

CDI Electronics®

Tohatsu/Nissan

2 & 4 STROKE

2 STROKE Carbureted Engines

MISS AT ANY RPM:

1. If the boat is equipped with a Hummingbird I.D. depth finder, disconnect the power to it and retest. If the miss is gone, switch to a different depth finder. See Tohatsu Service Bulletin # 1200, dated 9/14/1990.
2. Check fuel lines/tank for restrictions, leaks or loose connections.
3. Check fuel pump diaphragms for holes, allowing extra fuel at high RPM.
4. Verify correct spark plugs are installed and are not fouled.
5. Disconnect the stop switch and retest. If the engine performs properly, the stop circuit has a fault.

2.5

NO SPARK:

1. Disconnect the Black and Brown stop wires and retest. If you now have spark, the stop circuit has a fault.
2. Test the stator (exciter) stator coil as follows:

<u>Red Lead</u>	<u>Black Lead</u>	<u>Resistance</u>	<u>DVA Connected</u>
Red	Black	280-420	110 V Minimum
Black/Yellow	Eng Ground	-	198 V Minimum

If the above readings are OK and there is no spark, the ignition coil is likely defective.

3.5B

NO SPARK:

1. Disconnect the Black and Brown stop wires and retest. If you now have spark, the stop circuit has a fault.
2. Test the stator (exciter) and trigger (pulsar) stator coils as follows:

<u>Red Lead</u>	<u>Black Lead</u>	<u>Resistance</u>	<u>DVA Connected</u>
Red	Black	280-420	110 V Minimum
Blue	Black	30-46	4 V Minimum
Black/Yellow	Eng Ground	-	110 V Minimum

If the above readings are OK and there is no spark, the ignition coil is likely defective

5B

NO SPARK:

1. Disconnect the Black and Brown stop wires and retest. If you now have spark, the stop circuit has a fault.
2. Test the stator (exciter) and trigger (pulsar) stator coils as follows:

<u>Red Lead</u>	<u>Black Lead</u>	<u>Resistance</u>	<u>DVA Connected</u>
Red	Black	93-140	110 V Minimum
Blue	Black	80-117	4 V Minimum
Black/Yellow	Eng Ground	-	110 V Minimum

If the above readings are OK and there is no spark, the ignition coil is likely defective

8, 9.8

NO SPARK:

1. Disconnect the Black and Brown stop wires and retest. If you now have spark, the stop circuit has a fault.
2. Test the stator (exciter) stator coil as follows:

<u>Red Lead</u>	<u>Black Lead</u>	<u>Resistance</u>	<u>DVA Connected</u>
Red	Black	224-336	110 V Minimum

If the above reading is OK and there is no spark, the ignition coil is likely defective.

9.9D, 9.9D2, 15D, 18E,

NO SPARK:

1. Disconnect the Black and Brown stop wires and retest. If you now have spark, the stop circuit has a fault.
2. Test the stator (exciter) and trigger (pulsar) stator coils as follows:

<u>Red Lead</u>	<u>Black Lead</u>	<u>Resistance</u>	<u>DVA Connected</u>
Red	Black	168-252	110 V Minimum
Blue	Black	30-46	4 V Minimum
Black/Yellow	Eng Ground	-	110 V Minimum

If the above readings are OK and there is no spark, the ignition coil is likely defective.

15D2, 18E2,

NO SPARK:

1. Disconnect the Black and Brown stop wires and retest. If you now have spark, the stop circuit has a fault.
2. Test the stator (exciter) and trigger (pulsar) stator coils as follows:

Red Lead	Black Lead	Resistance	DVA Connected
Red	Black	130-195	110 V Minimum
Blue	Black	30-46	4 V Minimum
Black/Yellow	Eng Ground	-	110 V Minimum CDI Output to coil

If the above readings are OK and there is no spark, the ignition coil is likely defective

25C2, 30A, 30A2, 30A3, 40C (2 Cyl), 50C, 50D, 60A, 70A

NO SPARK ON ANY CYLINDER:

1. Disconnect the Black and Brown stop wires and retest. If you now have spark, the stop circuit has a fault.
2. Test the stator (exciter) and trigger (pulsar) stator coils as follows:

Red Lead	Black Lead	Resistance	DVA Connected
Red	Black	200-300	110 V Minimum
Blue	Black	30-46	4 V Minimum

NO SPARK ON ONE CYLINDER:

If only one spark plug has spark, the internal ignition coil is defective. The power pack will need to be replaced.

40D (3 Cyl), 50D2

NO SPARK ON ANY CYLINDER:

1. Disconnect the Black and Brown stop wires and retest. If you now have spark, the stop circuit has a fault.
2. Test the stator (exciter) and trigger (pulsar) stator coils as follows:

Red Lead	Black Lead	Resistance	DVA Connected
Org	Wht/Grn		110 V Minimum
Wht/Red	Black		4 V Minimum
Wht/Blk	Black		4 V Minimum
Blue/Wht	Black		4 V Minimum
Blk/Wht	Black		110 V Minimum CDI Output to coil
Blk/Red	Black		110 V Minimum CDI Output to coil
Blk/Grn	Black		110 V Minimum CDI Output to coil

NO SPARK ON ONE CYLINDER:

If only one spark plug has spark, the internal ignition coil is defective. The power pack will need to be replaced.

60B, 70B

NO SPARK ON ANY CYLINDER:

1. Disconnect the Black and Brown stop wires and retest. If you now have spark, the stop circuit has a fault.
2. Test the stator (exciter) and trigger (pulsar) stator coils as follows:

Red Lead	Black Lead	Resistance	DVA Connected
Wht/Grn	Brn/Wht		8.1 V Minimum
Wht/Grn	Wht/Yel		34.2 V Minimum
Brn/Wht	Wht/Yel		35.1 V Minimum
Blue/Wht	Black		4.75 V Minimum
Blk/Wht	Black		110 V Minimum CDI Output to coil
Blk/Red	Black		110 V Minimum CDI Output to coil
Blk/Grn	Black		110 V Minimum CDI Output to coil

60C, 70C

NO SPARK ON ANY CYLINDER:

1. Disconnect the Black and Brown stop wires and retest. If you now have spark, the stop circuit has a fault.
2. Test the stator (exciter) and trigger (pulsar) stator coils as follows:

Red Lead	Black Lead	Resistance	DVA Connected
Wht/Red	Black		4.75 V Minimum
Wht/Blk	Black		4.75 V Minimum
Blue/Wht	Black		4.75 V Minimum
Blk/Wht	Black		110 V Minimum CDI Output to coil

80, 90

NO SPARK ON ANY CYLINDER:

1. Disconnect the Black and Brown stop wires and retest. If you now have spark, the stop circuit has a fault.
2. Test the stator (exciter) and trigger (pulsar) stator coils as follows:

Red Lead	Black Lead	Resistance	DVA Connected
Wht/Grn	Wht/Yel		135 V Minimum
Wht/Red	Black		4.75 V Minimum
Wht/Blk	Black		4.75 V Minimum
Wht/Blue	Black		4.75 V Minimum
Blk/Wht	Black		110 V Minimum CDI Output to coil
Blk/Red	Black		110 V Minimum CDI Output to coil
Blk/Grn	Black		110 V Minimum CDI Output to coil

115, 120

NO SPARK ON ANY CYLINDER:

1. Disconnect the Black and Brown stop wires and retest. If you now have spark, the stop circuit has a fault.
2. Test the stator (exciter) and trigger (pulsar) stator coils as follows:

Red Lead	Black Lead	Resistance	DVA Connected
Wht/Grn	Wht/Yel		135 V Minimum
Wht/Red	Black		4.75 V Minimum
Wht/Blk	Black		4.75 V Minimum
Wht/Blue	Black		4.75 V Minimum
Wht/Yel	Black		4.75 V Minimum
Blk/Wht	Black		110 V Minimum CDI Output to coil
Blk/Red	Black		110 V Minimum CDI Output to coil
Blk/Grn	Black		110 V Minimum CDI Output to coil
Blk/Blue	Black		110 V Minimum CDI Output to coil

4 STROKE Carbureted Engines

4, 5 and 6 HP

NO SPARK:

1. Disconnect the Black and Brown stop wires and retest. If you now have spark, the stop circuit has a fault.
2. Test the stator (exciter) and trigger (pulsar) stator coils while connected as follows:

Red Lead	Black Lead	Resistance	DVA Connected
Eng Gnd	Black/Yellow		150 V Minimum
Black/Red	Eng Gnd		150 V Minimum
Red/White	Eng Gnd		3.5 V Minimum

If the above readings are OK and there is no spark, the ignition coil is likely defective.

8 and 9.8 HP

NO SPARK:

1. Disconnect the Black and Brown stop wires and retest. If you now have spark, the stop circuit has a fault.
2. Test the stator (exciter) and trigger (pulsar) stator coils while connected as follows:

Red Lead	Black Lead	Resistance	DVA Connected
Eng Gnd	Orange		150 V Minimum
Blue	Black/Red		150 V Minimum
Red/White	Eng Gnd		3.5 V Minimum

If the above readings are OK and there is no spark, the ignition coil is likely defective.

9.9, 15 and 18 HP

NO SPARK:

1. Disconnect the Black and Brown stop wires and retest. If you now have spark, the stop circuit has a fault.
2. Test the stator (exciter) and trigger (pulsar) stator coils while connected as follows:

Red Lead	Black Lead	Resistance	DVA Connected
Orange	Eng Gnd		90 V Minimum
Black/Red	Blue		175 V Minimum
Red/White	Eng Gnd		3.5 V Minimum

If the above readings are OK and there is no spark, the ignition coil is likely defective.

25 and 30 HP Carbureted

NO SPARK:

1. Disconnect the Black and Brown stop wires and retest. If you now have spark, the stop circuit has a fault.
2. Test the stator (exciter) and trigger (pulsar) stator coils while connected as follows:

Red Lead	Black Lead	Resistance	DVA Connected
Black/Red	Blue		175 V Minimum
Black/White	Eng Gnd		190 V Minimum
Black/Red	Eng Gnd		190 V Minimum
Black/Green	Eng Gnd		190 V Minimum
White/Red	Eng Gnd		3.5 V Minimum
White/Black	Eng Gnd		3.5 V Minimum
White/Green	Eng Gnd		3.5 V Minimum

If the above readings are OK and there is no spark, the ignition coil is likely defective.

25 and 30 HP Carbureted

NO SPARK:

1. Disconnect the Black and Brown stop wires and retest. If you now have spark, the stop circuit has a fault.
2. Test the stator (exciter) and trigger (pulsar) stator coils while connected as follows:

Red Lead	Black Lead	Resistance	DVA Connected
Black/Red	Blue		175 V Minimum
Black/White	Eng Gnd		190 V Minimum
Black/Red	Eng Gnd		190 V Minimum
Black/Green	Eng Gnd		190 V Minimum
White/Red	Eng Gnd		3.5 V Minimum
White/Black	Eng Gnd		3.5 V Minimum
White/Green	Eng Gnd		3.5 V Minimum

If the above readings are OK and there is no spark, the ignition coil is likely defective.

25 and 30 HP EFI

NO SPARK:

1. Disconnect the Black and Brown stop wires and retest. If you now have spark, the stop circuit has a fault.
2. Test the stator (exciter) and trigger (pulsar) stator coils while connected as follows:

Red Lead	Black Lead	Resistance	DVA Connected
White/Red	White/Black		200 V Minimum
White/Blue	White/Black		25 V Minimum
Black/White	Eng Gnd		190 V Minimum
Black/Red	Eng Gnd		190 V Minimum
Black/Green	Eng Gnd		190 V Minimum
Red/Yellow	Eng Gnd		5 V Minimum
Red/White	Eng Gnd		5 V Minimum

If the above readings are OK and there is no spark, the ignition coil is likely defective.

A special thanks to Tohatsu America for their help in creating this chart.