



The Rum Tub or Norrie's Nocturnal and Nautical Natter

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A Bookseller conducting a market survey asked a woman – “Which book has helped you most in your life?”

The woman replied, “My husband’s cheque book!!”

A prospective husband in a book store “Do you have a book called ‘Husband – the Master of the House?’” Sales girl: “Sir, fiction and comics are on the 1st floor!”

Pharmacist to customer: “Sir, please understand, to buy an anti-depression pill you need a proper prescription ...Simply showing your marriage certificate and wife’s picture is not enough!

For MEN.....and WOMEN with a bit of humour.

A man was granted two wishes by God. He asked for the best drink & the best woman ever. Next moment he got Swiss mineral water & Mother Teresa.

There are 3 kinds of men in this world. Some remain single and make wonders happen. Some have girlfriends and see wonders happen. Many get married and wonder what happened!?

COOL MESSAGE BY A WIFE: Dear Mother-in-law, Don't teach me how to handle my children. I am living with one of yours and he needs a lot of improvement!?

HMS Ulster

Rum Tub

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Editorial

By Shipmate Norrie Millen

Hi! Shipmates,

I had a real surprise last week, my nephew who I have not seen or spoken to in almost 50 years, turned up out of the blue in Shaldon for a two day flying visit on a round robin tour of Devon. He lives up in the dark country, London! Well almost London, Northolt in Middlesex. Wherever I went in the world, I would buy him a set of local stamps and mail them to him; his collection was the envy of his schoolmates and included stamps from behind the Iron Curtain. We had much to talk about and tried to cram 50 years into a few hours. He is the eldest son of my elder brother who turns 90 this year. Makes me feel almost young at the tender age of 76 going on 77!

Well my plea to you non responders was waste of effort, not one of you could be bothered to acknowledge my email plea for you to let me know if you were or were not planning to attend the reunion in Derby. It is very disheartening and indeed frustrating not knowing if you are even receiving my emails, maybe I am black listed or blocked, there must be some, logical reason why you do not or cannot respond.

Sad to report that wee Jock Bain (1958-60) has gone SAWOL. Emails bounced back and the phone number he gave me no longer in service. I even sent him a snail mail hoping for some sort of response to no avail. As he was living in Malaysia, not to far from Singapore, I can hardly drop in or get another shipmate to do so to establish why all contact information has failed.

On a more technical note and for those of you computer friendly people, never ever buy an HP printer. Many years ago I had one which gave me nothing but problems. I vowed never to buy one again. Looking around on line for a two tray printer that could print up to A3 size, I spotted what I thought was a real bargain. Forgetting about my vow not to buy HP again, I clicked on buy without thinking. Blooming thing was massive and I was unable to lift it. The delivery man carried it in and unpacked it for me. I must admit the print quality was amazing and very fast, that is when it decided to work. I guess all that glitters is not gold!

The way I see it anyway!



AL CAPONE

Submitted by Shipmate Bob Styants Enginroom Associaton

Story one

Many years ago, Al Capone virtually owned Chicago: he wasn't famous for anything heroic, he was notorious for enmeshing the 'Windy City' in everything from bootleg booze to prostitution and murder.

Capone had a lawyer named 'Easy Eddie'; he was Capone's lawyer for a good reason: his skill at legal manoeuvring kept Capone out of prison for a long time.

In appreciation Big Al paid him very well and special dividends.

He and his family owned a fenced in with live in help and all the conveniences of the day.

The estate was so large it filled an entire city block.

'Eddie' lived the high life of the Chicago mob, and gave little consideration to the atrocities going on around him.

He did have one soft spot however; he had a son that he loved dearly.

He saw that he had clothes, cars and a good education: nothing was withheld, price no object.

In spite of his involvement in organised crime, 'Eddie' tried to teach his son right from wrong.

He wanted his son to be a better man than he.

Yet, with all his wealth and influence he couldn't pass on to his son a good name, or good example or semblance of integrity.

He reached a difficult decision to rectify the wrongs he had done.

He decided to go to the authorities and tell the truth about 'Scarface Al Capone.

To testify the cost would be great: within a year 'Easy Eddies' life ended in a blaze of gunfire on a lonely Chicago street, but in his eyes he had given his son the greatest gift he had to offer, at the greatest price.

Police removed from his pockets a rosary, a crucifix, a religious medallion and a poem clipped from a magazine which read 'the clock

of life is wound but once, and no man has the power to tell just when the hands will stop, at late or early hour; now is the only time you own, live, love, toil with a will: place no faith in time, for the clock may still be still.

Story Two.

Move on some years to WWII which produced many heroes: one such was Lt. Cmdr. 'Butch' O'Hare a fighter pilot attached to the aircraft carrier 'Lexington' in the South Pacific.

On February 20th. 1942 his entire squadron was on a mission: 'Butch' realised someone had neglected to top up his fuel tank; he would not have enough to complete his mission and return to the ship.

His flight leader told him to return to the ship, but in doing so he found a formation of Japanese planes heading towards the US fleet.

Unable to call back the American squadron or warn the fleet he did the only thing he could do and dove into the Japanese firing at one plane after another until his ammunition ran out.

Then he attempted to clip enemy wings until exasperated, the Japanese took off in another direction.

Deeply relieved 'Butch' and his tattered plane limped back to the ship.

The film from the wing mounted cameras told the tale of his daring attempt to save the fleet.

He had in fact destroyed five enemy aircraft.

'Butch' O'Hare became the first became the first naval aviator to win the 'Medal of Honour'

A year later he was killed in aerial combat at the age of 29.

His home town would not let the memory of this WWII hero fade, and today O'Hare airport in Chicago is named after this brave man.

The memorial displaying his statue and his 'medal of honour' is displayed between terminals one and two.

What do these two stories have in common? 'Butch' O'Hare was 'Easy Eddies' son!

Following poems submitted by Shipmate Carl Goodwin

HMS Shannon v USS Chesapeake

The challenge was accepted, the Americans came down,

A finer frigate ne'er belonged to the British Crown,
They brought her into action on the true British plan,
Nor fired a shot till within hail – then the fight began.

Broadside for broadside then did yield a tremendous roar,
Like thunder it resounded, re-echoed from each shore,
This dreadful firing lasted near a quarter of an hour,
Then the enemy's ship drove right aboard, their yards were locked in ours.

Our captain went to their ships side to see how she did lie,
When he beheld the enemy's men, who from their guns did fly,
"All hands for boarding! Now he cried The victory is sure,
Come bear a hand, my gallant boys, to our prize

Like lions then we rushed aboard, we fought them hand to hand,
And tho' they outnumbered us, they could not withstand,
They fought in desperation, disorder and dismay,
And in about three minute's time were forced to give way.

Their captain and lieutenant with seventy of the crew,
Were killed in this sharp action and a hundred wounded too,
The ship was taken to Halifax and the captain buried there,
And the remainder of his crew as is, chief mourners were.

*I only drink a little, but
when I do, I turn into
another person and that
person drinks a lot.*

The Ships Bell

The Admiral quitted final command,
And, laden with honours, went back into the land,
Enjoying its blessings; and when on a day,
A ship breaking firm towed his flagship away,
He purchased her bell which hung on a wall,
Rejoicing his pensioner, Coxswain withal.

The latter, whose gait was a nautical roll,
Was a faithful; efficient but reticent soul,
Who burnished the bell to a glory unmatched,
And whitened on Sundays, a yoke line attached,
Whereby the first footman with rites of the sea,
Struck eight bells for dinner and two bells for tea.

But zeal very seldom wins all, it deserves,
And the clamour got on her ladyships nerves,
Who "Issued a memo"(If that's how it's done),
Reducing the strokes to a uniform – one-,
Whatever the hour and whichever the meal,
Though the Cox'n said nothing, he thought a good deal.

For the Admiral's smile was changed from a frown,
Omnipotence ends when the flag is hauled down,
And he muttered in wrath of a – something – disgrace,
As he tramped up and down with a strict service face.
Which his Cox'n, with others, had noted of yore,
As "forecast – unsettled" with trouble in store.

It was then that the kitchen seemed under a curse,
If the tea was distasteful and dinner grew worse,
Though the cook' done her best to have everything nice'
The guests would, get everything cold but the ice,
Till; her ladyship's anger explosively fell,
One day on the Cox'n intent on his bell.

When the storm had abated "My Lady" quoth he,
A begging your pardon, they do say, at sea,
Ships bells have a sort of spirit, they says,
That never takes kindly to shore going ways,
You must strike 'em the way they've been trained to be struck,
But toll on like you do, they don't bring you luck.
The oracle ceased and proceeded again,
With rag and with bluebell to polish again,

While her ladyships lips half suspiciously twitched,
As she started at the bell as at something bewitched,
Though what she was things not easy to say,
She cancelled her memo the very next day

AN INCIDENT IN WW I.

Submitted by Bob Styants – Engineroom Branch Association

Sydney Lewis Styants (my father) was a rifleman in the King's Royal Rifle Corps., serving in the Great War 1914-18.

In 1916, he won the Military Medal for bravery.

He did tell me, as a child, that it was for killing a number of Germans with a Lewis Gun.

He was taken prisoner on 21st, March, 1918 on the first day of the German Spring offensive on a front between Arras and La Flere, Flanders, with the major effort on a twenty mile front near the town of St. Quentin by the River Somme.

The British, Australian & Canadian Brigades were all in a line with the colonel in front on his horse: the Germans broke the line and encircled part of it, driving the allies through the trenches from behind throwing Mills bombs.

Everyone was screaming Go on Go! on!, not knowing the enemy had set up a machine gun on the road they had to cross: my father got across into trenches the other side of the road, only to be held up by a German officer and a corporal with a pistol, and he was held prisoner at the town of St. Quentin.

Each week a German corporal marched a party of P.O.W.'s through the town to collect Red Cross parcels at the post office.

One week they knocked the corporal on the head, into a ditch, and carried on marching without notice by the locals.

They stole a boat to cross the River Somme, but were quickly recaptured and put in the basement of the St Quentin town hall expecting to be shot, but the Armistice was declared 11th, November, 1918 and saved them.

The history of the battle is very extensive: basically, with America's entry into the war in 1917, Germany knew they had to beat the allies before the amount of manpower the US could provide would defeat them, so made a final effort to win the war.

At the major offensive of 21st- 23rd, March 1918. code named 'Operation Michael' the German strength was 74 Divisions, 6,600 guns, 3,500 mortars, and 365 aircraft.

The British Expeditionary Force (BEF) numbered 12 Divisions, each of 11,800 men, three cavalry Divisions, 1,650 guns, 119 tanks, 357 aircraft, 3,670 horses and mules, 48 artillery pieces, 36 mortars, 64 heavy Vickers machine guns, 144 light Lewis machine guns, 770 carts and wagons, 360

motorcycles/cycles, 14 trucks/cars, and 21 mobilised ambulances.

At 0440 on 21st, March, a German barrage began along a forty mile front onto the BEF forward trenches using Mustard Gas, Chlorine Gas, Tear Gas, and smoke canisters.

Heavy artillery shelled the rear areas to destroy supply lines: with over 3,500,000 shells fired in five hours.

German successes were many, but they lost in the end by winning too much territory, and finally ran out of supplies.



I remember

I remember the cheese of my childhood and the bread that we cut with a knife. When the children helped with the housework, and the men went to work, not the wife.

The cheese never needed a fridge and the bread was so crusty and hot. The children were seldom unhappy and the wife was content with her lot.

I remember the milk from the bottle, with the yummy cream on the top. Our dinner came hot from the oven, and not from the fridge; in the shop.

The kids were a lot more contented, they didn't need money for kicks. Just a game with their mates in the road and sometimes the Saturday flicks.

I remember the shop on the corner, where a pen'orth of sweets was sold. Do you think I'm a bit too nostalgic? Or is it....I'm just getting old?

I remember the 'loo' was the lavvy and the bogey man came in the night. It wasn't the least bit funny going "out back" with no light.

I remember the slap on my backside and the taste of soap if I swore. Anorexia and diets weren't heard of and we hadn't much choice what we wore.

Do you think that bruised our ego?

or our initiative was destroyed?
 We ate what was put on the table
 and I think life was better enjoyed.
 Hung on a peg in that loo,
 were interesting items to view,
 from newspapers cut into squares.
 It took little to keep us amused.

Dirty clothes were boiled in the
 copper,
 with plenty of rich foamy suds.
 But the ironing seemed never
 ending
 as Mum pressed everyone's
 'duds'.

But a huge fact not hereto
 mentioned
 in this mushy tale of nostalgic rejoice,
 is the reason we all "enjoyed" our lot
 Was that we had **NO BLOODY CHOICE**

~~~~~



**I've got salad for dinner,  
 Actually fruit salad.  
 Well, mostly grapes.  
 Wine.  
 I've got wine for dinner.**

## Interesting Statistics

*From the Internet*

China has 19% of the world's population, but consumes 53% of the world's cement, 48% of the world's iron ore and 47% of the world's coal, and the majority of just about every other major commodity.

In 2010, China produced 11 times more steel than the United States.

New World Record: China made and sold 18 million vehicles in 2010.

There are more pigs in China than in the next 43 pork producing nations combined.

China currently has the world's fastest train and the world's largest high-speed rail network.

China is currently the number one producer in the world of wind and solar power, but don't use it themselves.

While they manufacture 80% of the world's solar panels, they install less than 5% and build a new coal-fired power station every week. In one year they turn on more new coal powered electricity than Australia's total output.

China currently controls more than 90% of the total global supply of rare earth elements.

In the past 15 years, China has moved from 14th place to 2nd place in the world in published scientific research articles.

China now possesses the fastest supercomputer on the entire globe.

At the end of March 2011, China has accumulated \$304 trillion in US foreign currency reserves! -- the largest stockpile on the entire globe.

Chinese people consume 50,000 cigarettes every second.

They are already the largest carbon dioxide emitter and their output will rise 70% by 2020. China has 19% of the world's population, but consumes 53% of the world's cement, 48% of the world's iron ore and 47% of the world's coal, and the majority of just about every other major commodity

And we think we're saving the planet? It will not make one iota of difference what we do in Australia, Canada, the United Kingdom or the United States or anywhere else in the world; for that matter, all the politicians are doing is increasing our cost of living and making our manufacturers uncompetitive in the world market, when countries like China are growing and consuming at these extraordinary rates.

## Mahatma Gandhi –Quick off the mark

*From Internet*

When Mahatma Gandhi was studying law; at the University College of London, a professor, whose last name was Peters, disliked him intensely and always displayed animosity towards him.

Also, because Gandhi never lowered his head when addressing him as he expected, there were always arguments and confrontations.

One day, Mr. Peters was having lunch at the dining room of the University, and Gandhi came along with his tray and sat next to the professor.

The professor said, *"Mr Gandhi, you do not understand. A pig and a bird do not sit together to eat."*

Gandhi looked at him as a parent would a rude child and calmly replied, *"You do not worry professor. I'll fly away,"* and he went and sat at another table.

Mr. Peters, reddened with rage, decided to take revenge on the next test paper, but Gandhi responded brilliantly to all questions.

Mr. Peters, unhappy and frustrated, asked him the following question: *"Mr Gandhi, if you were walking down the street and found a package, and within was a bag of wisdom and another bag with a lot of money, which one would you take?"*

Without hesitating, Gandhi responded,

*"The one with the money, of course."*

Mr. Peters, smiling sarcastically said,

*"I, in your place, would have taken the wisdom."*

Gandhi shrugged indifferently and responded,

*"Each one takes what he doesn't have."*

Mr. Peters, by this time was fit to be tied.

So great was his anger that he wrote on Gandhi's exam sheet the word "idiot" and gave it to Gandhi.

Gandhi took the exam sheet and sat down at his desk, trying very hard to remain calm while he contemplated his next move.

A few minutes later, Gandhi got up, went to the professor and said to him in a dignified but sarcastically polite tone,

*"Mr. Peters, you autographed the sheet, but you didn't give me a grade"*



## How Dunkirk's Canadian hero 'fell through the cracks' of history

### The real-life, Montreal-born officer behind the evacuation gets no recognition in Christopher Nolan's blockbuster movie. So how about a Heritage Minute?

After hearing about the Hollywood film *Dunkirk*, Anthony Wilson-Smith's son struck up a conversation with his dad about why there were no Canadian characters featured in the film. "I told



A scene from the Warner Bros. Pictures film *Dunkirk* (Warner Bros.)

him, that's because the Canadians weren't involved as a military force in Dunkirk," said Wilson-Smith, president and CEO of *Historica Canada*.

While technically true, that doesn't mean Canadians (and one in particular) didn't play an important role in the event—a fact that Wilson-Smith is now acutely aware of.

Following the blockbuster's release last week, historians and family members of naval officer James Campbell Clouston have been airing their grievances over the film's lack of recognition for the Canadian at the heart of the unlikely, if not miraculous, rescue.

When 338,000 Allied soldiers wound up stranded on the beaches of Dunkirk in late May 1940—nearly all escape routes cut off—it was widely accepted that very few of them would be saved from the approaching German army. Clouston, a British Royal Navy officer from Montreal, took charge of the mission dubbed Operation Dynamo,



James Campbell Clouston

organizing and ushering soldiers along a pier on the beach to a flotilla waiting for them in the English Channel. Before the officer stepped in, Dunkirk was being evacuated at a rate of 50 men an hour; Clouston's strategy and sheer

effort upped that rate to 2,000 per hour—a pace he continued for five days straight.

Clouston left on the sixth day to report to his vice-admiral in Dover, with the intention of returning to help finish the evacuation the following day. On his way

back to Dunkirk—with a 30-man crew in two motorboats—his boat

was bombed off the coast of France and he and the passengers were left clinging to the wreckage. The other boat continued to Dunkirk, but Clouston chose to stay with his crew and await rescue. All but one of them died of hypothermia. But close to 300,000 soldiers had rescued from Dunkirk by the end of the evacuation.

Despite his pivotal role during those fateful days, director Christopher Nolan decided Clouston's name didn't bear mentioning in the film, and that the character resembling the Canadian officer, played by actor Kenneth Branagh, should don a distinctly British accent. When Clouston's 78-year-old son, Dane Clouston, inquired about why his father wasn't mentioned, one of the producers (and Nolan's wife), Emma Thomas, wrote him and said it was because the character was fictional and based on a number of different men.

"It sounds like the character is pretty faithful to Clouston, so I think it would be fair to name him, at least in the credits," says Wilson-Smith, who is a

former editor-in-chief of *Maclean's*.

Of course, it isn't Hollywood's job to lionize our hero's or other notable Canadians. That responsibility rests with historians and Canadian institutions with the reach and influence to share these stories and weave them into our collective history.



Wilson-Smith believes the reason Clouston has been swept under the historical rug all these years is because he was a Canadian exception at Dunkirk. Indeed, while there were a handful of Canadians involved in the rescue—including those commanding four Royal Canadian Navy destroyers—it was the British and French troops and their Belgian allies who were trapped at Dunkirk and eventually rescued. “We document on Canadians engaged in domestic and world events,” says Wilson-Smith. “For us, at Historica, we weren’t looking at Dunkirk, and so Clouston slipped through the cracks.”



Dunkirk: 'The motliest armada that ever went to sea'

He apparently slipped through the cracks at Canada Post, too. Canadian history buff Michael Zavacky told the *Montreal Gazette* this week that he’s lobbied for a commemorative stamp to recognize Clouston, but that his request was denied. Phil Legault, a media spokesperson from Canada Post, told *Maclean’s* that they received the request in August 2016 and denied it because the 2017 stamps had been finalized by then.



Branagh, right, on the set of *Dunkirk* with Nolan

“We did note in our response, however, that the suggestion would still be on our list and considered for future years,” Legault said in an email.

According to David Boyles, a British historian and author of the book *Dunkirk*, Clouston isn’t the only commander at the evacuation whose legend never was. “It’s true that he doesn’t play a huge role in the histories, and maybe he ought to, but the truth is that no one [from Dunkirk] does really,” says Boyles. “The mythology took over—what it said about Britain at the time, and what the British people thought it said about them, which was that they could turn things around, that they could do things informally, that they could defeat the Nazis.”

The other reason Boyles says Dunkirk isn’t always remembered properly is because the reality of the event is somewhat embarrassing, in that it shouldn’t have happened at all. It was poor strategy and miscalculation that landed the Allies on Dunkirk with no escape routes in the heat of the German invasion in Northern France. “It wasn’t hardly a snatching of victories. It was a defeat,” says Boyles. “It holds a peculiar place in the national psyche and was never properly celebrated here,” he adds. “It was too upsetting.”

As much as Canadians are chastising Nolan for not giving Clouston his due credit, there’s no question that the film has inadvertently done more to

raise his profile than any action by the federal government, historians or the media in the past 77 years.

“I’m delighted to see his name come up, and certainly, we will do our best to make sure Canadians know about what he did,” says Wilson-Smith, that Clouston will likely be the subject of a piece in the Canadian Encyclopaedia, and he’s not ruling out a Heritage Minute featuring Clouston. “There’s no question he’s a hero,” he adds. “**He’s a Canadian hero.**”





## Biggest-ever British warship joins forces with most powerful American stealth fighter jets

*From the Internet*

Britain's largest-ever warship, the HMS Queen Elizabeth, is joining forces with the American-made most powerful stealth fighter jets in the world.

The ship is the first of the Queen Elizabeth (QE) Class aircraft carriers and is embarking on its very first transatlantic journey. The giant warship will arrive off the eastern coast of the United States where it will start the first flight trials with the fifth generation Lightning II Joint Strike fighter jets.

Three times the size of the Royal Navy's previous Invincible Class Aircraft Carriers, the HMS Queen Elizabeth is an approximately 65,000-ton, four-acre flight decked, mobile floating military platform which will allow America's steadfast ally to contribute even more power to future combat.

HMS Queen Elizabeth and the HMS Prince of Wales represent £6.2 billion worth of new, futuristic, state of the art, warships that this key ally can soon bring to the table should the need for joint-action arise.

With the HMS Queen Elizabeth, the British military will be able to bring even more aircraft to a situation and significantly boost the number of sorties.

The U.S. Marine Corps also flies the F-35B. As part of joint-action, U.S. Marine pilots and aircraft will be able to easily fly missions together from the HMS Queen Elizabeth.

With the threat of adversaries with advanced technology looming, seamless, smart collaboration between allies like the combined might of the HMS Queen Elizabeth and the F-35 fighters is increasingly vital and urgent.

Even though it is a giant warship, the Queen Elizabeth's design is so advanced it can be run with a surprisingly small crew compared to previous U.K. aircraft carriers. Take the weapons handling onboard, for example ... this system is designed to move armaments to the flight deck six times faster than before while requiring only about a third of the crew. Overall, the HMS Queen Elizabeth carries a crew of 679 and embarked forces up to 921.



**HMS Queen Elizabeth**

Month by month, the HMS Queen Elizabeth continues to rapidly expand the capabilities the warship can bring to the fight.

The carrier has already finished completed rotary wing trials with more than one thousand helicopter deck landings with Chinook Mk 5 helicopters and Merlin Mk 2s in all sorts of weather conditions.

Royal Marine commandos have also already conducted amphibious warfare trials including an air assault from the HMS Queen Elizabeth.

In 2014, lead ship HMS Queen Elizabeth first left her Scottish dockyard soon followed by the HMS Prince of Wales two weeks later.

Just four years later, the futuristic aircraft carrier has already conducted sea trials, been commissioned into the Royal Navy and now will integrate the most advanced fighter jets in the world further augmenting the power it can project.

Once HMS Queen Elizabeth reaches the United States the Royal Navy will be collaborating with the U.S. military to run the very first trials of F-35B carrier landings.

### **What will the American-designed fighters provide?**

The world's most powerful stealth fighter jet, the F-35 Lightning II Joint-Strike Fighter is a result of teamwork and astonishing innovation from a number of American companies with Lockheed Martin at the lead. These fighters have a slew of extremely advanced unprecedented capabilities. There are three variants and each provides its own unique advantages.

Incredibly fast, it flies at supersonic speeds of Mach 1.6. The situational awareness is truly remarkable. These fighters have astounding stealth, allowing them to penetrate deep into enemy territory and never be detected.

The British military has opted to buy and fly the F-35B variant also flown by the U.S. Marine Corps. The F-35B variant is just over 51 feet long with a wingspan of 35 feet. It has a combat radius of greater than 450 nautical miles. To give you a sense of the power, this fighter has a vertical thrust of 40,500 pounds.

These fighters are powerfully armed and able to carry 15,000 pounds of weapons. For example, they can carry extremely destructive and lethal

weapons like two AIM-120C/D air-to-air missiles and two 1,000-pound GBU-32 JDAM guided bombs.

The British will fly the variant that provides short take off/vertical landing (STOVL), which is ideal for aircraft carriers. Even though the HMS Queen Elizabeth is 280 meters (919 feet) long, it is still very challenging to land one of the world's fastest fighters on aircraft carrier runways that are quite short compared to those available at bases – not to mention ocean conditions that create constantly shifting and unpredictably moving runways.

### How F-35a Fighter Pilots Are Harnessing High-Tech 'See-Through' Helmets

The unique STOVL also provides the added advantage that both militaries will be able to land at rudimentary bases in war zones without proper runways.

Seems mind-boggling that such a powerful, supersonic speed fighter can also land vertically – sort of like a helicopter does- but it has been achieved. The F-35B has a very special shaft-driven lift fan propulsion system instead of a conventional direct-lift approach.



### HMS Queen Elizabeth F-35B landing testing

A special approach to landing, called the "SRVL," is being developed for the Royal Navy to use for their fighters on the HMS Queen Elizabeth class carriers. Shipborne Rolling Vertical Landing uses both the vertical thrust from the jet engine and lift from the wings. The goal is for these rolling landings to enable the fighters to land on the HMS Queen Elizabeth carriers with a bigger weapon load as well as with more fuel.

### More exciting advances HMS Queen Elizabeth brings to the fight

The HMS Queen Elizabeth can reach speeds of 25 knots with a range of about 10,000 miles – but speed and range is nothing compared to the astonishing cutting-edge tech, advanced weaponry and powerful capabilities this floating military platform can bring anywhere in the world.

In addition to the fifth-generation fighter jets, the HMS Queen Elizabeth incorporates a wide array of other cutting-edge advances - including some more American-designed ones.

### American Phalanx close-in weapon systems

Another American company's innovation found on the HMS Queen Elizabeth is the Raytheon Phalanx Close-In weapon system. There are three Phalanxes that can be used to shoot down aircraft, drones, swarming small attack boats and even

incoming missiles as a last-ditch effort to protect the carrier.

### Navy Taps Raytheon For Sophisticated 'Last Chance' Gun System

#### American Ultra-Advanced Landing System

To help pilots land, the HMS Queen Elizabeth uses the American-designed AN/SPN-41/41A Instrument Carrier Landing System that transmits flight path information to the aircraft as they approach the warship. In fact, the fighter pilots will be able to see this data in their incredibly futuristic head-up display. F-35 pilots wear astonishing helmets \*\* that even allow them to "see through" the floor of their aircraft straight through to the sea or ground below.

#### Thermal metal spray coating to protect it from jet blast

Jet blast temperatures can reach a staggering 2,700 degrees Fahrenheit. Picture the giant, powerful, fiery blasts aimed toward the deck as the fighters execute their vertical landings – it could very easily burn through multiple floors of a ship.

A remarkable thermal metal coating was developed to shield flight decks from jet blast and this has been sprayed on sections of the HMS Queen Elizabeth's flight deck.

#### When will it be up and running?

Ultimately, it is expected a total of 138 F-35B fighter jets will eventually join the British military. So far, they have fifteen of the current order for 48 aircraft.

Within a mere two years, the HMS Queen Elizabeth will reach carrier strike full operational capability with its first operational deployment expected the following year.

**\*\* See next issue for details of the helmets which are all custom made for each pilot.**

