

# Seized at Sea

Barry Ackroyd, BSC reteams with director Paul Greengrass on *Captain Phillips*, which dramatizes the real-life hijacking of a U.S. cargo ship.

By Patricia Thomson

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In 2009, four Somali pirates managed to hijack the U.S. cargo ship *MV Maersk Alabama*. The container ship's crew had nothing but fire hoses and flares to fend off the armed attack. When Capt. Richard Phillips saw the pirates successfully board, he instructed his crew to let the ship "go black" and hide in the bowels of the engine room to await rescue. The pirates seized Phillips at gunpoint on the bridge,

but his crew captured the Somali ringleader, Muse, when he came searching for them. During a negotiated swap, the pirates took Capt. Phillips hostage as they fled on a lifeboat. The USS *Bainbridge*, later joined by the USS *Halyburton* and Navy SEALs, used both carrot and stick to rescue the captain.

Based on the book *A Captain's Duty: Somali Pirates, Navy SEALs, and Dangerous Days at Sea* by Phillips and Stephan Talty, the motion picture *Captain Phillips* is precisely the kind of fact-based geopolitical story director Paul Greengrass and cinematographer Barry Ackroyd, BSC excel at telling. Like their two previous collaborations, *United 93* (AC June '06) and *Green Zone* (AC April '10), *Captain Phillips* blends a knuckle-biting pace with a fidelity to fact, the latter an outgrowth of their mutual beginnings in documentary. "We have a very similar vision of the world, and our backgrounds are about using real locations," says Ackroyd, who is also known for his collaborations with Ken Loach. "Whether it's the interior of an apartment or the inside of an airplane or lifeboat, we have to get inside the real thing and shoot the truth of the matter."



Opposite: Capt. Richard Phillips (Tom Hanks) finds himself in grave danger after Somali pirates take him hostage in *Captain Phillips*. This page, top (from left): The four Somali pirates, Najee (Faysal Ahmed), Muse (Barkhad Abdi), Bilal (Barkhad Abdirahman) and Elmi (Mahat Ali) stand poised aboard their skiff, weapons in hand. Bottom: Cinematographer Barry Ackroyd, BSC, readies his camera.

For *Captain Phillips*, which stars Tom Hanks in the titular role and Barkhad Abdi as Muse, that philosophy meant shooting aboard real ships on the open sea. Only 10 days of the 60-day shoot were on solid ground, primarily for lifeboat interiors at London's Longcross Studios, where the 5-ton fiberglass craft was rocked on a gimbal. During April and most of May 2012, the cast and crew traveled five miles off the port of Malta to shoot on the *Maersk Alexandria*, doubling for the *Maersk Alabama*, or plunged into a Malta water tank to shoot stunts involving Hanks. Then came two weeks on the swells of the Atlantic, 10 miles out from the Norfolk naval base in Virginia, where they filmed the rescue operation with real Navy battleships and personnel.

"You can imagine how difficult this was for Barry and his crew," Greengrass says. "There were two primary challenges. The first was shooting on water and everything that means. There's motion through every single plane: up and down, side to side and everything in between. You're at the



mercy of the weather and trying to create stability where there is none. The second challenge was the confined spaces, especially the lifeboat, which was tiny."

Plus, the days were long, often extending well into night, and getting around the ships was physically difficult. "It was a tremendous feat

of concentration and endurance," Greengrass says, "but there wasn't a thing Barry wouldn't do or a place he wouldn't go."

Contemplating the logistics of shooting on water, miles from technical support, led the production to choose film as its primary acquisition medium. Thinking about handholding the

Photos by Hopper Stone, SMPSP, and Jasim Boland, courtesy of Sony Pictures.

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Top: The pirates prepare to board the MV *Maersk Alabama*. Middle: A-camera 1st AC Oliver Driscoll (in red shirt) and other crew and cast members prepare for the boarding scene. Bottom: Ackroyd used a bungee rig to help support an Aaton XTR Prod while he filmed from the pirate skiff.



camera in a skiff while riding the wake led Ackroyd to his reliable old friend, the Super 16mm Aaton XTR Prod, upgraded with Xterà video assist. He explains, "I realized we were going to be in 20-foot skiffs in rough water, day and night, with the camera. How were we going to do that? We thought we'd build a little bungee rig so I could handhold [the camera] on my shoulder with a 12:1 zoom; that way, I could be inside the skiff with the pirates, then zoom and find Phillips on the bridge or the first mate running along the deck being fired at by Kalashnikovs, and connect those shots. I thought I could do that only with a 16mm camera with a 12:1 zoom, which is light and reliable enough to survive the bashing it would take."

The next choice was to differentiate the Somali and Phillips story threads. To that end, scenes in the Somali fishing village (filmed in Morocco) and on the skiffs were shot on Super 16mm, while those aboard the *Maersk Alabama* and other Western vessels were shot on 3-perf Super 35mm. "We literally switched over to 35mm as the pirates stepped onto the deck of the *Maersk Alabama*," says Ackroyd.

Greengrass had additional dualities in mind. "It was important to me to construct a visual image of a giant container ship being chased by small skiffs, and then these giant naval ships chasing the lifeboat, [to create] a visual symmetry," says the director. "I was also interested in images of extreme confinement and extreme scale; the way their relationship shifts mirrors the changing relationship of the characters."

When rendering extremities of scale via aerial photography — tiny skiffs vs. massive cargo ship or hulking battleships vs. a toy-like lifeboat — the filmmakers deployed an Arri Alexa, capturing in ArriRaw to a Codex recorder. "That's a natural choice for helicopters because you don't have to stop to reload," notes Ackroyd.

To better capture any magic moments and enable quick cutting without a jarring effect, two cameras were running at all times. This was a particularly important strategy because the Somalis were nonprofessional actors. "They more or less improvised their performances," Ackroyd says. "Of course, they had lines to say, but they took on the persona very much. Tom, being such a great actor, made them look great, and they likewise made Tom look great." Throughout the shoot, Ackroyd shared operating duties with Cosmo Campbell, who brought a customized Steadicam whose shortened center post made it more difficult to stabilize, but also enabled him to pass through bulkhead hatches and other tight spots.

For the 3-perf Super 35mm work, an Aaton Penelope supplied by Ice Film served as the A camera. Arri Media supplied most of the other gear, including two Arricam Lites (B and C cameras) and an Arri 235 (D camera). Ackroyd and 1st AC Oliver Driscoll brought their own Aaton XTR Prods. Rounding out the cameras were an Arri 435 that filmed 4-perf, a batch of GoPros (used to capture the Navy SEALs' parachute drop), and a VistaVision camera that captured



Top: Despite the fire hoses aimed in their direction, the pirates easily board the cargo vessel. Bottom: A crane steadies one of the cameras above the water.

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Top: The pirates make their way through the *Alabama*. Middle and bottom: The crew films the actors who play the *Alabama* crew, first above deck and then down in the engine room.



visual-effects plates with Leica Summilux-C lenses.

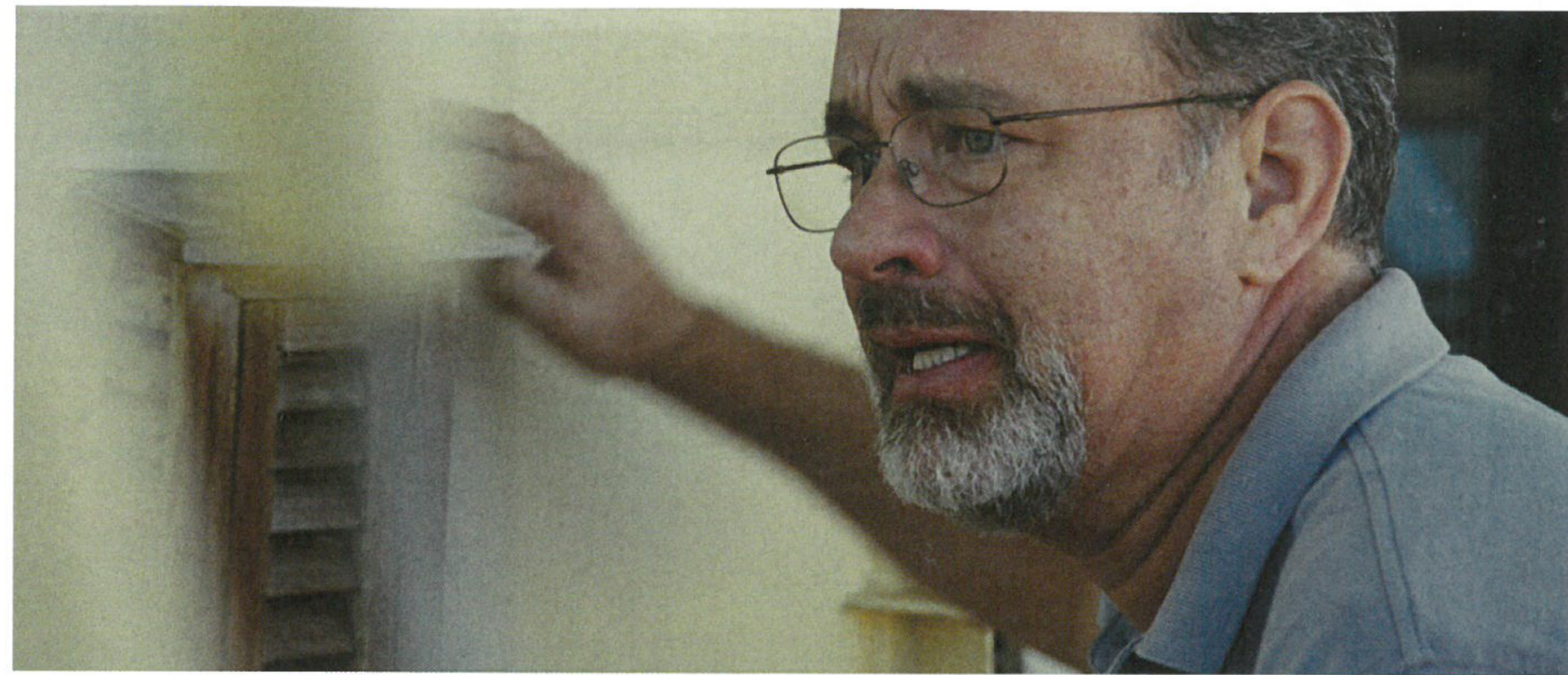
Ackroyd has preferred zoom lenses since his documentary days. Though he had an array of Zeiss Super Speed T1.3 primes on hand for low-light scenes, he otherwise relied on a 24-290mm T2.8 Angenieux Optimo (with 2x extender for simulated binocular shots), as well as T2.6 28-76mm and 15-40mm Optimos. In addition, he tapped a rehoused Nikon 80-200mm zoom and, for 16mm work, Canon's 300mm T2.8 prime (600mm T5.6 with a doubler) and a Canon 10.6-180mm T2.7 16mm zoom.

"The Penelope and Optimo 28-76mm is a great combination for Barry," Driscoll says. "He can really punch into a scene with that, which he likes to do. But we'd also go with the 12:1 Optimo. It's not really a handheld lens — it's massive — so we'd have that on a monopod. If you need to move, you can pick it all up and move quite easily.

"No matter which zoom lens he's using, Barry will use the entire zoom [range]," Driscoll continues. Ackroyd's camerawork "is all about getting to the action. It's very inquisitive. It's almost like you're reaching in with your ear; you can get over there and hear what's happening. The zoom is the method he uses."

Ackroyd physically put himself in the thick of things as well. When the Somalis attack and climb a hook ladder on the side of the *Maersk Alabama*, "I wouldn't have been surprised if Barry had put a camera on his shoulder and just run up after them," says Driscoll. (Ackroyd and the actors did stop as the stunt doubles took over.) "Once he gets the bite, he tends to go with the action."

For his film negative, Ackroyd stuck with some old favorites, Fujifilm Eterna 250D 8663/8563 and 500T 8673/8573. "I always rated it normally, but I'm never afraid to underexpose it and then bring it back later on," says the cinematographer. "It brings up the grain a little bit, and we used that as a stylistic device. I like to use a lot of things that seem wrong because it tells you you're in



a place where that was the only possible way to do it."

As an example, Ackroyd points to a scene in the *Maersk Alabama's* engine room, when the emergency lights go off and the crew hides in darkness. Exposure was a good 2 stops under. "I like the feeling that the film stock is struggling to get something onto the negative," he says. "When I get to the DI, I might wonder why I did that, but at the time, I just felt it was right. I've always thought that in documentary work, the shot that's underexposed or scratched or blurred lends honesty to the story. Nowadays it's a trick, but I like the sense that this is what was necessary."

Ackroyd knew the Fuji stock would also excel in high-contrast situations, such as the pirates' dramatic takeover of the cargo ship, when their ebony faces were backlit by the wrap-around windows on the bridge. "Because we were at sea, there was no way of lighting or diffusing that," says Ackroyd, who even eschewed bounce materials while cross-shooting this partially ad-libbed scene. "I just trusted the film stock to cover that range of exposure."

Although the ship had its own pull-down ND shades, "they had a slight magenta tinge," he continues. "We used them occasionally, but mostly



Top: A tense Phillips considers what to do. Middle: Muse and Najee threaten Phillips on the bridge. Bottom: Steadicam operator Cosmo Campbell films Ali and Abdirahman.



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Top: Muse ushers Phillips into the vessel's lifeboat.  
Bottom: The crew gets additional lifeboat shots on land.



[only when they were seen] in shot.” Instead, a circular polarizer was often used to include or exclude reflections. “Barry likes to use a polarizer almost like an ND,” Driscoll observes. “Sometimes we’ll just keep them in; Barry’s not afraid of any flaring. Naturally, we keep any loose light source in front [of the

camera] down to a minimum. But he’s happy to leave on a clip-on matte box with the 24-290mm or 28-76mm with a rotating pola in the front. And he’s always very generous with the stop — we tended to shoot around T5.6½.”

Another part of Ackroyd’s methodology was to do long takes. That

might seem counterintuitive for a Greengrass film, given the director’s trademark rapid-fire editing. In fact, Ackroyd’s camera operators have been known to question the logic of shooting a long walk down a corridor when only a few frames will be used. “I say, ‘Well, if you can tell me which 12 frames he’s going to put in, you can shoot just those 12 frames,’” the cinematographer says with a laugh.

From Ackroyd’s perspective, “The reason Paul’s method works very well goes back to documentary. There’s a massive amount of concentration in each minute, each frame. We try to do long takes — tracking with people, leading them in and out of rooms, doing whole sections of dialogue from beginning to end — and we’re always trying to get it better than the previous take, trying to capture more information than we had before. When [Greengrass’ longtime editor] Chris Rouse gets the footage, he can select the moments and synthesize these really economical and dynamic edits, which tell the story very precisely but also immerse you in the story. And he uses only our best work,

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Top: The crew and cast film within the lifeboat. Middle: U.S. Navy ships surround the lifeboat. Bottom: The crew readies a night scene.

so it makes the camera look good.”

On *Captain Phillips*, this approach required some physically challenging maneuvers, including the sequence when Phillips first inspects the *Maersk Alabama*. “That shot is cut into pieces, as usual, but it started traveling down the corridor behind the captain, and he almost slides down a kind of ladder to the lower deck,” says Ackroyd. “We positioned grips dressed as sailors who’d clip a rope pulley onto the back of Cosmo’s harness and lower him down one deck, and there he was unclipped and could carry on down another corridor. Then, when he got to another set of ladders, he’d be clipped in and lowered again. I remember coming back and showing [the footage to] Paul, and he said, ‘Hmm, it could be a bit smoother.’ I said, ‘Paul, this is hard to do!’ Those vessels are very hard, very unforgiving. The number of bumps and scrapes you could get was incredible. It felt like I should be wearing a hard hat.”

Filming on a small fishing vessel was no easier. Custom-made by a Maltese shipbuilder, each skiff had three or four points to which the crew could attach an A-frame scaffold with a T-bar and change its position, even at sea. The XTR Prod was hung from this by bungee cords and positioned to sit on Ackroyd’s shoulder. “That way I was free, as much as I could be, to swivel and tilt and pan and struggle with the camera to get the shots,” he says.

Shooting Super 16mm with the Canon 10.6-180mm zoom not only gave the filmmakers the range to go from a skiff interior to a cargo ship miles away, but also allowed 11-minute takes, which the crew fully exploited. “That attack on the *Maersk* was more or less done for real,” says Driscoll. “We did it three to four times with the actors and a stunt driver.” Here, as elsewhere, the camera was encased in a Hydroflex splash bag to protect it from the cargo ship’s water cannons.

A fishing boat equipped with two cameras was sufficiently fast for wide shots of the speeding skiffs, but for closer work, the filmmakers used a



For the interior lifeboat scenes, filmmakers mounted the 5-ton fiberglass craft on a gimbal at London’s Longcross Studios.

speedboat to keep up, punching in with a zoom. For additional close-ups and sea-level POV shots of the skiffs crashing through the waves, a Hydrocrane with a remote Libra head was attached to another small boat. “We’d try to hang the crane down to water level to get shots of the skiffs coming toward us, or the wake of the *Alabama*,” says Ackroyd. “That was incredibly difficult because the crane arm is a moving object and the sea itself is moving. It wasn’t like we could put the camera in one position and make it stay there!”

Ackroyd salutes 1st AD Chris Carreras for coordinating complex sequences that included the Somali attack and the rescue scenes. “When you’ve got an aircraft carrier, a freighter, a lifeboat and two helicopters, plus a camera helicopter and cameras in dinghies and on ships, all simultaneously shooting and trying to get this magic five or 10 minutes of light, it’s quite a feat,” says Ackroyd. “I just can’t praise the AD team enough. Chris and his guys really pulled all that together. Our job was to always be ready to shoot, and I think we were.”

Readiness was also facilitated by Ackroyd’s 360-degree lighting

approach. Overall, he describes his lighting as “very subtle. That doesn’t mean it was easy, but it was subtle and based on realism.” He often drew inspiration from firsthand experience. For instance, the battleship command rooms were lit all red or blue to mirror what he saw on the *USS Independence* during the first Gulf War, when he was shooting a documentary about Top Gun flyers.

When Muse descends into the engine room to search for the crew, Ackroyd needed to replicate the ship’s dimmed emergency lighting, and because the ceiling space was congested with piping, he needed units he could hide easily. He tapped one of his favorite tools, a Tubo, a 2’ or 4’ Kino Flo tube removed from its housing and placed in a halved pipe whose interior is painted white. Attached anywhere by gaffer tape, it can add a touch of fill or put a little light on the shadow side of a face. “It feels like it’s the bounce light from a distant window or porthole,” Ackroyd observes. “It just comes back and wraps around.”

When the emergency lights go off, the engine room is supposed to be completely black, with Muse’s flashlight

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Large lighting balloons were maneuvered into position to augment the look of night scenes.



providing the only illumination. To augment the actor's off-the-shelf model, gaffer Harry Wiggins and best boy Chris Mortley randomly bounced flashlights into a shiny board made from trimmed housing insulation. "The beam was floating around and would just

disappear into the darkness," says Ackroyd, "but that justified a little bit of extra theatrical lighting."

Ackroyd admits to some "cheating" here, noting that he aimed light through a floor grill to shape things that were supposed to be in absolute dark-

ness. Here and elsewhere on the ships, Wiggins found a handy tool in Rotolight's RL48 Ringlight. Small enough to slip onto a DSLR, these LED ring lights could be attached with magnets and effectively created small spills of light. "We used them to throw a little bit of fill in that scene," says Ackroyd. "We ND'ed them down so there was hardly any exposure, and we had a row of faces that just disappeared into nothingness while the crewmembers are hiding. It's that feeling that it's such poor-quality light that it probably doesn't exist. Your eyes are pretty good, and when you're in near-total darkness, you can still see. That's what I wanted it to feel like."

All of the camera team's challenges intensified in the lifeboat. The vessel on stage had cutaways in front and back, but these were never used. Treated as a practical location, the lifeboat was a tight space even without nine or 10 people crammed into it. Dual cameras were wedged into corners or onto shelves, or were suspended by bungees, and greenscreen had to be

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Ackroyd confers with director Paul Greengrass.



positioned exceptionally close when rocking the craft on the gimbal. Furthermore, seasickness struck during the crew's brief time at sea when a real lifeboat was released into the Mediterranean off the coast of Malta.

Nonetheless, according to Ackroyd, "I think what goes on in the lifeboat is some of the most exciting footage I've ever shot. It has a color palette that's just amazing: the green interior, the skin tones, the play of light. It was just amaz-

ing to be in there."

For the final grade at Company 3 in London, all film footage was scanned at 4K on an Arriscan. Ackroyd spent six weeks on the color correction with colorist Rob Pizzey, who worked on a DaVinci Resolve. (The finalized files were filmed out at 4K to Kodak 2254 on an Arrilaser. Company 3 created the 4K DCP, and Deluxe Laboratories in London created the answer print.)

The color correction was laborious, according to Ackroyd. "The film had at least 2,000 edits, and they were cut together from different moments and sources," he says. "On a film with long, flowing tracking shots, you can just get the grading light on one and skip to the next. But on this project, we had to look at each of the frames over and over again, backwards and forwards, relative to each other."

Matching was the biggest challenge: horizon lines, the color of the water, the direction of boat wakes, the

time of day and the look of the sky were all tricky factors. For example, when the *Maersk Alabama* creates a huge wake in an attempt to capsize the Somali skiff, "we had to move the white water that trails the boat so it came toward the Somali pirates," says post supervisor Michael Solinger. "We had to create or take away choppy water that didn't match. Also, when you're shooting tank water as well as sea water, you have to make sure they match! Some of that was done with visual effects, and some was done in the DI."

Because so much of the story happens at night, often with wide shots of multiple ships, Ackroyd determined in prep that a mix of day-for-night, dusk-for-night and night-for-night would be necessary. After testing filtration during a test shoot in Agadir, Morocco, he saw that the best result came from shooting a straight negative and letting the visual-effects team at Double Negative add night skies.

Again, creating cohesion between the various components was a big part of the final grade.

"Doing anything at sea, with all its variables, is 10 times harder than doing it on land," Ackroyd concludes. "I have to thank the entire camera, grip and electrical teams, who were all great. Sometimes I'd like to put a title at the bottom of the screen that reads, 'You don't know how hard this is!' But it's our job to make it look easy. You shouldn't know how hard it is. I just want you to believe what you're seeing." ●

## TECHNICAL SPECS

2.40:1

Super 16mm, 3-perf Super 35mm and Digital Capture

Aaton XTR Prod, Penelope; Arricam Lite; Arri 235, 435; GoPro; VistaVision

Zeiss Super Speed, Angenieux Optimo, Nikon, Canon, Leica

Fujifilm Eterna 250D 8563/8663, 500T 8573/8673

Digital Intermediate