

## Engine Cut-Off Switch Issues and FAQs

### **I. Purpose:**

To establish guidelines for implementing Engine Cut-Off Switch (ECOS) installation and ECOS Link (ECOSL) use requirements per recently enacted ECOS requirements in 46 USC 4312.

### **II. Background:**

Over the last three years (2018-2020), Congress has passed two laws requiring manufacturers to install engine cut-off switches on recreational vessels and to require recreational vessel operators to use those engine cut-off switches. These laws are supported by the National Marine Manufacturer's Association (NMMA), which is a trade association of recreational boat manufacturers and suppliers. The laws have placed requirements on boat manufacturers and boat operators in United States Code (USC), as opposed to the Code of Federal Regulations (CFR) where these types of requirements are typically found.

These new requirements will improve safety for all recreational boaters by reducing the potential for propeller injuries to recreational vessel operators, other users of the nation's waterways, and marine law enforcement officers responsible for responding to runaway boats whose operator was displaced from the helm and not using an ECOS.

### **III. ECOS Requirements**

#### **a. ECOS Installation**

Section 503 of the Frank A. LoBiondo Coast Guard Authorization Act of 2018 created 46 USC 4312 to require a manufacturer, distributor, or dealer that installs propulsion machinery and associated starting controls on a covered recreational vessel (i.e., less than 26 feet long and capable of 115 pounds of static thrust) to equip the vessel with an ECOS compliant with ABYC Standard A-33. This law went into effect on 4 Dec 2019, one year after the 2018 CGAA was enacted and is referred to as the "installation requirement."

#### **b. ECOS Use**

Section 8316 of the National Defense Authorization Act of 2021 included the Elijah E. Cummings Coast Guard Authorization Act of 2020 and amended 46 USC 4312 to require individuals operating covered recreational vessels (i.e., less than 26 feet long and capable of 115 pounds of static thrust) to use ECOS "links," except if the main helm is within an enclosed cabin or the vessel does not have and is not required to have an ECOS. It provides a penalty for not complying of not more than \$100, \$250, and \$500 for the first, second, and third offenses respectively. The effective date of the law is 1 APR 2021, and it is referred to as the "use requirement."

### **IV. State ECOS Laws**

- a. The seven States listed below have ECOS laws for open motorboats. Unfortunately, none of them are identical to the federal requirement so they are preempted and may not be enforced by the States on waters with concurrent jurisdiction.

- Alabama
- Arkansas

## Engine Cut-Off Switch Issues and FAQs

- Illinois
- Louisiana
- Nevada
- New Jersey
- Texas

b. There are 44 states with ECOS laws for personal watercraft (PWC). The states that do not have PWC ECOS laws are:

- Alaska
- American Samoa
- Commonwealth of Northern Mariana Islands
- District of Columbia
- Guam
- Hawaii
- Idaho
- New Hampshire
- New Mexico
- Puerto Rico
- Utah
- Virgin Islands

c. Preemption – Federal law prohibits States from enacting a law on a subject that is different from a federal law on the same subject. None of the seven state ECOS laws listed above are identical to the federal requirement, so they are all preempted. However, the Coast Guard has the authority to provide an exemption from preemption if recreational vessel safety will not be adversely affected. Several of the State laws are close enough to the federal law that they could be viewed as meeting the intent of the federal law and do not adversely affect recreational vessel safety. As a result, the Coast Guard is considering issuing exemptions from preemption and will be in contact with the seven states to discuss those situations.

### V. Enforcement

#### a. Installation Requirement

46 USC 4312 places the installation requirement on covered vessels (i.e., less than 26' long and capable of developing more than 115 lbs of static thrust) on manufacturers, dealers or distributors of recreational vessels. Enforcement of the installation requirement began with recreational vessels certified as being in compliance with recreational boat manufacturing requirements in January 2020. (Since the day of manufacture is not captured in the HIN, we must use month and January is the first month entirely after the compliance date.) This is enforced through the Recreational Boat Testing and Compliance Program administered by CG-BSX-23. Coast Guard Boarding Officers should not enforce the installation requirement, but should instead notify CG-BSX-23 at [rbsinfo@uscg.mil](mailto:rbsinfo@uscg.mil) with the name of the manufacturer and the HIN of the boat that was not in compliance.

## Engine Cut-Off Switch Issues and FAQs

### b. Use Requirement

46 USC 4312 requires operators of covered recreational vessels (i.e., less than 26' long and capable of developing more than 115 lbs of static thrust) to use an ECOSL while operating the recreational vessel on plane or above displacement speed. Recreational vessels whose (1) main helm is installed within an enclosed cabin or (2) that do not have an ECOS and are not required to have one under 46 USC 4312(a) are excepted from the use requirement. Coast Guard Boarding Officers will enforce this requirement consistent with policy in paragraph V.c.

### c. USCG Enforcement Policy Implementation

The initial enforcement posture for the 2021 boating season is intended to be educational in nature, ensuring that recreational vessel operators are aware of the new ECOS use requirement. USCG enforcement policy will be disseminated via:

- i. ALCOAST
- ii. Marine Safety Manual (MSM)
- iii. Boarding Officer Job Aid Kit (BOJAK)
- iv. Marine Law Enforcement Manual (MLEM)
- v. Incorporation into Maritime Law Enforcement Academy (MLEA) curriculum

## VI. Outreach

### a. Public

CG-BSX-2 will coordinate with CG-092. Additionally, CG-BSX-2 will update its own outreach materials and disseminate press release and FAQs

- i. PAG, press release, Maritime Commons blog post and USCG Facebook page post
- ii. BSX-2 Website (Beacon alert) and Facebook group post
- iii. Educational video on use requirement

### b. Partner Outreach

CG-BSX-2 will coordinate with the following:

- i. USCGAux/USPS/State VSC programs
- ii. BSX-2 Nonprofit grantees
- iii. States/NASBLA
- iv. ABYC On-Water Education Standards Project Technical Committee (PTC)

## Engine Cut-Off Switch Q&A

The following questions will help you learn what Engine Cut-Off Switch devices are and determine if you need to wear an Engine Cut-Off Switch Link aboard your boat as a result of the passage of the National Defense Authorization Act:

**Q1. What is an Engine Cut-off Switch (ECOS)?**

A1. An Engine Cut-Off Switch is a safety mechanism used to shut off propulsion machinery when the operator is displaced from the helm.

**Q2. What is an Engine Cut-Off Switch Link (ECOSL)?**

A2. An ECOSL is the device that connects the operator to the ECOS. The link must be attached to the operator, the operator's clothing, or operator's personal floatation device. It is typically a coiled lanyard, but may also be an electronic fob.



**Q3. Who needs to use an ECOSL?**

A3. All operators of recreational boats less than 26' in length that have an ECOS installed.

**Q4. Why is it important to use an ECOSL?**

A4. Boats can make sudden and forceful turns that create enough torque to eject an operator from the helm area or completely out of the boat. If thrown out of the boat, there is always the danger of a spinning propeller, especially since an unmanned boat can often start traveling in circles at the point where the ejection took place. Wearing your ECOSL immediately stops the engine and allows the operator to regain control of the boat.

**Q5. What are the benefits of using my ECOS and ECOSL?**

A5. Engine cut-off switches are an important tool to prevent unnecessary accidents, injuries and deaths caused by a recreational vessel operator being unexpectedly displaced from the helm. This includes situations where the operator is ejected from the vessel, which typically leads to a runaway vessel. In these scenarios anyone in the water is a potential propeller-strike victim, all other vessels on the water face a collision hazard, and maritime law enforcement officers face additional risk in trying to bring the runaway vessel to a stop.

**Q6. What boats need to have an ECOS installed?**

A6. Boats less than 26' in length that generate more than 115lbs of static thrust (~ 2-3hp) and were built beginning in January 2020. If the boats' primary helm is inside an enclosed cabin it is not required to have an ECOS.

**Q7. I recently bought a 2020 model year boat; am I required to ensure the ECOS and ECOSL work?**

A7. Maybe. It depends on when the boat was built. If the boat was built in January 2020 or later, the ECOS systems must be maintained in working condition for the life of the boat. Just like navigation lights or exhaust blowers.

**Q8. What is a "covered recreational vessel"?**

A8. The term "covered recreational vessel" means a recreational vessel that is (A) less than 26 feet overall in length; and (B) capable of developing 115 pounds or more of static thrust (which equates to about 3 horsepower).

**Q9. My boat doesn't have an ECOS, do I need to install one?**

A9. No, unless the boat was built on or after 1 JAN 2020. The installation requirement applies to manufacturers, distributors and dealers of "covered recreational vessels" after 1 JAN 2020. For those boats, an ECOS must be installed and the owner is required to maintain it.

**Q10. How do I tell if my boat was built after 1 January 2020?**

A10. The ECOS installation requirement was implemented in the middle of the 2020 model year, so determining the model year is the first step. This is done by checking your boats

## Engine Cut-Off Switch Issues and FAQs

hull identification number (HIN), which all boats are required to have. The HIN is usually found on the starboard outboard side of the transom, but can also be found on the boat's certificate of number (*i.e.*, registration).

Characters 11 and 12 of the HIN represent the model year. If the model year is 19 or lower, the boat **DOES NOT** need an ECOS to be installed. If the model year is 21 or later, the boat **DOES** need an ECOS to be installed. If the model year is 20, then the date of certification needs to be determined.

Characters 9 and 10 represent the date of certification of the boat. Character 9 represents the month, A-L for January-December, respectively. The 10<sup>th</sup> character represents the year of certification, with the last digit corresponding to the last digit of a specific year (*e.g.*, "0" = 2020). For a model year 2020 boat to be required to have an ECOS installed, it would have an "A0" – "G0" certification date for the 9<sup>th</sup> and 10<sup>th</sup> characters of the HIN, and "20" for the 11<sup>th</sup> and 12<sup>th</sup> characters of the HIN. Please note that a "0" as the 10<sup>th</sup> character of the HIN could represent 2010 or any other year ending in a "0" including 2020, which is why the model year represented by the 11<sup>th</sup> and 12<sup>th</sup> characters must be considered (*e.g.*, "A010" would represent a boat certified in January 2010, and "E000" would represent a boat certified in May 2000.)

### **Q11. Are there exemptions to the law?**

A11. The laws are only applicable to recreational vessels, so they do not apply to law enforcement vessels or other government-owned vessels. There are two exemptions for recreational vessels. The first is there is no requirement to wear the ECOSL if either the main helm of the covered vessel is installed within an enclosed cabin, or if the vessel does not have an engine cut-off switch and is not required to have one.

### **Q12. Do I need to keep the ECOSL attached at all times?**

A12. No. The ECOSL doesn't need to be attached when the vessel is idling, performing docking maneuvers or just going slow. The ECOSL must be attached whenever the boat is operating on plane or greater than displacement speed

### **Q13. What does "on plane" mean?**

A13. For a boat, "on plane" means the boat has reached a speed that moves the boat from a "displacement" mode to a "planing" mode. As more power (and speed) is applied, lift increases, and the boat, in effect, rides over its bow wave, reducing wetted area of the hull and thus reducing drag. At this point, the boat is said to be "on a plane" or simply "planing." Sailing vessels are generally not capable of getting "on plane" because of their displacement hull, whereas a ski boat, bass boat or runabout can usually achieve planing with little effort.

### **Q14. How does the ECOS work?**

A14. When the operator moves, or is thrown, a certain distance away from the ECOS, the link is disengaged from the switch. This causes the engine to shut off. Once the link is reinstalled to the switch, the boat can be restarted.

## Engine Cut-Off Switch Issues and FAQs

**Q15. To what size boats and horsepower does the new law apply?**

A15. The law applies to all boats less than twenty-six (26) feet in length that generate more than 115lbs of static thrust, which is approximately 3 horsepower.

**Q16. My boat has an enclosed wheelhouse, am I required to wear the ECOSL?**

A16. No, the law gives an exemption to recreational vessels where the main helm of the covered vessel is installed within an enclosed cabin

**Q17. My new 25-foot boat that I purchased in 2020 has an ECOS installed by the manufacturer. Do I need to use it?**

A17. Yes. Assuming the main helm is not in an enclosed cabin. Because your boat is less than 26-feet and equipped with an engine cut-off switch installed by the manufacturer, you will need to use it while the boat is on plane or above displacement speed.

**Q18. My 22-foot boat (1995 model) had an ECOS but it was removed by a prior owner many years ago, leaving a hole at the helm. Do I need to repair it and use it?**

A18. No. However, the Coast Guard recommends that you repair the switch and use it when operating on plane or above displacement speed.

**Q19. My 18-foot boat (2019 model) has an ECOS but it is broken and does not function. Do I need to use it?**

A19. No. However, the Coast Guard recommends that you repair the ECOS and use it when operating on plane or above displacement speed.

**Q20. My 27-foot boat has a working ECOS. Do I need to use it while operating on plane or above displacement speed?**

A20. No. The law does not require the use of an ECOS for any vessel equal to or greater than 26-feet in length, regardless of when the vessel was manufactured. However, the Coast Guard recommends that you repair the switch and use it when operating on plane or above displacement speed.

**Q21. My 26-foot sailboat has a 50 horsepower engine that allows me to travel on plane / above displacement speed. Do I need to use a cut-off switch?**

A21. No. Regardless of when it was built, a boat 26-feet in length and greater does not require use of an engine cut-off switch, even if equipped.

**Q22. My new 20-foot boat that was purchased in January 2020 doesn't have an engine cut-off switch. Is it supposed to have an ECOS and do I need to use one?**

A22. If you purchased a boat in 2020, there is a good chance that boat was built before the ECOS installation requirement was in place. The ECOS installation requirement was implemented in the middle of the 2020 model year, so determining the model year is the first step in determining whether or not your boat is required to have an ECOS. This is done by checking your boat's hull identification number (HIN), which all boats are required to have. The HIN is usually found on the starboard outboard side of the transom, but can also be found on the boat's certificate of number (*i.e.*, registration).

## Engine Cut-Off Switch Issues and FAQs

Characters 9 and 10 represent the date of certification of the boat. Character 9 represents the month, A-L for January-December, respectively. The 10<sup>th</sup> character represents the year of certification, with the last digit corresponding to the last digit of a specific year (e.g., “0” = 2020). For a model year 2020 boat to be required to have an ECOS installed, it would have an “A0” – “G0” certification date for the 9<sup>th</sup> and 10<sup>th</sup> characters of the HIN, and “20” for the 11<sup>th</sup> and 12<sup>th</sup> characters of the HIN. Please note that a “0” as the 10<sup>th</sup> character of the HIN could represent 2010 or any other year ending in a “0” including 2020, which is why the model year represented by the 11<sup>th</sup> and 12<sup>th</sup> characters must be considered (e.g., “A010” would represent a boat certified in January 2010, and “E000” would represent a boat certified in May 2000.)

If the boat has an ECOS installed you have to use it.

**Q23. I bought my 22-foot boat many years ago and it did not have an engine cut-off device installed by the manufacturer, so last year I added a new wireless engine cut-off devices. Am I required to use it?**

A23. Yes. If an engine cut-off switch is present, it must be used.