FORCE Outboards

service bulletin

No. 93-10

9.9/15 HP Test Procedures BIM I & BIM II Ignition Systems

A new test procedure has been added to the 9.9 and 15 HP FORCE engines with the BIM I and BIM II ignition systems.The new test is the Isolation Diode Test (Test #6). The Isolation Diode acts like a check valve. It prevents the opposite coil from grounding through it when the ignition shorting wires from each coil are connected and routed to the stop switch. A coil with a failed Isolation Diode will still fire, but it will prevent the other coil from firing. Follow the attached procedures for testing the Isolation Diode.

provided by http://www.crowleymarine.com

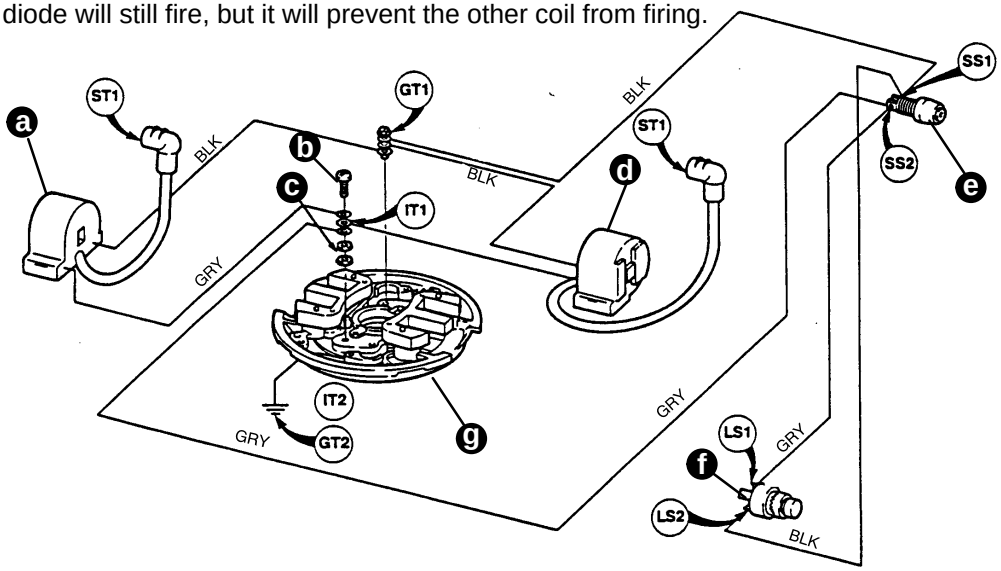
9.9,15 HP BIM II Test Procedures

Test 1: Ignition spark Test	Test Setting	Reading
ST1 - Spark tester leads to #1 & #2 spark plug lead. Pull starter rope.(1)	3/8 in. Gap setting on Spark Tester.	No spark, go to test #2.
Test 2: Lanyard Switch Test **LS1** - Remove GRY kead from switch terminal. **LS2** - Remove BLK lead from switch terminal.	Repeat Test #1	No spark, go to Test #3. If spark, replace lanyard switch.
Test 3: Stop Switch Test **SS1** - Disconnect BLK lead from plug terminal. **SS2** - Disconnect GRY lead from plug terminal.	Repeat Test #1	No spark, go to Test #4. If spark, replace stop switch.
Test 4: Insulated Terminal Test **IT1** - Red meter lead to GRY wire terminal on stator plate. **IT1 -** Black meter lead to a good ground.	x1 Ohm	No continuity, go to next test.. Continuity, check insulating washers.
Test 5: Ground Terminal Test **GT1** - Red meter lead to BLK wire terminal on stator plate **GT2** - Black meter lead to a good engine ground.	x1 Ohm	No continuity, check ground wire. Check for corroded connections. Correct any discrepancies. Repeat Test #1.
Test 6: Isolation Diode Test(2) **IT1** - Disconnect GRY coil lead. Connect red meter lead to GRY coil lead (#1 cyl.) **GT1** - Connect black meter lead to laminations of coil being tested. Reverse leads and retest.	x1 Ohm	Coil should show continuity in one direction only. Check both directions. If continuity is the same in both directions, coil must be replaced.

(1)Lanyard must be in place on lanyard switch for all tests.
(2)A coil with a failed isolation diode will still fire, but it will prevent the other coil from firing.

a - Coil
b - Screw
c - Insulating Washer
d - Coil
e - Stop Switch
f - Lanyard Switch
g - Stator Plate

BLK = Black
GRY = Gray



provided by http://www.crowleymarine.com

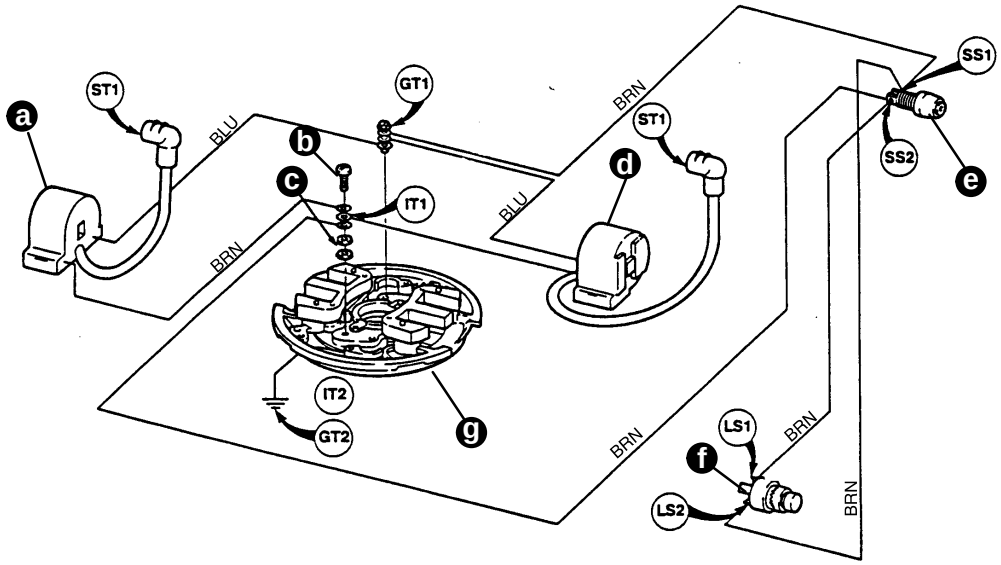
9.9,15 HP BIM I Test Procedures

Test 1: Ignition spark Test	Test Setting	Reading
ST1 - Spark tester leads to #1 & #2 spark plug lead. Pull starter rope.(1)	3/8 in. Gap setting on Spark Tester.	No spark, go to test #2.
Test 2: Lanyard Switch Test **LS1** - Remove BRN lead from switch terminal. **LS2** - Remove BRN lead from switch terminal.	Repeat Test #1	No spark, go to Test #3. If spark, replace lanyard switch.
Test 3: Stop Switch Test **SS1** - Disconnect BRN lead from plug terminal. **SS2** - Disconnect BRN lead from plug terminal.	Repeat Test #1	No spark, go to Test #4. If spark, replace stop switch.
Test 4: Insulated Terminal Test **IT1** - Red meter lead to BRN wire terminal on stator plate. **IT1 -** Black meter lead to a good ground.	x1 Ohm	No continuity, go to next test.If continuity. check insulating washers.
Test 5: Ground Terminal Test **GT1** - Red meter lead to stator plate. **GT2** - Black meter lead to a good engine ground.	x1 Ohm	No continuity, check ground wire. Check for corroded connections. Correct any discrepancies. Repeat Test #1.
Test 6: Isolation Diode Test(2) **IT1** - Disconnect BLU coil lead. Connect red meter lead to BLU coil lead (#1 cyl.) **GT1** - Connect black meter lead to laminations of coil being tested. Reverse leads and retest.	x1 Ohm	Coil should show continuity in one direction only. Check both directions. If continuity is the same in both directions coil must be replaced.

(1)Lanyard must be in place on lanyard switch for all tests.
(2)A coil with a failed isolation diode will still fire, but it will prevent the other coil from firing.

a - Coil
b - Screw
c - Insulating Washer
d - Coil
e - Stop Switch
f - Lanyard Switch
g - Stator Plate

BLU = Blue
BRN = Brown



provided by http://www.crowleymarine.com