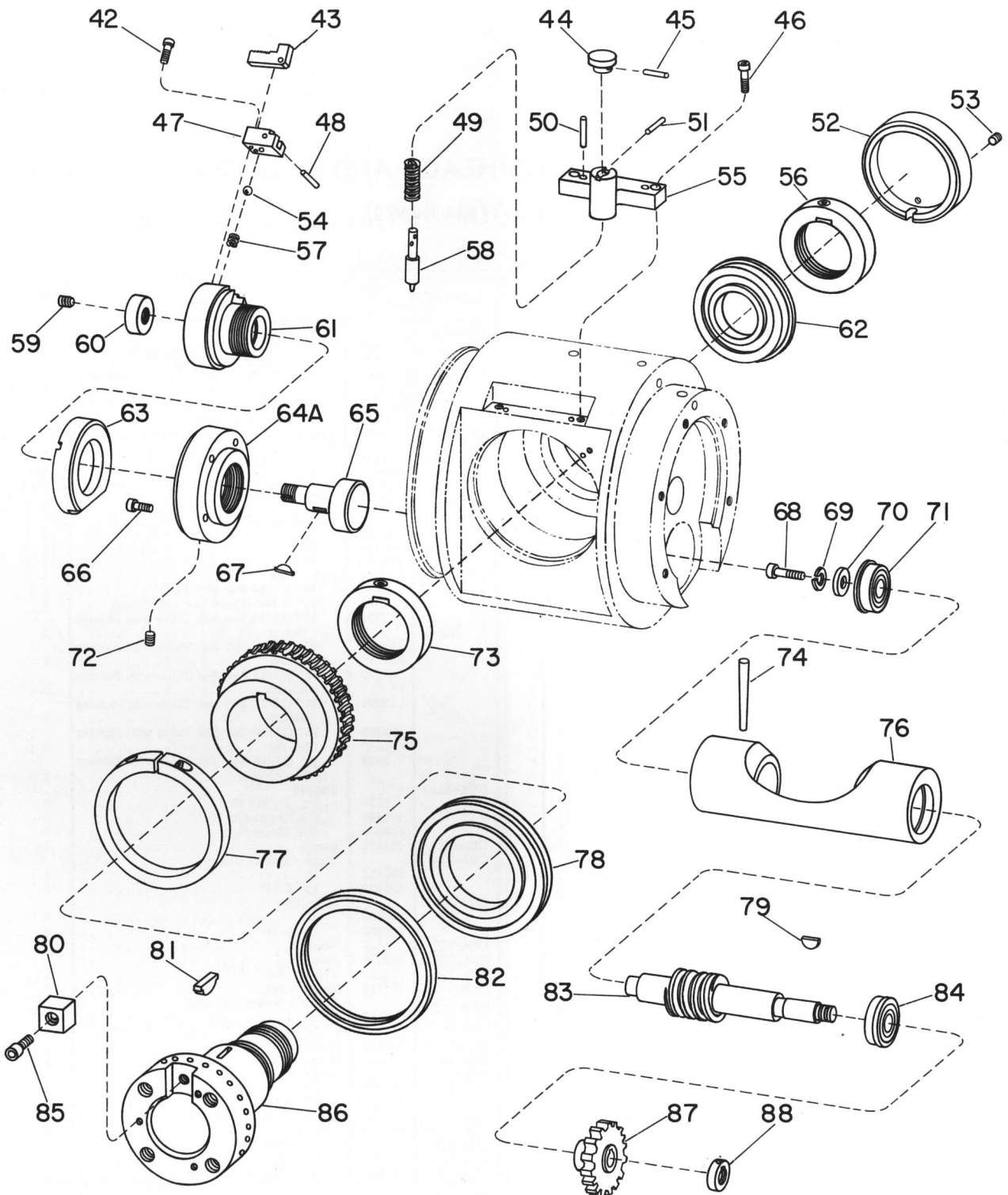
10"-12"-14" DIVIDING HEADS



10", 12", AND 14" UNIVERSAL DIVIDING HEADS AND ACCESSORIES—UNIT CUA (Standard and Wide Range)

KEY NO.	PART NO.	PART NAME	AMT. USED	KEY NO.	PART NO.	PART NAME	AMT. USED
CUA-1A		Clamp - Rear		CUA-33		Washer	
	193422	10"	1		1040	10" (11/16 Tee Slot Table)	2
	193432	12"	1		764	12" & 14" (13/16 Tee Slot Table)	2
	193442	14"	1		1040	10", 12" & 14" (11/16 Tee Slot Table with Raising Block)	2
CUA-2	3198	Screw	2		764	10", 12" & 14" (13/16 Tee Slot Table with Raising Block)	2
CUA-3	1401	Pin	1				
CUA-4A		Clamp - Front		CUA-34	1844	Plug	1
	193421	10"	1	CUA-35		Tongue	
	193431	12"	1		3357	For 13/16" Slot	2
	193441	14"	1		192485	For 18mm Slot	2
CUA-5	3479	Nut	2		192486	For 22mm Slot	2
CUA-6	3514	Screw	1	CUA-36	124975	Screw	2
CUA-7	150430	Lever	1	CUA-38		Raising Block	
CUA-8	44980	Oiler	1		162184	10"	1
CUA-9		Vernier			162185	12"	1
	150478	10"	1		162186	14"	1
	150479	12" & 14"	1	CUA-39		Bolt - Tee	
CUA-10	3442	Washer	2		3364	10" (11/16 Tee Slot Table)	2
CUA-11	127468	Ring - "O"	1		3356	12" & 14" (13/16 Tee Slot Table)	2
CUA-12A		Screw - Spindle Clamp			2231	10" (11/16 Tee Slot Table with Raising Block)	2
	193425	10"	1		163056	10" (13/16 Tee Slot Table with Raising Block)	2
	193435	12" & 14"	1		1222	12" (11/16 Tee Slot Table with Raising Block)	2
CUA-13A	118610	Wick	1		2234	12" (13/16 Tee Slot Table with Raising Block)	2
CUA-14	1844	Plug	3		2229	14" (11/16 Tee Slot Table with Raising Block)	2
CUA-15	1962	Plug	1		2233	14" (13/16 Tee Slot Table with Raising Block)	2
CUA-16	1936	Plug	1	CUA-40		Tongue	
CUA-17		Stud - Clamping			3357	For 13/16" Slot	2
	193426	10"	2		192485	For 18mm Slot	2
	193436	12" & 14"	2		192486	For 22mm Slot	2
CUA-18	8367	Plug	1		124975	Screw	2
CUA-19	3636	Pin	1	CUA-41		Plate - Swivel Clamp	
CUA-20	2237	Bush	1	CUA-324		10"	1
CUA-21	165986	Screw - Socket	1		193423	12" & 14"	1
CUA-22A		Screw - Stop L. H.		CUA-325		Nut - Hex	
	165985	10"	1		240590	10"	2
	165981	12" & 14"	1		229262	12" & 14"	2
CUA-23	150458	Tubing - Oil	1	CUA-326	3442	Washer	2
CUA-24A		Block - Swivel		CUA-327	193429	Stud	2
	193424	10"	1	CUA-328	2282	Screw - Set	2
	193434	12" & 14"	1	CUA-329	285452	Screw - Set	2
CUA-25		Screw - Stop R. H.		CUA-330		Screw - Socket Hd. Cap	
	165985	10"	1		2386	10"	4
	165981	12" & 14"	1		3396	12" & 14"	4
CUA-26	165986	Screw - Socket	1	CUA-331	285452	Screw - Set	2
CUA-27	3383	Pin	1	CUA-332	2282	Screw - Set	2
CUA-28	166384	Pointer	1	CUA-333		Shim	
CUA-29	2308	Screw	1		193438	10"	2
CUA-30	76644	Plug	1		193439	12" & 14"	2
CUA-31A		Housing		CUA-334	3400	Screw - Socket Hd. Cap	4
	193420	10"	1	CUA-335	282929	Pin	4
	193430	12"	1	CUA-336	189257	Screw - Set	4
	193440	14"	1	CUA-337	3251	Screw - Socket Hd. Cap	12
CUA-32		Nut		CUA-338	193428	Block - Tongue Adjusting	2
	3480	10" (11/16 Tee Slot Table)	2				
	3481	12" & 14" (13/16 Tee Slot Table)	2				
	3480	10", 12" & 14" (11/16 Tee Slot Table with Raising Block)	2				
	3481	10", 12" & 14" (13/16 Tee Slot Table with Raising Block)	2				

10"-12"-14" DIVIDING HEADS

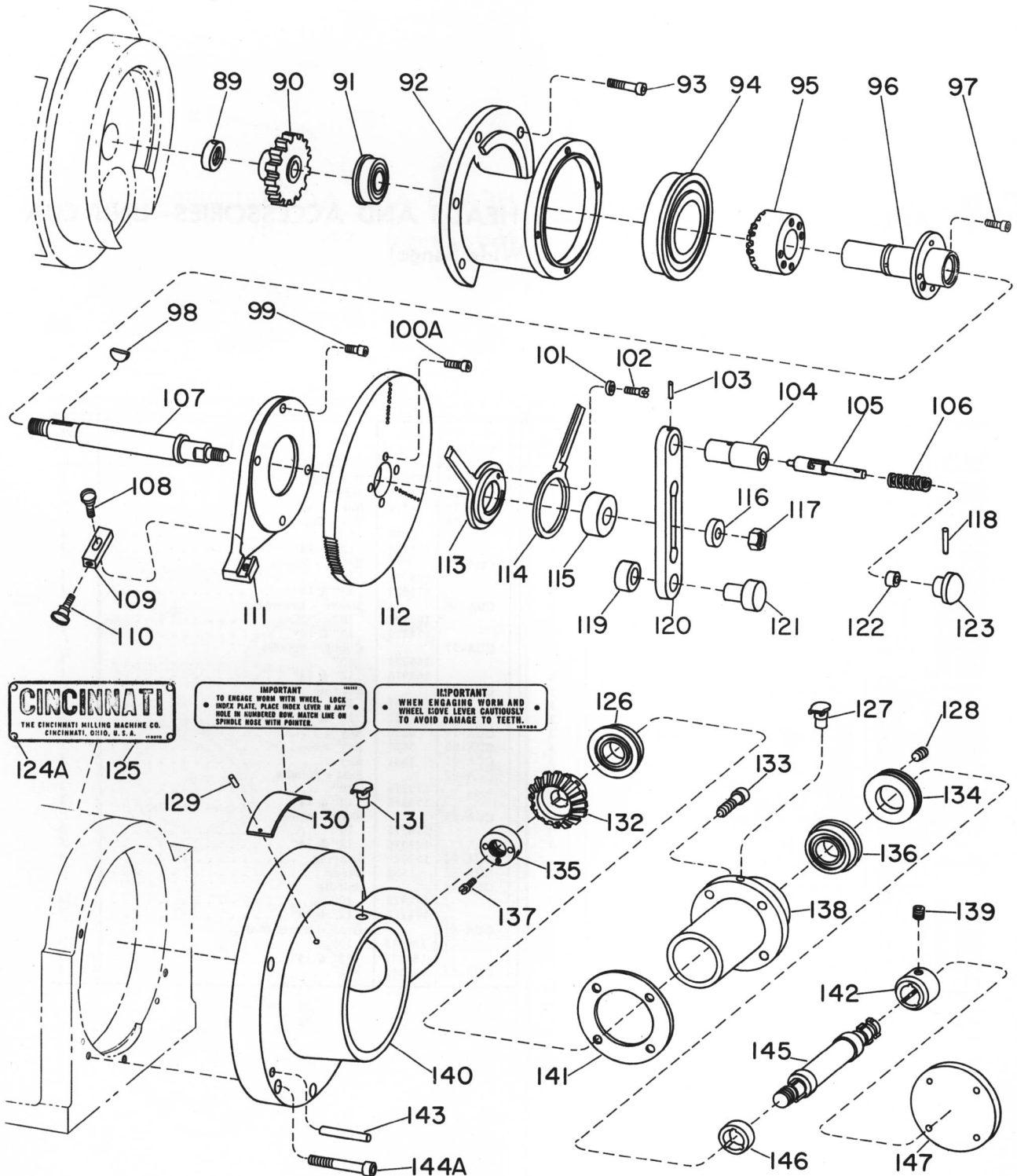


122 NNN

10", 12", AND 14" UNIVERSAL DIVIDING HEADS AND ACCESSORIES—UNIT CUA (Standard and Wide Range)

Key No.	Part No.	Part Name	Amt. Used	Key No.	Part No.	Part Name	Amt. Used
CUA-42	251177	Screw	2	CUA-71	157022	Bearing	1
CUA-43	173268	Latch	1	CUA-72	2316	Screw	2
CUA-44	126873	Knob	1	CUA-73	4255	Nut - Lock	1
CUA-45	140	Pin	1	CUA-74		Pin - Taper	
CUA-46	3396	Screw	2		2267	10"	1
CUA-47	173267	Insert Knob	1		175462	12" & 14"	1
CUA-48	173269	Pin - Latch	1	CUA-75		Wheel - Worm	
CUA-49	134367	Spring	1		172631	10"	1
CUA-50	3541	Pin	2		172633	12" & 14"	1
CUA-51	3539	Pin	1	CUA-76		Sleeve - Eccentric	
CUA-52	150442	Cap - Spindle Dust	1		162939	10"	1
CUA-53	2332	Screw	2		174855	12" & 14"	1
CUA-54	13665	Ball	1	CUA-77		Clamp - Spindle	
CUA-55		Block - Index			165982	10"	1
	173547	10"	1		165978	12" & 14"	1
	173548	12" & 14"	1	CUA-78		Bearing	
CUA-56	4252	Nut - Lock	1		150437	10"	1
CUA-57	262	Spring	1		134927	12" & 14"	1
CUA-58	173546	Pin - Index	1	CUA-79	3280	Key	1
CUA-59	76644	Plug	1	CUA-80	3687	Key	1
CUA-60	173265	Nut	1	CUA-81	3281	Key	1
CUA-61	173266	Knob	1	CUA-82		Seal - Spindle	
CUA-62	150436	Bearing	1		173274	10"	1
CUA-63	173264	Ring - Locking	1		173275	12" & 14"	1
CUA-64A		Retainer - Locking Ring		CUA-83		Shaft - Worm	
	193427	10"	1		174275	10"	1
	193437	12" & 14"	1		174276	12" & 14"	1
CUA-65		Stud - Eccentric		CUA-84	157022	Bearing	1
	173262	10"	1	CUA-85	1158	Screw	1
	173826	12" & 14"	1	CUA-86		Spindle	
CUA-66	3218	Screw	4		173272	10"	1
CUA-67	3280	Key	1		174273	12" & 14"	1
CUA-68	3209	Screw	1	CUA-87		Gear - Worm Shaft	
CUA-69	2135	Washer - Lock	1		135975	10"	1
CUA-70	257395	Washer - Plain	1		150472	12" & 14"	1
				CUA-88	152291	Nut	1

10"-12"-14" DIVIDING HEADS



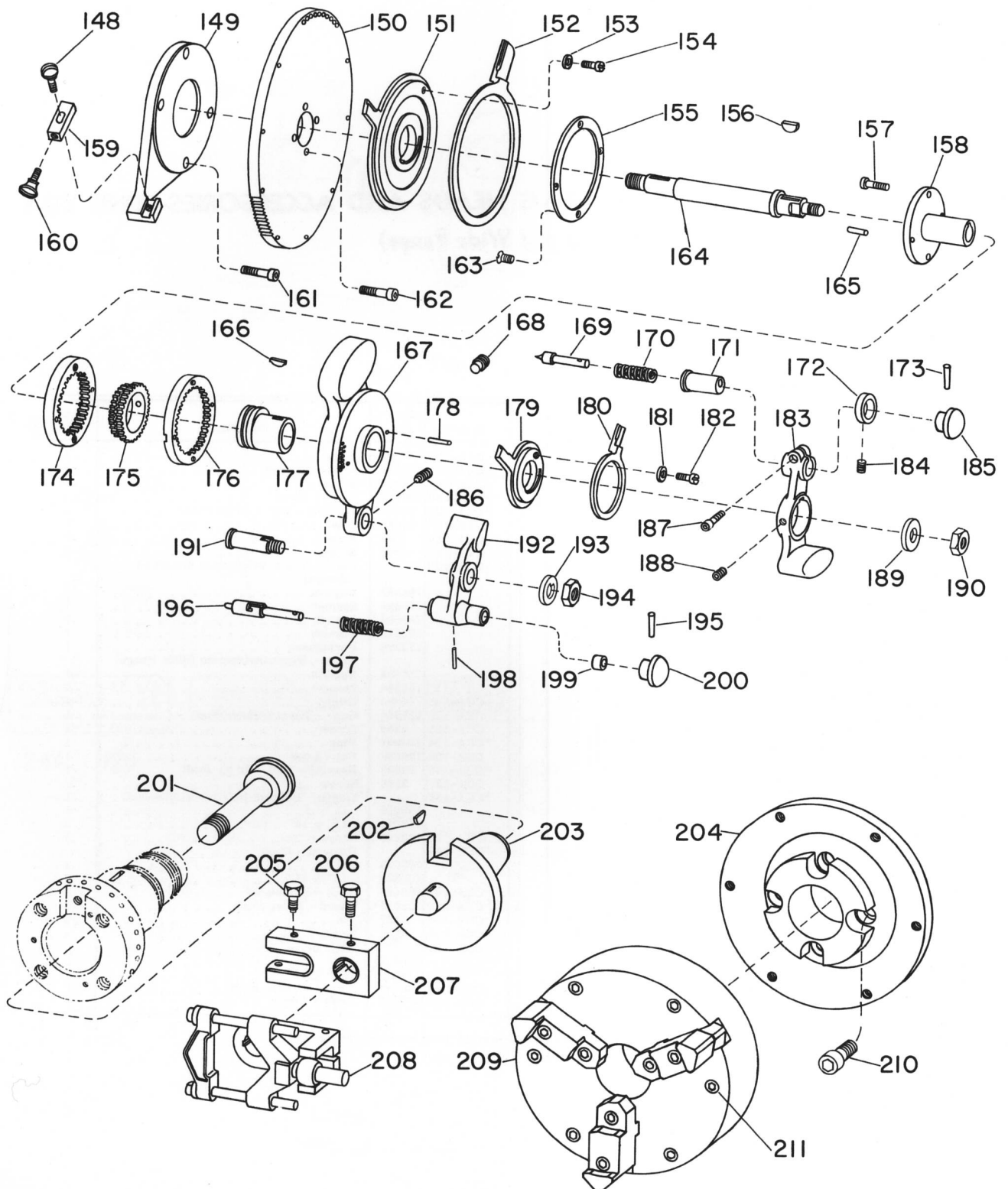
122 NNN

10", 12", AND 14" UNIVERSAL DIVIDING HEADS AND ACCESSORIES—UNIT CUA (Standard and Wide Range)

Key No.	Part No.	Part Name	Amt. Used	Key No.	Part No.	Part Name	Amt. Used
CUA-89	152291	Nut	1	CUA-122	295	Bush	1
CUA-90		Gear - Index Driver		CUA-123	149778	Knob - Knurled	1
	150439	10"	1	CUA-124A	2307	Screw	4
	150472	12" & 14"	1	CUA-125	158070	Plate - Name	1
CUA-91	157022	Bearing	1	*CUA-126	94805	Bearing - Ball - Drive Shaft	1
CUA-92		Housing - Index Shaft		CUA-127	44980	Oiler	1
	167036	10"	1	CUA-128	2332	Screw	2
	167351	12" & 14"	1	CUA-129	2263	Screw	2
CUA-93	3218	Screw	5	CUA-130		Plate - Worm Instruction (Standard Range)	
CUA-94	150460	Bearing	1		166392	English	1
CUA-95	150441	Gear - Bevel Driven	1		169506	Spanish	1
CUA-96	150444	Sleeve - Drive	1		169503	French	1
CUA-97	3198	Screw	2		173219	Finnish	1
CUA-98	3280	Key	1		173250	Portuguese	1
CUA-99	3200	Screw	4			Plate - Worm Instruction (Wide Range)	
CUA-100A	2272	Screw	4		167584	English	1
CUA-101	294	Washer	1		180994	Spanish	1
CUA-102	2285	Screw	1	CUA-131	44980	Oiler	1
CUA-103	2160	Pin	1	CUA-132	126864	Gear - Bevel - Drive Shaft	1
CUA-104	37750	Holder - Index Pin	1	CUA-133	3396	Screw	4
CUA-105	70861	Pin - Index	1	*CUA-134	193009	Plug	1
CUA-106	253	Spring	1	CUA-135	126868	Nut - Lock	1
CUA-107	149773	Shaft - Index	1	*CUA-136	94805	Bearing - Ball - Drive Shaft	1
CUA-108	2278	Screw	1	CUA-137	3198	Screw	1
CUA-109	8106	Stop	1	*CUA-138		Sleeve - Bearing Retainer (Universal)	1
CUA-110	2278	Screw	1		193016	10"	1
CUA-111	167034	Housing - Index Stop	1		193011	12" & 14"	1
CUA-112		Plate - Index		CUA-139	72640	Screw	1
	6855	Plate - Index - St'd.	1	CUA-140		Housing - Drive	
	10525	Plate - A & B	1		167035	10"	1
	10526	Plate - C & D	1		167350	12" & 14"	1
	10527	Plate - E & F	1	CUA-141	150433	Shim - Laminated	1
CUA-113	8100	Sector - Bottom	1	CUA-142	118617	Guard - Drive Shaft	1
CUA-114	8101	Sector - Top	1	CUA-143	1421	Pin	2
CUA-115	8072	Spacer	1	CUA-144A	3396	Screw	4
CUA-116	661	Washer	1	CUA-145		Shaft Drive	
CUA-117	3478	Nut	1		150435	10"	1
CUA-118	140	Pin	1		134900	12" & 14"	1
CUA-119	76949	Collar - Balancer Stud	1	CUA-146	134902	Spacer - Drive Shaft	1
CUA-120	76951	Carrier Holder - Index Pin	1	CUA-147	157974	Plate - Cover	1
CUA-121	76948	Stud - Balancing	1				

*If the sleeve CUA-138 part number is 150448 (for 10") or 150467 (for 12" and 14") the bearings 126 and 136 used are part number 150428 and the plug 134 used is part number 149781.

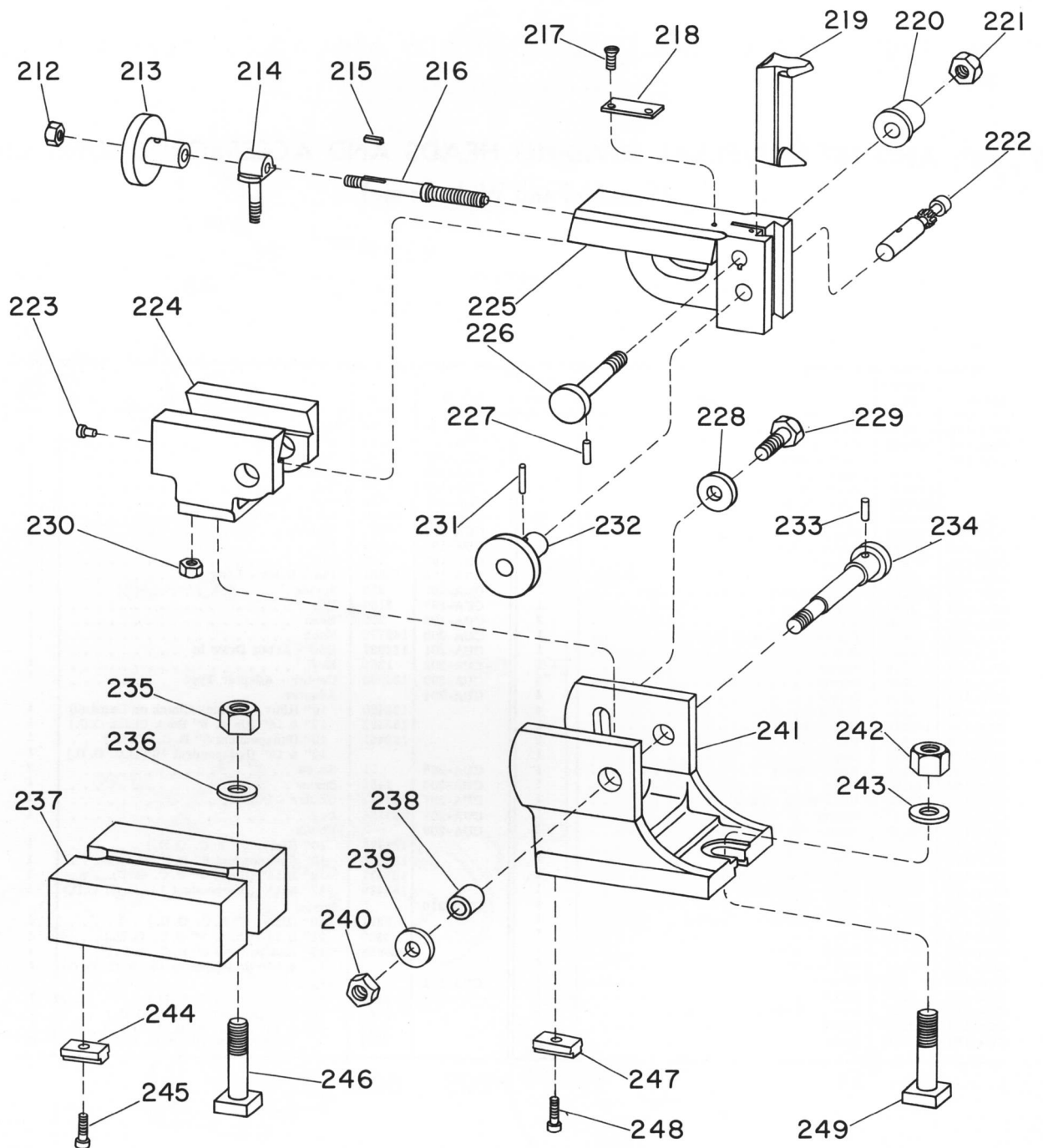
10"-12"-14" DIVIDING HEADS



10", 12", AND 14" UNIVERSAL DIVIDING HEADS AND ACCESSORIES—UNIT CUA (Standard and Wide Range)

Key No.	Part No.	Part Name	Amt. Used	Key No.	Part No.	Part Name	Amt. Used
CUA-148	2278	Screw	1	CUA-186	1879	Screw	1
CUA-149	167582	Plate - Index Stop	1	CUA-187	2272	Screw	1
CUA-150		Plate - Index	1	CUA-188	1879	Screw	1
	70634	Plate - Index - Large	1	CUA-189	79253	Washer	1
	113505	Plate - A & B	1	CUA-190	70858	Nut	1
	113506	Plate - C & D	1	CUA-191	70622	Stud - Index	1
	113507	Plate - E & F	1	CUA-192	71939	Lever - Index Pin	1
CUA-151	70626	Sector - Bottom	1	CUA-193	70621	Washer	1
CUA-152	70625	Sector - Top	1	CUA-194	70858	Nut	1
CUA-153	294	Washer	1	CUA-195	140	Pin	1
CUA-154	2285	Screw	1	CUA-196	70861	Pin - Index - Long	1
CUA-155	105145	Ring Retainer - Index Plate Gear	1	CUA-197	253	Spring	1
CUA-156	3280	Key	1	CUA-198	2160	Pin	1
CUA-157	3198	Screw	2	CUA-199	295	Bush	1
CUA-158	70616	Flange - Eccentric Bearing	1	CUA-200	149778	Knob	1
CUA-159	8106	Stop	1	CUA-201	134937	Bolt - Arbor Draw In	1
CUA-160	2278	Screw	1	CUA-202	1266	Key	1
CUA-161	3200	Screw	4	CUA-203	134950	Center - Adapter Type	1
CUA-162	2252	Screw	4	CUA-204		Adapter	1
CUA-163	2281	Screw	4		183480	10" (Univ. 6" Buck Chuck on Demand)	1
CUA-164	148719	Shaft - Index	1		183482	12" & 14" (Univ. 9" Buck Chuck O.D.)	1
CUA-165	3539	Pin	2		183481	10" (Independent 8" B.C. O.D.)	1
CUA-166	3279	Key	1			12" & 14" (Independent 10" B.C. O.D.)	1
CUA-167	105146	Plate - Index	1	CUA-205	51	Screw	2
CUA-168	44980	Oiler	1	CUA-206	1453	Screw	1
CUA-169	73008	Pin - Index - Small	1	CUA-207	134972	Holder - Dog	1
CUA-170	253	Spring	1	CUA-208	24184	Dog	1
CUA-171	73009	Bush - Eccentric	1	CUA-209		Chuck	1
CUA-172	73010	Collar - Eccentric	1		183476	10" (Univ. 6" B.C. O.D.)	1
CUA-173	140	Pin	1		183478	10" (Independent 8" B.C. O.D.)	1
CUA-174	70864	Gear - Loose - Internal	1		183477	12" & 14" (Univ. 9" B.C. O.D.)	1
CUA-175	70865	Gear - Cluster on Eccentric	1		183479	12" & 14" (Independent 10" B.C. O.D.)	1
CUA-176	70863	Gear - Fixed - Internal	1	CUA-210		Screw	1
CUA-177	73011	Bush - Eccentric Bearing	1		3317	10" (Univ. 6" B.C. O.D.)	4
CUA-178	3270	Pin	1		3408	12" & 14" (Univ. 9" B.C. O.D.)	4
CUA-179	70624	Sector - Short - Bottom	1		228884	10" (Independent 8" B.C. O.D.)	4
CUA-180	70623	Sector - Short - Top	1			12" & 14" (Independent 10" B.C. O.D.)	4
CUA-181	294	Washer	1	CUA-211		Screw	1
CUA-182	2285	Screw	1		3161	10" (Univ. 6" B.C. O.D.)	6
CUA-183	71938	Lever - Index Pin - Small	1		3162	10" (Independent 8" B.C. O.D.)	6
CUA-184	2279	Screw	1		3346	12" & 14" (Univ. 9" B.C. O.D.)	6
CUA-185	149778	Knob	1		3262	(Independent 10" B.C. O.D.)	6

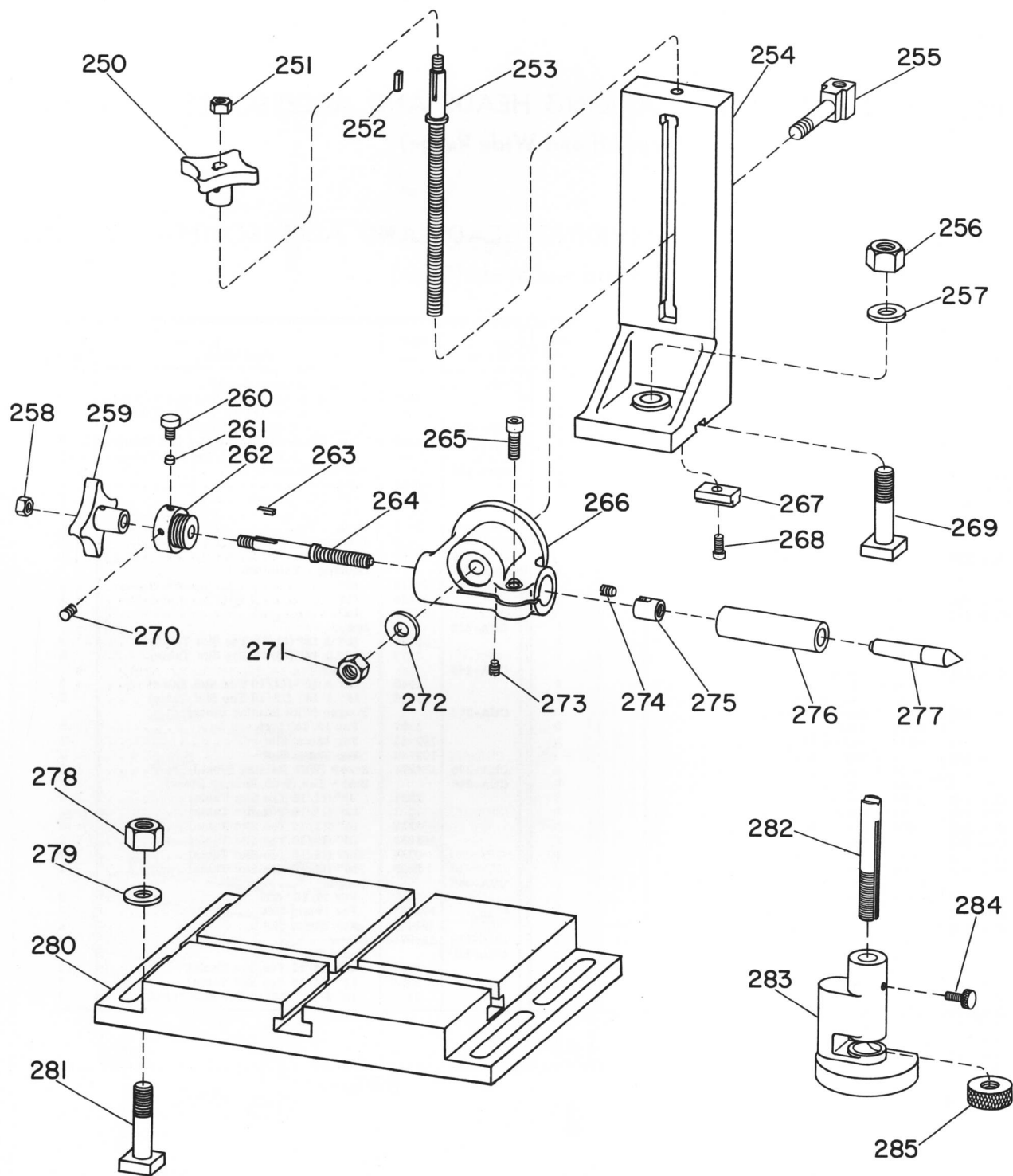
10" - 12" - 14" DIVIDING HEADS



10", 12", AND 14" UNIVERSAL DIVIDING HEADS AND ACCESSORIES—UNIT CUA (Standard and Wide Range)

Key No.	Part No.	Part Name	Amt. Used	Key No.	Part No.	Part Name	Amt. Used
CUA-212	3478	Nut	1	CUA-235		Nut (with Raising Block)	
CUA-213		Knob on Screw		3480		10", 12" & 14" (11/16 Tee Slot Table) . .	2
	23620	10" Dividing Head	1	3481		10", 12" & 14" (13/16 Tee Slot Table) . .	2
	23621	12" & 14" Dividing Head	1	CUA-236		Washer (with Raising Block)	
CUA214	44184	Bearing - Tailstock Screw	1	1040		10", 12" & 14" (11/16 Tee Slot Table) .	2
CUA-215	337	Key	1	764		10", 12" & 14" (13/16 Tee Slot Table) .	2
CUA-216	8380	Screw - Tailstock	1	CUA-237		Raising Block	
CUA-217	202	Screw	2	60522		10"	1
CUA-218	6106	Plate over Slot	1	60524		12"	1
CUA-219		Center		60526		14"	1
	8378	10"	1	CUA-238	8377	Bush	1
	8405	12" & 14"	1	CUA-239	112	Washer	1
CUA-220		Collar - Short Bolt		CUA-240	3480	Nut	1
	8379	10"	1	CUA-241		Housing - Tailstock	
	8406	12" & 14"	1	60516		10"	1
CUA-221	3480	Nut	1	60518		12"	1
CUA-222		Pinion		60520		14"	1
	189073	10"	1	CUA-242		Nut	
	188962	12" & 14"	1	3480		10" & 12" (11/16 Tee Slot Table)	2
CUA-223	270	Pin	1	3476		12" & 14" (13/16 Tee Slot Table)	2
CUA-224		Block - Swivel		CUA-243		Washer	
	44183	10"	1	1040		10" & 12" (11/16 Tee Slot Table)	2
	44181	12" & 14"	1	1056		12" & 14" (13/16 Tee Slot Table)	2
CUA-225		Slide - Tailstock		CUA-244		Tongue (With Raising Block)	
	44180	10"	1	3357		For 13/16" Slot	2
	44182	12" & 14"	1	192485		For 18mm Slot	2
CUA-226		Bolt - Short		192486		For 22mm Slot	2
	8376	10"	1	CUA-245	124975	Screw (With Raising Block)	2
	8403	12" & 14"	1	CUA-246		Bolt - Tee (With Raising Block)	
CUA-227	1406	Pin	1	2231		10" (11/16 Tee Slot Table)	2
CUA-228	112	Washer	1	1222		12" (11/16 Tee Slot Table)	2
CUA-229	621	Screw	1	2229		14" (11/16 Tee Slot Table)	2
CUA-230	157	Nut	1	163056		10" (13/16 Tee Slot Table)	2
CUA-231	154160	Pin	1	2234		12" (13/16 Tee Slot Table)	2
CUA-232		Knob		2233		14" (13/16 Tee Slot Table)	2
	189072	10"	1	CUA-247		Tongue	
	188963	12" & 14"	1	3357		For 13/16" Slot	2
CUA-233	1406	Pin	1	192485		For 18mm Slot	2
CUA-234		Bolt - Long		192486		For 22mm Slot	2
	8375	10"	1	CUA-248	124975	Screw	2
	8402	12" & 14"	1	CUA-249		Bolt - Tee	
				2227		10" (11/16 Tee Slot Table)	2
				3363		12" (11/16 Tee Slot Table)	2
				3365		12" & 14" (13/16 Tee Slot Table)	2

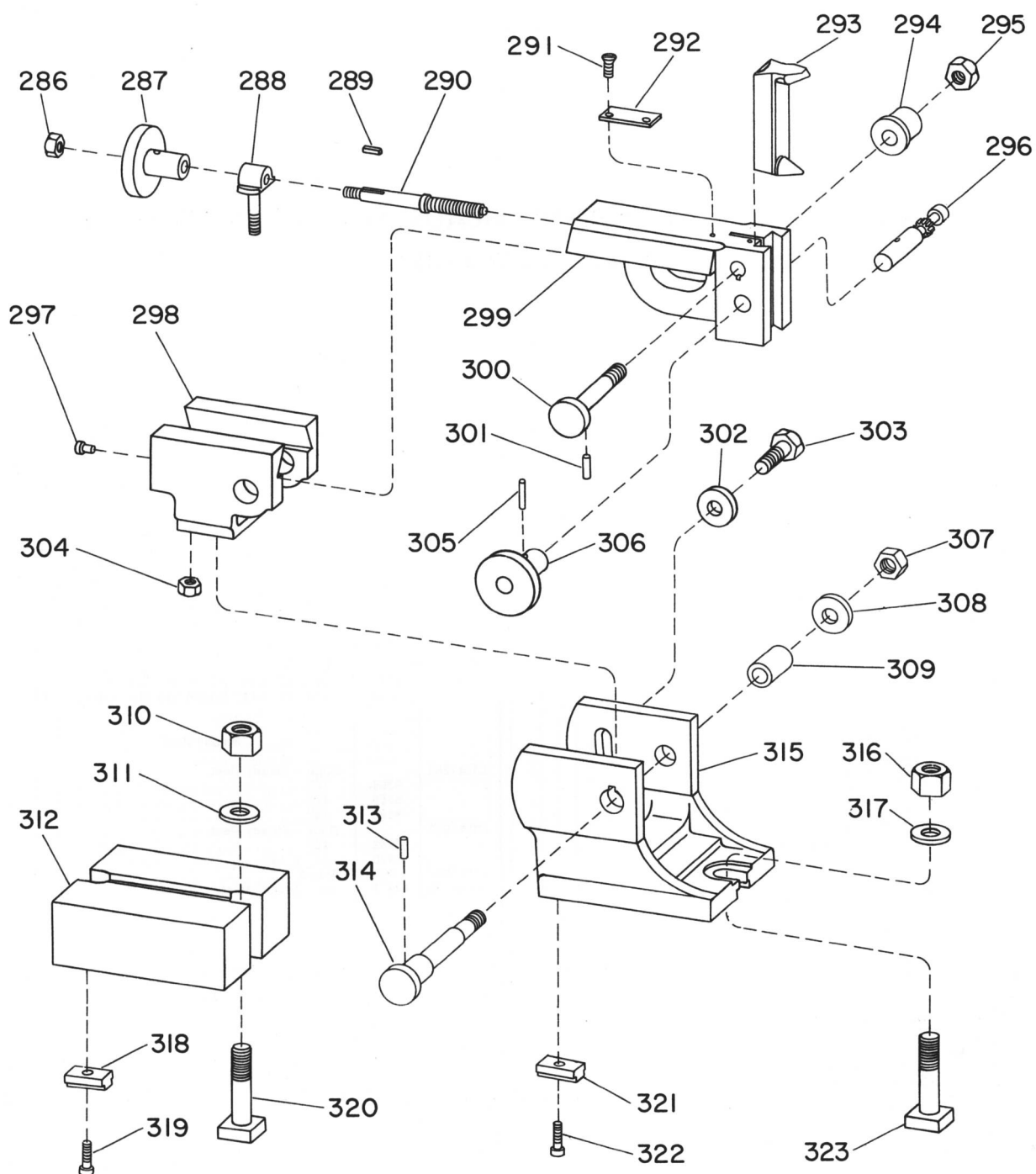
10" - 12" - 14" DIVIDING HEADS



10", 12", AND 14" UNIVERSAL DIVIDING HEADS AND ACCESSORIES—UNIT CUA (Standard and Wide Range)

Key No.	Part No.	Part Name	Amt. Used	Key No.	Part No.	Part Name	Amt. Used
		High Tailstock 10", 12" & 14"				Plate - Angle	
CUA-250	10862	Knob	1	CUA-278		Nut	
CUA-251	3478	Nut	1		3480	10", 12" & 14" (11/16 Tee Slot Table) .	4
CUA-252	337	Key	1		3481	10", 12" & 14" (13/16 Tee Slot Table) .	4
CUA-253	105206	Screw - Elevating	1	CUA-279		Washer	
CUA-254	60527	Housing	1		1040	10", 12" & 14" (11/16 Tee Slot Table) .	4
CUA-255	105205	Bolt	1		764	10", 12" & 14" (13/16 Tee Slot Table) .	4
CUA-256		Nut		CUA-280		Plate - Angle	
	3480	10", 12" & 14" (11/16 Tee Slot Table) .	1		162188	10"	1
	3476	10", 12" & 14" (13/16 Tee Slot Table) .	1	CUA-281		12" & 14"	1
CUA-257		Washer			3363	Bolt - Tee	
	1040	10", 12" & 14" (11/16 Tee Slot Table) .	1		3355	10", 12" & 14" (11/16 Tee Slot Table) .	4
	1056	10", 12" & 14" (13/16 Tee Slot Table) .	1			10", 12" & 14" (13/16 Tee Slot Table) .	4
CUA-258	153	Nut	1				
CUA-259	10862	Knob	1			Steady Rest	
CUA-260	3193	Screw	1	CUA-282		Stem - Steady Rest	
CUA-261	2008	Plug	1		8384	10"	1
CUA-262	8125	Cap	1		8399	12"	1
CUA-263	337	Key	1		8398	14"	1
CUA-264	8380	Screw	1	CUA-283		Body - Steady Rest	
CUA-265	641	Screw	1		8382	10"	1
CUA-266	25228	Block - Swivel	1		8400	12" & 14"	1
CUA-267		Tongue		CUA-284	998	Screw	1
	3357	For 13/16" Slot	2	CUA-285	18977	Nut - Steady Rest	1
	192485	For 18mm Slot	2				
	192486	For 22mm Slot	2				
CUA-268	124975	Screw	2				
CUA-269		Bolt - Tee					
	2227	10", 12" & 14" (11/16 Tee Slot Table) .	1				
	3365	10", 12" & 14" (13/16 Tee Slot Table) .	1				
CUA-270	1205	Screw	1				
CUA-271	162	Nut	1				
CUA-272	1045	Washer	1				
CUA-273	1786	Screw	1				
CUA-274	1205	Screw	1				
CUA-275	10869	Nut	1				
CUA-276	10866	Spindle	1				
CUA-277	10865	Center	1				

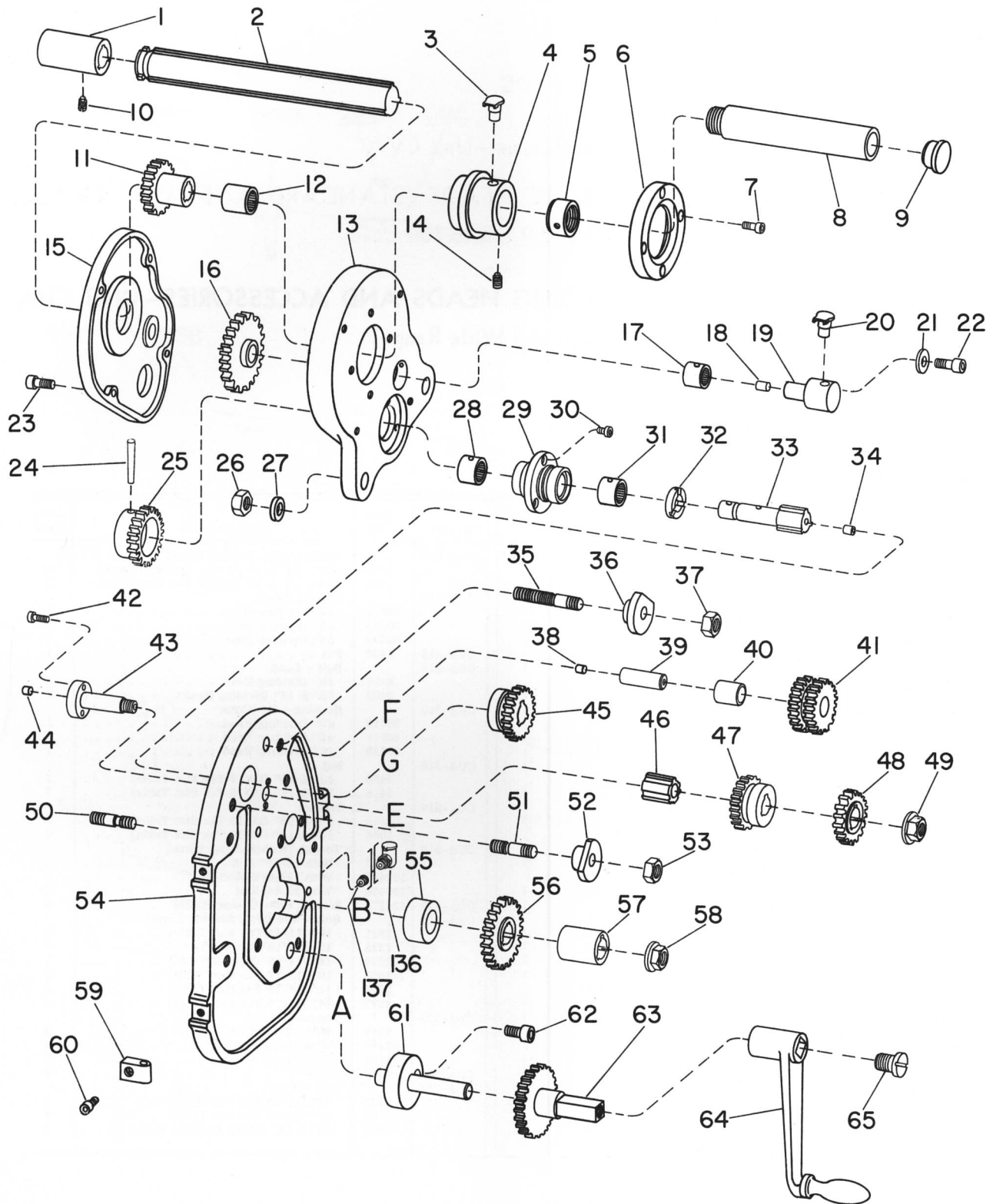
10"-12"-14" DIVIDING HEADS



10", 12", AND 14" UNIVERSAL DIVIDING HEADS AND ACCESSORIES—UNIT CUA (Standard and Wide Range)

Key No.	Part No.	Part Name	Amt. Used	Key No.	Part No.	Part Name	Amt. Used
CUA-286	3478	Nut	1	CUA-311		Washer (With Raising Block)	
CUA-287		Knob on Screw		1040		10", 12" & 14" (11/16 Tee Slot Table)	2
	23620	10" Dividing Head	1	764		10", 12" & 14" (13/16 Tee Slot Table)	2
	23621	12" & 14" Dividing Head	1	CUA-312		Raising Block	
CUA-288	44184	Bearing - Tailstock Screw	1	60522		10" Dividing Head	1
CUA-289	337	Key	1	60524		12" Dividing Head	1
CUA-290	8380	Screw - Tailstock	2	60526		14" Dividing Head	1
CUA-291	202	Screw	1	CUA-313	1406	Pin	1
CUA-292	6106	Plate over Slot	1	CUA-314		Bolt - Long	
CUA-293		Center		8375		10" Dividing Head	1
	8378	10" Dividing Head	1	8402		12" & 14" Dividing Head	1
	8405	12" & 14" Dividing Head	1	CUA-315		Housing - Tailstock	
CUA-294		Collar - Short Bolt		60516		10" Dividing Head	1
	8379	10" Dividing Head	1	60518		12" Dividing Head	1
	8406	12" & 14" Dividing Head	1	60520		14" Dividing Head	1
CUA-295	162	Nut	1	CUA-316		Nut	
CUA-296		Pinion		3480		10" & 12" (11/16 Tee Slot Table)	2
	8238	10" Dividing Head	1	3476		12" & 14" (13/16 Tee Slot Table)	2
	8239	12" & 14" Dividing Head	1	CUA-317		Washer	
CUA-297	270	Pin	1	1040		10" & 12" (11/16 Tee Slot Table)	2
CUA-298		Block - Swivel		1056		12" & 14" (13/16 Tee Slot Table)	2
	44183	10" Dividing Head	1	CUA-318		Tongue (With Raising Block)	
	44181	12" & 14" Dividing Head	1	3357		With 13/16" Slot	2
CUA-299		Slide - Tailstock		192485		With 18mm Slot	2
	44180	10" Dividing Head	1	192486		With 22mm Slot	2
	44182	12" & 14" Dividing Head	1	CUA-319	124975	Screw (With Raising Block)	2
CUA-300		Bolt - Short		CUA-320		Bolt - Tee (With Raising Block)	
	8376	10" Dividing Head	1	2231		10" (11/16 Tee Slot Table)	2
	8403	12" & 14" Dividing Head	1	1222		12" (11/16 Tee Slot Table)	2
CUA-301	1406	Pin	1	2229		14" (11/16 Tee Slot Table)	2
CUA-302	112	Washer	1	163056		10" (13/16 Tee Slot Table)	2
CUA-303	621	Screw	1	2234		12" (13/16 Tee Slot Table)	2
CUA-304	157	Nut	1	2233		14" (13/16 Tee Slot Table)	2
CUA-305	141	Pin	1	CUA-321		Tongue	
CUA-306		Knob		3357		With 13/16" Slot	2
	8227	10" Dividing Head	1	192485		With 18mm Slot	2
	8229	12" & 14" Dividing Head	1	192486		With 22mm Slot	2
CUA-307	162	Nut	1	124975		Screw	2
CUA-308	112	Washer	1	CUA-322		Bolt - Tee	
CUA-309	8377	Bush	1	CUA-323		10" (11/16 Tee Slot Table)	2
CUA-310		Nut (With Raising Block)		2227		12" (11/16 Tee Slot Table)	2
	3480	10", 12" & 14" (11/16 Tee Slot Table)	2	3363		12" & 14" (13/16 Tee Slot Table)	2
	3481	10", 12" & 14" (13/16 Tee Slot Table)	2	3365			

DRIVE MECHANISM - DIVIDING HEAD



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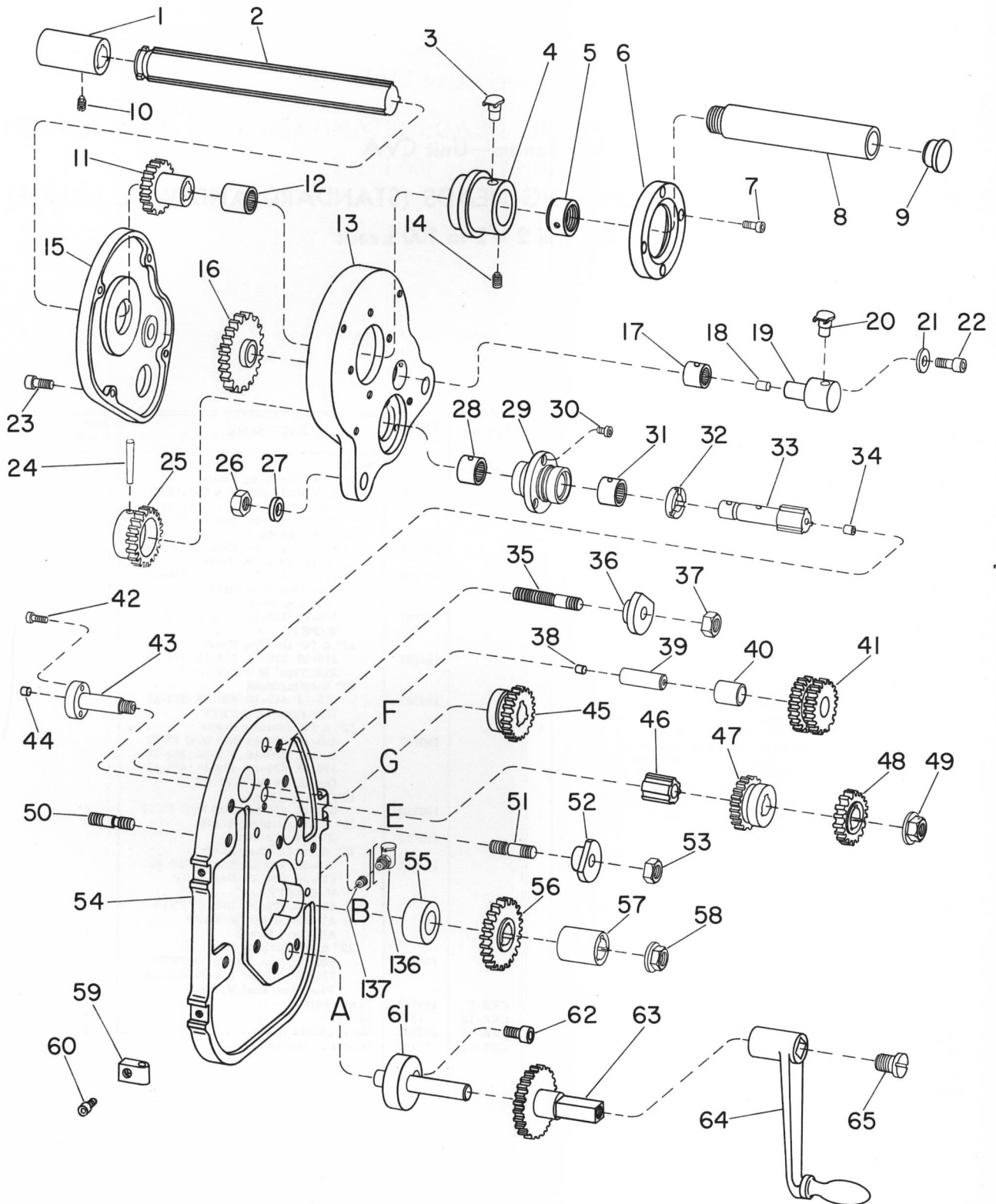
Drive Mechanism—Unit CVA

10", 12" AND 14" UNIVERSAL DIVIDING HEADS (STANDARD AND WIDE RANGE)

1/8 to 100 and 2 1/2 to 100 Leads

KEY NO.	PART NO.	PART NAME	AMT. USED	KEY NO.	PART NO.	PART NAME	AMT. USED
CVA-1	79350	Coupling - Spline Shaft	1	CVA-8		Shield	
CVA-2		Shaft - Spline Ext			190708	10" & 12" Dividing Heads	
	122215	10" & 12" Dividing Heads				203-10ML 205-12 & 307-12 M1	
		203-10ML 205-12 & 307-12 M1				205-12 Cinel-60 & Cinpak-45	1
		205-12 Cinel-60 & Cinpak-45	1		190708	10" Dividing Head	
		205-12 & 307-14 Cinova-80 . . .	1			210-12 310-12 Univ. Dial Type	1
	122215	10" Dividing Head			190708	12" & 14" Dividing Heads	
		210-12 310-12 Univ. Dial Type	1			210-12 310-12 315-15 415-15	1
	122215	12" & 14" Dividing Heads				Dial Type W/O FHTF	1
		210-12 310-12 315-15 415-15	1		190707	10" Dividing Head	
		Dial Type W/O FHTF	1			210-12 310-12 Pl & Vert Dial	1
	122115	10" Dividing Head				W/FHTF	1
		210-12 310-12 PL & Vert Dial	1		190707	12" & 14" Dividing Heads	
		Type W/FHTF	1			210-12 310-12 315-15 415-15	1
	122115	12" & 14" Dividing Heads				Dial Type W/FHTF	1
		210-12 310-12 315-15 415-15	1		190707	10" Dividing Head	
		Dial Type W/FHTF	1			315-15 415-15 420-16 520-16	1
	122115	10" Dividing Head				Dial Type W/O FHTF	1
		315-15 415-15 420-16 520-16	1		190707	12" & 14" Dividing Heads	
		Dial Type W/O FHTF	1			420-16 520-16 Dial W/O FHTF	
	122115	12" & 14" Dividing Heads				215-16 220-16 315-16 320-16	
		420-16 520-16 Dial Type				320-18 330-18 420-18 430-18	
		W/O FHTF				Dual & HP W/O FHTF	1
		215-16 220-16 315-16 320-16	1		190710	10" Dividing Head	
		320-18 330-18 420-18 430-18	1			210-12 310-12 Dial W/O FHTF	1
		Dual & HP W/O FHTF	1		190710	12" & 14" Dividing Heads	
	122146	10" Dividing Head				307-14 410-14 M1	1
		210-12 310-12 Dial Type	1		190711	12" & 14" Dividing Heads	
		W/O FHTF	1			425-20 450-20 525-20 550-20	
	122146	12" & 14" Dividing Heads				625-20 650-20 Dual & HP	
		307-14 410-14 M1	1			W/O FHTF	
	167574	12" & 14" Dividing Heads				420-16 520-16 Dial W/FHTF	
		425-20 450-20 525-20 550-20			190712	All Dual & HP W/FHTF	1
		625-20 650-20 Dual & HP				All Verci Power	
		W/O FHTF				12" & 14" Dividing Heads	
		420-16 520-16 Dial Type W/FHTF				520-20 Univ. Dial W/O FHTF	
		All Dual & HP W/FHTF				520-20 540-20 620-20 640-20	
		All Verci Power				PL & Vert Dial W/FHTF	1
		520-20 Univ. Dial Type W/O FHTF	1	CVA-9	190709	Plug - Shield	1
		520-20 540-20 620-20 640-20	1	CVA-10	1879	Screw	1
		PL & Vert Dial Type W/FHTF . .	1	CVA-11	152547	Gear - Mitre Shaft	1
CVA-3	44980	Other	1	CVA-12	79763	Bearing - Needle	1
CVA-4	105178	Housing - Gear	1				
CVA-5	105198	Plug - Tube Adapter	1				
CVA-6	105179	Clamp - Gear Housing	1				
CVA-7	3396	Screw	4				

DRIVE MECHANISM - DIVIDING HEAD



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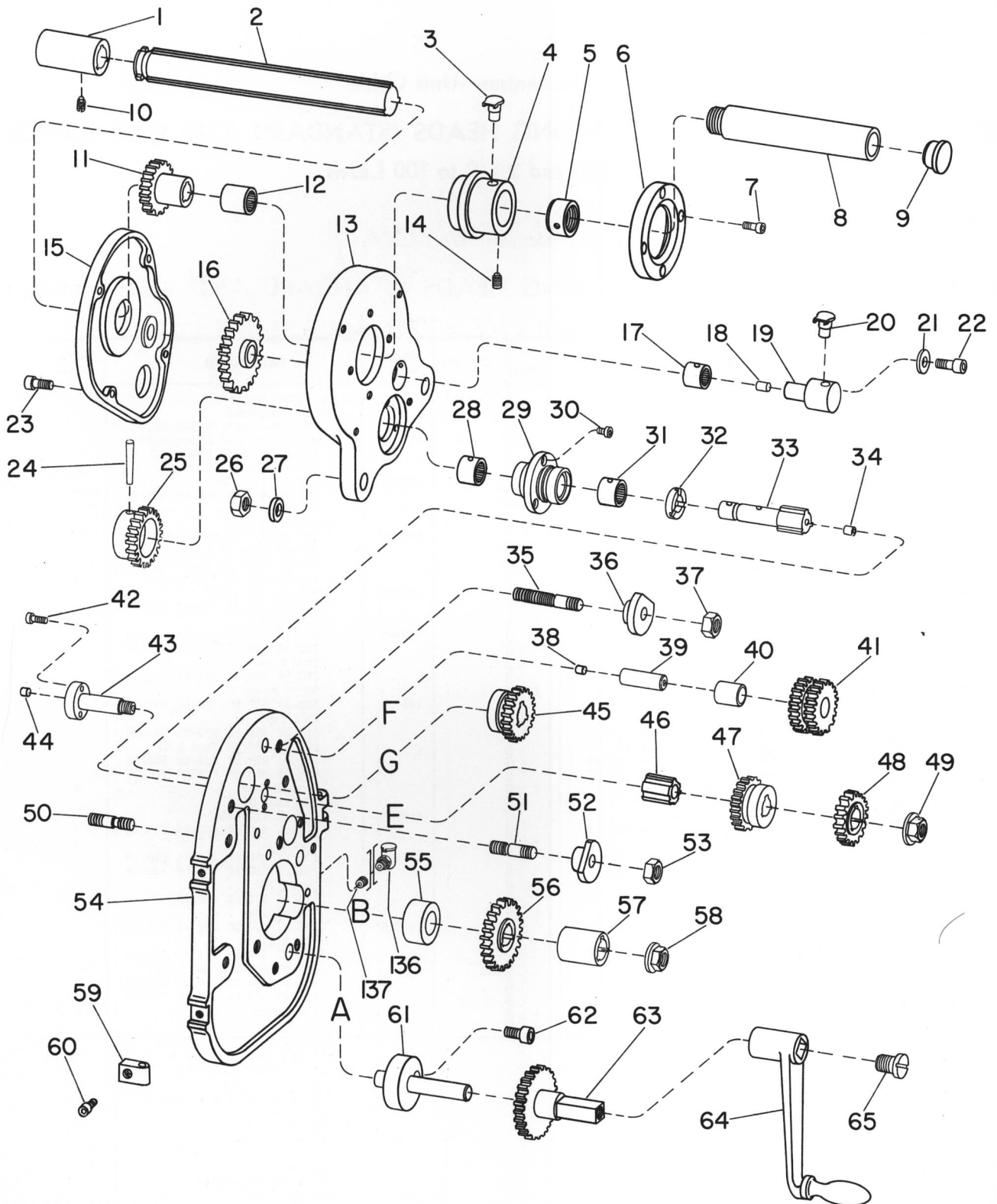
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Drive Mechanism—Unit CVA

10", 12" AND 14" UNIVERSAL DIVIDING HEADS (STANDARD AND WIDE RANGE)
 1/8 to 100 and 2 1/2 to 100 Leads

KEY NO.	PART NO.	PART NAME	AMT. USED	KEY NO.	PART NO.	PART NAME	AMT. USED
CVA-13		Segment - Idler		CVA-15		Cover - Idler Segment	
	150387	10" Dividing Head			164971	10" Dividing Head	
		203-10ML 205-12 & 307-12 M1				203-10ML 205-12 307-12M1	
		205-12 Cinel-60 & Cinpak-45				205-12 Cinel-60 & Cinpak-45	
		205-12 & 307-14 Cinova-80				205-12 & 307-14 Cinova-80	
		210-12 310-12 Dial Type . . .	1			210-12 310-12 Dial Type . . .	1
	158030	307-14 410-14 M1			164341	307-14 410-14M1	
		315-15 415-15 420-16 520-16				315-15 415-15 420-16 520-16	
		Dial Type	1			Dial Type	1
		12" Dividing Head			164984	12" Dividing Head	
	150393	203-10ML 205-12 & 307-12M1				203-10ML 205-12 & 307-12M1	
		205-12 Cinel-60 & Cinpak-45				205-12 Cinel-60 & Cinpak-45	
		205-12 & 307-14 Cinova-80				205-12 & 307-14 Cinova-80	
		210-12 310-12 Dial Type . . .	1			210-12 310-12 Dial Type . . .	1
	150395	307-14 410-14 M1			165001	307-14 410-14M1	
		315-15 415-15 420-16 520-16				315-15 415-15 420-16 520-16	
		Dial Type	1			Dial Type	1
	159851	215-16 220-16 315-16 320-16			160388	215-16 220-16 315-16 320-16	
		320-18 330-18 420-18 430-18				320-18 330-18 420-18 430-18	
		Dual & HP				Dual & HP	
		320-18 330-18 420-18 430-18				320-18 330-18 420-18 430-18	
		Verci Power	1			Verci Power	1
	163241	520-20 540-20 620-20 640-20			165135	520-20 540-20 620-20 640-20	
		Dial Type				Dial Type	
		425-20 450-20 525-20 550-20				425-20 450-20 525-20 550-20	
		625-20 650-20 Dual & HP				625-20 650-20 Dual & HP	
		425-20 450-20 525-20 550-20				425-20 450-20 525-20 550-20	
		625-20 650-20 725-20 750-20				625-20 650-20 725-20 750-20	
		Verci Power	1			Verci Power	1
		14" Dividing Head			160385	14" Dividing Head	
	150828	307-14 410-14 M1				307-14 410-14M1	
		315-15 415-15 420-16 520-16				315-15 415-15 420-16 520-16	
		Dial Type	1			Dial Type	1
	163235	215-16 220-16 315-16 320-16			165131	215-16 220-16 315-16 320-16	
		320-18 330-18 420-18 430-18				320-18 330-18 420-18 430-18	
		Dual & HP				Dual & HP	
		320-18 330-18 420-18 430-18				320-18 330-18 420-18 430-18	
		Verci Power	1			Verci Power	1
	163245	520-20 540-20 620-20 640-20			163246	520-20 540-20 620-20 640-20	
		Dial Type				Dial Type	
		425-20 450-20 525-20 550-20				425-20 450-20 525-20 550-20	
		625-20 650-20 Dual & HP				625-20 650-20 Dual & HP	
		425-20 450-20 525-20 550-20				425-20 450-20 525-20 550-20	
		625-20 620-20 725-20 750-20				625-20 650-20 725-20 750-20	
		Verci Power	1			Verci Power	1
CVA-14	1879	Screw	1				

DRIVE MECHANISM - DIVIDING HEAD



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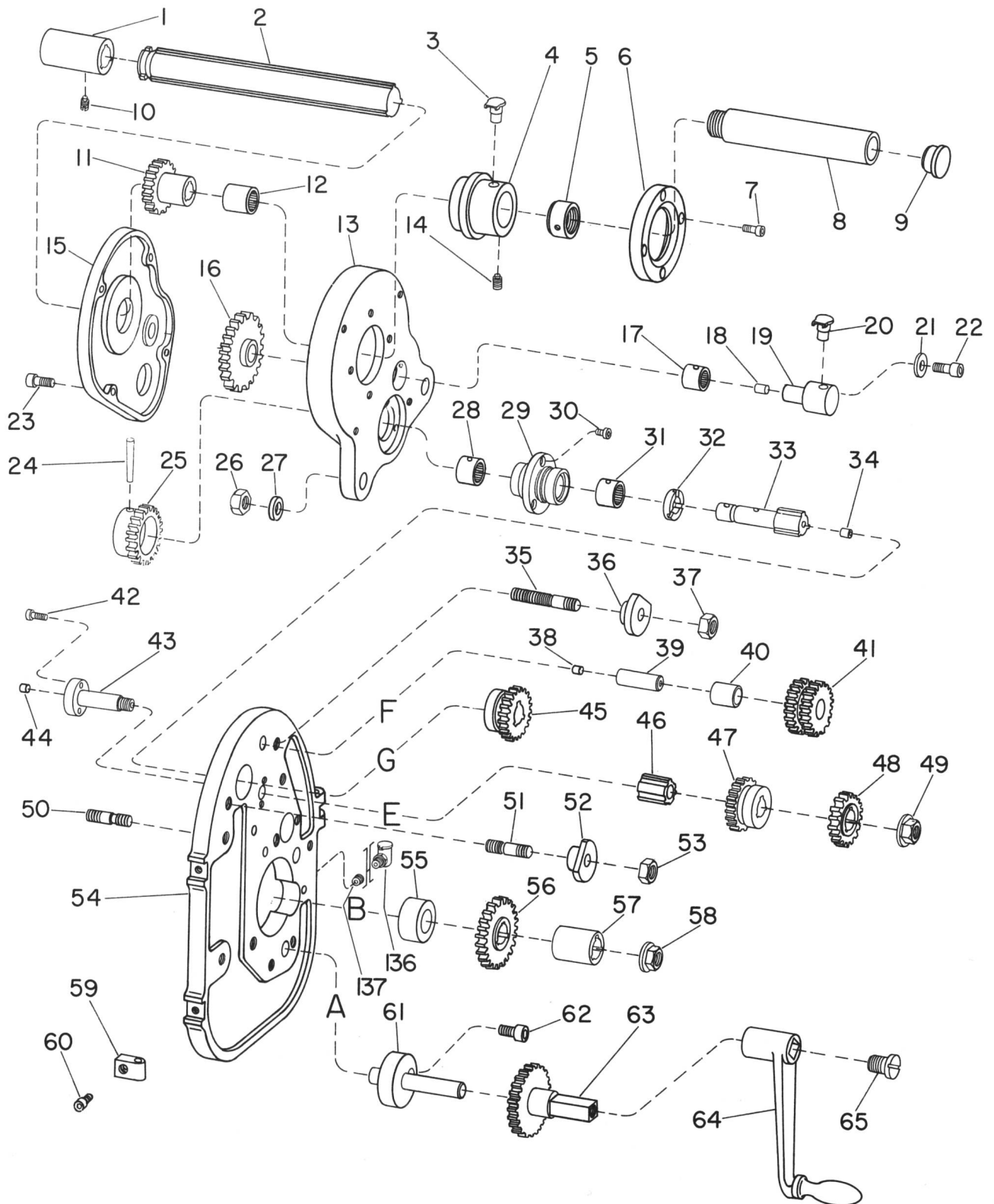
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Drive Mechanism—Unit CVA

10", 12" AND 14" UNIVERSAL DIVIDING HEADS (STANDARD AND WIDE RANGE)
 1/8 to 100 and 2 1/2 to 100 Leads

KEY NO.	PART NO.	PART NAME	AMT. USED	KEY NO.	PART NO.	PART NAME	AMT. USED
CVA-16		Gear - Intermediate		CVA-19		Stud - Intermediate	
	150248	10" Dividing Head			150382	10" Dividing Head	
		203-10ML 205-12 & 307-12 M1				203-10ML 205-12 & 307-12M1	
		205-12 Cinel-60 & Cinpak-45				205-12 Cinel-60 & Cinpak-45	
		205-12 & 307-14 Cinova-80				205-12 & 307-14 Cinova-80	
		210-12 310-12 Dial Type				210-12 310-12 Dial Type	
		307-14 410-14M1				307-14 410-14 M1	
		315-15 415-15 420-16 520-16				315-15 415-15 420-16 520-16	
		Dial Type	1			Dial Type	1
	79759	12" Dividing Head			105181	12" Dividing Head	
		203-10ML 205-12 & 302-12M1				203-10ML 205-12 & 307-12M1	
		205-12 Cinel-60 & Cinpak-45				205-12 Cinel-60 & Cinpak-45	
		205-12 & 307-14 Cinova-80				205-12 & 307-14 Cinova-80	
		210-12 310-12 Dial Type . . .	1			210-12 310-12 Dial Type . . .	1
	79760	307-14 410-14 M1			105181	12" & 14" Dividing Head	
		315-15 415-15 420-16 520-16				307-14 410-14M1	
		Dial Type	1			315-15 415-15 420-16 520-16	
	105214	215-16 220-16 315-16 320-16				Dial Type	
		320-18 330-18 420-18 430-18				215-16 220-16 315-16 320-16	
		Dual & HP				320-18 330-18 420-18 430-18	
		320-18 330-18 420-18 430-18				Dual & HP	
		Verci Power	1			320-18 330-18 420-18 430-18	
	122116	520-20 540-20 620-20 640-20				Verci Power	
		Dial Type				520-20 540-20 620-20 640-20	
		425-20 450-20 525-20 550-20				Dial Type	
		625-20 650-20 Dual & HP				425-20 450-20 525-20 550-20	
		425-20 450-20 525-20 550-20				625-20 650-20 Dual & HP	
		625-20 650-20 725-20 750-20				425-20 450-20 525-20 550-20	
		Verci Power	1			625-20 650-20 725-20 750-20	
		14" Dividing Head				Verci Power	1
	105214	307-14 410-14M1		CVA-20	44980	Oilier	1
		315-15 415-15 420-16 520-16		CVA-21	936	Washer	1
		Dial Type	1	CVA-22	3218	Screw	1
	164551	215-16 220-16 315-16 320-16		CVA-23		Screw	
		320-18 330-18 420-18 430-18			3396	10" & 12" Dividing Heads	
		Dual & HP				203-10ML 205-12 & 307-12M1	
		320-18 330-18 420-18 430-18				205-12 Cinel-60 & Cinpak-45	
		Verci Power	1			205-12 & 307-14 Cinova-80	
		520-20 540-20 620-20 640-20				210-12 310-12 Dial Type	
	164553	Dial Type				307-14 410-14M1	
		425-20 450-20 525-20 550-20				315-15 415-15 420-16 520-16	
		625-20 650-20 Dual & HP				Dial Type	3
		425-20 450-20 525-20 550-20			3396	14" Dividing Head	
		625-20 650-20 725-20 750-20				307-14 410-14M1	
		Verci Power	1			315-15 415-15 420-16 520-16	
		Bearing - Needle	1			Dial Type	4
CVA-17	79761	Plug	1		3396	12" & 14" Dividing Heads	
CVA-18	1844					All Dual & HP	
						All Verci Power	
						520-20 540-20 620-20 640-20	
						Dial Type	4

DRIVE MECHANISM - DIVIDING HEAD



A-17360

121 NNN
120 NNN

Drive Mechanism—Unit CVA

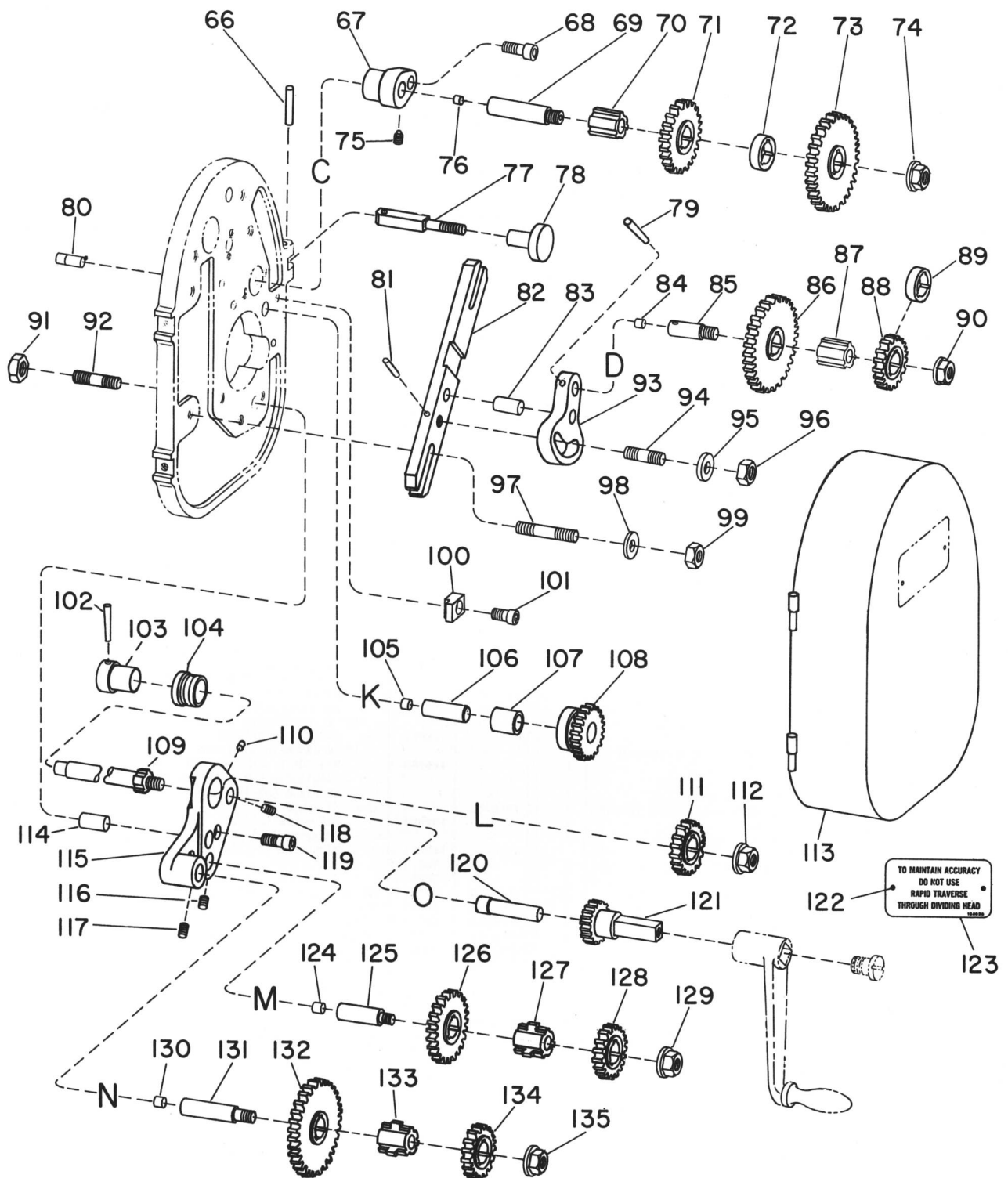
10", 12" AND 14" UNIVERSAL DIVIDING HEADS (STANDARD AND WIDE RANGE)

1/8 to 100 and 2 1/2 to 100 Leads

KEY NO.	PART NO.	PART NAME	AMT. USED	KEY NO.	PART NO.	PART NAME	AMT. USED
CVA-24	645	Pin	1		78338	Gear - Change 55T	1
CVA-25	164585	Gear - Drive 27T	1		78339	Gear - Change 60T	1
CVA-26	3474	Nut	2		103351	Gear - Change 17T	1
CVA-27	3442	Washer	2	CVA-49	76639	Nut	1
CVA-28	79762	Bearing - Needle	1	CVA-50	71740	Stud - Plate	1
CVA-29	105038	Bush - Flange	1	CVA-51	71740	Stud - Plate	1
CVA-30	3202	Screw	3	CVA-52	76454	Retainer - Reversing Gear	1
CVA-31	79762	Bearing - Needle	1	CVA-53	3474	Nut	1
CVA-32	79765	Washer	1	CVA-54	116530	Plate	1
CVA-33	164584	Shaft - Reverse	1	CVA-55		Collar-Spacer Lead Screw	
CVA-34	2237	Bush	1			10", 12" & 14" Dividing Heads	
CVA-35	79929	Stud-Plate	1		77550	All Dial Type	
CVA-36	76454	Retainer-Reversing Gear	1			205-12 Cinel-60 & Cinpak-45	
CVA-37	3474	Nut	1			All Dual & HP	
CVA-38	2245	Plug	1			All Vercl Power	1
CVA-39	76451	Stud-Idler Gear	1			12" & 14" Dividing Heads	
CVA-40	76452	Bush - Idler Gear	1		136461	307-14 & 410-14 M1	
CVA-41	132100	Gear-Idler (Remove for R. H. Thread)	1		166388	10" & 12" Dividing Heads	
CVA-42	3218	Screw	2			203-10ML 205-12 & 307-12 M1	
CVA-43	76445	Stud - Plate	1			205-12 Cinel-60 & Cinpak-45	
CVA-44	2245	Plug	1			205-12 & 307-14 Cinova-80	1
CVA-45	132099	Gear-Reverse (Reverse for R. H. Thread)	1	CVA-56		Gear - Change	
CVA-46	76444	Bush - Plate Stud	1		132094	34T - 12P (1/8-100, 2-1/2-100	
CVA-47	132099	Gear - Reverse	1			Standard)	1
CVA-48		Gear - Change			188637	33T - 10P (2-1/2-150)	1
	78323	Gear - Change 18T	1		78339*	60T - 12P	1
	78324	Gear - Change 19T	1		76487*	19T - 10P	1
	78325	Gear - Change 20T	1	CVA-57	76511	Collar - Lead Screw	1
	78326	Gear - Change 21T	1	CVA-58	76639	Nut	1
	78327	Gear - Change 22T	1	CVA-59	76510	Block - Hinge	2
	78328	Gear - Change 24T	2	CVA-60	3218	Screw	2
	78329	Gear - Change 27T	1	CVA-61	76448	Stud - Crank	1
	78330	Gear - Change 30T	1	CVA-62	3399	Screw	1
	78331	Gear - Change 33T	1	CVA-63		Gear - Crank	
	78332	Gear - Change 36T	1		76450	1/8-100, 2-1/2-100	1
	78333	Gear - Change 39T	1		188638	2-1/2-500	1
	78334	Gear - Change 42T	1	CVA-64	3565	Crank	1
	78335	Gear - Change 45T	1	CVA-65	76449	Screw - Crank Gear	1
	78336	Gear - Change 48T	1	CVA-136	228994	Oiler (1/8-100 Lead Only)	1
	78337	Gear - Change 51T	1	CVA-137	76644	Plug - Pipe (2-1/2-100, 2-1/2-150)	1

* For 1/8" to 100" Lead, on Machines 203-10ML, 205-12M1, 307-12 M1, 205-12 Cinel-60, 205-12 Cinpak-45, 205-12 Cinova-80 and 307-14 Cinova-80.

DRIVE MECHANISM - DIVIDING HEAD



CINCINNATI UNIVERSAL DIVIDING HEADS AND ACCESSORIES

This document was scanned in an effort to preserve and spread the knowledge contained within. It is not meant to be resold individually or within a collection of documents.

Drive Mechanism—Unit CVA

10", 12" AND 14" UNIVERSAL DIVIDING HEADS (STANDARD AND WIDE RANGE) 1/8 to 100 and 2 1/2 to 100 Leads

KEY NO.	PART NO.	PART NAME	AMT. USED	KEY NO.	PART NO.	PART NAME	AMT. USED
CVA-66	3544	Pin	1	CVA-104	116700*	Bush - Bracket	1
CVA-67	77172	Bracket - Stud.	1	CVA-105	2245*	Plug	1
CVA-68	3399	Screw	1	CVA-106	76451*	Stud - Idler Gear	1
CVA-69	76491	Stud - Bracket	1	CVA-107	76452*	Bush - Idler Gear	1
CVA-70	76446	Bush - Bracket Stud	1	CVA-108	76489*	Gear - Idler	1
CVA-71		Gear - Change		CVA-109		Shaft - Drive	
	132094	34T - 12P (1/8-100, 2-1/2-100 Standard)	1		160377*	203-10ML 205-12M1	
	188639	22T - 10P (2-1/2-150)	1			205-12 Cinel-60 & Cinpak-45	
	76487*	19T - 10P	1			28" Table Travel	1
CVA-72	75343	Spacer - Change Gear	1		189996*	205-12 Cinova-80 28" Table Travel	1
CVA-73	---	Gear - Change (See Item 48)	1		189997*	307-14 Cinova-80 28" Table Travel	1
CVA-74	76639	Nut	1		160380*	203-10ML on Demand	
CVA-75	1786	Screw	1			34" Table Travel	1
CVA-76	1844	Plug	1	CVA-110	1844*	Plug	1
CVA-77	76443	Bolt - Hinge	1	CVA-111	76487*	Gear - Change 19T - 10P	1
CVA-78	75372	Knob - Hinge Bolt	1	CVA-112	76639*	Nut	1
CVA-79	143	Pin	1	CVA-113	116529	Cover	1
CVA-80	1664	Pin	1	CVA-114	75944*	Pin	1
CVA-81	225133	Pin	1	CVA-115	116548*	Bracket	1
CVA-82	77177	Bar - Sliding Change Gear	1	CVA-116	1786*	Screw	1
CVA-83	75944	Pin - Link	1	CVA-117	1879*	Screw	1
CVA-84	1844	Plug	1	CVA-118	1879*	Screw	1
CVA-85	75344	Stud - Change Gear	1	CVA-119	3399*	Screw	2
CVA-86	---	Gear - Change (See Item 48)	1	CVA-120	76486*	Stud - Crank Gear	1
CVA-87	75345	Bush - Change Gear	1	CVA-121	76440*	Gear - Crank	1
CVA-88	---	Gear - Change (See Item 48)	1	CVA-122	2366	Screw	2
CVA-89	75343	Spacer - Change Gear	1	CVA-123	158026	Plate - Caution	1
CVA-90	76639	Nut	1	CVA-124	1962*	Plug	1
CVA-91	3474	Nut	2	CVA-125	76485*	Stud - Change Gear	1
CVA-92	71740	Stud - Plate	2	CVA-126	76488*	Gear - Change 38T - 10P	1
CVA-93	77176	Link - Change Gear	1	CVA-127	76441*	Bush - Change Gear	1
CVA-94	85488	Stud	1	CVA-128	103351*	Gear	1
CVA-95	3442	Washer	1	CVA-129	76639*	Nut	1
CVA-96	3474	Nut	1	CVA-130	1844*	Plug	1
CVA-97	71740	Stud - Plate	2	CVA-131	76491*	Stud - Bracket	1
CVA-98	3442	Washer	2	CVA-132	78337*	Gear - Change 51T - 12P	1
CVA-99	3474	Nut	2	CVA-133	76442*	Bush - Change Gear	1
CVA-100	76490*	Block - Gear Retainer	1	CVA-134	78323*	Gear - Change 18T - 12P	1
CVA-101	3399*	Screw	1	CVA-135	76639*	Nut	1
CVA-102	143*	Pin	1	--	75377	Box - Storage Change Gears	1
CVA-103	116701*	Spacer - Spline Shaft	1				

* For 1/8" to 100" Lead, on Machines 203-10ML, 205-12M1, 307-12M1, 205-12 Cinel-60, 205-12 Cinpak-45, 205-12 Cinova-80 and 307-14 Cinova-80.



Drive Mechanism—Unit CWA

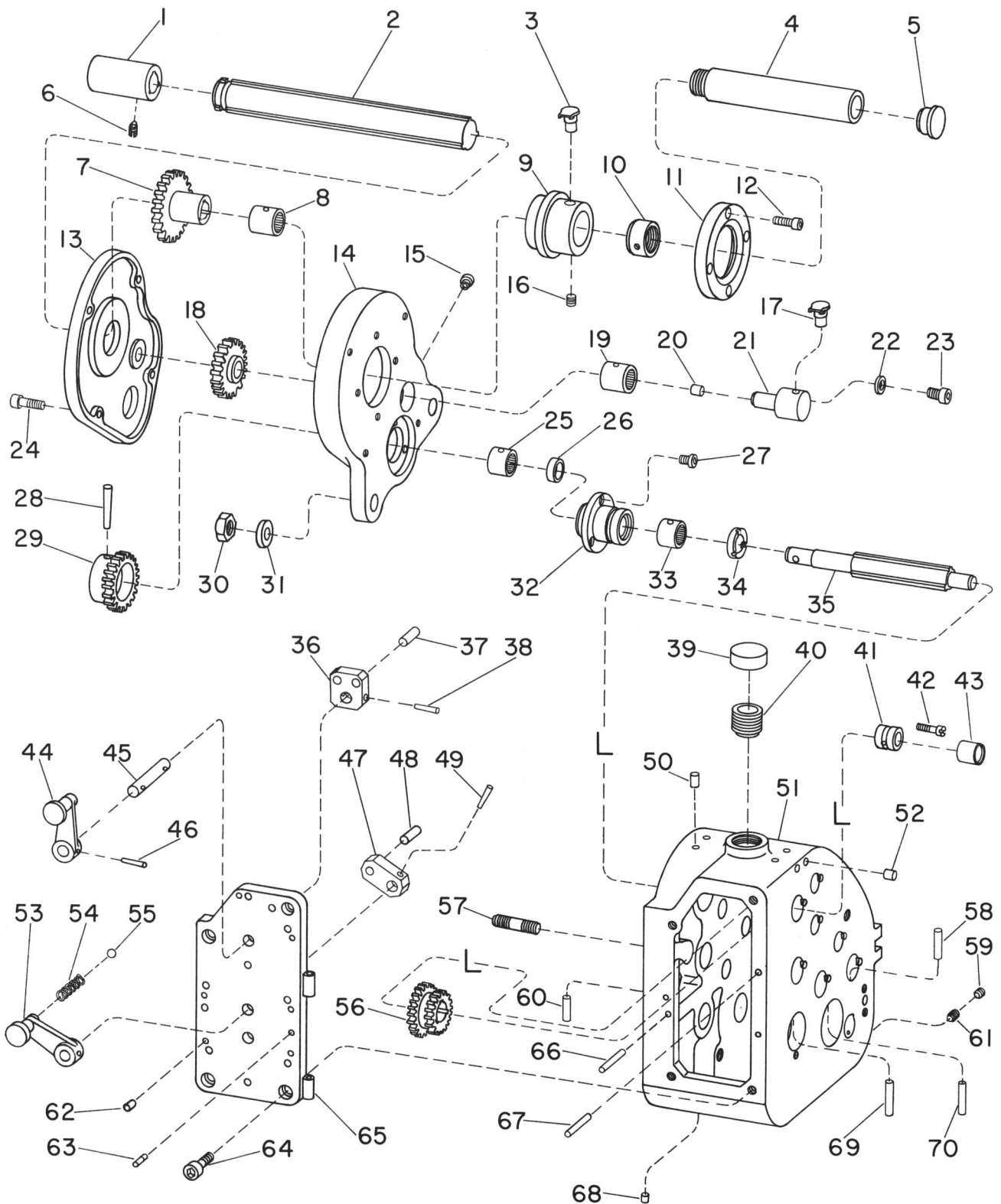
for

10", 12" AND 14" UNIVERSAL DIVIDING HEADS (STANDARD AND WIDE RANGE)

.010 to 1000 and .025 to 3000 Leads

KEY NO.	PART NO.	PART NAME	AMT. USED	KEY NO.	PART NO.	PART NAME	AMT. USED
CWA-1	79350	Coupling-Spline Shaft	1	CWA-6	1879	Screw	2
CWA-2		Shaft-Spline Extension		CWA-7		Gear-Mitre Gear Shaft	
	122215	10" & 12" Dividing Heads			152547	10" & 12" Dividing Heads	
		203-10ML 205-12 307-12				(.010 to 1000 Lead)	
		307-14 & 410-14 M1				203-10ML 205-12 & 307-12 M1	
		205-12 Cinel-60 & Cinpak-45				210-12 & 310-12 Dial Type	
		205-12 & 307-14 Cinova-80	1			205-12 Cinel-60 & Cinpak-45	
		10" Dividing Head				205-12 & 307-14 Cinova-80	1
	122215	210-12 & 310-12 Dial Type	1			10" Dividing Heads	
		12" & 14" Dividing Heads			152547	(.010 to 1000 Lead)	
	122215	210-12 310-12 315-15 415-15				307-14 410-14 M1	1
		Dial Type	1			12" & 14" Dividing Heads	
		12" & 14" Dividing Heads			152547	(.010 to 1000 Lead)	
	122115	420-16 520-16 Dial Type				307-14 410-M1	
		215-16 220-16 315-16 320-16				315-15 415-15 420-16 520-16	
		320-18 330-18 420-18 430-18				520-20 Dial Type	
		Dual & HP	1			All Dual & HP	
		12" & 14" Dividing Heads				10" Dividing Head	
	176574	520-20 Dial Type	1			(.010 to 1000 Lead)	
		12" & 14" Dividing Heads			160357	203-10 ML 205-12 & 307-12M1	
	167574	425-20 450-20 525-20 550-20				All Dial Type	
		Dual & HP	1			307-14 & 410-14 M1	
CWA-3	44980	Oiler	1			205-12 Cinel-60 & Cinpak-45	
CWA-4		Shield				205-12 & 307-14 Cinova-80	1
		10" & 12" Dividing Heads				12" Dividing Head	
	190708	203-10ML 205-12 307-12				(.025 to 3000 Lead)	
		307-14 & 410-14M1			160358	203-10ML 205-12 & 307-12 M1	
		205-12 Cinel-60 & Cinpak-45				210-12 310-12 Dial Type	
		205-12 & 307-14 Cinova-80	1			307-14 & 410-14 M1	
		10" Dividing Head				205-12 Cinel-60 & Cinpak-45	
	190708	210-12 & 310-12 Dial Type	1			205-12 & 307-14 Cinova-80	1
		12" & 14" Dividing Heads				12" & 14" Dividing Head	
	190708	210-12 310-12 315-15 415-15			160358	(.025 to 3000 Lead)	
		Dial Type	1			315-15 415-15 420-16 520-16	
		12" & 14" Dividing Heads				520-20 Dial Type	
	190707	420-20 & 520-20 Dial Type				All Dual & HP	1
		215-16 220-16 315-16 320-16		CWA-8	79763	Bearing - Needle	1
		320-18 330-18 420-18 430-18		CWA-9		Housing - Gear	
		Dual & HP	1		105178	All ML-M1 - Dial & Dual & HP	1
		12" & 14" Dividing Heads				Plug - Tubing Adapter	
	190712	520-20 Dial Type	1	CWA-10	105198	All ML-M1 - Dial - Dual & HP	1
		12" & 14" Dividing Heads				Clamp - Gear Housing	
	190711	425-20 450-20 525-20 550-20		CWA-11	105179	All ML-M1 - Dial - Dual & HP	1
		Dual & HP	1	CWA-12	3396	Screw	4
CWA-5		Plug In Shield					
	190709	All ML - M1 Dial & Dual	1				

DRIVE MECHANISM - DIVIDING HEAD



Drive Mechanism—Unit CWA

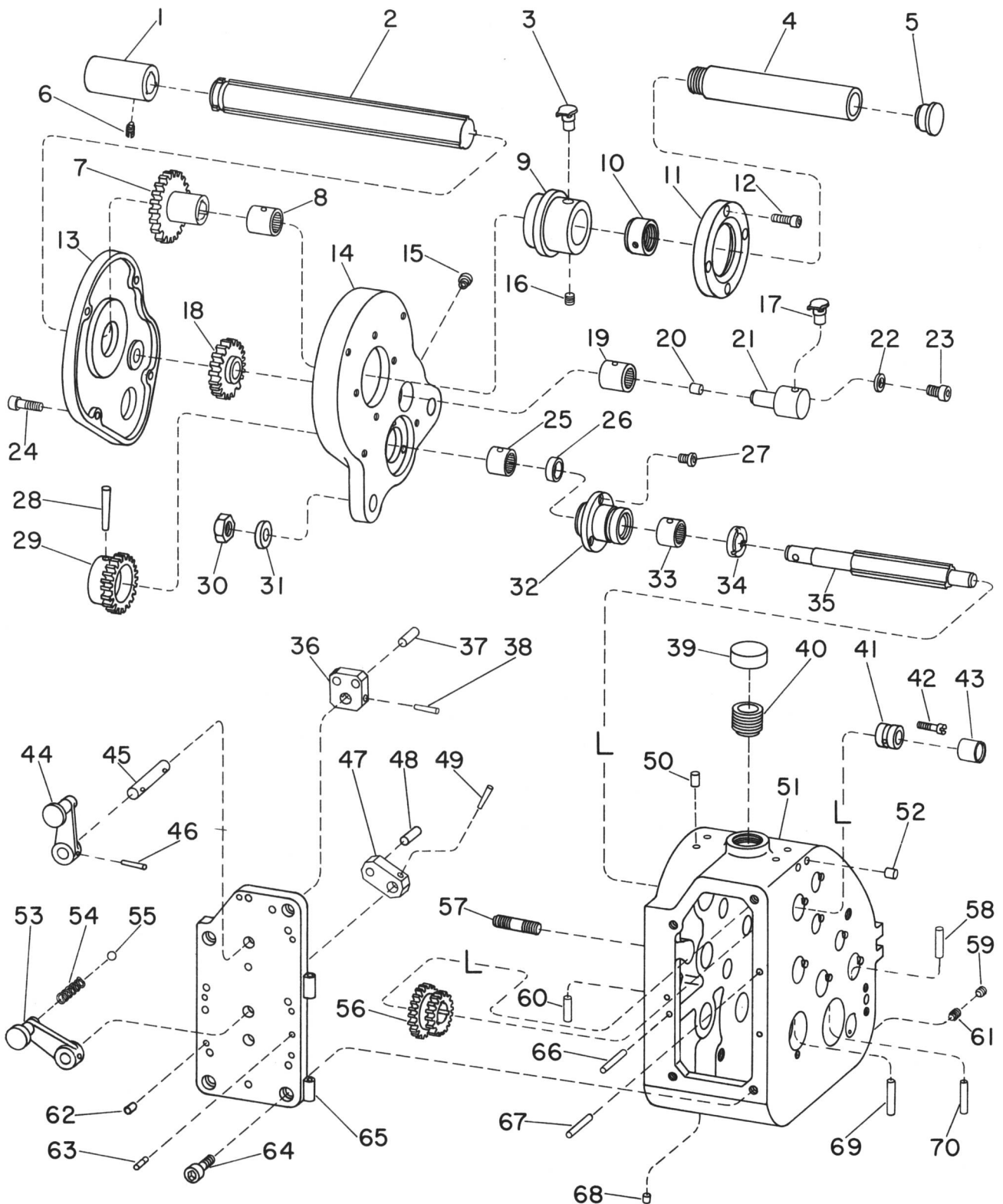
for

10", 12" AND 14" UNIVERSAL DIVIDING HEADS (STANDARD AND WIDE RANGE)

.010 to 1000 and .025 to 3000 Leads

KEY NO.	PART NO.	PART NAME	AMT. USED	KEY NO.	PART NO.	PART NAME	AMT. USED
CWA-13		Cover - Idler Segment		CWA-13		10" Dividing Head	
	164871	10" Dividing Head (.010 to 1000 Lead) 203-10ML 205-12 & 307-12M1 210-12 310-12 Dial Type 235-12 Cinel-60 & Cinpak-45 205-12 & 307-14 Cinova-80	1		160364	(.025 to 3000 Lead) 203-10ML 205-12 & 307-12M1 210-12 310-12 Dial Type 235-12 Cinel-60 & Cinpak-45 205-12 & 307-14 Cinova-80	1
	164541	10" Dividing Head (.010 to 1000 Lead) 307-14 410-14M1	1		158031	10" Dividing Head (.025 to 3000 Lead) 307-14 410-14M1 315-15 415-15 420-16 520-16 Dial Type	1
	164984	12" Dividing Head (.010 to 1000 Lead) 203-10ML 205-12 307-12M1 210-12 310-12 Dial Type 235-12 Cinel-60 & Cinpak-45 205-12 & 307-14 Cinova-80	1		160361	12" Dividing Head (.025 to 3000 Lead) 203-10ML 205-12 307-12M1 210-12 310-12 Dial Type 235-12 Cinel-60 & Cinpak-45 205-12 & 307-14 Cinova-80	
	165001	12" Dividing Head (.010 to 1000 Lead) 307-14 410-14M1 315-15 415-15 420-16 520-16 Dial Type	1		160372	12" Dividing Head (.025 to 3000 Lead) 307-14 410-14M1 315-15 415-15 420-16 520-16 Dial Type	1
	160388	12" Dividing Head (.010 to 1000 Lead) 215-16 220-16 315-16 320-16 320-18 330-18 420-18 430-18 Dual & HP	1		163079	12" Dividing Head (.025 to 3000 Lead) 215-16 220-16 315-16 320-16 320-18 330-18 420-18 430-18 Dual & HP	1
	165135	12" Dividing Head (.010 to 1000 Lead) 520-20 Dial Type 425-20 450-20 525-20 550-20 Dual & HP	1		163240	12" Dividing Head (.025 to 3000 Lead) 520-20 Dial Type 425-20 450-20 525-20 550-20 Dual & HP	1
	165385	14" Dividing Head (.010 to 1000 Lead) 307-14 410-14M1 315-15 415-15 420-16 520-16 Dial Type	1		160374	14" Dividing Head (.025 to 3000 Lead) 315-15 415-15 420-16 520-16 Dial Type	1
	165131	14" Dividing Head (.010 to 1000 Lead) 215-16 220-16 315-16 320-16 320-18 330-18 420-18 430-18 Dual & HP	1		163238	14" Dividing Head (.025 to 3000 Lead) 215-16 220-16 315-16 320-16 320-18 330-18 420-18 430-18 Dual & HP	1
	163246	14" Dividing Head (.010 to 1000 Lead) 520-20 Dial Type 425-20 450-20 525-20 550-20 Dual & HP	1		163244	14" Dividing Head (.025 to 3000 Lead) 520-20 Dial Type 425-20 450-20 525-20 550-20 Dual & HP	1

DRIVE MECHANISM - DIVIDING HEAD



Drive Mechanism—Unit CWA

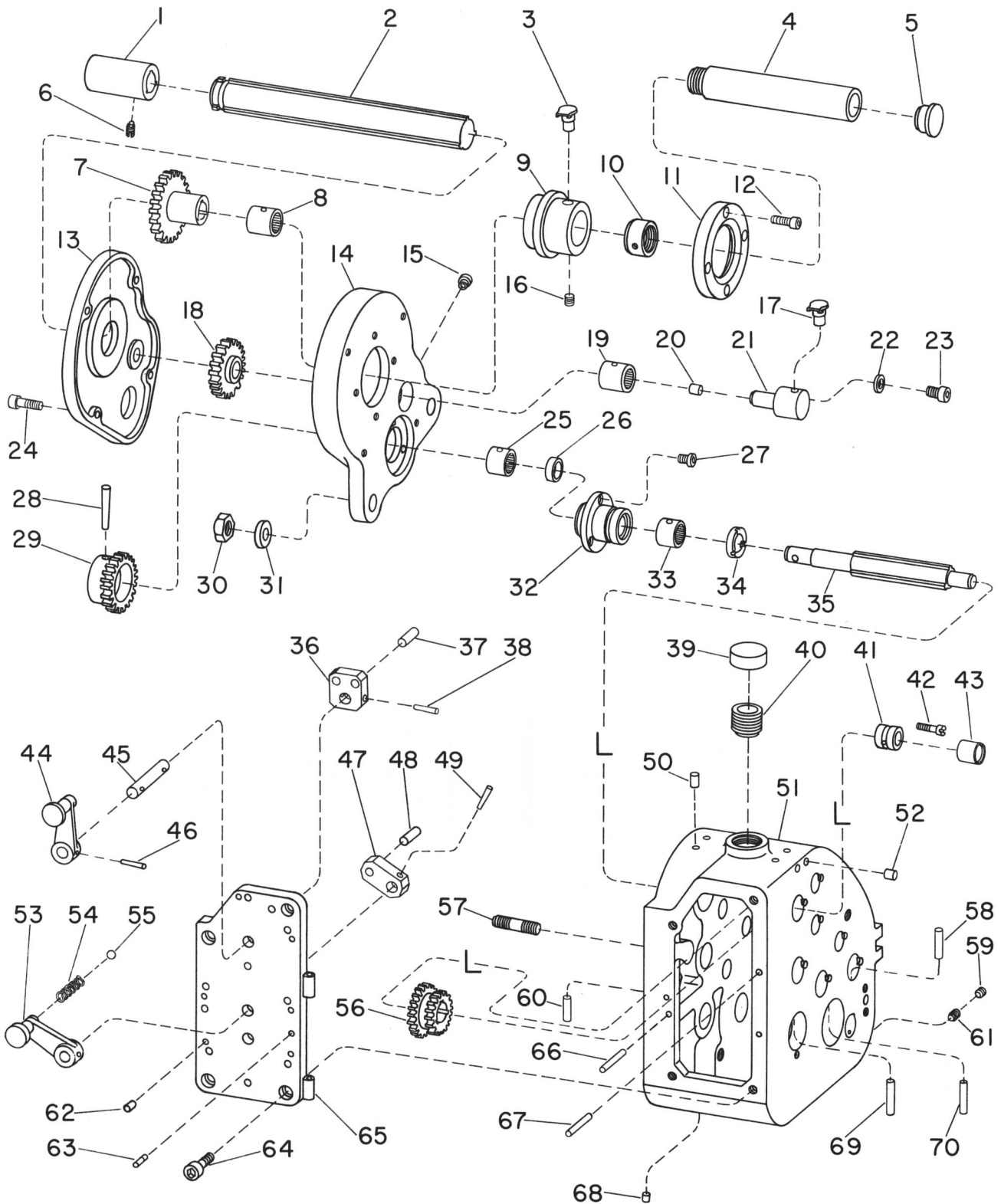
for

10", 12" AND 14" UNIVERSAL DIVIDING HEADS (STANDARD AND WIDE RANGE)

.010 to 1000 and .025 to 3000 Leads

KEY NO.	PART NO.	PART NAME	AMT. USED	KEY NO.	PART NO.	PART NAME	AMT. USED
CWA-14		Segment - Idler		CWA-14		10" Dividing Head (.025 to 3000 Lead)	
	150387	10" Dividing Head (.010 to 1000 Lead) 203-10ML 205-12 & 307-12M1 210-12 & 310-12 Dial Type 205-12 Cinel-60 & Cinpak-45 205-12 & 307-14 Cinova-80 . . .	1		162784	307-14 410-14M1 315-15 415-15 420-16 520-16 Dial Type	1
	158030	10" Dividing Head (.010 to 1000 Lead) 307-14 410-14 M1	1		160360	12" Dividing Head (.025 to 3000 Lead) 203-10ML 205-12 307-12M1 210-12 310-12 Dial Type 205-12 Cinel-60 & Cinpak-45 205-12 & 307-14 Cinova-80 . .	1
	150393	12" Dividing Head (.010 to 1000 Lead) 203-10ML 205-12 307-12M1 210-12 310-12 Dial Type 205-12 Cinel-60 & Cinpak-45 205-12 & 307-14 Cinova-80 . . .	1		160371	12" Dividing Head (.025 to 3000 Lead) 307-14 410-14 M1 315-15 415-15 420-16 520-16 Dial Type	1
	150395	12" Dividing Head (.010 to 1000 Lead) 307-14 410-14M1 315-15 415-15 420-16 520-16 Dial Type	1			12" Dividing Head (.025 to 3000 Lead) 215-16 220-16 315-16 320-16 320-18 330-18 420-18 430-18 Dual & HP	1
	159851	12" Dividing Head (.010 to 1000 Lead) 215-16 220-16 315-16 320-16 320-18 330-18 420-18 430-18 Dual & HP	1		163239	12" Dividing Head (.025 to 3000 Lead) 520-20 Dial Type 425-20 450-20 525-20 550-20 Dual & HP	1
	163241	12" Dividing Head (.010 to 1000 Lead) 520-20 Dial Type 425-20 450-20 525-20 550-20 Dual & HP	1		160373	14" Dividing Head (.025 to 3000 Lead) 315-15 415-15 420-16 520-16 Dial Type	1
	150828	14" Dividing Head (.010 to 1000 Lead) 307-14 410-14M1 315-15 415-15 420-16 520-16 Dial Type	1		163237	14" Dividing Head (.025 to 3000 Lead) 215-16 220-16 315-16 320-16 320-18 330-18 420-18 430-18 Dual & HP	1
	163235	14" Dividing Head (.010 to 1000 Lead) 215-16 220-16 315-16 320-16 320-18 330-18 420-18 430-18 Dual & HP	1		163243	14" Dividing Head (.025 to 3000 Lead) 520-20 Dial Type 425-20 450-20 525-20 550-20 Dual & HP	1
	163245	14" Dividing Head (.010 to 1000 Lead) 520-20 Dial Type 425-20 450-20 525-20 550-20 Dual & HP	1	CWA-15	44980	Oiler (Used on Idler Segment Housing #160373, #162784 & #163080). .	1
	160363	10" Dividing Head (.025 to 3000 Lead) 203-10ML 205-12 307-12M1 210-12 310-12 Dial Type 205-12 Cinel-60 & Cinpak-45 205-12 & 307-14 Cinova-80 . . .	1	CWA-16	1879	Screw All ML-M1 Dial - Dual & HP . . .	1
				CWA-17	44980	Oiler (Used on Idler Segment Housing #150382, #105181 & #160370). .	1

DRIVE MECHANISM - DIVIDING HEAD



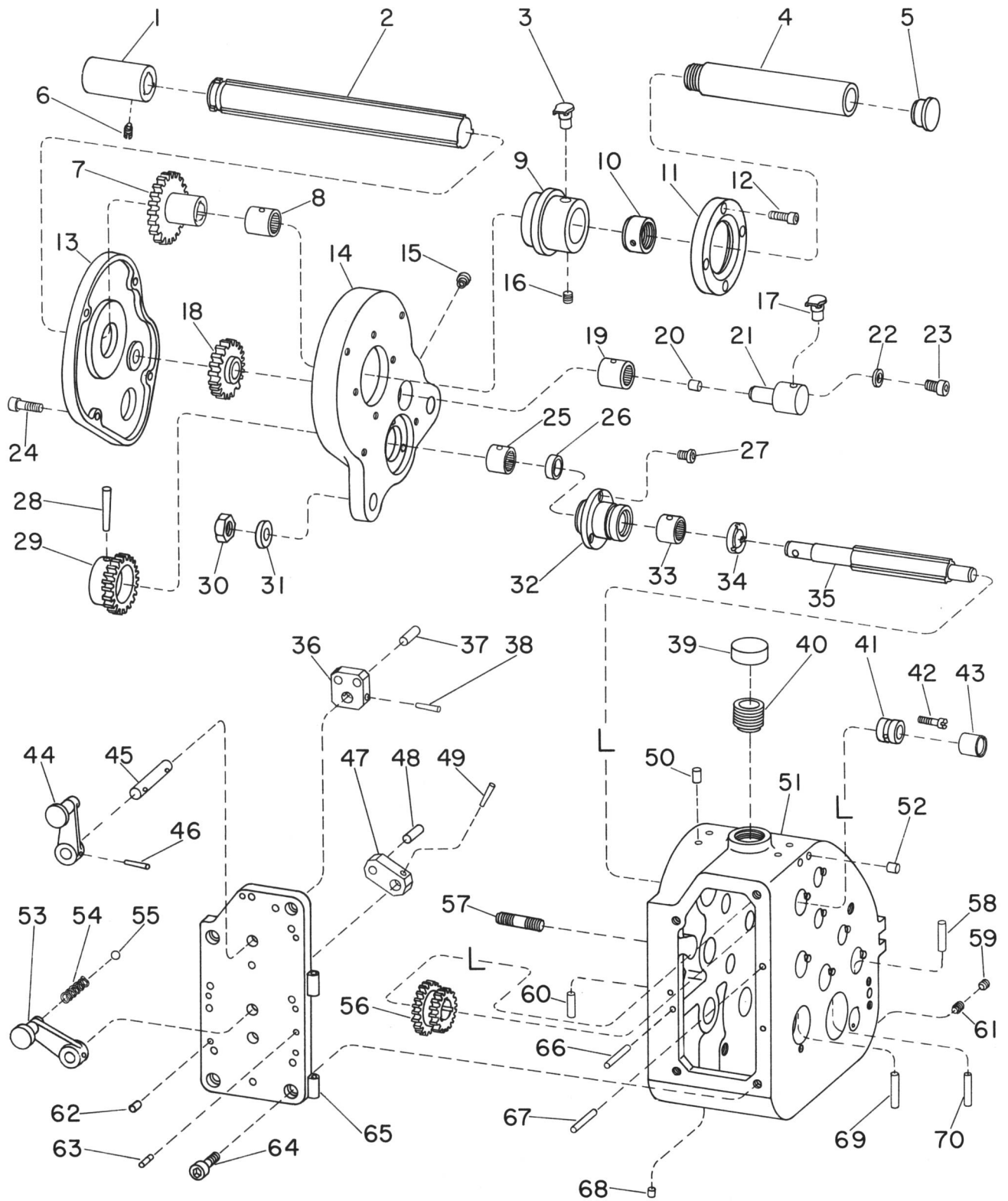
Drive Mechanism—Unit CWA

for

10", 12" AND 14" UNIVERSAL DIVIDING HEADS (STANDARD AND WIDE RANGE)
.010 to 1000 and .025 to 3000 Leads

KEY NO.	PART NO.	PART NAME	AMT. USED	KEY NO.	PART NO.	PART NAME	AMT. USED
CWA-18		Gear - Intermediate		CWA-19	79761	Bearing - Needle	1
		10" Dividing Head		CWA-20	1844	Plug	1
	150248	(.010 to 1000 Lead)		CWA-21		Stud - Intermediate	
		203-10ML 205-12 307-12M1				10" Dividing Head	
		210-12 310-12 Dial Type				(.010 to 1000 Lead)	
		205-12 Cinel-60 & Cinpak-45		150382		203-10ML 205-12 307-12M1	
		205-12 & 307-14 Cinova-80				210-12 310-12 Dial Type	
		307-14 410-14M1	1			307-14 410-14M1	
		12" Dividing Head				205-12 Cinel-60 & Cinpak-45	
	79759	(.010 to 1000 Lead)				205-12 & 307-14 Cinova-80 . . .	1
		203-10ML 205-12 307-12M1				12" Dividing Head	
		210-12 310-12 Dial Type				(.010 to 1000 Lead)	
		205-12 Cinel-60 & Cinpak-45		105181		203-10ML 205-12 307-12M1	
		205-12 & 307-14 Cinova-80 . . .	1			210-12 310-12 Dial Type	
		12" Dividing Head				205-12 Cinel-60 & Cinpak-45	
	79760	(.010 to 1000 Lead)				205-12 & 307-14 Cinova-80 . . .	1
		307-14 410-14M1				12" & 14" Dividing Head	
		315-15 415-15 420-16 520-16				(.010 to 1000 Lead)	
		Dial Type	1	105181		307-14 410-14M1	
		12" Dividing Head				315-15 415-15 420-16 520-16	
		(.010 to 1000 Lead)				Dial Type	
	105214	520-20 Dial Type				All Dual & HP	
		All Dual & HP	1			520-20 Dial Type	1
		14" Dividing Head				10" & 12" Dividing Head	
	105214	(.010 to 1000 Lead)				(.025 to 3000 Lead)	
		307-14 410-14M1		160369		203-10ML 205-12 307-12M1	
		315-15 415-15 420-16 520-16				210-12 310-12 Dial Type	
		Dial Type	1			205-12 Cinel-60 & Cinpak-45	
		14" Dividing Head				205-12 & 307-14 Cinova-80 . . .	1
	164551	(.010 to 1000 Lead)				10" Dividing Head	
		215-16 220-16 315-16 320-16				(.025 to 3000 Lead)	
		320-18 330-18 420-18 430-18		160369		307-14 410-14M1	
		Dual & HP	1			315-15 415-15 420-16 520-16	
		14" Dividing Head				Dial Type	1
	164553	(.010 to 1000 Lead)				12" Dividing Head	
		520-20 Dial Type				(.025 to 3000 Lead)	
		425-20 450-20 525-20 550-20		160370		307-14 410-14M1	
		Dual & HP	1			315-15 415-15 420-16 520-16	
		10" Dividing Head				Dial Type	
	160359	(.025 to 3000 Lead)				All Dual & HP	
		203-10ML 205-12 307-12 M1				520-20 Dial Type	1
		All Dial Type				14" Dividing Head	
		307-14 410-14M1				(.025 to 3000 Lead)	
		205-12 Cinel-60 & Cinpak-45		160370		315-15 415-15 420-16 520-16	
		205-12 & 307-14 Cinova-80 . . .	1			Dial Type	1
		12" Dividing Head				14" Dividing Head	
	150248	(.025 to 3000 Lead)		105181		All Dual & HP	
		203-10ML 205-12 307-12 M1				520-20 Dial Type	1
		All Dial Type				Washer	1
		All Dual & HP		CWA-22	936	Screw	1
		307-14 410-14M1		CWA-23	3218	Screw	
		520-20 Dial Type		CWA-24			
		205-12 Cinel-60 & Cinpak-45		3396		(For Covers #164871, #164541,	
		205-12 & 307-14 Cinova-80 . . .	1			#164984 and #165001).	3
		14" Dividing Head		3396		(For Covers #160388, #165135,	
	150248	(.025 to 3000 Lead)				#160385, #165131, #163246,	
		315-15 415-15 420-16 520-16				#160364, and #158031).	4
		Dial Type	1	3396		(For Covers #160361, #160372,	
		14" Dividing Head				#163079, #163240, #160374,	
	164550	(.025 to 3000 Lead)				#163238, and #163244).	5
		215-16 220-16 315-16 320-16		CWA-25	79762	Bearing - Needle	1
		320-18 330-18 420-18 430-18		CWA-26	158839	Spacer - Bearing	1
		Dual & HP	1	CWA-27	3202	Screw	3
		14" Dividing Head					
	165136	(.025 to 3000 Lead)					
		520-20 Dial Type					
		425-20 450-20 525-20 550-20					
		Dual & HP	1				

DRIVE MECHANISM - DIVIDING HEAD



Drive Mechanism—Unit CWA

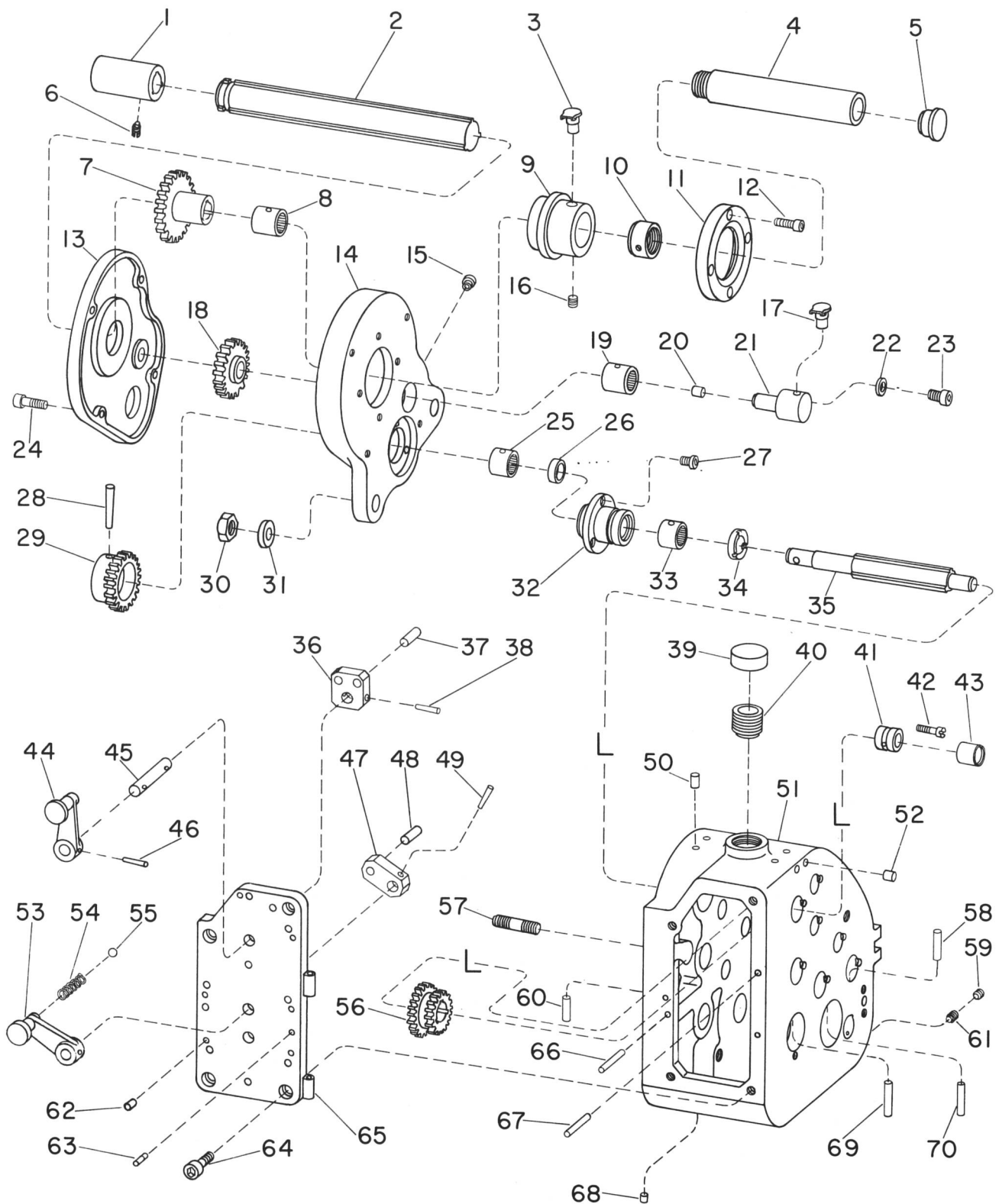
for

10", 12" AND 14" UNIVERSAL DIVIDING HEADS (STANDARD AND WIDE RANGE)

.010 to 1000 and .025 to 3000 Leads

KEY NO.	PART NO.	PART NAME	AMT. USED	KEY NO.	PART NO.	PART NAME	AMT. USED
CWA-28		Pin		CWA-29		Gear - Drive	
	645	10" & 12" Dividing Heads (.010 to 1000 Lead) 203-10ML 205-12 307-12 M1 210-12 310-12 Dial Type 205-12 Cinel-60 & Cinpak-45 205-12 & 307-14 Cinova-80 . . .	1		165947	10" & 12" Dividing Heads (.010 to 1000 Lead) 203-10ML 205-12 307-12 M1 210-12 310-12 Dial Type 205-12 Cinel-60 & Cinpak-45 205-12 & 307-14 Cinova-80 . . .	1
	645	10" Dividing Head (.010 to 1000 Lead) 307-14 410-14 M1			165947	10" Dividing Head (.010 to 1000 Lead) 307-14 410-14 M1	1
	645	12" & 14" Dividing Heads (.010 to 1000 Lead) 307-14 410-14 M1 315-15 415-15 420-16 520-16 Dial Type All Dual & HP 520-20 Dial Type	1		165947	12" & 14" Dividing Heads (.010 to 1000 Lead) 302-14 410-14 M1 315-15 415-15 420-16 520-16 Dial Type All Dual & HP 520-20 Dial Type	1
	3304	10" Dividing Head (.025 to 3000 Lead) 203-10ML 205-12 307-12 M1 307-14 410-14 M1 All Dial Type 205-12 Cinel-60 & Cinpak-45 205-12 & 307-14 Cinova-80 . . .	1		165970	10" Dividing Head (.025 to 3000 Lead) 203-10ML 205-12 307-12 M1 All Dial Type 307-14 410-14 M1 205-12 Cinel-60 & Cinpak-45 205-12 & 307-14 Cinova-80 . . .	1
	645	12" Dividing Head (.025 to 3000 Lead) 203-10ML 205-12 307-12 M1 210-12 310-12 Dial Type 307-14 410-14 M1 205-12 Cinel-60 & Cinpak-45 205-12 & 307-14 Cinova-80 . . .	1		165947	12" Dividing Head (.025 to 3000 Lead) 203-10ML 205-12 307-12 M1 210-12 310-12 Dial Type 307-14 410-14 M1 205-12 Cinel-60 & Cinpak-45 205-12 & 307-14 Cinova-80 . . .	1
	645	12" & 14" Dividing Head (.025 to 3000 Lead) 315-15 415-15 420-16 520-16 Dial Type All Dual & HP 520-20 Dial Type	1		165947	12" & 14" Dividing Heads (.025 to 3000 Lead) 315-15 415-15 420-16 520-16 Dial Type All Dual & HP 520-20 Dial Type	1

DRIVE MECHANISM - DIVIDING HEAD



Drive Mechanism—Unit CWA

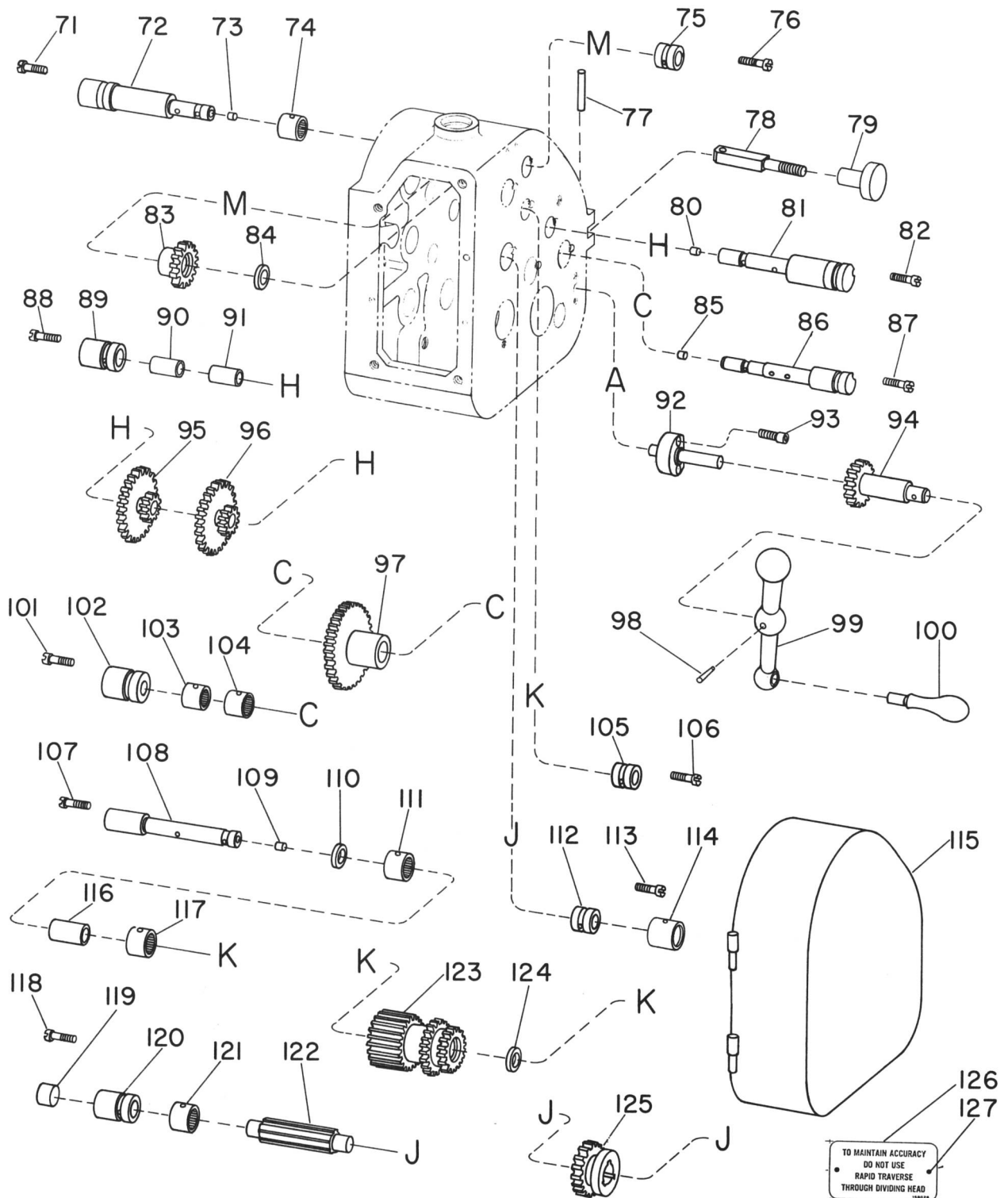
for

10", 12" AND 14" UNIVERSAL DIVIDING HEADS (STANDARD AND WIDE RANGE)

.010 to 1000 and .025 to 3000 Leads

KEY NO.	PART NO.	PART NAME	AMT. USED	KEY NO.	PART NO.	PART NAME	AMT. USED
CWA-30	3474	Nut	2	CWA-52	2245	Plug	2
CWA-31	3442	Washer	2	CWA-53	93440	Lever - Shifter	2
CWA-32	158838	Bush - Flange	1	CWA-54	262	Spring	3
CWA-33	797 62	Bearing - Needle	1	CWA-55	13665	Ball	3
CWA-34	79765	Washer	1	CWA-56	93449	Gear - Sliding 27T & 22T	1
CWA-35	165948	Shaft - 26T & 21T Gear	1	CWA-57	75386	Stud - Housing	2
CWA-36	75383	Shaft - Reverse	1	CWA-58	61418	Washer - Felt	1
CWA-37	3369	Pin	2	CWA-59	2333	Screw	1
CWA-38	143	Pin	1	CWA-60	61418	Washer - Felt	1
CWA-39	3986	Cap	1	CWA-61	3229	Screw	1
CWA-40	3912	Nipple	1	CWA-62	3636	Pin	6
CWA-41	93446	Bush	1	CWA-63	1421	Pin	2
CWA-42	2271	Screw	1	CWA-64	3399	Screw	4
CWA-43	93445	Bearing - Needle	1	CWA-65	93466	Bracket - Gear Shifter	1
CWA-44	93440	Lever - Shifter	1	CWA-66	61418	Washer - Felt	1
CWA-45	75381	Shaft - Shifter Lever	3	CWA-67	61418	Washer - Felt	1
CWA-46	141	Pin	3	CWA-68	1844	Plug	3
CWA-47	75382	Shifter - Lead	2	CWA-69	61418	Washer - Felt	1
CWA-48	3369	Pin	2	CWA-70	61418	Washer - Felt	1
CWA-49	141	Pin	2				
CWA-50	1844	Plug	4				
CWA-51		Housing					
	158852	203-10ML 205-12 307-12 M1					
		205-12 Cinel-60 & Cinpak-45					
		205-12 & 307-14 Cinova-80	1				
	158853	307-14 410-14 M1					
		All Dial Type					
		All Dual & HP	1				
	158854	520-20 Dial Type	1				

DRIVE MECHANISM - DIVIDING HEAD



Drive Mechanism—Unit CWA

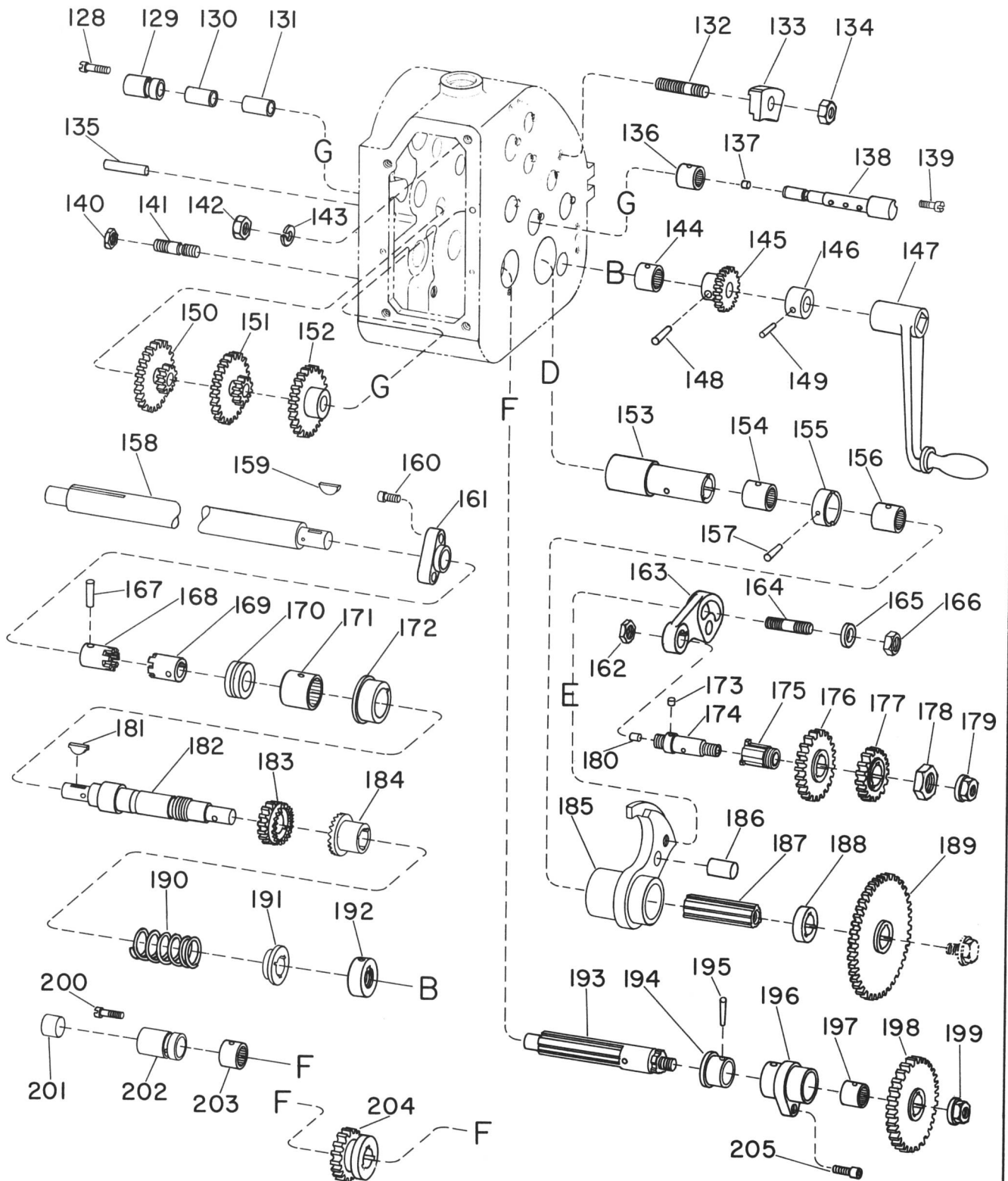
for

10", 12" AND 14" UNIVERSAL DIVIDING HEADS (STANDARD AND WIDE RANGE)

.010 to 1000 and .025 to 3000 Leads

Key No.	Part No.	Part Name	Amt. Used	Key No.	Part No.	Part Name	Amt. Used
CWA-71	2271	Screw	1	CWA-100	3501	Handle	1
CWA-72	158849	Shaft - Idler	1	CWA-101	2271	Screw	1
CWA-73	1844	Plug	1	CWA-102	158845	Bush - Idler Shaft	1
CWA-74	79761	Bearing - Needle	1	CWA-103	79761	Bearing - Needle	1
CWA-75	93595	Bush	1	CWA-104	79761	Bearing - Needle	1
CWA-76	2271	Screw	1	CWA-105	93595	Bush	1
CWA-77	3544	Pin	1	CWA-106	2271	Screw	1
CWA-78	93439	Bolt - Hinge	1	CWA-107	2271	Screw	1
CWA-79	75372	Knob - Hinge	1	CWA-108	158844	Shaft 26T & 21T Gear	1
CWA-80	1844	Plug	1	CWA-109	1844	Plug	1
CWA-81	158842	Shaft - Idler	1	CWA-110	93448	Washer - Thrust	1
CWA-82	2271	Screw	1	CWA-111	79761	Bearing - Needle	1
CWA-83	93431	Gear - Idler	1	CWA-112	93446	Bush	1
CWA-84	93448	Washer - Thrust	1	CWA-113	2271	Screw	1
CWA-85	1844	Plug	1	CWA-114	93445	Bearing - Needle	1
CWA-86	158857	Stud - 39T & 12T Gear	1	CWA-115	158873	Cover - Housing	1
CWA-87	2271	Screw	1	CWA-116	93452	Spacer - Bearing	1
CWA-88	2271	Screw	1	CWA-117	79761	Bearing - Needle	1
CWA-89	158850	Bush	1	CWA-118	2271	Screw	1
CWA-90	93443	Bush	1	CWA-119	28701	Plug	1
CWA-91	93443	Bush	1	CWA-120	158848	Bush	1
CWA-92	93429	Stud - Housing	1	CWA-121	93445	Bearing - Needle	1
CWA-93	3396	Screw	2	CWA-122	93444	Shaft - Sliding Gear	1
CWA-94	93436	Gear - Crank	1	CWA-123	93450	Gear - 26T & 21T	1
CWA-95	93455	Gear - 39T & 12T	1	CWA-124	93448	Washer - Thrust	1
CWA-96	93455	Gear - 39T & 12T	1	CWA-125	93451	Gear - Sliding 26T	1
CWA-97	93423	Gear - Intermediate 40T	1	CWA-126	158026	Plate - Caution	1
CWA-98	143	Pin	1	CWA-127	2263	Screw	2
CWA-99	3508	Crank - Ball	1				

DRIVE MECHANISM - DIVIDING HEAD



Drive Mechanism—Unit CWA

for

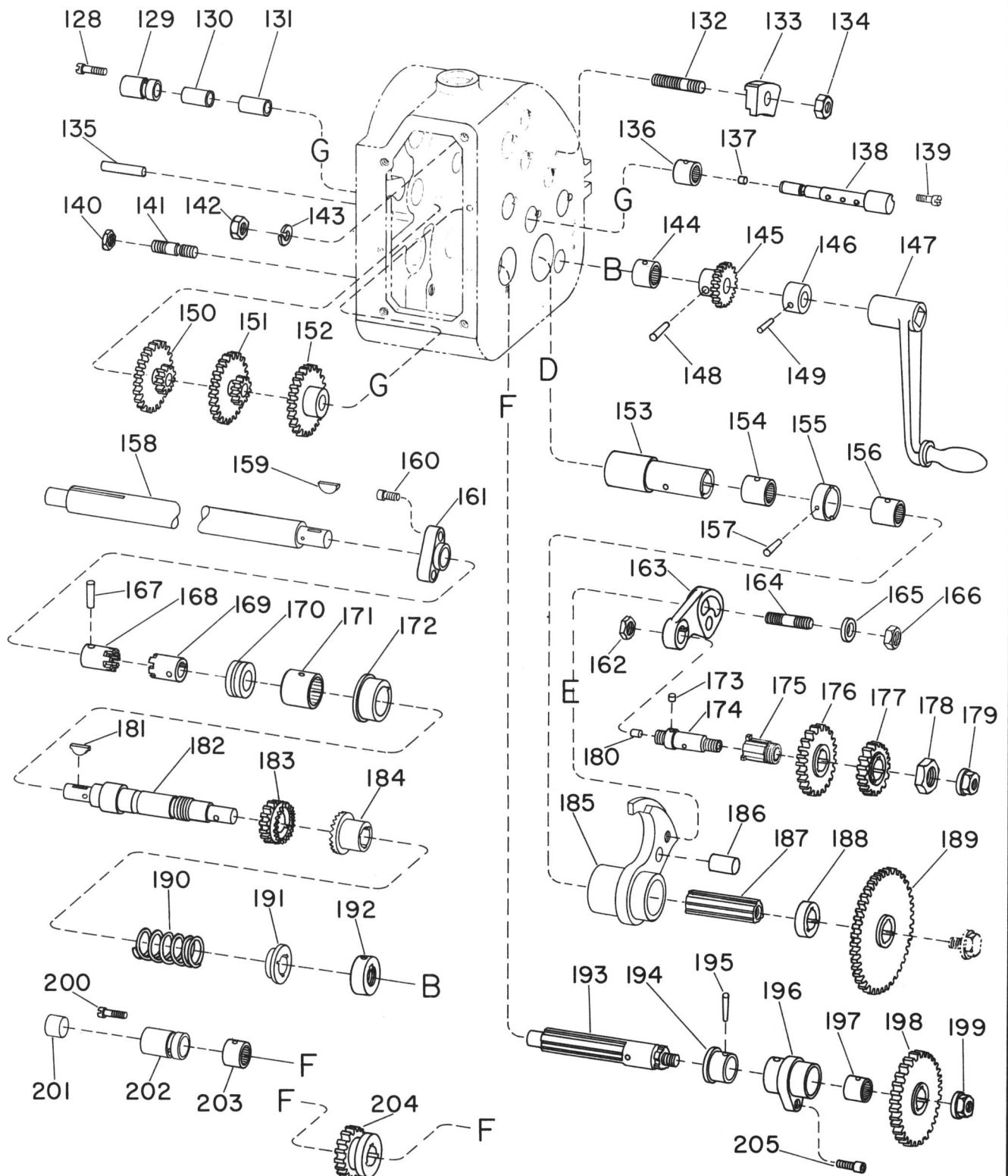
10", 12" AND 14" UNIVERSAL DIVIDING HEADS (STANDARD AND WIDE RANGE)

.010 to 1000 and .025 to 3000 Leads

KEY NO.	PART NO.	PART NAME	AMT. USED	KEY NO.	PART NO.	PART NAME	AMT. USED
CWA-128	2271	Screw	1	CWA-159		Key	
CWA-129	158846	Bush	1		3279	Used on Drive Shafts #175472 and #175493	1
CWA-130	93442	Bush	1		3280	Used on Drive Shafts Listed on Item #158 Less Drive Shafts #175472 and #175493	1
CWA-131	93442	Bush	1				
CWA-132	76710	Stud - Segment Clamp	1				
CWA-133	93433	Clamp - Segment	1	CWA-160	3396	Screw	2
CWA-134	3474	Nut	1	CWA-161	*	Bearing - Drive Shaft	
CWA-135	223053	Pin	1			203-10ML 205-12 307-12 M1	
CWA-136	79761	Bearing Needle	1			205-12 Cinel-60 & Cinpak-45	
CWA-137	1844	Plug	1			205-12 & 307-14 Cinova-80	1
CWA-138	158841	Stud - 40T & 31T Gear	1			307-14 410-14 M1	
CWA-139	2271	Screw	1	158837		All Dial Type	
CWA-140	3474	Nut	2			All Dual & HP	
CWA-141	75386	Stud - Housing	2			520-20 Dial Type	1
CWA-142	3474	Nut	1	CWA-162	93434	Nut - Stud Change Gear	1
CWA-143	2038	Washer	1	CWA-163	93430	Link - Change Gear	1
CWA-144	79762	Bearing - Needle	1	CWA-164	85488	Stud - Rack Pinion	1
CWA-145	158843	Gear - 20T	1	CWA-165	3442	Washer	1
CWA-146		Collar - Shaft B		CWA-166	3474	Nut	1
	158880	520-20 Dial Type	1	CWA-167		Pin	
CWA-147		Handle - Crank			141	Used on Clutch #158835	2
	158894	520-20 Dial Type	1		642	Used on Clutch #158836	2
CWA-148	663	Pin	1	CWA-168		Clutch	
CWA-149		Pin			158835	203-10ML 205-12 307-12 M1	
	665	520-20 Dial Type	1			205-12 Cinel-60 & Cinpak-45	
CWA-150	93457	Gear - 40T & 13T	1			205-12 & 307-14 Cinova-80	1
CWA-151	93457	Gear - 40T & 13T	1		158836	307-14 410-14 M1	
CWA-152	93453	Gear - 40T	1			All Dial Type	
CWA-153	93411	Coupling - Lead Screw	1			All Dual & HP	
CWA-154	79763	Bearing - Needle	1			520-20 Dial Type	1
CWA-155	93427	Collar - Spacer	1	CWA-169		Clutch	
CWA-156	79763	Bearing - Needle	1		158835	203-10ML 205-12 307-12 M1	
CWA-157	663	Pin	1			205-12 Cinel-60 & Cinpak-45	
CWA-158		Shaft - Drive				205-12 & 307-14 Cinova-80	1
	175472	203-10ML 205-12 M1			158836	307-14 410-14 M1	
		205-12 Cinel-60 & Cinpak-45				All Dial Type	
	175493	With 28" Table	1			All Dual & HP	
		203-10 ML		CWA-170		520-20 Dial Type	1
		205-12 Cinel-60 & Cinpak-45			244123	Bearing - Thrust	
		With 34" Table on Demand	1			203-10ML 205-12 307-12 M1	
		307-12 M1 with 34" Table Reg.	1			205-12 Cinel-60 & Cinpak-45	
158865		307-14 M1	1			205-12 & 307-14 Cinova-80	1
165171		410-14 M1	1			307-14 410-14 M1	
158868		210-12 Dial Type	1		3842	All Dial Type	
165168		310-12 Dial Type	1			All Dual & HP	
158866		315-15 Dial Type	1			520-20 Dial Type	1
165169		415-15 Dial Type	1				
158869		420-16 Dial Type	1				
165170		520-16 Dial Type	1				
179955		520-20 Dial Type (50" Travel)	1				
177745		215-16 220-16 Dual & HP	1				
158871		315-16 320-16 Dual & HP	1				
158871		320-18 330-18 Dual & HP	1				
158881		420-18 430-18 Dual & HP	1				
158872		425-20 450-20 Dual & HP	1				
158870		525-20 550-20 Dual & HP	1				
188969		205-12 Cinova-80	1				
188970		307-12 Cinova-80	1				

* Specify size of shaft hole when ordering bearing. Part Number 158840 has 7/8" hole and part Number 189882 has 5/8" hole.

DRIVE MECHANISM - DIVIDING HEAD



Drive Mechanism—Unit CWA

for

10", 12" AND 14" UNIVERSAL DIVIDING HEADS (STANDARD AND WIDE RANGE)

.010 to 1000 and .025 to 3000 Leads

KEY NO.	PART NO.	PART NAME	AMT. USED	KEY NO.	PART NO.	PART NAME	AMT. USED
CWA-171	93416	Bearing - Needle	1	CWA-179	76639	Collar Nut	1
CWA-172	93418	Bush - Clutch Shaft	1	CWA-180	1962	Plug	1
CWA-173	64896	Pin	1	CWA-181	3279	Key	1
CWA-174	93435	Stud - Change Gear	1	CWA-182	158855	Shaft - Clutch	1
CWA-175	93414	Stud Bush - Change Gear	1	CWA-183	77700	Gear - Drive 18T	1
CWA-176		Gear - Change		CWA-184	77702	Clutch - Yieldable	1
	103351	Gear - Change 17T	2	CWA-185	158833	Segment - Change Gear	1
	78323	Gear - Change 18T	1	CWA-186	75944	Pin - Link	1
	78324	Gear - Change 19T	1	CWA-187	121285	Shaft - Lead Screw Coupling	1
	78325	Gear - Change 20T	1	CWA-188	75343	Spacer - Change Gear	1
	78326	Gear - Change 21T	1	CWA-189	---	Gear - Change (See Item 176)	1
	78327	Gear - Change 22T	1	CWA-190	78183	Spring - Compression	1
	78328	Gear - Change 24T	2	CWA-191	77701	Collar - Clutch Shaft	1
	78329	Gear - Change 27T	1	CWA-192	158847	Nut - Lock	1
	78330	Gear - Change 30T	1	CWA-193	93413	Shaft - Spline	1
	78331	Gear - Change 33T	1	CWA-194	93437	Sleeve - Spline Shaft	1
	78332	Gear - Change 38T	1	CWA-195	143	Pin	1
	78333	Gear - Change 39T	1	CWA-196	93438	Bearing - Spline Shaft	1
	78334	Gear - Change 42T	1	CWA-197	93421	Bearing - Needle	1
	78335	Gear - Change 45T	1	CWA-198	---	Gear - Change (See Item 176)	1
	78336	Gear - Change 48T	1	CWA-199	76639	Collar Nut	1
	78337	Gear - Change 51T	1	CWA-200	2271	Screw	1
	78338	Gear - Change 55T	1	CWA-201	28701	Plug	1
	78339	Gear - Change 60T	2	CWA-202	158848	Bush	1
	160390	Gear - Change 58T	1	CWA-203	93445	Bearing - Needle	1
	160391	Gear - Change 59T	1	CWA-204	93451	Gear - Sliding 26T	1
CWA-177	---	Gear - Change (See Item 176)		CWA-205	3396	Screw	2
CWA-178	96929	Nut	1	---	75377	Box - Change Gear	1

MILLING MACHINE DIVISION / THE CINCINNATI MILLING MACHINE CO.

CINCINNATI, OHIO 45209 U.S.A.

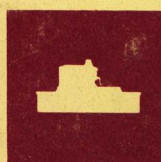
MILLING MACHINES



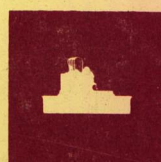
horizontal
knee & column



vertical
knee & column



horizontal &
vertical bed type

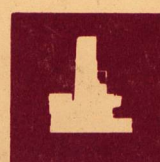


rise & fall and tracer
controlled bed type

DIE SINKING MACHINES AND BROACHING MACHINES



horizontal &
vertical



vertical

CUTTER SHARPENING MACHINES



nos. 1 & 2



monoset & optical

Products of the Milling Machine Division of The Cincinnati Milling Machine Co. are listed and symbolized here.

Products of The Cincinnati Milling Machine Co.'s other divisions include a complete line of centertype grinding machines, centerless grinding machines, roll grinding machines, chucking grinding machines, micro-centric grinding machines, special grinding machines, metal forming machines, electrical machining equipment, special broaching machines, special machine tools and complete production lines, special machinery, numerical control systems, tracing systems, gaging systems, hydraulic motors, hydraulic and electro-hydraulic valves and components, cutting fluids and precision grinding wheels.

CINCINNATI