

August 2021

Edition 6

Spring Series top 3 boats



Third Place – Topless



Second Place – Ruckus



First Place – Namba

Sunshine Coast Yacht Club Newsletter

This is our sixth edition of our newsletter! In this edition, we review our regatta, feature a variety of information, from go fast gear to go fast sailing tips. David Pritchard adds an interesting article on pursuit starts. I discuss our race in the regatta aboard Peter Heiberg's Harr II. Another article by Brad Lowell also finds its way into our newsletter. As always, there is lots of current information on our website at

www.scycsailing.ca

2021 Spring Series was a closely raced series.

The Spring series was a closely contested race series. We completed eight races, with twenty boats taking in at least one race. Winds were steady to strong for the entirety of the series. The series winner wasn't decided until the final race, as both Namba and Ruckus had an opportunity to win with a good result. In the final race, Namba managed to sail out of some doldrums at the leeward mark and finish ahead of Ruckus, securing the win.

Congratulations to Bob and crew on Topless, David on Ruckus and of course our winners, Mark and Denise on Namba!

The 2021 Gibsons Regatta

The Gibsons Regatta is our feature race of the summer. This year's two-day event did not disappoint as winds and sunny skies made for excellent sailing conditions. As in past years it was held on what should have been the Sea Cavalcade weekend. All lot planning and work went into this year's event. Planning for this event began in early April. David Pritchard's hard work in planning this two-day event, which featured junior sailors, a Gibsons Yacht Club barbeque, and a very professional regatta is very much appreciated. The junior sailing regatta was spearheaded by David Sverre and from all accounts was very successful. Jim Forward worked hard to involve the Gibsons Yacht Club and to secure their sponsorship of the Saturday after the race barbeque. Gerry Marcotte provided our committee boat, with Rainer Borkenhagen on board, recording starts and finishes as well as photos. John Sverre and David Sverre set our marks and courses to perfection. Check our website for the full results.

Thank you for all of your hard work. All the sailors I talked to, thoroughly enjoyed our Regatta.

Gibson Regatta Winners

Division two top three boats



3rd place Pavlova



2nd place Take Five



1st place Aura

A view of the Gibsons Regatta - Day aboard Hara II

By Rolf Braun

I was, unfortunately boatless for our regatta, and knowing this Peter Heiberg kindly invited me to sail on his boat. I have had the opportunity to sail on Peter Heiberg's Hara II a few times. It is a very interesting and cool boat that was at one time sailed competitively in the La Solitaire du Figaro. This solo race is considered by many, the unofficial world championship of solo offshore sailing. The boat had not been raced for many years, until Peter purchased it. He has been putting a lot of effort into getting it back into racing condition and it is getting faster and faster.

Peter and I both enjoy getting to the racing area early, in order to take a good look around at the tide, waves, wind, start line and course. Saturday on race day one was no exception. We left the dock early and this allowed us to practice sail the first leg of the distance race prior to the start. We had left the dock with the 105% jib based on the wind conditions that we had studied that morning. Anticipating 15- 20 knot winds, it seemed prudent to use the smaller foresail. On our practice run, it became pretty clear, that the wind that was forecasted, was not going arrive in time for the start. We almost waited too long to make the decision to change sails but with 10 minutes prior to race start we were back behind the start line with the jib stowed and the genoa hoisted.



Hara II with the genoa just prior to the start.

Gibsons Regatta Winners

Division one



3rd Topless



2nd Coho



1st Too Wicked

Taking a look at where the pin had been set up and considering the wind direction in relationship to the Popham Island, we decided that we would attempt to start as close to the pin as possible. As we entered the final minute of the race start countdown, we realized that the pin was a nice to have position but clean air and speed approaching the line, became our main goal. Starting at the pin we ran down just below the start line taking into account other boats that could cause us to turn up and force us over the start line early. The M242, Too Wicked, was just ahead of us on a similar line and when the gun sounded, Too Wicked won the start. We, however, had been able to get on his starboard hip, which gave us clean air for the entire first leg. A good start set us up well for the first leg and we were able to hang onto second place all the way to Worlcombe Island. The late decision to change sails had paid off.

We had a close reach to Worlcombe Island but Topless eventually passed below us and Namba was now reaching hard above us. In what was our only real mistake, one for which I must take the blame for, we attempted to fend him off by coming up. As a result, we simply closed the gap between us, as we neared the downwind portion of the race. Our spinnaker set was uneventful except for the fact that Namba's wind shadow was now making it difficult to fly the spinnaker. It was a painful 10 minutes of slow deep downwind sailing before we could get separation and begin to see our speed increase. Had we allowed Namba to sail high of us, we could have set the spinnaker and sailed a deeper course towards the next mark.

We sailed a very deep downwind course making up time on Coho and Ruckus, who had also passed us during our tangle with Namba. A good gybe, set us up on a course along the Bowen shore. From there we chased Topless and Too Wicked to the mark. We were able to regain third place on this run. It wasn't until after the race and after talking to Michael Clements(Too Wicked), when he explained that they had managed to hook ride on a back current along the shoreline of Bowen. This helped to explain our good fortunes on our way to the Hutt Island mark. It is also interesting to note that the symmetrical spinnaker that Hara II uses, sails downwind so much deeper that the asymmetrical spinnaker that I use on Janes addiction.

A spinnaker takedown just before the Hutt Island marker and a safe rounding put us on a very tight reach towards Keats Island. In the distance of the west side of Keats we viewed boats, heeled hard over and we were now having to travel the main down and at times completing blowing the mainsheet. Peter wanted to put a reef in, when we spotted a lull at the lower end of Keats Island. Peter has a wealth of experience solo sailing and the speed in which he was able to reef the boat was impressive.

Sail and Canvas Repair by David Pritchard

Hand Reef & Sew, Gibsons

We recently received a nice recommendation of a local business, Hand Reef & Sew at the foot of School Road in Gibsons. The recommendation came from a sailor who needed a sail repair and who was very happy with the help he got from the business owner, Ocean Willson.

I went in to see for myself and was impressed by the lovely leather and canvas work she does. While she does not have a long arm sewing machine necessary for full sail making, she is able to do lesser repairs and is able to sew almost any thickness of canvas or leather. Great to see a local business doing this kind of work.

Once around the corner of Keats, our job was to defend our position against the hard charging Coho, a custom-built Spencer 34. The stronger winds that had been predicted earlier in the day, had now arrived on our nose. We decided to close tack the Gibson shore, as we had watched how Topless had made up ground on Too Wicked on this shore. Coho split tacks with us and took the Keats shore. The reefed main allowed us to control Hara II in the rising breeze, and the lift on the shore of Gibsons allowed us to finish third across the line, just ahead of Coho.

Looking back on our race we did some things really well including getting out to the racecourse early, deciding to use the genoa instead of the jib, running down the shore of Bowen, keeping our head outside of our boat and reefing in a lull below Keats. Unfortunately, we also should have avoided Namba and we may have been able to improve our corrected finish time. Many thanks to Peter for allowing me to race on his boat!

Virtual Crew Circle

Before our covid contained races, our crew circle was growing and attracting new and experienced crew, that wanted to get a chance to sail on one of our Sunday race boats. In an effort to continue to grow participation and grow our club we have introduced a virtual crew circle on our webpage. David Pritchard has created a page that will allow available crew to be matched with skippers looking for crew taking into account covid protocols. Please encourage those that are looking for a Sunday ride to visit our website at www.scycsailing.ca.

If you need crew, now you have a place to find them!

Loos Gauge

The Loos tension gauges take the guesswork out of cable or rod tension adjustment. They are especially designed for accurate, repeatable tuning of a sailboat's standing rigging. Several SCYC members have Loos gauges of assorted sizes, including David Pritchard, Vatche, and Rolf. Feel free to email us if you would like to borrow one to ensure that your rigging is on target.



Dinghy Capers

Submitted by Kim Davies

A group of us (Kim, Bruce, Mark, Ignacio, Giselle, Jim, and other keeners) wanting to get some dinghy experience put together a group of 3 Lasers and have been sailing off the beach on Tuesday and other ad hoc evenings and days. Some newbies, some more experienced keel boat sailors wanting to get a better feel for boat handling and trim for racing are participating. A good, sometimes wet time is had by all.



Halibut Banks Distance Race



Halibut Banks Weather Buoy

Mark your calendar for our annual Halibut Banks distance race. Its ten nautical miles out and ten nautical miles back. Trophies for 1st, 2nd, and 3rd.

Date is for September 12th



Take Five

Boats in our Fleet - *Django*

The Grampian 28 was built by Grampian Marine in Oakville, Ontario starting in 1975. 107 examples were built. It was built to be a cruising keelboat and was built using fiberglass, with wood trim. The Grampian 28 has wide decks and good visibility from the cockpit.

It has a masthead sloop rig, a skeg-mounted rudder and a fixed fin keel. It displaces 6,900 lb and carries 3,060 lb of ballast. Django has a draft of 4.83 ft with the standard keel.

The design is fitted with a Volvo diesel 10hp engine. The fuel tank holds 20 U.S. gallons, and the freshwater tank has a capacity of 20 U.S. gallons.

Grampian 28s have a PHRF racing average handicap of 195 with a high of 186 and low of 204 with spinnaker. In our fleet, based on its sail measurements Django rates 247. Grampians are well built yachts, which have touch speed.

Django is one of the two GYC club boats that you regularly see on our racecourses. For more information on the GYC club boats visit www.gibsonsyachtclub.com.



Django at our 2021 regatta

Meet a member - David Sverre aka Take Five!

When did you start sailing?

Started sailing as a child on our family sailboat. Summers were spent cruising the gulf islands and beyond. My first memory of sail racing was in the mid 60's where I raced a Sabot near Port Alberni (similar to an optimist!) and won; I have been hooked on sailing since!

What is your favourite boat that you have owned or sailed on?

I have been lucky to have sailed on a series of boats from cruising to race boats. I learned that it is important to have the right boat to fit your boating desires. My current boat, a 30' Nonsuch is a great cruising boat and fun to day sail, so it fits my lifestyle perfectly. My most exciting boat was a Taipan 16-foot catamaran that I raced for 5 years in Singapore with the same 2-man crew. A 105 kg boat with daggerboards, 380 sq feet of carbon sails and rotating mast is an adrenaline rush to push it down wind at 2 times wind speed!

Where is your favourite cruising destination?

I love our local waters and glad to have such a good area to cruise in every year. My favourite location for international sailing is Bora bora in Tahiti. It offers good open ocean sailing and inside the reefs it calms down to smooth water and stunningly clear water!

What is your best racing moment?

When rounding the last upwind mark in the Taipan in a fast-building wind situation we launched the chute! (Actually, a crazy thing to do!) We were both on the wire, as far aft on hulls as possible, sheeted in. Then the acceleration kicked in and we sailed faster than we had ever sailed before, bouncing off the top of the waves! At this point I was amazed that my German partner at the helm started singing at the top of his voice, (which he later told me he only did when he was really scared). We held it together and crossed the line winning the race as not one other boat dared to follow, but we were confident in our teamwork, and it worked.

What is your favourite drink on board?

I like to have a Persephone stout after cruising and local Lager after racing!

Racing Rule definitions:

Clear Astern and Clear Ahead; Overlap

One boat is *clear astern* of another when her hull and equipment in normal position are behind a line abeam from the aftermost point of the other boat's hull and equipment in normal position. The other boat is *clear ahead*. They *overlap* when neither is *clear astern*. However, they also *overlap* when a boat between them *overlaps* both. These terms always apply to boats on the same *tack*. They apply to boats on opposite *tacks* only when rule 18 applies between them or when both boats are sailing more than ninety degrees from the true wind.

Talk to Me

by Brad Lowell

Good spinnaker trim starts with effective communication between trimmer and helmsman, but there are subtleties in the trimming that make a significant difference.

*Useful upwind chatter
The bow communicates puffs, light spots, flatter water, and waves as well as the next mark's location:
"Big puff coming in 3, 2, 1 . . . and it sustains. Mark is at 11 o'clock." It's helpful to know if the puff sustains or not, so your team trimmers know how much and how long to de-power the boat if necessary. Calling the lulls and how long they last, is just as important.*

The helmsman should talk about how the boat feels and whether there is enough power, and about what mode of sailing is required for the given boat-to-boat and strategic situations.

Talk to Me! A seldom recognized advantage is available to those boats with two or more sailors on board, but few boats utilize this advantage to its fullest. Communications between crew can make a winning difference when practiced routinely. Now most of us on the helm have heard the call from our trimmer: "You're pinching"! The lesson here for both sailors is this is not meant as a criticism and should not be seen as such by either sailor. Racing on a sailboat involves a multitude of decisions and the skipper/helmsman/tactician must decipher a large number of inputs to successfully make way down the course. Missing one of these inputs during a race is hardly unexpected. Having crew who pick up and communicate this information to the helmsman can be a real help. Furthermore, there are instances where both the helmsman and the trimmer need to respond together...vocalizing these observations will help the team work more effectively. Common observations to be shared between sailors could be: identifying gusts approaching the vessel with even a countdown till it arrives, wind changes up the course, signs of current, other vessels crossing or even a general observation such as "the boat seems slow"! And it is not a one-way street for information exchange. The helmsman should be letting the trimmer know immediately if he is having to apply too much lee or weather helm...a rudder that's on all the time is nothing more than a brake and can be easily remedied by the trimmer. The tactician /helmsman should be giving a heads up to the crew when approaching the mark to explain the tactics and expected actions from the crew. Surprise tacks and gybes cost time. Finally, from experience, skippers take mistakes to heart and can dwell on them during the race. A crew member who recognizes the skippers head is not in the game can help the skipper focus on the now and rally the boat by saying something as simple as let's get that boat just in front of us! There is a lot of information streaming to each person on board the boat...information that can be shared for the mutual benefit of the team...so, keep the comments brief, avoid the negative and use this simple winning advantage. Too much communication is better than not enough!

Racing Rule Definitions:

Keep Clear

A boat *keeps clear* of a right-of-way boat

- 1. if the right-of-way boat can sail her course with no need to take avoiding action and,
- 2. when the boats are *overlapped*, if the right-of-way boat can also change course in both directions without immediately making contact.

We’re considering a way to manage start times for pursuit races - take a look and let us know what you think

by Dave Pritchard

For a while now we have been running many of our races using pursuit starts. What that means is instead of having all the boats in a race start together (we call that a “Shotgun start”), we have the slower boats start first and faster boats progressively later. The start time for each boat is calculated such that, in theory, all boats would finish at the same time. The main idea behind it is to mix the fleet up a bit and add variety to our racing.

Here is an example of how the pursuit start times are calculated:
Boat name: Django PHRF 247 (“247” means seconds per mile above a base of 520 secs/mile, so the predicted speed of Django is $520+247 = 767$ secs/mile)
Boat name: Topless PHRF 108 (similarly the predicted speed of Topless is $520+108 = 628$ secs/mile Assume a Course length of 9 nm
So, we have to work out how much later Topless should start so that they both complete the course at the same GPS time.
Since Topless is 139 secs/mile faster than Django, and the course length is 9 nm, Topless should start 139×9 seconds after Django. $139 \times 9 = 1251$ secs = **20 minutes 51 seconds** after. If you look at the table published on our website for course IH-#9, which is nine miles, you will see that it shows the same time.

So, what we have been doing is correct but the problem with it is that every time we get a new boat in the fleet, or a boat’s rating changes, the entire table has to be recalculated and republished. That is a lot of repetitive work and can result in confusion with different versions of the table in circulation.

There is a better way. Quite a few other clubs are using it, including Sidney North Saanich YC who introduced it to me.
The way it works is pretty simple - a matrix, or table, which shows course length on the top axis, and PHRF ratings at intervals of five on the vertical axis. See copy on the next page.

To use it you find the PHRF rating closest to yours (round up or down depending on which is closest) and then read across until you come to the column for the course you want - that intersection cell will show your start time delay.

Here are two examples:

Course IH#3 9.0 NM

Boat: Django PHRF 247. Nearest rating on matrix (rounding down) is 245.

Time delay in 3rd column is

0 min 45 secs after race start.

Boat: Topless PHRF 108. Nearest rating on matrix (rounding up) is 110.

Time delay in third column is 21 minutes 00 secs.

So, in this case Topless starts **20 minutes 15 secs after Django.**

Our existing start times table shows Topless starting **20 minutes 51 seconds after Django.** So, in this case the rounding of ratings inherent in the matrix lookup method “costs” Django 36 seconds - an insignificant difference considering a total race time of around two hours.

A big advantage of the matrix method is that it never changes unless we add a new course of different length. Also, it is a simple one-page sheet that skippers can easily refer to and that the Committee boat can easily refer to. It will change the Committee Boat start procedure a bit since the list of boats checked in will need to have the start delay noted for each boat once the course is decided.

Another use of the table is that for shotgun start races you can easily see by looking at the difference in start times between you and a competitor, how much time you need to beat that competitor by to win.

course	IH#1	IH#2	IH#3	IH#5	IH#6	OS#1	OS#2	OS#4	OS#5	OS#6	OS#7	
Distance n.ml	7.1	8.4	9.0	10.9	10.8	8.0	8.7	7.0	12.6	14.3	11.7	
RATING												RATING
300s	-5m 55s	-7m 0s	-7m 30s	-9m 5s	-9m 0s	-6m 40s	-7m 15s	-5m 50s	-10m 30s	-11m 55s	-9m 45s	300s
295s	-5m 20s	-6m 18s	-6m 45s	-8m 11s	-8m 6s	-6m 0s	-6m 32s	-5m 15s	-9m 27s	-10m 44s	-8m 47s	295s
290s	-4m 44s	-5m 36s	-6m 0s	-7m 16s	-7m 12s	-5m 20s	-5m 48s	-4m 40s	-8m 24s	-9m 32s	-7m 48s	290s
285s	-4m 9s	-4m 54s	-5m 15s	-6m 22s	-6m 18s	-4m 40s	-5m 5s	-4m 5s	-7m 21s	-8m 21s	-6m 50s	285s
280s	-3m 33s	-4m 12s	-4m 30s	-5m 27s	-5m 24s	-4m 0s	-4m 21s	-3m 30s	-6m 18s	-7m 9s	-5m 51s	280s
275s	-2m 58s	-3m 30s	-3m 45s	-4m 33s	-4m 30s	-3m 20s	-3m 38s	-2m 55s	-5m 15s	-5m 58s	-4m 53s	275s
270s	-2m 22s	-2m 48s	-3m 0s	-3m 38s	-3m 36s	-2m 40s	-2m 54s	-2m 20s	-4m 12s	-4m 46s	-3m 54s	270s
265s	-1m 47s	-2m 6s	-2m 15s	-2m 44s	-2m 42s	-2m 0s	-2m 11s	-1m 45s	-3m 9s	-3m 35s	-2m 56s	265s
260s	-1m 11s	-1m 24s	-1m 30s	-1m 49s	-1m 48s	-1m 20s	-1m 27s	-1m 10s	-2m 6s	-2m 23s	-1m 57s	260s
255s	-0m 36s	-0m 42s	-0m 45s	-0m 55s	-0m 54s	-0m 40s	-0m 44s	-0m 35s	-1m 3s	-1m 12s	-0m 59s	255s
250s	0m 0s	0m 0s	0m 0s	0m 0s	0m 0s	0m 0s	0m 0s	0m 0s	0m 0s	0m 0s	0m 0s	250s
245s	0m 36s	0m 42s	0m 45s	0m 55s	0m 54s	0m 40s	0m 44s	0m 35s	1m 3s	1m 12s	0m 59s	245s
240s	1m 11s	1m 24s	1m 30s	1m 49s	1m 48s	1m 20s	1m 27s	1m 10s	2m 6s	2m 23s	1m 57s	240s
235s	1m 47s	2m 6s	2m 15s	2m 44s	2m 42s	2m 0s	2m 11s	1m 45s	3m 9s	3m 35s	2m 56s	235s
230s	2m 22s	2m 48s	3m 0s	3m 38s	3m 36s	2m 40s	2m 54s	2m 20s	4m 12s	4m 46s	3m 54s	230s
225s	2m 58s	3m 30s	3m 45s	4m 33s	4m 30s	3m 20s	3m 38s	2m 55s	5m 15s	5m 58s	4m 53s	225s
220s	3m 33s	4m 12s	4m 30s	5m 27s	5m 24s	4m 0s	4m 21s	3m 30s	6m 18s	7m 9s	5m 51s	220s
215s	4m 9s	4m 54s	5m 15s	6m 22s	6m 18s	4m 40s	5m 5s	4m 5s	7m 21s	8m 21s	6m 50s	215s
210s	4m 44s	5m 36s	6m 0s	7m 16s	7m 12s	5m 20s	5m 48s	4m 40s	8m 24s	9m 32s	7m 48s	210s
205s	5m 20s	6m 18s	6m 45s	8m 11s	8m 6s	6m 0s	6m 32s	5m 15s	9m 27s	10m 44s	8m 47s	205s
200s	5m 55s	7m 0s	7m 30s	9m 5s	9m 0s	6m 40s	7m 15s	5m 50s	10m 30s	11m 55s	9m 45s	200s
195s	6m 31s	7m 42s	8m 15s	10m 0s	9m 54s	7m 20s	7m 59s	6m 25s	11m 33s	13m 7s	10m 44s	195s
190s	7m 6s	8m 24s	9m 0s	10m 54s	10m 48s	8m 0s	8m 42s	7m 0s	12m 36s	14m 18s	11m 42s	190s
185s	7m 42s	9m 6s	9m 45s	11m 49s	11m 42s	8m 40s	9m 26s	7m 35s	13m 39s	15m 30s	12m 41s	185s
180s	8m 17s	9m 48s	10m 30s	12m 43s	12m 36s	9m 20s	10m 9s	8m 10s	14m 42s	16m 41s	13m 39s	180s
175s	8m 53s	10m 30s	11m 15s	13m 38s	13m 30s	10m 0s	10m 53s	8m 45s	15m 45s	17m 53s	14m 38s	175s
170s	9m 28s	11m 12s	12m 0s	14m 32s	14m 24s	10m 40s	11m 36s	9m 20s	16m 48s	19m 4s	15m 36s	170s
165s	10m 4s	11m 54s	12m 45s	15m 27s	15m 18s	11m 20s	12m 20s	9m 55s	17m 51s	20m 16s	16m 35s	165s
160s	10m 39s	12m 36s	13m 30s	16m 21s	16m 12s	12m 0s	13m 3s	10m 30s	18m 54s	21m 27s	17m 33s	160s
155s	11m 15s	13m 18s	14m 15s	17m 16s	17m 6s	12m 40s	13m 47s	11m 5s	19m 57s	22m 39s	18m 32s	155s
150s	11m 50s	14m 0s	15m 0s	18m 10s	18m 0s	13m 20s	14m 30s	11m 40s	21m 0s	23m 50s	19m 30s	150s
145s	12m 26s	14m 42s	15m 45s	19m 5s	18m 54s	14m 0s	15m 14s	12m 15s	22m 3s	25m 2s	20m 29s	145s
140s	13m 1s	15m 24s	16m 30s	19m 59s	19m 48s	14m 40s	15m 57s	12m 50s	23m 6s	26m 13s	21m 27s	140s
135s	13m 37s	16m 6s	17m 15s	20m 54s	20m 42s	15m 20s	16m 41s	13m 25s	24m 9s	27m 25s	22m 26s	135s
130s	14m 12s	16m 48s	18m 0s	21m 48s	21m 36s	16m 0s	17m 24s	14m 0s	25m 12s	28m 36s	23m 24s	130s
125s	14m 48s	17m 30s	18m 45s	22m 43s	22m 30s	16m 40s	18m 8s	14m 35s	26m 15s	29m 48s	24m 23s	125s
120s	15m 23s	18m 12s	19m 30s	23m 37s	23m 24s	17m 20s	18m 51s	15m 10s	27m 18s	30m 59s	25m 21s	120s
115s	15m 59s	18m 54s	20m 15s	24m 32s	24m 18s	18m 0s	19m 35s	15m 45s	28m 21s	32m 11s	26m 20s	115s
110s	16m 34s	19m 36s	21m 0s	25m 26s	25m 12s	18m 40s	20m 18s	16m 20s	29m 24s	33m 22s	27m 18s	110s
105s	17m 10s	20m 18s	21m 45s	26m 21s	26m 6s	19m 20s	21m 2s	16m 55s	30m 27s	34m 34s	28m 17s	105s

100s	17m 45s	21m 0s	22m 30s	27m 15s	27m 0s	20m 0s	21m 45s	17m 30s	31m 30s	35m 45s	29m 15s	100s
95s	18m 21s	21m 42s	23m 15s	28m 10s	27m 54s	20m 40s	22m 29s	18m 5s	32m 33s	36m 57s	30m 14s	95s
90s	18m 56s	22m 24s	24m 0s	29m 4s	28m 48s	21m 20s	23m 12s	18m 40s	33m 36s	38m 8s	31m 12s	90s
85s	19m 32s	23m 6s	24m 45s	29m 59s	29m 42s	22m 0s	23m 56s	19m 15s	34m 39s	39m 20s	32m 11s	85s