

# San Jacinto Chapter 139 Pocket Watch Class

By Darrah Artzner

For years the Houston area has concentrated mainly on clocks and clock repairs, and pocket watches took a back seat in terms of what makes them tick and how to repair and restore them. Several members collected them but servicing and repairing was an individual matter. Sure, there are plenty of watch courses available in many areas but not necessarily in Houston. The NAWCC sponsors many useful classes but, it would be nice to attend a class and not take time off from work, travel, pay for a hotel, etc. Bringing in outside classes is expensive and, besides, there is plenty of local talent that can be utilized. I was questioned by fellow Chapter members several times over the years to set up a pocket watch class but time was limited due to other related projects. You know, things like repairing fellow customer's watches and clocks, working on the Chapter web page, constructing email notices, attending monthly Tech Sessions, and other tasks that seem to chew up enormous amounts of time, not to mention activities away from watches. Anyhow, time was at a premium and the main stumbling block for making a class a reality was really setting up a lesson guide that made sense and providing supplies for say half dozen students. The subject matter was a no brainer. Provide a simple take it apart, put it back together process for students. Nothing fancy but just pure basics.

A few years ago our Chapter was fortunate enough to have an Australian company transfer an employee to the Houston area who just happens to be an avid pocket watch collector and repairer. He is Shaun Clarke and his presence and excitement about pocket watches was just what it took to provide the spark for creating a class about the inner workings of the pocket watch. Shaun is currently our Chapter Vice President and attends our monthly Tech Sessions on a regular basis. I might add that he is a recent graduate from The Watch & Clockmakers School of Western Australia (WCSWA) in Perth.

Shaun and I met several times over the past year discussing the formation of a pocket watch class and finally came up with what we thought would be a simplified way of presenting it. The basics would include: disassembly, parts identification and reassembly. No trouble shooting would be made as this was considered beyond the scope of our intent and that is, keeping it simple. Easier said than done. How can one keep it simple if students bring in watches that have problems? And, we suspected that most non-serviced watches would have problems. This is just not possible. So now it gets complicated unless we prohibit students from bringing their own watches for use. It was decided at that point to use several watches with one specific type of movement with no initial problems, easy to disassemble, rugged and having plenty of spare parts available just in case there were hidden problems. Could this be done? Well, yes, the objective was easy according to Shaun as he immediately suggested an Elgin 16 size 7 jewel movement, namely the grade 291 as parts were readily available and it was reasonably priced. I didn't ask but suspect he gave this plenty of thought prior to us getting together. Done deal and by the end of one weekend we had acquired enough watches via the internet and personal collections to supply the class. We serviced them and eliminated running problems so that the students would not be hindered by the watches from the very beginning. One advantage is

that the 291 grade Elgin movement contains most parts that are identifiable to just about every standard pocket watch and knowing it will provide knowledge for many other brands. We did provide a couple of options to students. These were, that a student could use any 16 size three quarter watch as long as it was in running condition and verified by an instructor before acceptance, and that a student could purchase the Elgin 291 used for class from the instructor at cost. The latter option of selling class watches to students will probably discontinue with future classes since the process of acquisition and servicing these watches requires more time and effort than instructors can reasonably donate.

A lesson guide was provided by Shaun and designed to give students detailed information of every step of watch disassembly, part identification etc. for class usage and future reference. Detailed photos, charts and tables are included to enhance the learning mode and for future reference.

The very first Chapter 139 sponsored pocket watch class that concentrated on the disassembly, part identification and reassembly of an Elgin 16 size model 7 grade 291 (7jewel) movement was conducted on June 4<sup>th</sup> and 5<sup>th</sup> by Shaun Clarke and Darrah Artzner. The attending students were, Bob Holkin, Edward McDowell, Gordon Shahin, Dennis Carroll, Izak Grinbaum, Gregory Graham and Tim Glanzman, all of whom successfully ended up with a running watch. A couple did not keep accurate time and one other had an alignment problem with a balance jewel but all had had reasonable running watches by the end of the second day. Their knowledge of what makes up a watch, how to disassemble and reassemble a movement, and understanding the effort it takes to make one run correctly increased significantly according to their reviews.

Turn-Key-Coating, owned by member Tim Glanzman, provided the facility and setup for the class and is greatly appreciated. The only down side to the setup was that the Chapter could not provide watch benches for the students that would have provided them with a proper working posture, however, everyone seemed to do just fine even though there were a few stiff necks by the end of the session.

On day one Shaun (Figure 1) introduced the students to the watch to be used for the duration and explained why everyone would be working on the exact same type of movement. He stated that students would learn Pocket Watch nomenclature/functions, watchmakers tool basics, watch disassembly and assembly, mainspring and balance basics, jewel inspection/cleaning, pivot inspection/cleaning, proper lubrication, watch regulation and timing and case basics. He gave a brief history of the maker (Elgin) and history of the movement to be used with slides. He showed the



*Figure 1 Shaun Clarke starting class.*

students how to correctly identify a watch movement, using the Elgin 291 as an example, from references and utilizing that knowledge for locating correct replacement parts. This exercise was stressed since it can be applied to any brand of pocket watch when making repairs and needing replacement parts if available. Other detailed information not specific to the project watch was given on watch operation, gear ratios, sizing, jewels and how to research any movement for its identification. The next topic was basic tools and Darrah took over by discussing the two main tools utilized in watch repair, namely tweezers and jeweler's screw drivers. Three different methods of sharpening were noted and explained why it was important to maintain them. Standard flat and hollow ground sharpening were discussed. Various types of tweezers were shown and described as to their use. Materials used in their construction were noted with discussion of tip shapes, size (length) and tweezer tip pressures. Proper sharpening techniques were demonstrated for both.



Figure 2 Darrah Artzner giving demonstration to class.

Shaun provided on screen views of all tasks to be performed and demonstrations so that students understood exactly what was to be done. Instructors gave individual attention to the students during all phases of their work and remedied any problems encountered so that they did not feel apprehensive about falling behind schedule.

Cleaning movement parts were not performed during the class as time would not permit however the instructors made sure all watches were clean, as stated above, and ran at a moderate rate. I might add that on-site cleaning was made when a couple of late entries had balance assemblies that needed attention in order to run properly. And, main springs were removed from all watch main spring barrels, cleaned and re-installed as this procedure is considered a bit tricky but essential when cleaning movements. Students were required



Figure 3 Shaun giving personal attention to student.

to remove and clean one set of cap jewels from the dial plate. The second set was optional as this would require removal of the hair spring stud from the balance, and since balance work was not to be performed since this would have been encroaching on advanced pocket watch work. A couple of students performed this step due to their advanced knowledge and assistance from an instructor. Everyone was instructed on the proper handling and care of the assembly. Replacing the pallet fork bridge was also one area that was noted with caution since lowering the bridge when securing it tends to destroy many upper pallet arbor pinions.

The instructors explained that minor variations on techniques, whether it is during disassembly, cleaning, assembly etc., could be performed when working on watch movements and that was just fine as long as it results in a nice clean well running movement. In other words, just because it is not done in the class does not mean that another technique is incorrect. Discussion was made on some 'for instance' questions.

Three watch parts were propelled in to the air by students and magnetic sheets, you know, the ones used for making refrigerator magnets, were dragged over the floor for locating the stray parts. It was soon realized that they did not work on larger parts like main spring winding arbors so a large magnet was brought in for the job. No parts were picked up by the magnet but two out of three were recovered by class members a good 10 to 12 feet away from their source. Great Job Guys!

Finally, this class is geared in such a way that those thinking about watch work but are not sure of their capabilities, can attend to determine what capabilities exist as dexterity and mind-set are soon revealed.

The class was a successful undertaking and, due to demand, will be repeated in the Fall. An intermediate class is planned to follow in 2017.