

FILM AND DIGITAL TIMES

Visiting Vitec's OConnor Factory in Costa Rica



Costa Rica



Two years ago, I visited Steve Turner, Product Manager of OConnor, at Vitec's Bury St Edmunds Factory. "One day, you should visit our plant in Costa Rica," he said. In February, Tobias Keuthen, Director of Global Product Marketing at Vitec wrote: "Jon, we would like to invite you tour our factory in Costa Rica, as we are particularly proud of our manufacturing facility there." Steve Turner, added, "How about the day after the ASC awards? There's an Alaska Airlines direct flight from LAX to SJO?"

We staggered, still tuxedoed, out of the ASC Awards after-party (above left). Several hours later, we were roaming a Revenant-worthy rainforest in Costa Rica.

Parque Nacional Tapanti is 223 square miles of the wettest rainforest in Costa Rica (above right), with 26 feet of annual rainfall. The infamous Cerro de la Muerte (Mountain of Death) ascends 11,322 ft to the south: the highest point in Costa Rica on the Pan-American Highway. Our destination, the Vitec Factory in Cartago, is a half hour away.

Costa Rica takes up a mere .03% of the earth's surface but has 6% of its biodiversity. 80% of the local species are still undiscovered, in an area that is 26% protected national parks. Costa Rica is ranked first for political stability in Latin America, and literacy is 96%.



L-R: Tobias Keuthen, Steve Turner and excellent guide Constantino (Costas) Carabaguiaz in Parque Nacional Tapanti.



Costa Rica



Vitec Videocom Costa Rica



The Vitec Videocom Costa Rica Factory occupies a large building in a modern industrial park on the outskirts of Cartago. This historic city in the center of the country was once the capital, before the government relocated to nearby San Jose in 1823.

In the mid 1980s, Sachtler management met a delegation from Costa Rica at a trade fair in Europe. They agreed to invest in a Costa Rican facility to assemble Sachtler legs and heads using components sent from Germany. Twelve people worked in a modest machine shop called Centro de Produccion Profesional Limitada.

Vitec acquired Sachtler in 1995, and by 2003 transferred the entire manufacturing operations from Munich to Cartago with 50 people working on the product line. More than \$15 million was invested in the new factory. In 2007-2008, the OConnor machining and manufacturing operations were moved from Costa Mesa, California. Today, more than 170 skilled workers build OConnor, Sachtler and Vinten heads, legs and accessories in a spotlessly clean, modern, high-tech factory.

Julio Lizano, President & Operations Director of Vitec Videocom Limitada, has developed a world-class facility of which he is justifiably proud. He introduced the management team: Miguel Porras, Catalina Alvarado, Francisco Montoya, Eduardo Solano, John Hill, Alonso Rojas, Alejandro Jirón, Augusto Samudio. It was an interesting lesson in business. The factory is in a free trade zone, and Costa Rica is a part of CAFTA (Central America Free Trade Agreement.) There are many advantages to owning the factory, not outsourcing, proximity to markets and raw materials, and

R-L: Julio Lizano, President of Vitec Videocom Ltda and Global Operations Director for Camera Supports and Accessories. Steve Turner, Product Manager for OConnor. John Hill, Production Manager.



having a highly skilled, educated and happy workforce.

Steve Turner, OConnor Product Manager, spent many months over the past 9 years in Costa Rica working on the transition, and continues to visit from company headquarters in Bury Saint Edmunds. John Hill, Production Manager, worked in Bury, was sent to Cartago, fell in love with the country and a woman, and never returned to England.



Vitec Videocom Costa Rica

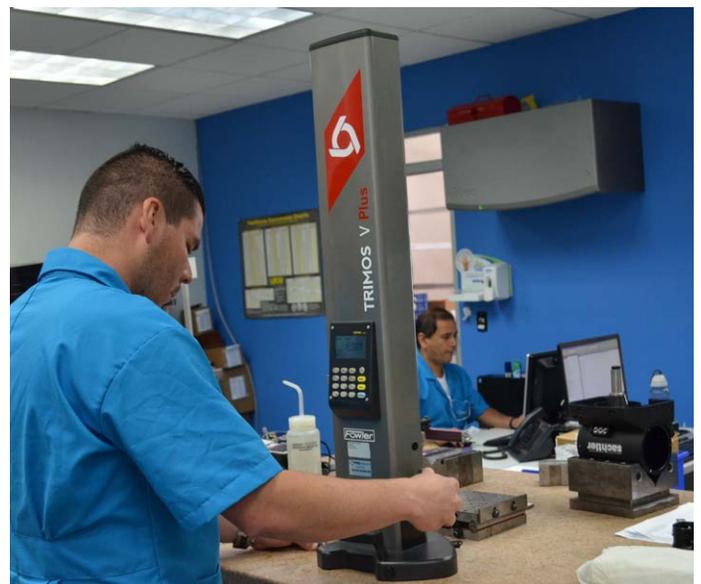


Vitec Videocom Costa Rica makes OConnor, Sachtler, Vinten, and Manfrotto heads and legs.

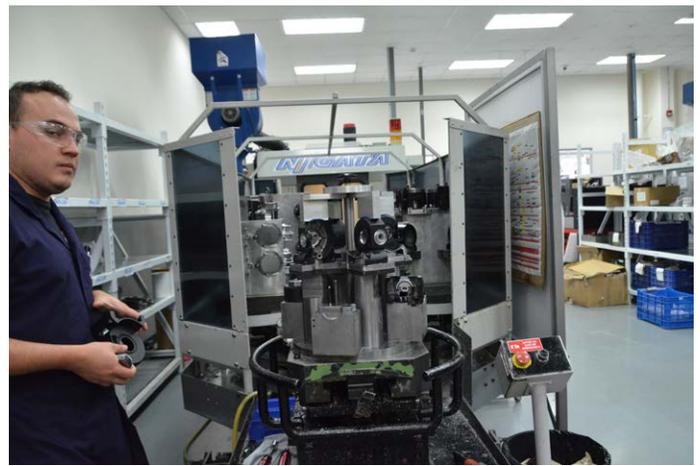
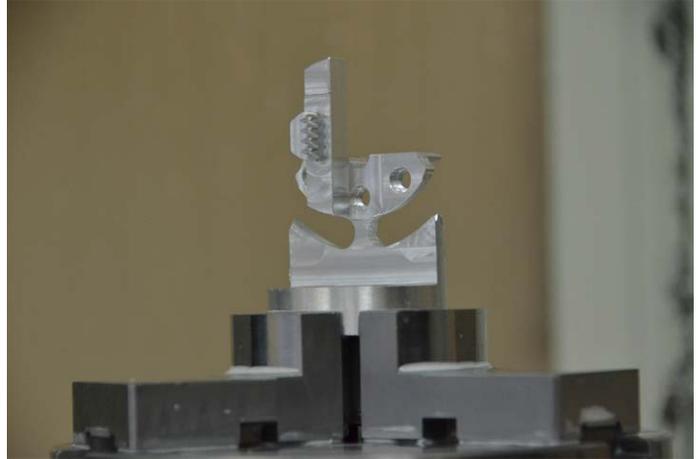
Julio explained:

“If we go back to 2001, Vitec Group made the decision not only to keep the operation in Costa Rica but to develop it by transferring manufacturing processes from Germany, England and the USA. Labor cost was part of the reason, as there was a major difference between the rate here and in the US, UK and Germany. However, this was not the main factor. Material costs were even more important. Therefore, we started to encourage and develop local suppliers who could be capable of producing the key components for our products at the same level of quality but at a lower cost. Compared to the cost of sourcing components in Europe, we were able to achieve savings by producing in Costa Rica or the local region.

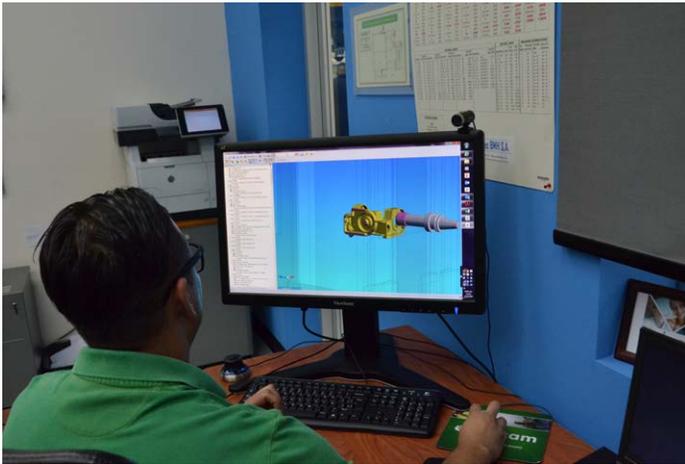
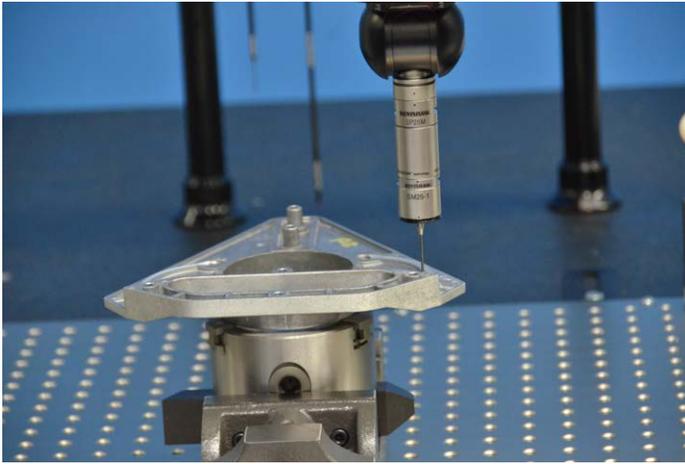
“There were many important reasons to consider Costa Rica as a strategic place to produce our goods. Hourly rates for skilled workers are lower than Europe. Costs of producing components (machining, plastic injection moulding, surface finishing) are also lower. Costa Rica has a very high level of education, particularly in areas such as manufacturing, engineering, quality control, and precision machining. The location in a Free Zone Industrial Park provides tax exemptions on import and export goods. The Free Trade agreement between Central America and the USA (CAFTA) offers additional savings on taxes when goods enter the USA. Costa Rica’s location offers convenient logistics with the USA. And a new trade agreement with the EU will deliver additional benefits.”



Vitec Videocom Costa Rica



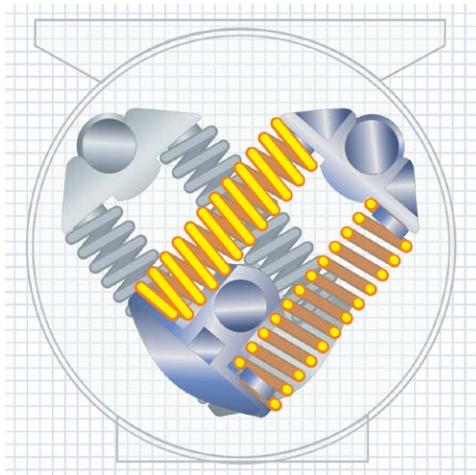
Vitec Videocom Costa Rica



OConnor 2575D

This is what the OConnor 2575D looks like after its 635 parts are assembled and quality checked over the course of two days. It weighs 22.9 lb. (10.4 kg) and supports a camera package of 0-87 lb (0-39.5 kg) at 8" (203 mm) CoG.

OConnor's smooth pan and tilt fluid drag is stepless. The top platform counter-balances with OConnor's patented sinusoidal spring and crank system that keeps the camera weightless at any point in the tilt range.

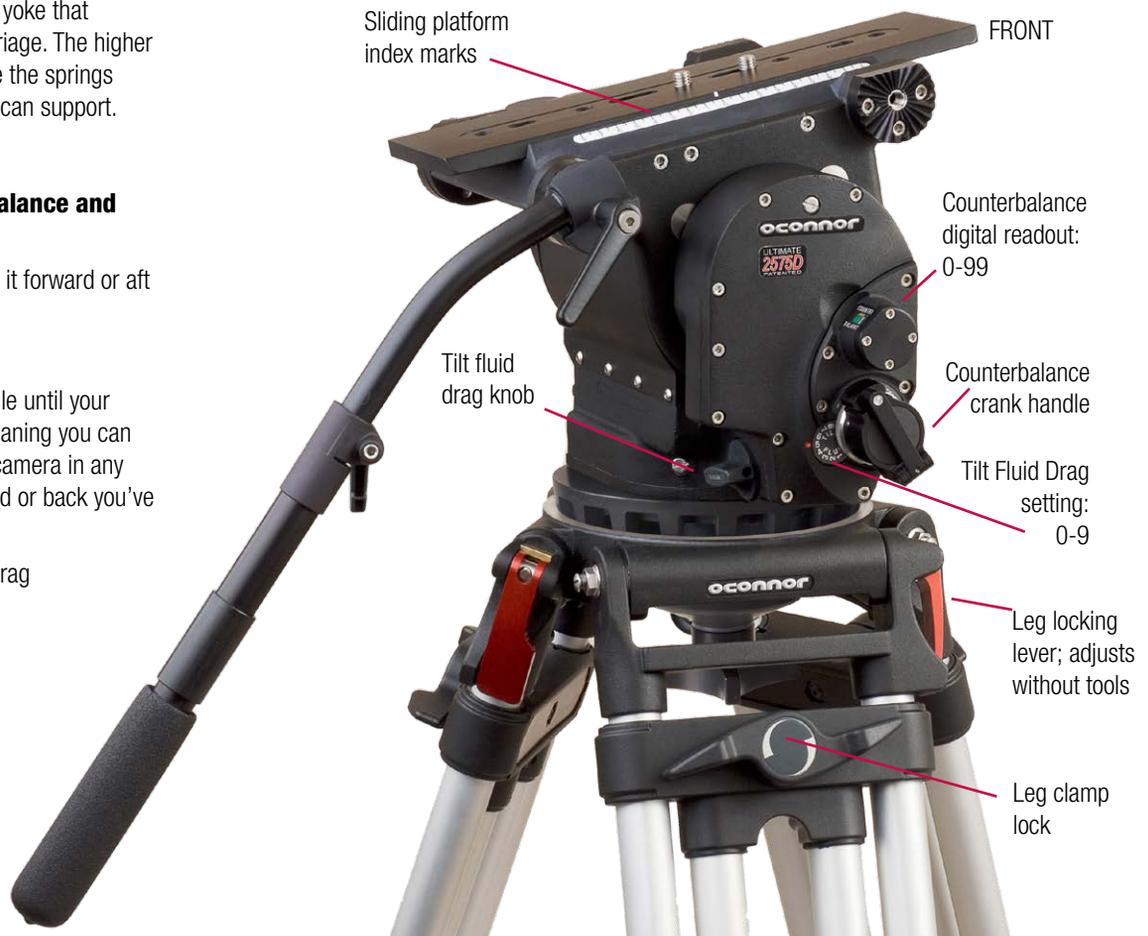


OConnor's **dual axis counterbalance system** involves two sets of springs attached to the Upper Wiffletree on top. A Wiffletree evens out unequal forces. The name comes from the yoke that connects two horses pulling a carriage. The higher the number of the crank, the more the springs extend, and the more weight they can support.

Here's a trick to adjust the balance and counterbalance:

1. Balance your camera by sliding it forward or aft on the sliding platform.
2. Set your tilt fluid drag to "0."
3. Crank the counterbalance handle until your camera is "neutrally buoyant," meaning you can let go of the pan handle with the camera in any position, no matter how far forward or back you've tilted it, and it will remain there.
4. Finally, dial in the tilt and pan drag settings you like.

Shipping. Contrary to popular rumors, you can ship the 2575 with drag and counterbalance settings engaged. There is no need to crank the balance up or down. In fact, it extends the life if you don't fiddle with crank.



Building an OConnor 2575D



“Pura vida” is an expression you hear all the time in Costa Rica. It refers to pure life, happiness and optimism. According to Time Magazine and the Happy Planet Index (HPI), Costa Rica is the happiest country on Earth.

Being a cynical New Yorker, I wasn't sold on the happy, smiley thing until what happened next...

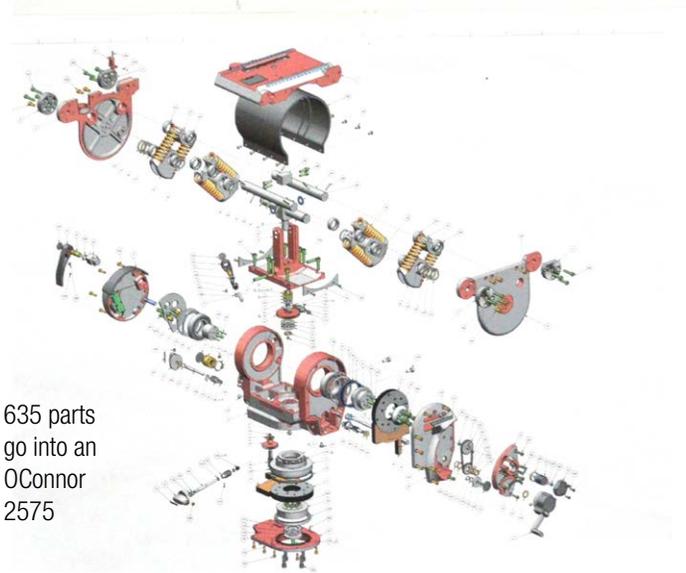
“How would you like to build an OConnor 2575D?” Steve Turner asked. Being the consummate geek, I immediately accepted.

“Meet your professors,” John Hill said as he introduced me to the grinning OConnor assembly group. Were they smiling because this was a crazy idea? Would I manage to emerge unscathed, with all fingers and toes intact? Could I actually help build a finished fluid head from the 635 parts arranged in bins to our left—with names like Sector Drag Assembly and Upper Wiffletree Bearing?

The OConnor 2575 team, above: Rafael Navarro, Edgar Jiménez, Bernardo Campos, JF, Carlos Salazar, Marlon Brenes and Katherine Montoya.



Above: OConnor assembly area. Below: Wiffletree and other parts bins.



635 parts go into an OConnor 2575



Building an OConnor 2575D



1. Attach toe protectors. Some parts are heavy, like the main casting.



2. Organize parts of main pan bearing group.



3. Press bearing assembly onto main shaft of casting



4. Apply grease to O-ring of pan drag adjustment control.



5. Prepare base for pan tension plates

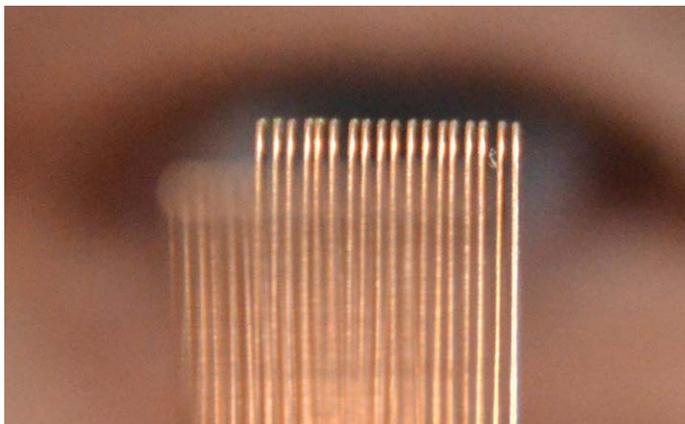


6. Now things become more difficult. Katherine Montoyo presents the copper plates that provide drag to the 2575 head.



7. Two sets of copper plates move against each inside a chamber of fluid. The greater the surface area, the more the drag.

Building an OConnor 2575D



8. Picture shuffling a deck of cards to align the two sets of copper plates.



9. Stack one set of copper plates together with spacers on a jig.



10. Stack the other set of plates on the shaft.



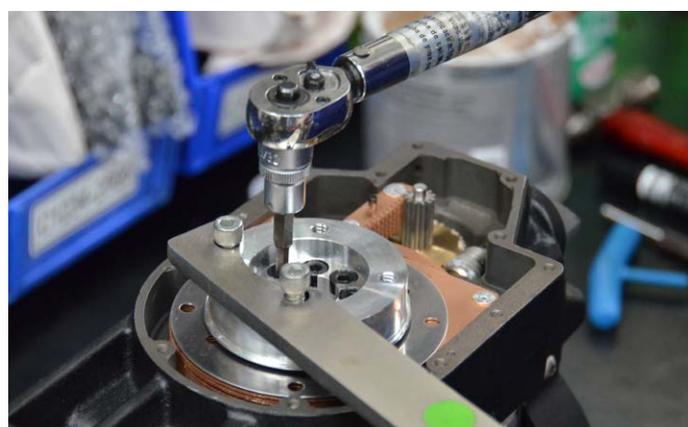
11. Engage the two sets together. Not easy for me.



12. Easy for Katherine. She doesn't even scratch her manicure.



13. Place drag assembly into base casting.

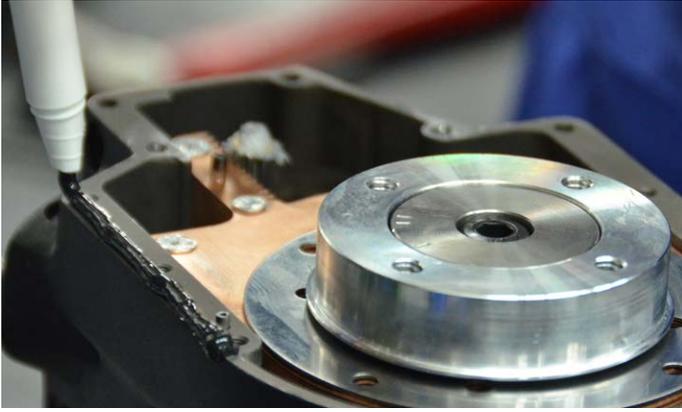


14. Secure and tighten with torque wrench.



15. Tighten center shaft.

Building an OConnor 2575D



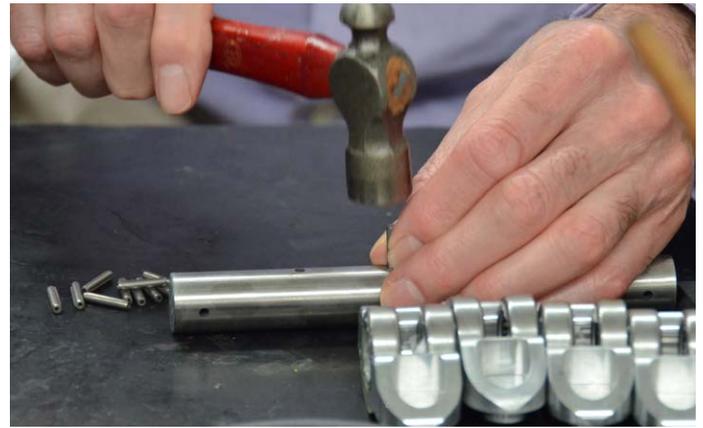
16. Prepare base with airtight seal. It will be filled with fluid later on.



17. Attach cover to base.



18. Grease parts for Whiffletree assembly



19. Line yokes up on shaft and secure with pins



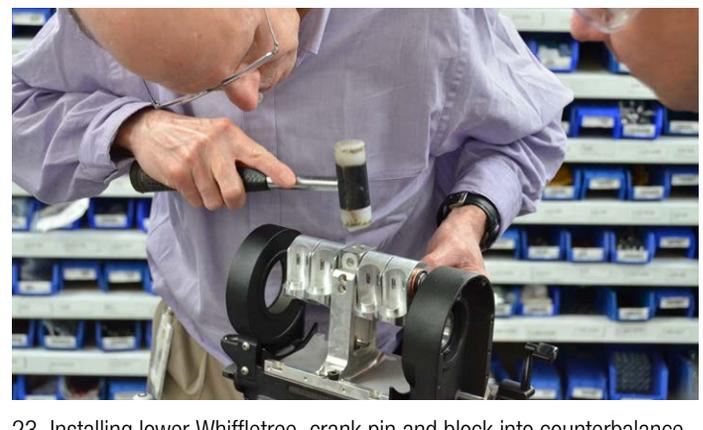
20. Upper Whiffletree shafts on top part of head's tilt assembly.



21. Attach shaft and gears connecting crank to lower Whiffletree.



22. Install counterbalance housing.



23. Installing lower Whiffletree, crank pin and block into counterbalance housing. Yikes, I have managed to get it jammed!

Building an OConnor 2575D



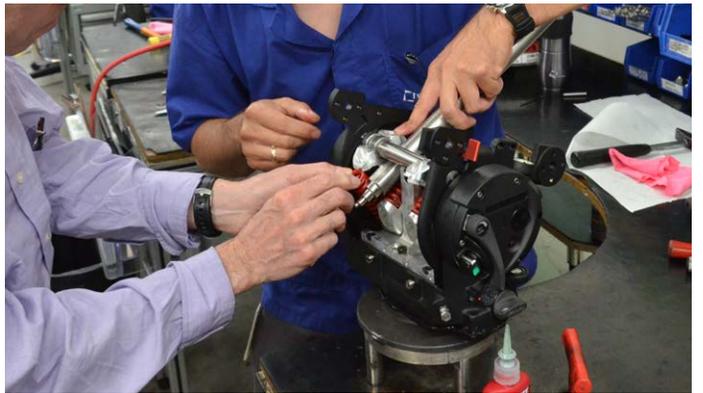
24. Rescued by Rafael and team.



25. Select springs.



26. Prepare Whiffletree



27. Now the hardest part: getting the springs inside.



28. Springs secured.



Disk brake of tilt assembly.

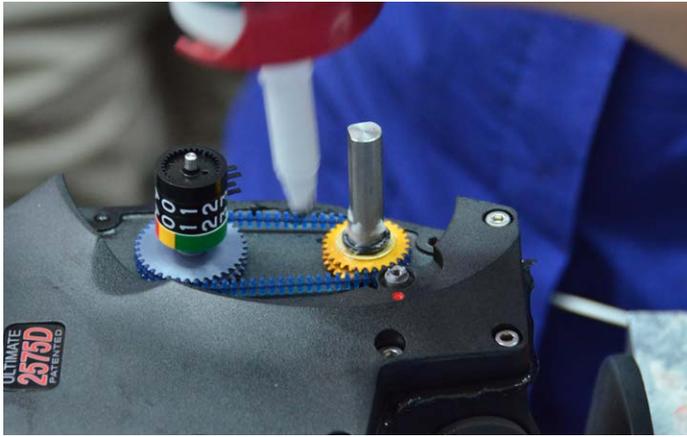


30. Tilt assembly is sealed. Nameplate goes on.

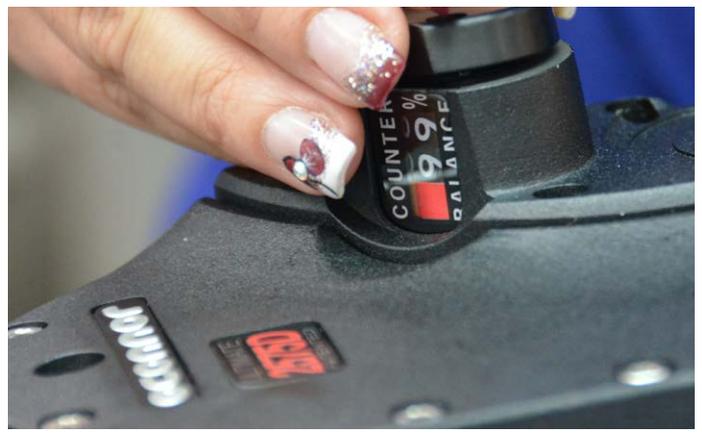


31. Gears for balance indicator attached.

Building an OConnor 2575D



32. Counterbalance indicator mechanism .



33. Counterbalance readout.



34. Place pan and tilt drag readout disks.



33. Add top plates and rosettes for handles.



34. Logos.



35. Paint serial number white.



36.. All my fingers unscathed. Katherine's manicure still impeccable.



37. Fill with silicone fluid and let sit overnight.

Building an OConnor 2575D



38. The next morning, “El Exigente” Marlon Brenes tests the head. Every setting and result is stored into the computer for future reference.



39. QC is done on every head. Each screw, bolt and setting is checked. The inspection of every head takes 1.5 hours.



40. Marlon painstakingly pans and tilts using a laser pointer.



41. He measures force and clocks pound/seconds.



42. He tests the head with various payloads—up to 80 lb.



43. The head must remain neutrally balanced in any position.



44. Sigh of relief. Head # C1234-K1500667 passes inspection.



45. Head # C1234-K1500667 is ready to be packed and shipped.

Building an OConnor 2575D



Message in a bottle: Whoever receives OConnor 2575D Head # C1234-K1500667, please get in touch with FDTimes for a follow-up story on where it wound up. www.fdtimes.com/contact

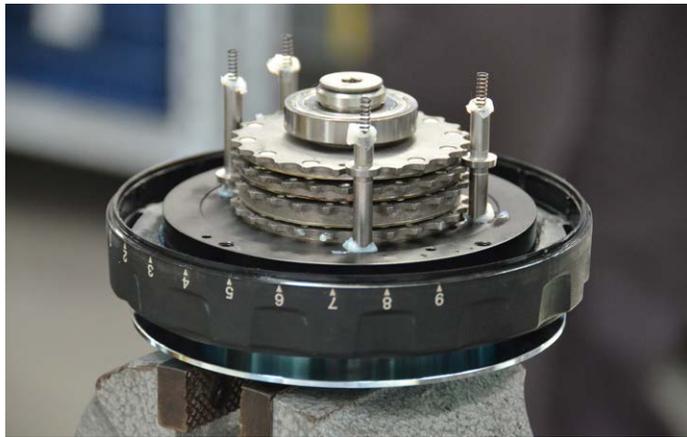
In conclusion, Steve Turner said, “We have worked hard on continuously improving the product. I will go on record saying the heads perform better now, and last longer, than they ever have in the last 27 years. This isn’t opinion—we prove it with tests and statistics.

“Alejandro Jirón, Engineering Manager, has been looking after

the OConnor heads since they were first transferred and has been good friends with Terry Amundson (designer), Joel Johnson (formerly MD of OConnor) and me. Alejandro now makes engineering design changes and suggests manufacturing changes to ensure the heads are always getting better every year on year. We can say that in the last 2 years alone we have made at least 25 design and procedure changes (include 17 engineering drawing changes) to the 2575D—all aimed at improved performance, longer life and better quality of fit and finish.”

Sachtler and Manfrotto

Vitec Videocom Costa Rica also builds Sachtler and Manfrotto heads and tripods, as shown on the following pages.





Sachtler and Manfrotto



Pura Vida: Scenes from Vitec Costa Rica



Pura Vida: Scenes from Vitec Costa Rica



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Photos by Tobias Keuthen and Jon Fauer

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