

TAMPER RESISTANCE GUIDELINES FOR SMALL SPARK IGNITION ENGINE AND CARBURETOR MANUFACTURERS

Outdoor Power Equipment Institute provides the information and recommendations below based on its knowledge of EPA certification and enforcement practices. This is not EPA guidance, and is not binding on EPA, any state, or any person. OPEI provides this document to enhance the industry's compliance with the requirements of the Clean Air Act and to prevent violations.

1) Engine manufacturers complying with the EPA regulatory requirements of 40 CFR Part 90 or Part 1054 are permitted to equip an engine with adjustable parameters.

A. Full Disclosure of Adjustable Parameter Provisions-

If an engine family is certified with an adjustable parameter, the manufacturer must include in its certification application a detailed description of the adjustable parameter. The information provided in the certification application and the information provided in the manufacturer's instruction manual for adjustability must be consistent.

If the manufacturer's adjustable parameters include limits on the full range of adjustability, the manufacturer must also provide documentation, as indicated below, to support the limited adjustable parameter's design and tamper resistance feature, including photos or other engineering drawings in the certification application for each engine family. If the tamper resistance method has been approved by the California Air Resources Board (CARB), the CARB approval must be included in the EPA application in addition to the documentation.

The technical description should declare the following, if so equipped (Refer to ANNEX A and B for examples):

1. The tamper resistance method type for each adjustable parameter such as limiter caps, stops, lack of accessibility on a running engine, or special screws.
2. The physically adjustable range as designed by the manufacturer and described in the Operator's Manual.
3. An explanation of how the tamper resistance method prevents adjustment or the ability to set parameters outside the manufacturer's intended adjustable range or settings.
4. A description of any device or system used to permanently seal the parameter or make it inaccessible using ordinary tools, including material type, thickness,

adhesive type or any guards or covers that prohibit access to an adjustable parameter.

5. Identification of any special screw head designs and information regarding any special tools for special screw head designs including the manufacturer and the systems in place to prevent the tool's availability to the general public as applicable.
6. If a design has not been submitted and approved by CARB, include documentation (test reports documenting procedures used and the results of the investigation) proving you have tested the tamper design to demonstrate it meets the tamper resistance requirements as noted in Section 3 below.

B. Permanently Sealed / Special Tool Adjustable Parameter Provisions-

The certification application should specify if any parameters potentially affecting emissions are permanently sealed or adjustable only with special tools. Information provided in either the Operator's or Service manuals shall not reference any permanently sealed parameters, the method of sealing parameters, or special tool availability.

C. Inspections-

During a tamper resistance evaluation on the actual product, and before a compliance determination is decided upon, EPA inspection staff routinely reviews the certification application specifications first and to the extent possible contacts the applicant for engine certification to obtain additional information if necessary.

2) Compliance Considerations for Adjustable Parameters and Tamper Resistance:

EPA 40 CFR Part 1054.115 (b) *Adjustable parameters.* Engines that have adjustable parameters must meet all the requirements of this part for any adjustment in the physically adjustable range. An operating parameter is not considered adjustable if you permanently seal it or if it is not normally accessible using ordinary tools. We may require that you set adjustable parameters to any specification within the adjustable range during any testing, including certification testing, production-line testing, or in-use testing. You may ask us to limit idle-speed or carburetor adjustments to a smaller range than the physically adjustable range if you show us that the engine will not be adjusted

outside of this smaller range during in-use operation without significantly degrading engine performance.

Adjustable parameters on certified engine configurations shall be designed and manufactured to be tamper resistant unless the manufacturer intends to demonstrate compliance with standards across the full range of adjustability. The tamper resistance method for adjustable parameters shall restrict the in-use adjustment within the limits of the adjustable range declared by the manufacturer.

The tamper resistance method shall be designed so that the end user cannot defeat the tamper resistance method using the maintenance tools supplied with product (if any) by the manufacturer or using ordinary tools, as defined in this document.

NOTE: Any type of cutting or grinding tool, apart from cutting pliers, including drills and rotary cutters or tools that generate excessive heat or flame, are not considered ordinary tools that would be used on an engine/equipment for adjustment and would represent extraordinary methods resulting in tampering.

3) Manufacturer Demonstration of Tamper Resistance Methods

- A) For CARB-approved tamper resistance methods, as relied upon in certification and based upon the design criteria within this document, manufacturers' demonstration to EPA will consist of submitting, in the application for certification, a full description of the tamper resistance method and inclusion of the CARB approval letter¹.
- B) If the manufacturer has not obtained a tamper resistance method approval from CARB, the manufacturer should test the tamper resistance method based on the criteria below, and provide a full description of the test results in the application for certification, in addition to the full description of the tamper resistance method. EPA will determine

¹ Note: If CARB requests that the manufacturer redesign, revise or replace the tamper resistance design, this information (including the manufacturer's projected action) shall be shared with the manufacturer's EPA designated certification agent. A manufacturer may continue to manufacture and import engine families as long as the original CARB approval for the tamper resistance design is in effect.

compliance of the tamper resistance method based on the manufacturer's testing, but may elect to perform its own testing in accordance with the criteria below.

C) A tamper resistant method is one that cannot be modified without causing irreparable damage to the carburetor (excluding damage to the tamper resistance device) or other components on the engine, housings, or covers once the screw is set to a specified setting, and where future access to the adjustment is not possible without the use of specialized tools provided only by the manufacturer and distributed only to authorized dealers or adjustment is not possible beyond the manufacturer's declared range. Adjustment screws with break away features that render the adjustable parameter inoperable are evidence of a tamper resistant design.

D) An adjustable parameter that does not include a special tool requirement or a limited adjustability design will generally be considered permanently sealed if;

1) For complete product designs where the tamper resistance depends upon the placement of the engine in the product, the adjustments cannot be made while the product or engine is operating (the engine has to be shut off in order to make adjustments of the screw), or

2) Any adjustment to the parameter would significantly degrade engine performance.

NOTE: A tamper resistance device or method is considered compliant if extraordinary measures (tampering activities), are required to override the manufacturer's limited adjustable parameters.

4) Federal Enforcement Inspections

A. Where the application for certification has a complete description of the tamper resistance method, detailed enough to permit comparison with inspected engines and is covered by a valid CARB approval, the federal government's inspection will be based upon an inspection to confirm the CARB-approved compliant mechanism or method has been produced and/or installed consistent with the description.

B. Where a manufacturer does not have CARB approval for its tamper resistance design, the federal government may conduct its own physical inspection, including tamper resistance testing, to evaluate compliance of production engines, taking into consideration section 3

above, and any manufacturer-conducted testing described in the application for certification.

- C. Where a manufacturer did not include the suggested information on the mechanism's design and testing in the application for certification, EPA may conduct additional testing to evaluate compliance.

5) Extraordinary Measures (Tampering):

The use of extraordinary measures to defeat a tamper resistance method is tampering and prohibited by law.

EPA 40 CFR Part 1068.101 (b) states the following:

The following prohibitions apply to everyone with respect to the engines and equipment to which this part applies:

(1) *Tampering.* You may not remove or render inoperative any device or element of design installed on or in engines/equipment in compliance with the regulations prior to its sale and delivery to the ultimate purchaser. You also may not knowingly remove or render inoperative any such device or element of design after such sale and delivery to the ultimate purchaser. This includes, for example, operating an engine without a supply of appropriate quality urea if the emissions control system relies on urea to reduce NOx emissions or the use of incorrect fuel or engine oil that renders the emissions control system inoperative. Section 1068.120 describes how this applies to rebuilding engines. *See* the standard-setting part, which may include additional provisions regarding actions prohibited by this requirement. For a manufacturer or dealer, we may assess a civil penalty up to \$37,500 for each engine or piece of equipment in violation. For anyone else, we may assess a civil penalty up to \$3,750 for each day an engine or piece of equipment is operated in violation. This prohibition does not apply in any of the following situations:

- (i) You need to repair the engine/equipment and you restore it to proper functioning when the repair is complete.

Examples of extraordinary measures include (but not limited to):

1. completely or partially removing the carburetor to adjust idle mixture²
2. drilling, or grinding through caps or plugs
3. destroying or causing more than superficial damage to the carburetor or surrounding covers and housings to remove or disable the tamper resistance method or device.
4. Making special tools for the purpose of overriding the manufacturer's tamper resistance method.

6) Definitions:

Adjustable parameter (§ 1054.801) means any device, system, or element of design that someone can adjust (including those which are difficult to access) and that, if adjusted, may affect emissions or engine performance during emission testing or normal in-use operation. This includes, but is not limited to, parameters related to injection timing and fueling rate. You may ask us to exclude a parameter that is difficult to access if it cannot be adjusted to affect emissions without significantly degrading engine performance, or if you otherwise show us that it will not be adjusted in a way that affects emissions during in-use operation.

Normally Accessible Adjustable Parameter: Any adjustable parameter that can be accessed using ordinary tools without doing irreparable damage to the engine or carburetor.

Ordinary Tools: Ordinary tools for the purpose of determining compliance include:

Screwdrivers (slotted and Phillips head);
Pliers (standard or needle nose, cutting, and locking pliers);
Hammers;
Awls;
Wrenches (any type or size metric or SAE); and
Tools supplied by the engine/equipment manufacturer with the product.

² Note that it is not considered an extraordinary measure to remove the carburetor in order to remove the idle mixture plug or seal, provided the removal was accomplished in accordance with Section 3) C and D above.

Permanently Sealed Adjustable Parameter: Any adjustable parameter that, once set by the manufacturer, and completely described in the application for certification, is protected from further adjustment by covers, plugs or other means that require extraordinary measures to remove or alter and are not available by the equipment/engine manufacturer to the general public.

Special Tools: Tools or fixtures which a manufacturer exclusively makes available to his authorized dealers or service facilities to perform a specific adjustment of a parameter for service purposes per procedures intended to return the product to a certified configuration.

Note: At a minimum of every 5 years, manufacturers should review their special tools to ensure these tools remain an effective tamper resistance method and meet the intent of this Guidance Document.

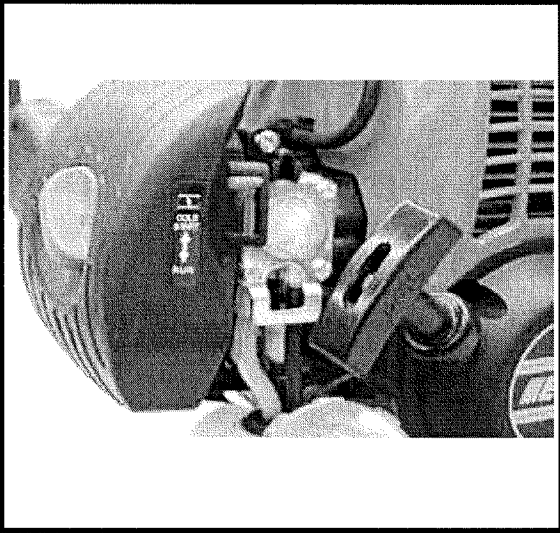
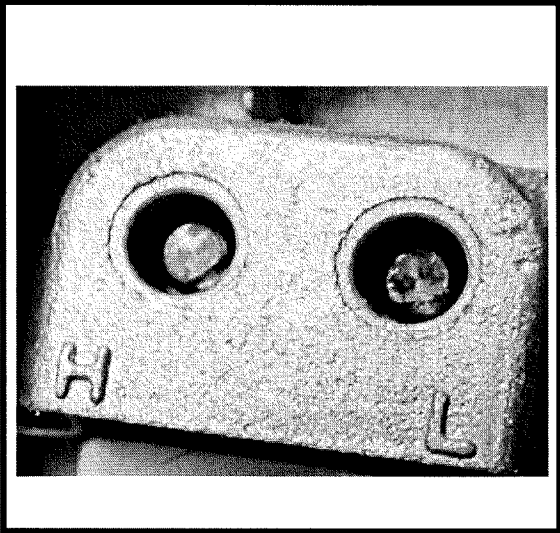
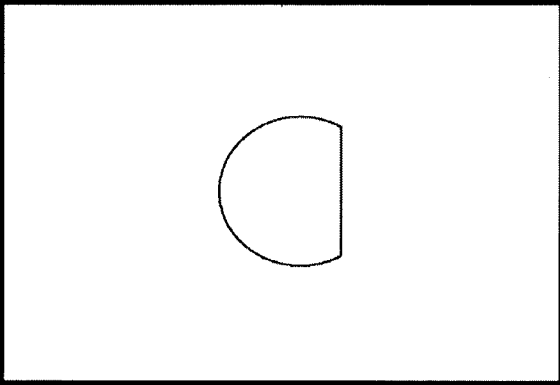
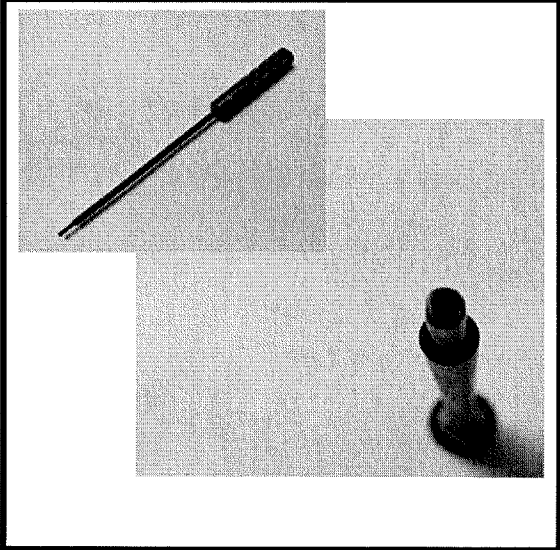
Tampering: The use of extraordinary measures to override the manufacturer's tamper resistance designs; providing information to instruct a non-authorized alteration or adjustment; and the unauthorized manufacturing, distribution, or sales (or making available for sale or use) of special tools relied upon for tamper resistance design approval may be considered tampering.

Tamper Resistance Design: A design that will not allow adjustment of an adjustable parameter without use of extraordinary measures to defeat the tamper resistance features included in the design.

ANNEX A

Examples of Descriptions for Carburetor Information on Class III, IV and V Engines

Note: EPA wants at least one picture to include the carb maker

Carburetor Tamper Resistance Information Form	
Manufacturer Name: <u>XYZ Corporation</u>	<u>CARB Tamper Approval Information</u>
Model Year: <u>2011</u>	Approved (Yes/No): <u>Yes</u>
Family Name: <u>CXYZS.0385HH</u>	Approval Number: <u>NBC-2010-001</u>
Tamper Method: Sealed Needle: <input type="checkbox"/> Limited Adjustment: <input type="checkbox"/> Special Adj. Screw/Tool: <input checked="" type="checkbox"/>	
<u>Unit/Carburetor Illustration</u>	<u>Close-up of Carburetor with Tamper Feature</u>
	
<u>Tamper Resistance Method</u> (if applicable)	<u>Special Screw/Tool Documentation</u> (if applicable)
Method: <u>D-shape screw</u>	
Adhesive (if applicable): _____	
If special screw, supplied by OE?: <u>Yes</u>	
If no, list manufacturer and P/N: _____	
	

Carburetor Tamper Resistance Information Form

Manufacturer Name: XYZ Corporation

CARB Tamper Approval Information

Model Year: 2011

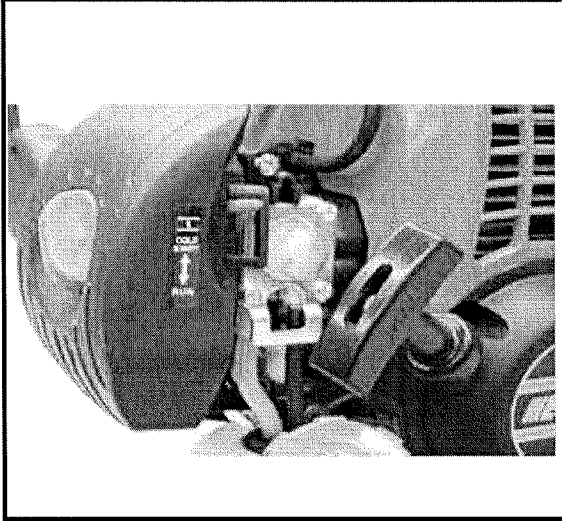
Approved (Yes/No): Yes

Family Name: CXYZS.0385HH

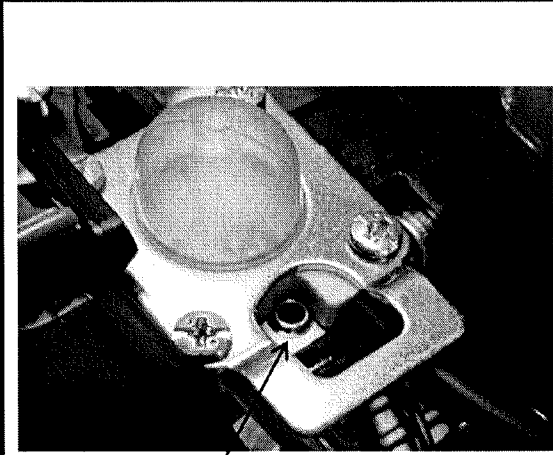
Approval Number: NBC-2010-001

Tamper Method: Sealed Needle: Limited Adjustment: Special Adj. Screw/Tool:

Unit/Carburetor Illustration



Close-up of Carburetor with Tamper Feature



Low Speed Adjustment

Tamper Resistance Method (if applicable)

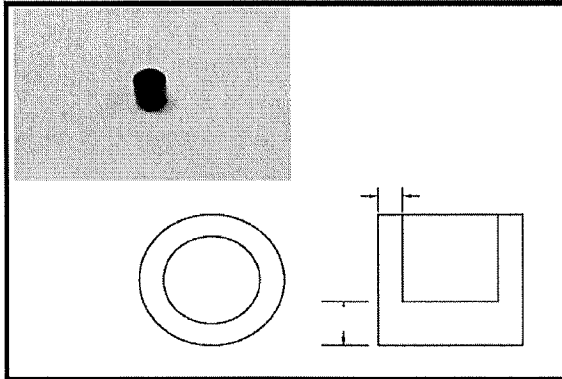
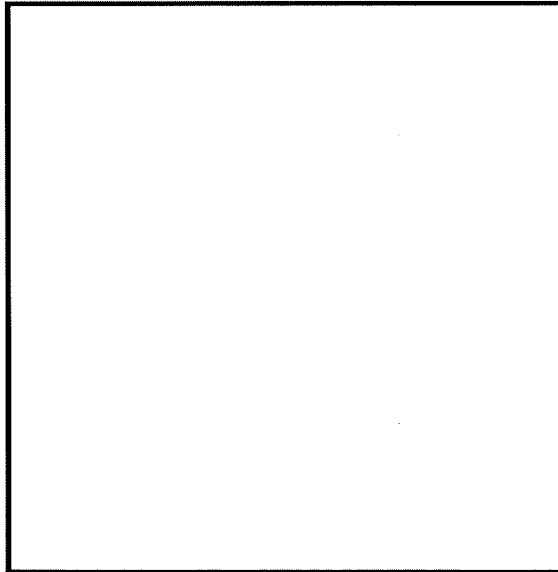
Method: Sealed needle - plastic plug

Adhesive (if applicable) N/A

If special screw, supplied by carburetor manufacturer?: Yes

If no, list manufacturer and P/N: _____

Special Screw/Tool Documentation (if applicable)



ANNEX B

Examples of Descriptions for Carburetor Information on Class I and II Engines

Tamper Resistance Declaration	
Manufacturer Name: Model Year: Family Name:	CARB Approval Information CARB Approved (Yes/No): CARB Approval Number:
Pre-Approved Adjustable Features	
1) Permanently Fixed 3) Plug/Cap Seal 5) Epoxy	2) Recessed/Inaccessible Parameter 4) Special Tool 6) Other (specify in details)
Adjustable Parameters:	
Adjustable Parameter 1 Description:	
Adjustment Justification/Purpose:	
Adjustment Range:	
Anti-Tampering Feature Present (select 1-6):	
Additional Anti-Tampering Feature Details:	
Adjustable Parameter 2 Description:	
Adjustment Justification/Purpose:	
Adjustment Range:	
Anti-Tampering Feature Present (select 1-5):	
Additional Anti-Tampering Feature Details:	
Adjustable Parameter 3 Description:	
Adjustment Justification/Purpose:	
Adjustment Range:	
Anti-Tampering Feature Present (select 1-5):	
Additional Anti-Tampering Feature Details:	
Adjustable Parameter 4 Description:	
Adjustment Justification/Purpose:	
Adjustment Range:	
Anti-Tampering Feature Present (select 1-5):	
Additional Anti-Tampering Feature Details:	
Comment	



PHOTOGRAPH DETAIL	
Carburetor as Installed on Equipment	Carburetor Detail
Anti-Tampering Feature Detail	Special Tool Image and Detail

ADDITIONAL COMMENTS