

# BBC Clutch Installation

P-2110-WE  
819-0375

**⚠ WARNING** Failure to follow these instructions may result in product damage, equipment damage, and serious or fatal injury to personnel. When performing maintenance on either mowing deck or engine, the engine should be stopped and the spark plug wire should be disconnected.



**Tools:** Sockets, Torque Wrench

## A. Replacing the Brake Assembly

1. Remove the lawn mower blade from the BBC by removing the blade mounting bolts.
2. Remove the BBC mounting bolt.
3. Disconnect the customer supplied brake actuation spring.
4. Disconnect the BBC actuation cable.
5. Remove anti rotation bolt pin if necessary.
6. Remove the BBC assembly from the mower.

**⚠ WARNING** Constraining the axial movement of the brake plate may cause the BBC to function improperly, leading to increased blade stop times and premature failure of the BBC.

**NOTE:** Pin must be free of grooves that will prevent axial movement of the brake plate.

## Installation Instructions



**Note:** On some applications, the BBC brake assembly will not easily fit through the space allowed in the mower deck. In this instance, the mower engine mounting bolts must be removed and the mower engine lifted off of the deck so that the brake assembly can be removed.

7. Install the new BBC brake assembly directly to the engine crankshaft. In the case where the mower engine was lifted up, remount the engine to the mower deck.
8. Reinstall the BBC actuation cable.

**NOTE:** A minimum of 150 in.lbs. (16.95nm) of torque is required to move the actuation arm from the fully clutched to the fully braked position.

9. Reinstall the BBC mounting bolt. Torque the BBC mounting bolt to 48 ft-lbs. (65 N-m) for a 3/8-24 UNF or a M10 x 1.25-6g mounting bolt (contact Warner Electric personnel for assistance with other thread sizes)

Recommended Bolt Torque		Thread Type
48 ± 3 lbs.ft.	65 ± 5NM	3/8-24 UNF
48 ± 3 lbs.ft.	65 ± 5NM	M10X1.25-6g

Bolt to be grade #8 US, Grade #10 Europe.

**Note:** Please contact Warner Electric for assistance with other thread sizes.

**⚠ WARNING** Proper mounting bolt torque is essential for BBC operation and to prevent premature failure of the BBC.

10. Reinstall the customer supplied brake actuation spring.
11. Reinstall the mower blade.
12. Burnish the BBC per the burnish instructions.

## B. BBC Burnish Instructions

Warner Electric strongly suggests burnishing the BBC whenever either the clutch assembly or the brake assembly is replaced or if the complete assembly is replaced. The mower should be fully functional before this burnish procedure is initiated. The burnish procedure consists of the following steps:

1. Start the lawn mower engine.
2. Run the mower engine at the maximum engine speed. Allow the mower engine to run a sufficient amount of time so that the engine will not stall upon engagement of the blade.
3. With the engine running at maximum engine speed, engage and disengage the BBC a minimum of 15 times waiting at least 10 to 15 seconds between each engagement.

## C: Troubleshooting the Warner Electric BBC

### Symptom: BBC will not engage or is slow to engage

Problem	Possible Causes	Solution
Clutch & brake are engaged at the same time	Cable is out of adjustment	Readjust the BBC actuation cable.
Friction material is contaminated	Engine oil has infiltrated the friction material Grass or dirt has lodged around the friction material	If engine oil has been leaking onto the friction surfaces, replace the BBC immediately. If grass or dirt has lodged around the friction material, disassemble and remove the clutch assembly and remove the contaminants.
Mounting bolt torque is inadequate	Mounting bolt improperly installed	Torque the mounting bolt to the specified installation torque.
Overloaded clutch	Application is improperly sized	Consult Warner Electric personnel for assistance.
Friction material is worn out	BBC has surpassed its life	Replace the clutch assembly or the entire BBC.

### Symptom: BBC will not brake the mower blade

Problem	Possible Causes	Solution
Clutch and brake are engaged at the same time	Cable is out of adjustment	Readjust the BBC actuation cable.
Anti-rotation device has failed	Anti-rotation device is missing or failed during mower operation	Replace the anti-rotation device. Inspect the BBC closely for damage and replace if necessary.
Friction material is contaminated	Engine oil has infiltrated the friction material Grass or dirt has lodged around the friction material	If engine oil has been leaking onto the friction surfaces, replace the BBC immediately. If grass or dirt has lodged around the friction material, disassemble and remove the clutch assembly and remove the contaminants.
Brake return spring is improperly installed	Installed incorrectly at the manufacturing site or by service personnel	Reinstall the brake return spring per the lawnmower manufacturer's specifications.
Overloaded brake	Application is improperly sized	Consult Warner Electric personnel for assistance.
Mounting bolt torque is inadequate	Mounting bolt improperly installed	Torque the mounting bolt to the specified installation torque.
Friction material is worn out or glazed	BBC has surpassed its life, cable out of adjustment, or brake spring too weak.	Replace the brake assembly/the entire BBC, or replace brake spring/adjust cable.



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