

# HONDA E N G I N E S

OVERHEAD-VALVE ENGINE #38

**2nd REVISION**

JULY 2007

## ENGINE DISTRIBUTORS SERVICE BULLETIN



For Additional Information, Contact:

### GCV160AS1M • GCV160AS3H APPLIED TO TROY-BILT LAWN MOWERS NO START OR HARD STARTING & SPARK PLUG FOULING

Lowe's RGA #1022737

#### SYMPTOM

The engine won't start or is difficult to start due to a carbon-fouled spark plug. The problem occurs on ACS (Automatic Choke System) GCV160 engines on certain **Troy-Bilt** lawn mower models. ARCS (Auto Return Choke System) engines are not affected.

The fouling is most likely to occur when the engine is started and the choke butterfly takes too long to open, or the shaft binds in the carburetor, resulting in a fouled spark plug.



#### AFFECTED UNITS

Model/Type	Engine Serial Number Range	Troy-Bilt Models
GCV160AS1M GCV160AS3H	GJAEA - 3000001 ~ 5304363	12AV565Q711 12AV834Q711 12AV835Q711 12AV565Q766 12AV835Q766

#### CORRECTIVE ACTION

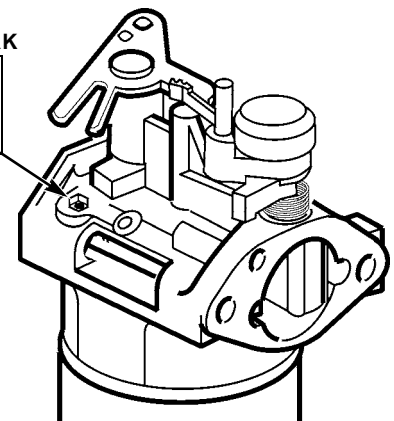
Replace the carburetor with a new-style carburetor. New carburetors can be identified by a blue paint mark on the carburetor body as shown.

After replacing the carburetor, perform the following:

- Check that the choke linkage is operating properly.
- Adjust the heat sink contact position to ensure the choke butterfly opens properly.
- Install a higher heat range spark plug so the spark plug will be more resistant to fouling.

#### BLUE PAINT MARK

Blue paint mark is located in the hexagonal hole in this area only.



NEW

**CONSUMER INFORMATION:** The information in this service bulletin is intended for use only by skilled technicians who have the proper tools, equipment, and training to correctly and safely service and repair your Honda engine. These procedures should not be attempted by "do-it-yourselfers," and you should not assume that this bulletin applies to your engine, or that your engine has the condition described. To determine whether this information applies, contact an authorized Honda engine dealer.

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**Units in warehouse inventory:** All affected units that have been repaired at the warehouse can be identified by:

- A white sticker dot on the end of the Troy-Bilt box as shown.
- A white sticker dot on the Troy-Bilt serial number label as shown.
- A blue paint mark located in the hexagonal hole of the carburetor (see page 1).

**Units in retailer inventory:** All affected units in retailer inventory must be repaired prior to retail sale.

**In-service units:** Follow the procedure below to repair affected units.

WHITE STICKER DOT

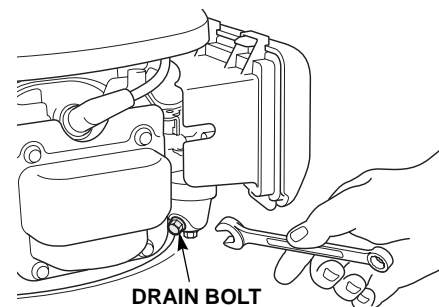


WHITE STICKER DOT NEXT TO THE SERIAL NUMBER LABEL

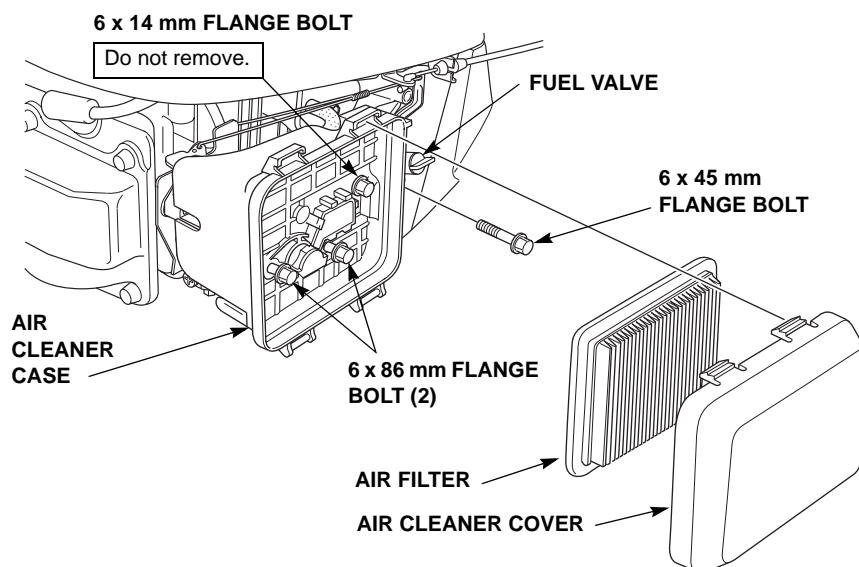


## PROCEDURE

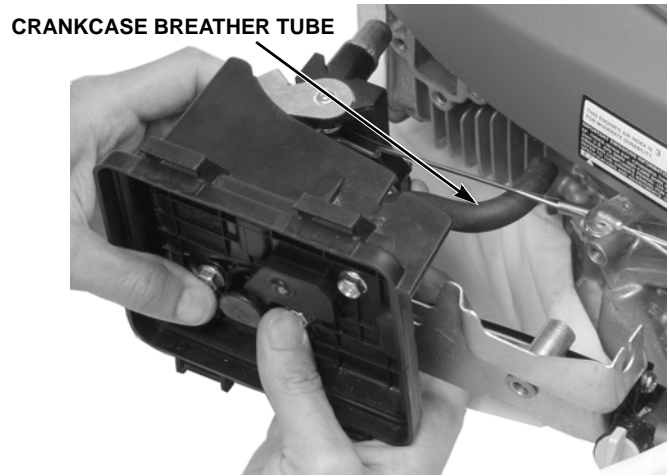
1. Turn the fuel valve to the OFF position.
2. Before removal, completely drain the carburetor into an approved container.
3. Disconnect the spark plug cap from the spark plug.



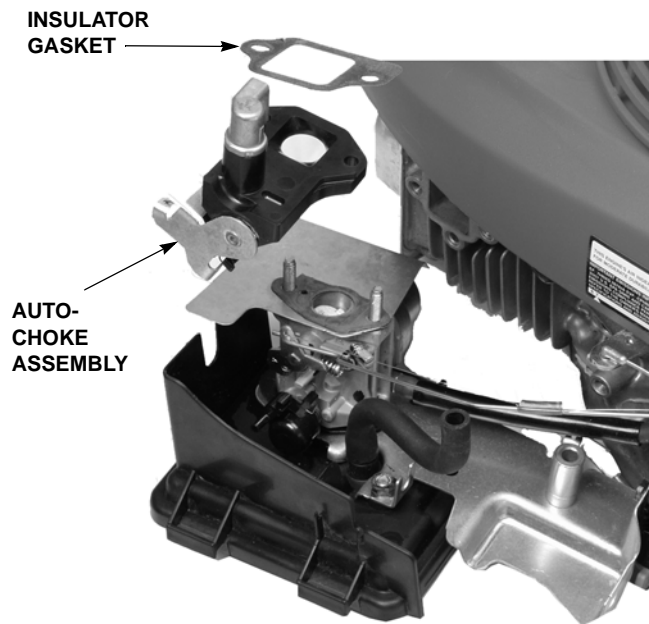
4. Remove the air cleaner cover and air filter.
5. Remove the 6 x 45 mm flange bolt.
6. Completely loosen the two 6 x 86 mm flange bolts securing the air cleaner case, but do not remove them.  
Do not remove the 6 x 14 mm flange bolt.



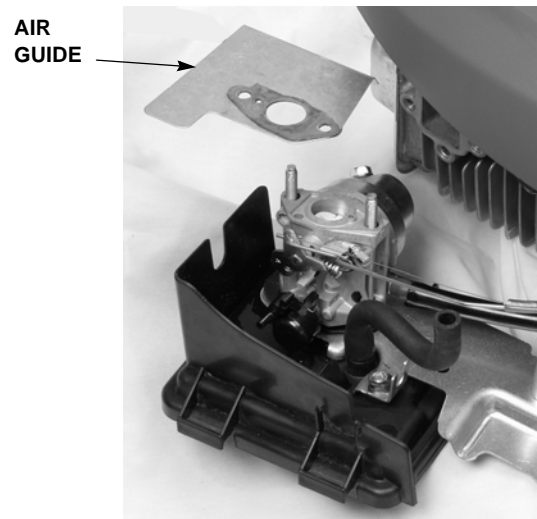
7. Disconnect the crankcase breather tube from the engine while holding the bolts in place, then pull the air cleaner case, carburetor, air guide, and auto-choke assembly as a unit away from the engine. Rotate the assembly and lay it on the lawn mower cutter deck.



8. Remove the auto-choke assembly and the insulator gasket from the two 6 x 86 mm flange bolts.

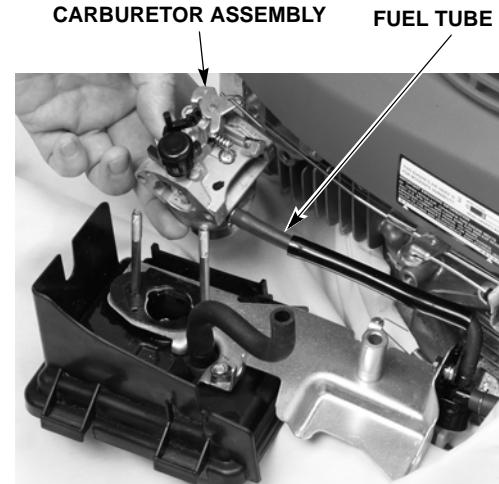
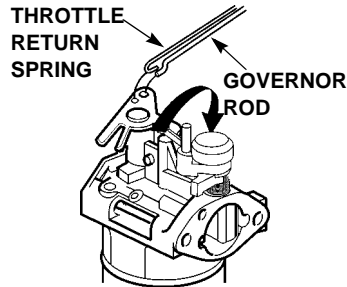


9. Remove the air guide from the two 6 x 86 mm flange bolts.

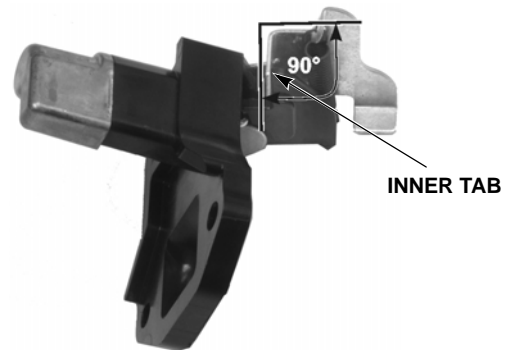


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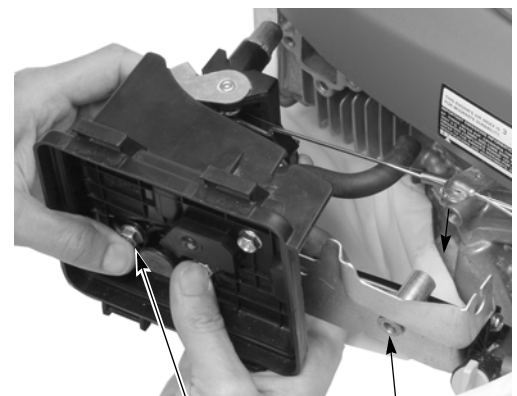
10. Remove the carburetor from the two 6 x 86 mm flange bolts.
11. Remove the fuel tube from the carburetor.
12. Remove the throttle return spring, and then rotate the carburetor in the direction shown and remove the governor rod from the carburetor.



13. Inspect the inner tab on the auto-choke assembly and confirm the inner tab angle is no more than 90 degrees. The auto-choke mechanism must be cold to perform the inspection. If the tab angle is greater than 90 degrees, bend the tab until it is 90 degrees.



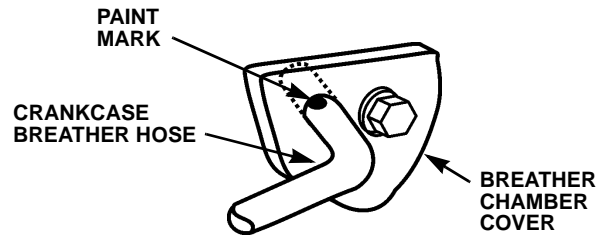
14. Before reassembling the components back onto the two 6 x 86 mm flange bolts, inspect all of the gaskets. Replace any gasket that is not reusable.
15. Install the throttle return spring, governor rod, and fuel tube to the new carburetor.
16. Install the new carburetor onto the two 6 x 86 mm flange bolts.
17. Install the air guide onto the two 6 x 86 mm flange bolts.
18. Install the auto-choke assembly and the insulator gasket onto the two 6 x 86 mm flange bolts.
19. Pick up the assembled air cleaner case, carburetor, air guide, and auto-choke assembly as a unit. Install it to the cylinder block by aligning the two 6 x 86 mm flange bolts with their mounting holes.
20. Loosely install the two 6 x 86 mm flange bolts.
21. Loosely install the 6 x 45 mm flange bolt.



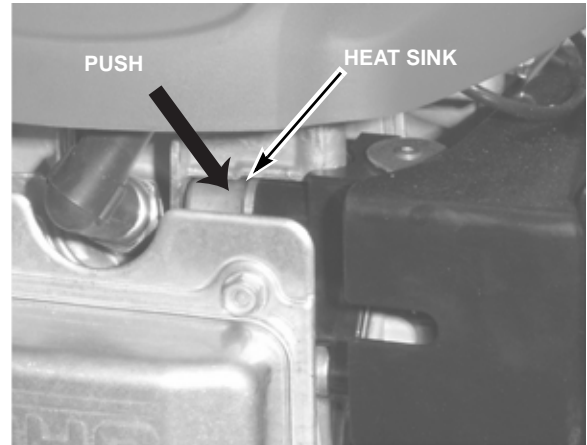
6 x 86 mm FLANGE BOLT (2)

6 x 45 mm  
FLANGE BOLT  
(shown removed)

22. Install the crankcase breather hose with the painted mark even with the breather chamber cover.



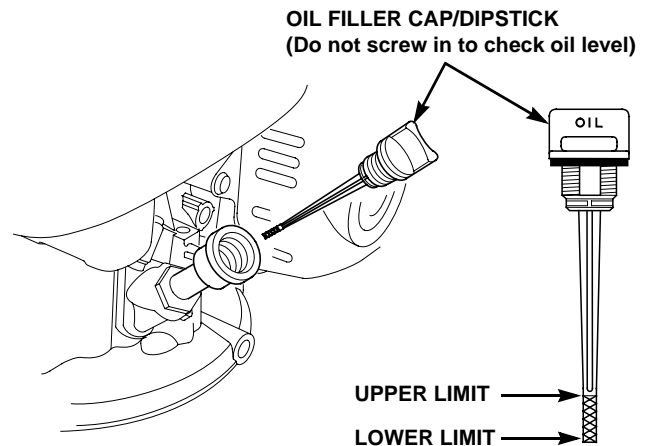
23. Push the aluminum heat sink down toward the rear of the engine (parallel to the spark plug). Continue to apply pressure to the heat sink and retighten the 6 x 86 mm flange bolts to the specified torque. This will ensure the heat sink is properly contacting the cylinder head.



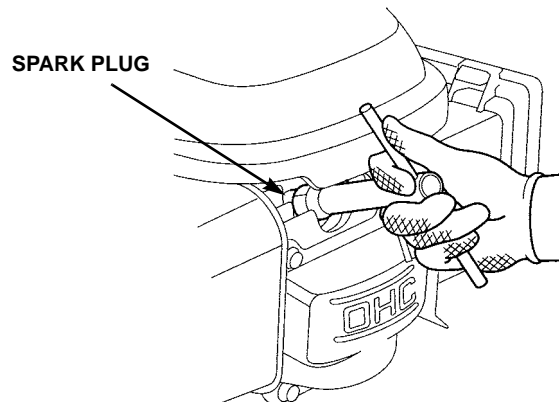
**TORQUE: 10.0 N•m (7.0 ft-lb)**

24. Tighten the 6 x 45 mm flange bolt.  
 25. Install the air filter and air cleaner cover.  
 Inspect the air filter element and replace or clean as necessary.  
 26. Turn the fuel valve ON and check for fuel leaks.  
 27. Check the engine oil level and confirm it's not overfilled. The level must not extend beyond the upper limit mark.

Excess engine oil can also result in spark plug fouling. Drain excess oil if necessary.



28. Remove and replace the spark plug with the higher heat range BPR5ES spark plug.  
 29. Reinstall the spark plug cap.  
 30. Start and test the operation of the engine.



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**PARTS INFORMATION**

Description	Qty	P/N	H/C
Spark plug (NGK BPR5ES)	1	98079-55846	1672443
Carburetor	1	16100-ZOL-871	8311276

Use the following parts as necessary:

Air cleaner gasket	1	17228-ZM0-000	5664560
Carburetor gasket (choke side)	1	16228-ZOL-840	8018418
Carburetor gasket	2	16221-883-800	4581120
Insulator gasket	1	16212-ZL8-000	5580246

**WARRANTY INFORMATION**

**In warranty:** The normal warranty applies.

**Out of warranty:** Any repair performed after warranty expiration may be eligible for goodwill consideration. Contact Tech Line or your District Service Manager. You must request consideration, and receive a decision, before starting work.

**VIN Information**

VIN Prefix	Affected Engine Serial Number Range	Model
GJAEA	3000001 ~ 5304363	GCV160AS1M
		GCV160AS3H

Be sure the warranty claim contains the following information:

N Dealers:
<ul style="list-style-type: none"> <li>Select <i>Service Bulletin</i> claim type.</li> <li>Enter VIN information.</li> <li>From the <i>Service Bulletin</i> drop down menu, select EN038 (Engine Service Bulletin #038) for appropriate model and repair.</li> <li>In the <i>Customer Remarks</i> field, type in "<b>RG 1022737.</b>" (This is a Lowe's reference number for this bulletin only.)</li> </ul>

All others:
Defect Code: 06901
Labor Operation Number: Carburetor: 311105 Spark plug: 311199
Flat Rate Time: Carburetor: 0.5 hr Spark plug: 0.2 hr
Failed Part: 98079-56846