Breakthrough Research Smoothes Rough Road for Gruen Wristwatch Collectors

How This Information is Organized: Pages 1- 5 is a history and explanation. Dating Charts begin on page 6.

f you've collected Gruen watches for any length of time, you know how difficult it is to determine—at least with any degree of accuracy—just when a specific model of Gruen was made. There is precious little information "out there" on Gruen watches (unlike many other popular brands such Hamilton, Rolex, Omega, Elgin and others). These and other brands have volumes of material and definitive movement serial number listings that allow for precise dating down to the year, and in some instances even the MONTH, in which a given specimen was actually manufactured.

Not so for Gruen, being the "orphan child" without a birth certificate because of a rather complicated method of serializing their movements. These records have been long lost, and most likely destroyed.

Curiously, the process for dating the earliest Gruen wristwatches—from about 1915 to 1935 or so—is probably the easiest because of the limited number of movements that Gruen had available, and the resulting relatively small number of specific models. The wonderful *Gruen Guild Master Book* by Roy Erhardt that the company put out between 1929 and about 1931 (and widely available online) is arguably close to a "Masterbook" of Gruen watches, particularly wristwatches that were made up to that time period.

From about the mid 1930s to 1958 (when Gruen ceased production of watches at their factory in Cincinnati), the number of movement calibers exploded. The serializing of those movements took on byzantine characteristics that make Egyptian hieroglyphics look like Kindergarten reading primers by comparison.

BY MIKE BARNETT AND BARRY COOPER

For most collectors, this is frustrating. But, ironically for some, it is a great source of fun and fascination, as the process of dating a given specimen often involves piecing nuggets of information together from far-flung resources. The chance to play the starring role in your own mini-version of CSI (a popular crime show on the CBS Television Network in case you've been living in a cave for about the last decade or so) is irresistible to some.

Creating a Gruen Dating Chart from "Scratch"

Yes, there are bits of information scattered here and there. Certainly, the movement dating chart developed by Gruen collector and AWCI member, Charlie Cleves, of Bellevue, Kentucky, almost 30 years ago was a good start. It pointed many collectors in the general vicinity as far as dating a given specimen.

Beginning in the mid-1990s, with the advent of eBay and other online venues, collectors have been able to piece together additional dating information through the posting of individual vintage advertisements. This has resulted in a greater refinement of the original "Cleves Chart." (That same effort continues.)

The past two or three years have yielded more tools for collectors to work with, but the results of all these efforts have proven painstaking and piecemeal at best, as information and clues are scattered among a variety of paper publications and online resources; the latter of which must surely put the number of sources into the dozens, if you count discussion websites.

A Single, Comprehensive Gruen Dating Source

There is still is no single comprehensive source for dating Gruen watches, especially those produced after the mid-1930s.

That is, until now.

By studying literally thousands of Gruen watches, and developing techniques for dating and identifying model names (and recording every detail about each watch), we believe we have reached a significant breakthrough that will help Gruen wristwatch collectors more definitively pinpoint the age of a given specimen.

In ongoing research into Gruen watch dating techniques, Gruen researchers log everything stamped onto the watch, inside of the case, and look for a match in vintage advertising. This is the standard labor involved in collecting the basics. It is from raw data such as this that patterns begin to emerge if you collect enough of it. One of the items to record is the pair of numbers stamped into the back of most Gruen watches, the Caliber and Style Number. While studying this data, a pattern emerged. The Style Numbers consistently increased over time. It's a simple observation, but an important one.

This article, and our identification tables and charts on page 36, are the result of months of research and testing. We used several methods to date and validate the date of Gruen watches—this article will focus on using the Style Number, a term Gruen coined in the 1947 *Gruen Crystal Catalog*.

NOTE: It must be stressed that the dates we derived using Style Numbers are approximations, providing the earliest date a watch model was made. It is not meant to date the specific year a watch was manufactured.

How Does This New Single, Comprehensive Gruen Dating Source Work?

As most Gruen collectors know, there is typically a pair of three-digit numbers stamped on the inside back of their watch case, usually in the format of CCC-SSS or SSS/CCC. The majority of Gruen wristwatches have the caliber and then the Style Number (CCC-SSS). Figure 1 is from the 1947 *Gruen Crystal Catalog* and defines Style Numbers.

NOTE: Some cases do not contain a Caliber and Style Number pair. Older models and some round-shaped models may have only a single three-digit number. Swiss and solid gold cases sometimes do not have the numerical pair, as well. These watches are not valid candidates for using the Style Number dating method detailed here.

Looking closer at the numbers in Figure 1, one of these numbers is the caliber of the movement for that specific watch. By matching the caliber number stamped on the movement with that stamped on the case, collectors can verify that the correct movement is in the watch. (If you don't feel comfortable removing the back of your watch to read the Style Num-

When ordering crystals, specify the style number in back of watch case, as indicated in the above sketch.

Figure 1: Gruen Style and Caliber Number. Definition from the 1947 *Gruen Crystal Catalog*.

ber, take it to a skilled watchmaker.)

Exceptions to the Rule

The second three-digit number is the Gruen Style Number; in Figure I it is "387." Gruen stated in their Crystal Catalog and 1948 Material Catalog that Style Numbers are paired with specific watch crystals. Generally speaking, the Caliber and Style Number pairs are uniquely as-

signed to one particular Gruen watch model.

However, there are some instances where the Style numbers were used for multiple models. This happened most often during the early Curvex years when many of the Curvexes had a very similar shape. It makes sense that two similar watches would use the same crystal and thus have the same Style Number. These differing wristwatches are problematic and create situations where the Style Number's date is earlier than the watch's correct date of availability. How to identify these situations is explained later.

The Style Number Dating Table for Gruen Wristwatches 1935 - 1956

We limited our work to wristwatches created from 1935 to 1956. The result of the research produced the Style Number Dating Table (Figure 2) which was created by identifying as many watches for each year.

The data from the Style Date Table is shown graphically in Figure 3. Perhaps not evident in the table, the graph visually shows which years Gruen made more watch models, or assigned more Style Numbers than others.

To create the Style Number Dating Table, the goal was to find at least three watches introduced per year. The primary method of *identifying a watch's initial date of production or availability* was through the use of magazine advertisements. If a watch matched the

advertisement illustration, that watch's Style Number was associated with the year of the advertisement. This technique of identifying watch model names and date of initial availability was also utilized to create the *Gruen Watch Model Identification Guide - Volume 1* written by myself, Mike Barnett. (Volume 2 is slated to be published later this year.)

After several watches were found in a given year and its surrounding years, a range of Style Numbers could be approximated for that year. These were the data points used to create the table. The Style Number column indicates the lowest Style Number of a watch introduced in the associated year.

We cross-checked our dates utilizing all watch dating methods available to us. The cross-checking was limited to a subset of watches for which the additional methods were valid. One such method was provided

First Style Number	Year of Introduction
183	1935
220	1936
255	1937
304	1938
372	1939
390	1940
449	1941
495	1942
506	1943
512	1944
541	1945
544	1946
553	1947
583	1948
625	1949
641	1950
742	1951
752	1952
832	1953
863	1954
883	1955
933	1956
1,015	1957

Figure 2: The Style Date Table

by Gruen historian, Jack Wood, an active Gruen Forum member, contributor, and Gruen researcher. His dating method, currently "in press," is based on the serial numbers of cases manufactured by the Wadsworth Case Company. He found that for wristwatches using Wadsworth manufactured cases, the date a specific watch was manufactured is tied directly to the serial number of its case. Another verification method utilizes the movement's serial number. This, too, is a relatively new technique, and is limited to the 405, 410 and 420 caliber families. A full description of dating via movement serial numbers can be found on the website:

www.GruenWristwatches.com.

Both of these techniques, using Wadsworth case serial numbers and movement serial numbers pinpoint a watch to its specific date of manufacture, but are also approximations.

Locating Style Numbers

For years in which no watches could be identified, we relied on watch crystal catalogs. These catalogs show the highest Style Number in use for the year the catalog was published. Seventeen crystal catalogs were utilized in this project including those from the GS, Rocket, and Perfit companies.

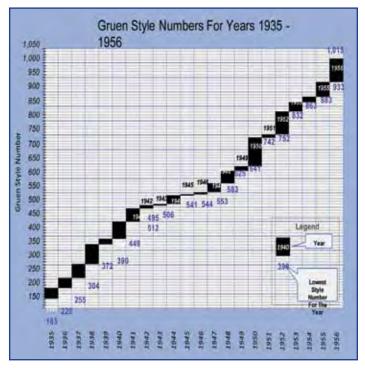


Figure 3: Style Number/Date Chart

There are anomalies to the Style Number dating method! The Gruen Company was not always consistent in its assignment and use of new Style Numbers, particularly in the years around World War II. We identified several anomalies, but undoubtedly there are others that savvy Gruen collectors will find and share with the community.

Changing the Caliber Number, While Leaving the Style Number or "Movement Migration"

We found some Style Numbers were paired with different movement calibers, but the watch model remained the same. We called this a model *movement migration*. Over time, Gruen changed the movements in a watch model. They maintained the correct labeling in the case by changing the caliber number, while leaving the Style Number the same. The 1951 "Submarine" model shown in Figures 4 and 5 is a good example of this migration from one movement to another.

Some Submarine models have the identification 421-725 indicating a caliber 421 movement is used while others marked with 426-725 indicate a caliber 426.

The Style Caliber Table

To help determine when Style Numbers were re-used or when a watch model shows evidence of movement migration, we developed a Style Caliber Table shown in Figure 6 by capturing data from many crystal catalogs. The first column lists each Style; the numbers to the right are the movement calibers that are used for that Style. Again, looking at the Submarine model,



Figure 4: Gruen "Submarine" model



Figure 5: Submarine watch model "migration" shown in the case back

we see that it has a Style Number of 725. In the Style Caliber Table, calibers 421 and 426 are shown to the right of Style 725.

The Style Number re-use anomaly can be at least recognized by using the Style Caliber Table. If a watch's Style Number indicate a date that is prior to the date the movement itself was introduced, then, clearly, that style number has been used previously. Take, for example, the Style Number 498. Figure 6 shows six different calibers of movements using that number. One such movement is the caliber 335 that began production in 1948. The Style Number of 498 indicates the year of introduction for the watch was 1942, but this clearly cannot be the case for watches with caliber 335 movements. When in doubt, check the Style Caliber Table to ensure a Style Number reuse hasn't occurred.

In approximately 1956, the Style Numbers broke the 999 barrier. While we show 1,015 as the end Style Number for the year 1956, the Style Numbers stamped in the cases will not be a 4-digit number. Much like a 3-digit odometer, the number rolls over and started over again as a 3-digit number padded with zeros on the front end. For example, the Style Number we reference as 1,002 will have a case that is stamped with a Style Number of 002. That particular watch is stamped with 422-002, or 002-422.

Multiple Uses for the Style Caliber Table

The Style Caliber Table proved to be a distraction while we were doing our research because there is such a wealth of data that can be mined from it. For

example, the lifespan of a movement can be approximated by finding the lowest and highest Style Numbers associated with that movement caliber. To do this, the caliber to investigate is chosen, its lowest and highest Style Numbers are found in the Style Caliber table, and these Style Numbers are then looked up in the Style Date table to determine the dates of the lowest and highest Styles. You'll find that it is the lady's movements that have the longest lifespan, as well as having more Style Numbers than the men's watches.

Editors Note: The Gruen research has produced hundreds of results. These can be seen in Mr. Barnett's and Cooper's Style and Caliber Table on the following pages.

There Are Still Gruen Mysteries Needing to Be Solved

We hope that our contribution will help Gruen collectors learn more about their watches and perhaps motivate them to help piece together other missing parts in the Gruen puzzle. Our work provides the date of initial production which is the first step in solving the many mysteries that await those who are curious enough to seek more information. Be careful though, that curiosity found in some Gruen collectors may turn collectors into obsessed researchers!

Credit should be given to the early Gruen pioneers Roy Ehrhardt, Charles Cleves, and more recently, Bruce Shawkey. Mr. Cleves' work was a springboard from which we could research, providing initial manufacturing dates of Gruen movements. A special thank you is owed to Bruce Shawkey for his riveting introduction outlining the history of Gruen research, plus his encouragement. And thank you to Jack Wood, a hard-working Gruen researcher and historian who has consistently given much to the Gruen community. We were able to use his recent work to help validate our findings. Finally, we would like to thank the evergrowing www.GruenWristwatches.com Forum members for providing motivation and sharing their passion and watches with the Gruen community. •

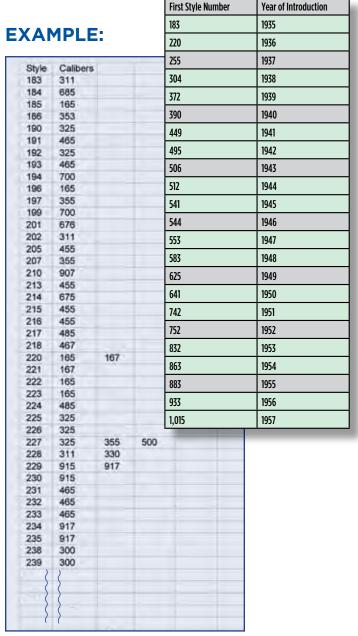


Figure 6: Style and Caliber Table & The Style Date Table

Style	Calibers	1				
183	311					
184	685					
185	165					
186	353					
190	325					
191	465					
192	325					
193	465					
194	700					
196	165					
197	355					
199	700					
201	676					
202	311					
205	455					
207	355					
210	907					
213	455					
214	675					
215	455					
216	455		-	-		
217	485		-			
218	467					
220	165	167				
221	167					
222	165					
223	165					
224	485					
225	325					
226	325					
227	325	355	500			
228	311	330	300			
229	915	917				
		317				
230	915					
231	465					
232	465					
233	465					
234	917					
235	917					
238	300					
239	300					
240	355					
241	355					
242	307					
243	300					
244	485					
246	485	501				
247	123	325				
247	580	343				
250	917					
251	531					
252	531					
253	531					
254	501					
255	311					
257	501					
258	501					
259	280					
260	311					
261	280					
262	290					
263	465					
264	465					
265	465					
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266	165	501				
267	487	600				-
268	697	698				
269	280					
270	280					
271	311	330				

272	350	520								
273	311	400C								
274	270									
275	115	215	216	270		215SS	270	22		
276	270	213	210	270		21333	270	33		
		217	F01							
278	206	217	501							
279	280			-						
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281	300									
282	300									
283	581	704	704SS							
284	270									
285	270									
286	270									
287	330									
288	330									
289	400									
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290	500	877	500DD							
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310	270				372			1939		
320	270				390			1940		
321	270				_			_		
322	270				449			1941		
323	700	704			495			1942		
324	500	501	500C		506			1943		
326	270	501	5000		_			_		
334	330	_			512			1944		
335	280				541			1945		
					544			1946		
336	700				553			1947		
337	700				-			_		
338	270				583			1948		
339	330				625			1949		
340	355	500	355C		641			1950		
350	270				_			-		
351	401	501	501C		742			1951		
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482	410	401C					
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489	430						
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492	500	500C					
494	410	410SS					
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497	411	411SS					
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535	420	420SS					
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546	210						
		211	216	21000			
547	210	711	216	210SS	-	-	
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550	290						
551	270	290					
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553	425	426					
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556	440						
557	421						
		420	2254				
558	335	430	3351				
559	210						
561	210	210SS					
		21033					
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563	421	430	435				
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565	420	428					
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603	335			-	-	-		
604	275	222		-	-			
605	380	385						
606	335	3351						
607	370							
608	285							
609	285							
610	370							
611	460	470						
612	275	<u> </u>						
613	435							
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615	370			-	+			
		215			-	-		
616	210	215				-		
617	275	275			-	-		
619	215	275			1			
620	210							
621	425							
622	210	215	216					
623	430	435						
624	210	211						
625	370	435						
626	430	1		First	Style Number		Year of	Introduction
627	3351			183	,		1935	
628	275					-		
				220			1936	
629	425	CE4	2251	255			1937	
630	420	651	3351	304			1938	
631	335					\rightarrow		
632	420			372			1939	
633	421			390			1940	
634	275	425		449			1941	
635	335					\dashv		
636	425	426		495			1942	
637	335	3351	3551	506			1943	
638	275	1232		512			1944	
639	420			541			1945	
						\rightarrow		
640	475	-	-	544			1946	
641	440			553			1947	
642	370			583			1948	
643	370							
644	285			625			1949	
645	210			641			1950	
646	285			742			1951	
647	3351							
648	210			752			1952	
649	430	475	480	832			1953	
650	370	5		863			1954	
651	3351			883			1955	
		425	2251					
652	425	435	3351	933			1956	
653	421			1,01	i	I	1957	
654	421							
655	275							
656	210							
657	335	3351						
658	210	215	216					
659	435	3351						
660	415	416						
661	275							
662	370			+				
				-	+	-		
663	285	433	422	4221	-	-		
664	285	423	432	423A	-			
	275					-		
665				1	1	1		
666	275	430				-		
	275 275	430 335						

669	290					
670	210	215	216			
671	275	275				
					-	
672	435	3351				
673	210	210SS				
674	430	435	3351			
675	215	216				
					-	
676	370	415	460			
677	415	430				
678	275					
679	421					
		2254	2554		-	
680	335	3351	3551			
681	430					
682	415					
683	215					
685	210					
					-	
686	210					
688	420	422	460	422SS		
689	335					
690	335	3351				
		3331		-	_	
691	415				1	
693	210					
694	430					
695	285					
696		+		+	+	
	370				-	
698	215	215SS			1	
699	475					
700	335	3351				
701	215	3331				
		-			-	
702	215					
703	335	3351				
704	3351					
705	335	3351				
		3331			-	
706	370					
707	370	440				
708	275					
709	335	3351				
710	3351	3331				
711	435	3351				
712	435					
713	425					
714	275					
		2251			_	
715	335	3351				
716	370					
717	460					
718	415	470	3351			
719	415	430				
					-	
720	415	416				
721	216					
723	335	3351				
724	275					
725	421	426		+	+	
		420			+	
726	475					
727	215					
728	275					
729	480					
		216		+	+	
730	215	216			-	
731	275				-	
732	415					
733	460					
734	275	1				
		2754		-	_	
735	275	2751				
736	480					
737	3351					
738	3351	1				
		400			+	
739	415	480				
740	335	3351				
741	335	3351				
742	480					
743	275	2751				
				-	_	
744	475	480				

745	275						
746	215						
747	370	430	435				
748	275	2751	133				
		2/31					
749	275						
750	370						
751	480						
752	335	3351					
753	370	440					
754	215	216	-				
755	480						
756	335	3351					
757	275						
759	275						
760	370						
761	480						
762	335	3351					
764	415						
766	422						
767	462						
768	460	462					
		402		-			
769	480						
770	4803						
771	3351						
772	416	422					
773	370						
				+			
774	415						
776	335	3351		First Style Number	ľv	ear of Introduction	
777	335	3351			_		-
778	480			183	19	935	
779	360			220	19	936	
780	480				-		-
				255	15	937	
781	480			304	10	938	- 10
782	275				_		
782 783	275 270	275	3351	372	19	939	1
783	270	275	3351		19		1
783 784	270 215		3351	372 390	19	939 940	
783 784 785	270 215 275	275	3351	372 390 449	19 19	939 940 941	
783 784 785 786	270 215 275 215		3351	372 390	19 19	939 940	
783 784 785 786 788	270 215 275		3351	372 390 449	19 19 19 19	939 940 941	
783 784 785 786	270 215 275 215		3351	372 390 449 495 506	19 19 19 19	939 940 941 942	
783 784 785 786 788	270 215 275 215 480		3351	372 390 449 495 506 512	19 19 19 19 19	939 940 941 942 943	
783 784 785 786 788 789 790	270 215 275 215 480 415 435		3351	372 390 449 495 506	19 19 19 19 19	939 940 941 942	
783 784 785 786 788 789 790	270 215 275 215 480 415 435 3351	285	3351	372 390 449 495 506 512 541	19 19 19 19 19 19	939 940 941 942 943 944	
783 784 785 786 788 789 790 791	270 215 275 215 480 415 435 3351 215		3351	372 390 449 495 506 512 541	19 19 19 19 19 19 19	939 940 941 942 943 944 945	
783 784 785 786 788 789 790 791 792 793	270 215 275 215 480 415 435 3351 215 415	285	3351	372 390 449 495 506 512 541	19 19 19 19 19 19 19	939 940 941 942 943 944	
783 784 785 786 788 789 790 791 792 793 794	270 215 275 215 480 415 435 3351 215 415 415	285	3351	372 390 449 495 506 512 541	19 19 19 19 19 19 19 19	939 940 941 942 943 944 945	
783 784 785 786 788 789 790 791 792 793	270 215 275 215 480 415 435 3351 215 415	285	3351	372 390 449 495 506 512 541 544 553 583	19 19 19 19 19 19 19 19 19	339 340 341 342 343 344 345 346 347 348	
783 784 785 786 788 789 790 791 792 793 794	270 215 275 215 480 415 435 3351 215 415 415	285	3351	372 390 449 495 506 512 541 544 553 583 625	19 19 19 19 19 19 19 19 19 19	339 340 341 342 343 344 345 346 347 348	
783 784 785 786 788 789 790 791 792 793 794 795	270 215 275 215 480 415 435 3351 215 415 415 416	285	3351	372 390 449 495 506 512 541 544 553 583	19 19 19 19 19 19 19 19 19 19	339 340 341 342 343 344 345 346 347 348	
783 784 785 786 788 789 790 791 792 793 794 795 797	270 215 275 215 480 415 435 3351 215 415 416 440 3351	285	3351	372 390 449 495 506 512 541 544 553 583 625	19 19 19 19 19 19 19 19 19 19 19	339 340 341 342 343 344 345 346 347 348	
783 784 785 786 788 789 790 791 792 793 794 795 797 798	270 215 275 215 480 415 435 3351 215 415 416 440 3351 422	285	3351	372 390 449 495 506 512 541 544 553 583 625 641 742	19 19 19 19 19 19 19 19 19 19 19 19	339 340 341 342 343 344 345 346 347 348 349 350 351	
783 784 785 786 788 789 790 791 792 793 794 795 797 798 799 800	270 215 275 215 480 415 435 3351 215 415 416 440 3351 422 460	285	3351	372 390 449 495 506 512 541 544 553 583 625 641	19 19 19 19 19 19 19 19 19 19 19 19	339 340 341 342 343 344 345 346 347 348 349	
783 784 785 786 788 789 790 791 792 793 794 795 797 798 799 800 801	270 215 275 215 480 415 435 3351 215 415 416 440 3351 422	285	3351	372 390 449 495 506 512 541 544 553 583 625 641 742	19 19 19 19 19 19 19 19 19 19 19 19 19 1	339 340 341 342 343 344 345 346 347 348 349 350 351	
783 784 785 786 788 789 790 791 792 793 794 795 797 798 799 800	270 215 275 215 480 415 435 3351 215 415 416 440 3351 422 460	285	3351	372 390 449 495 506 512 541 544 553 583 625 641 742 752 832	19 19 19 19 19 19 19 19 19 19 19 19 19 1	339 340 341 342 343 344 345 346 347 348 349 350 351 352 353	
783 784 785 786 788 789 790 791 792 793 794 795 797 798 799 800 801	270 215 275 215 480 415 435 3351 215 415 416 440 3351 422 460 3351	285	3351	372 390 449 495 506 512 541 544 553 583 625 641 742 752 832 863	19 19 19 19 19 19 19 19 19 19 19 19 19 1	339 340 341 342 343 344 344 348 349 350 351 352 353 353	
783 784 785 786 788 789 790 791 792 793 794 795 797 798 799 800 801 802 804	270 215 275 215 480 415 435 3351 215 415 416 440 3351 422 460 3351 335 415	285	3351	372 390 449 495 506 512 541 544 553 583 625 641 742 752 832	19 19 19 19 19 19 19 19 19 19 19 19 19 1	339 340 341 342 343 344 345 346 347 348 349 350 351 352 353	
783 784 785 786 788 789 790 791 792 793 794 795 797 798 799 800 801 802 804 807	270 215 275 215 480 415 435 3351 215 415 416 440 3351 422 460 3351 335 415 3351	285	3351	372 390 449 495 506 512 541 544 553 583 625 641 742 752 832 863 883	16. 16. 16. 16. 16. 16. 16. 16. 16. 16.	339 340 341 342 343 344 344 345 346 347 348 349 350 351 352 353 354 355 355	
783 784 785 786 788 789 790 791 792 793 794 795 797 798 800 801 802 804 807 808	270 215 275 215 480 415 435 3351 215 415 416 440 3351 422 460 3351 335 415 3351 422	285	3351	372 390 449 495 506 512 541 544 553 583 625 641 742 752 832 863 883 933	19 19 19 19 19 19 19 19 19 19 19 19 19 1	339 340 341 342 343 344 344 344 349 350 351 352 353 354 355 355 355 355 355 355	
783 784 785 786 788 789 790 791 792 793 794 795 797 798 799 800 801 802 804 807 808	270 215 275 215 480 415 435 3351 215 415 416 440 3351 422 460 3351 335 415 3351 422 335	285 415 3351	3351	372 390 449 495 506 512 541 544 553 583 625 641 742 752 832 863 883	19 19 19 19 19 19 19 19 19 19 19 19 19 1	339 340 341 342 343 344 344 345 346 347 348 349 350 351 352 353 354 355 355	
783 784 785 786 788 789 790 791 792 793 794 795 797 798 800 801 802 804 807 808	270 215 275 215 480 415 435 3351 215 415 416 440 3351 422 460 3351 335 415 3351 422	285	3351	372 390 449 495 506 512 541 544 553 583 625 641 742 752 832 863 883 933	19 19 19 19 19 19 19 19 19 19 19 19 19 1	339 340 341 342 343 344 344 344 349 350 351 352 353 354 355 355 355 355 355 355	
783 784 785 786 788 789 790 791 792 793 794 795 797 798 799 800 801 802 804 807 808	270 215 275 215 480 415 435 3351 215 415 416 440 3351 422 460 3351 335 415 3351 422 335	285 415 3351	3351	372 390 449 495 506 512 541 544 553 583 625 641 742 752 832 863 883 933	19 19 19 19 19 19 19 19 19 19 19 19 19 1	339 340 341 342 343 344 344 344 349 350 351 352 353 354 355 355 355 355 355 355	
783 784 785 786 788 789 790 791 792 793 794 795 797 798 800 801 802 804 807 808 809 810 811	270 215 275 215 480 415 435 3351 215 415 416 440 3351 422 460 3351 335 415 3351 422 335	285 415 3351 416	3351	372 390 449 495 506 512 541 544 553 583 625 641 742 752 832 863 883 933	19 19 19 19 19 19 19 19 19 19 19 19 19 1	339 340 341 342 343 344 344 344 349 350 351 352 353 354 355 355 355 355 355 355	
783 784 785 786 788 789 790 791 792 793 794 795 797 798 800 801 802 804 807 808 809 810 811	270 215 275 215 480 415 435 3351 215 415 416 440 3351 3351 422 460 3351 335 415 3351 422 460 215	285 415 3351 416 216		372 390 449 495 506 512 541 544 553 583 625 641 742 752 832 863 883 933	19 19 19 19 19 19 19 19 19 19 19 19 19 1	339 340 341 342 343 344 344 344 349 350 351 352 353 354 355 355 355 355 355 355	
783 784 785 786 788 789 790 791 792 793 794 795 797 798 800 801 802 804 807 808 809 810 811 812 813	270 215 275 215 480 415 435 3351 215 415 416 440 3351 3351 412 460 3351 335 415 3351 422 460 215 430	285 415 3351 416	3351	372 390 449 495 506 512 541 544 553 583 625 641 742 752 832 863 883 933	19 19 19 19 19 19 19 19 19 19 19 19 19 1	339 340 341 342 343 344 344 344 349 350 351 352 353 354 355 355 355 355 355 355	
783 784 785 786 788 789 790 791 792 793 794 795 797 798 800 801 802 804 807 808 809 810 811 812 813	270 215 275 215 480 415 435 3351 215 415 416 440 3351 3351 422 460 3351 335 415 3351 422 335 415 3351 422 335 415 430 480	285 415 3351 416 216		372 390 449 495 506 512 541 544 553 583 625 641 742 752 832 863 883 933	19 19 19 19 19 19 19 19 19 19 19 19 19 1	339 340 341 342 343 344 344 344 349 350 351 352 353 354 355 355 355 355 355 355	
783 784 785 786 788 790 791 792 793 794 795 797 798 799 800 801 802 804 807 808 809 810 811 812 813	270 215 275 215 480 415 435 3351 215 415 416 440 3351 422 460 3351 335 415 3351 422 335 415 3415 421 430 480 415	285 415 3351 3351 416 216 435		372 390 449 495 506 512 541 544 553 583 625 641 742 752 832 863 883 933	19 19 19 19 19 19 19 19 19 19 19 19 19 1	339 340 341 342 343 344 344 344 349 350 351 352 353 354 355 355 355 355 355 355	
783 784 785 786 788 789 790 791 792 793 794 795 797 798 800 801 802 804 807 808 809 810 811 812 813	270 215 275 215 480 415 435 3351 215 415 416 440 3351 3351 422 460 3351 335 415 3351 422 335 415 3351 422 335 415 430 480	285 415 3351 416 216		372 390 449 495 506 512 541 544 553 583 625 641 742 752 832 863 883 933	19 19 19 19 19 19 19 19 19 19 19 19 19 1	339 340 341 342 343 344 344 344 349 350 351 352 353 354 355 355 355 355 355 355	
783 784 785 786 788 789 790 791 792 793 794 795 797 798 800 801 802 804 807 808 809 810 811 812 813 814 815 816	270 215 275 215 480 415 435 3351 215 415 416 440 3351 422 460 3351 335 415 216 215 335 415 335	285 415 3351 3351 416 216 435		372 390 449 495 506 512 541 544 553 583 625 641 742 752 832 863 883 933	19 19 19 19 19 19 19 19 19 19 19 19 19 1	339 340 341 342 343 344 344 344 349 350 351 352 353 354 355 355 355 355 355 355	
783 784 785 786 788 789 790 791 792 793 794 795 797 800 801 802 804 807 808 809 810 811 812 813 814 815 816 820	270 215 275 215 480 481 435 3351 215 415 416 436 3351 422 460 3351 422 460 3351 422 460 3351 415 421 430 440 440 45 335 415 216 215 430 480 415 335 335	285 415 3351 3351 416 216 435		372 390 449 495 506 512 541 544 553 583 625 641 742 752 832 863 883 933	19 19 19 19 19 19 19 19 19 19 19 19 19 1	339 340 341 342 343 344 344 344 349 350 351 352 353 354 355 355 355 355 355 355	
783 784 785 786 788 789 790 791 792 793 794 795 797 798 800 801 802 804 807 808 809 810 811 812 813 814 815 816 820 821	270 215 275 215 480 415 435 3351 215 415 416 440 3351 335 415 3351 422 460 3351 335 415 216 215 430 480 480 4815 335 3351 3370	285 415 3351 3351 416 216 435		372 390 449 495 506 512 541 544 553 583 625 641 742 752 832 863 883 933	19 19 19 19 19 19 19 19 19 19 19 19 19 1	339 340 341 342 343 344 344 344 349 350 351 352 353 354 355 355 355 355 355 355	
783 784 785 786 788 789 790 791 792 793 794 795 797 798 800 801 802 804 807 808 810 811 812 813 814 815 816 820 821	270 215 275 215 480 415 435 3351 215 415 416 440 3351 335 422 460 3351 335 415 216 215 430 480 415 3351 335 335 415 216 215 430 480 415 335 335 335 370 415	285 415 3351 3351 416 216 435		372 390 449 495 506 512 541 544 553 583 625 641 742 752 832 863 883 933	19 19 19 19 19 19 19 19 19 19 19 19 19 1	339 340 341 342 343 344 344 344 349 350 351 352 353 354 355 355 355 355 355 355	
783 784 785 786 788 789 790 791 792 793 794 795 797 798 800 801 802 804 807 808 809 810 811 812 813 814 815 816 820 821 822 824	270 215 275 215 480 415 435 3351 215 415 416 440 3351 3351 422 460 3351 335 415 3351 422 460 3351 335 415 3351 421 421 430 480 415 335 335 415 335 415 416 417 417 418	285 415 3351 3351 416 216 435		372 390 449 495 506 512 541 544 553 583 625 641 742 752 832 863 883 933	19 19 19 19 19 19 19 19 19 19 19 19 19 1	339 340 341 342 343 344 344 344 349 350 351 352 353 354 355 355 355 355 355 355	
783 784 785 786 788 789 790 791 792 793 794 795 797 798 800 801 802 804 807 808 810 811 812 813 814 815 816 820 821	270 215 275 215 480 415 435 3351 215 415 416 440 3351 335 422 460 3351 335 415 216 215 430 480 415 3351 335 335 415 216 215 430 480 415 335 335 335 370 415	285 415 3351 3351 416 216 435		372 390 449 495 506 512 541 544 553 583 625 641 742 752 832 863 883 933	19 19 19 19 19 19 19 19 19 19 19 19 19 1	339 340 341 342 343 344 344 344 349 350 351 352 353 354 355 355 355 355 355 355	
783 784 785 786 788 789 790 791 792 793 794 795 797 798 800 801 802 804 807 808 809 810 811 812 813 814 815 816 820 821 822 824	270 215 275 215 480 415 435 3351 215 415 416 440 3351 3351 422 460 3351 335 415 3351 422 460 3351 335 415 3351 421 421 430 480 415 335 335 415 335 415 416 417 417 418	285 415 3351 3351 416 216 435		372 390 449 495 506 512 541 544 553 583 625 641 742 752 832 863 883 933	19 19 19 19 19 19 19 19 19 19 19 19 19 1	339 340 341 342 343 344 344 344 349 350 351 352 353 354 355 355 355 355 355 355	
783 784 785 786 788 789 790 791 792 793 794 795 797 798 800 801 802 804 807 808 809 810 811 812 813 814 815 816 820 821 822 824 826 827	270 215 275 215 480 415 435 3351 215 415 416 440 3351 422 460 3351 422 335 415 335 415 335 415 216 430 480 415 3351 370 415 480 415	285 415 3351 3351 416 216 435		372 390 449 495 506 512 541 544 553 583 625 641 742 752 832 863 883 933	19 19 19 19 19 19 19 19 19 19 19 19 19 1	339 340 341 342 343 344 344 344 349 350 351 352 353 354 355 355 355 355 355 355	
783 784 785 786 788 789 790 791 792 793 794 795 797 798 800 801 802 804 807 808 809 810 811 812 813 814 815 816 820 821 822 824 826	270 215 275 215 480 415 435 3351 215 415 416 440 3351 422 460 3351 422 335 415 3351 422 335 415 3351 421 335 415 3351 422 335 415 3351 421 430 480 415 335 3351 3351 430 480 415 335 3351 3351 430 480 415 335 3451 4415 4480	285 415 3351 3351 416 216 435		372 390 449 495 506 512 541 544 553 583 625 641 742 752 832 863 883 933	19 19 19 19 19 19 19 19 19 19 19 19 19 1	339 340 341 342 343 344 344 344 349 350 351 352 353 354 355 355 355 355 355 355	

BY MIKE BARNETT AND BARRY COOPER

830	275					
832	415					
833	3351					
835	275	2751				
836	415					
837	275					
838	415					
839	215					
840	215					
		2751				
841	275	2751				
842	275	2751				
843	275	2751				
844	275	2751				
847	275	2751				
850	2751					
852	3351					
853	275	2751				
854	3351	2/31				
857	275					
858	275					
860	270	2751				
862	415					
863	415					
864	415					
865	215					
870	275					
873	275					
875	235	2351				
876	435					
877	275					
878	216	415				
879	370					
880	480					
		46366				
881	462	462SS				
882	370					
885	335	3351				
886	480	480SS				
887	480					
888	275	2751				
889	275					
890	462	480				
891	430	435				
892	215					
893	215					
894	275					
895	335	3351				
897	415					
899	480					
	335	3351	2252			
900			3353	225466		
901	335	435	3351	3351SS		
903	275	2751				
904	275	2751				
905	275	2751				
907	275	2751				
908	275					
909	275					
-		2251				
910	335	3351				
911	235	2351				
912	362					
914	490SS					
917	422	462				
918	480					
919	275	2751				
920	2751					
-	215					
10.34		1			1	1
924 925	215	285				

926	275	2753			
930	275	2733			
931	215	462			
939	215	402			
940	215				
941	215				
942	480				
943	275				
944	275	275			
945	215	275			
950	215				
951	285				
952	215				
953	215				
961	275				
970	275	2751			
976	217				
977	215	216			
978	215	220			
979	215	275			
980	275	-			
981	462				
984	275				
986	275			First Style Number	Year of Introduction
988	275			183	1935
991	215			220	1936
997	275			255	1937
998	422			304	1938
999	435	439			_
1002	422			372	1939
1003	422	423		390	1940
1010	275	2751		449	1941
1013	275			495	1942
1015	211	215	415	506	1943
1017	215				_
1019	275			512	1944
1020	215			541	1945
1025	673			544	1946
1027	787			553	1947
1032	215			583	1948
1035	215				
1042	215			625	1949
1049	215			641	1950
1050	275	2753		742	1951
1056	215			752	1952
1061	422			832	1953
1062	422			863	1954
1064	2753				
1070	275			883	1955
1076	215	3353		933	1956
1079	2753			1,015	1957
1085	673				
1099	215	225			
1116	215				
1156	215				
1158	215				
1176	215				
		1			
1199	278		1		

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