

Trouble-shooting Guide for DC Thrusters

1999 through 2005 thrusters
with 4-wire control system

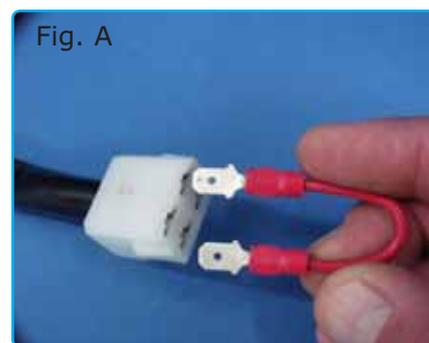


Please read over the owners manuals and familiarize yourself with the product. There is a trouble-shooting section in each manual. This guide is meant to be a supplement to these providing illustrated instructions for more detailed trouble-shooting.

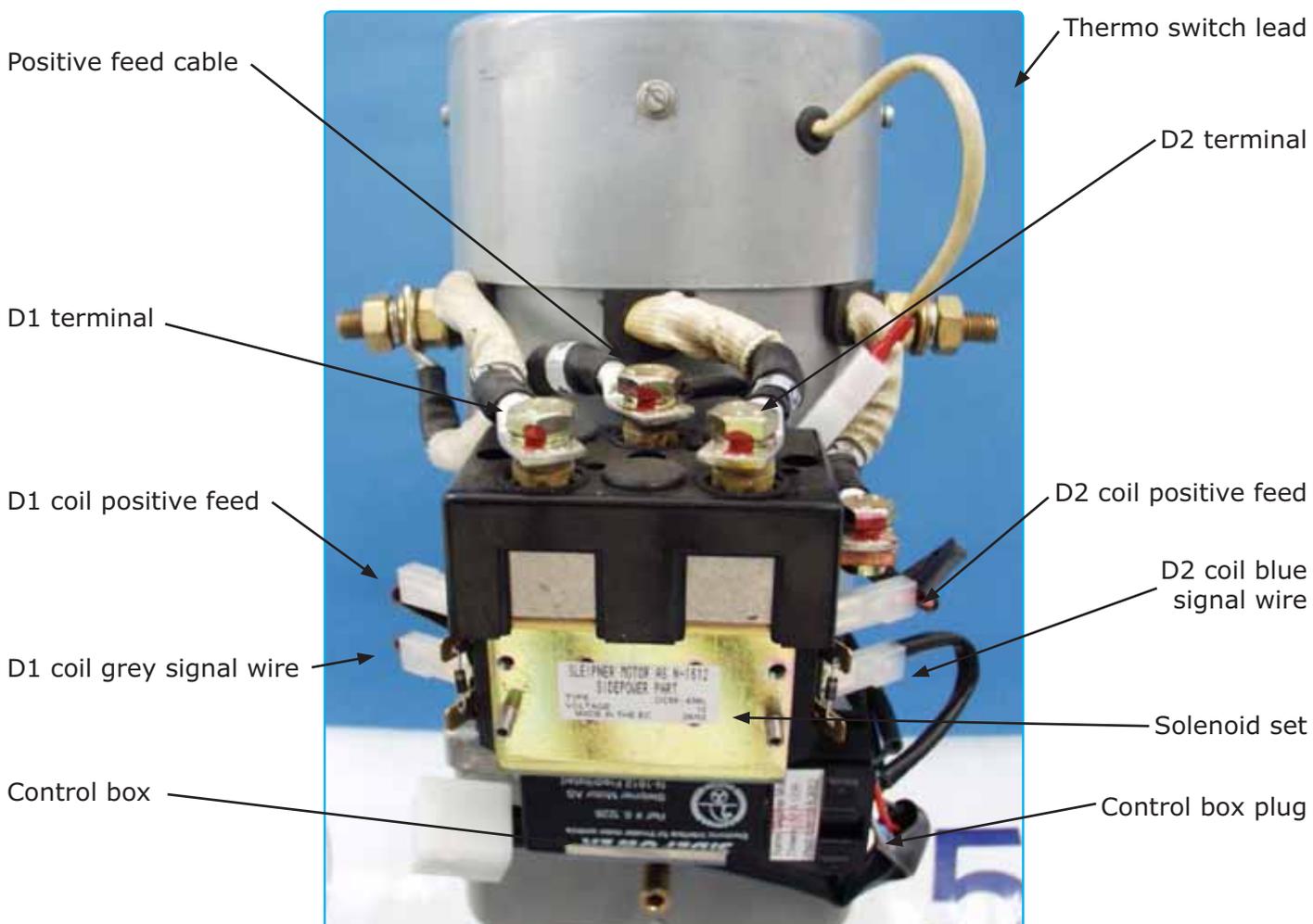
Note: This guide is intended for Thrusters utilizing SIDE-POWER "Plug and Play" wiring only, and not intended for thrusters utilizing SIDE-POWER's Auto-Main Switch or SIDE-POWER's voltage conversion box.

Recommended Tools for Trouble-shooting:

- Metric Allen Wrenches, 4mm to 12 mm
- Metric wrenches or sockets
- Needle Nose Vise-Grips
(for holding jam nuts when removing battery cables from motor)
- Phillips head screwdriver
- Small jumper wire
(with male quick disconnect terminals if available, Fig. A)
- 12" jumper wire with alligator clips
- Multi-meter (with alligator clips if available)



Identifying thruster parts



If Control Panel does not turn on.

(Light between two On buttons does not light)

1. Check battery power.

- The control panel is powered through the bow thruster. The thruster is usually on its own circuit, meaning the positive and negative battery cables run directly between the thruster and the battery. A fuse should be installed on the positive cable within 72" of the battery, check that it is not blown. A battery switch is usually installed in close proximity to the fuse and battery, check that the battery switch is turned on.



Control panel on

2. Check voltage at the thruster.

- You should read battery voltage at the thruster. If there is no voltage at the thruster there is a problem with the power supply, check the battery, fuse, switch, or cabling.

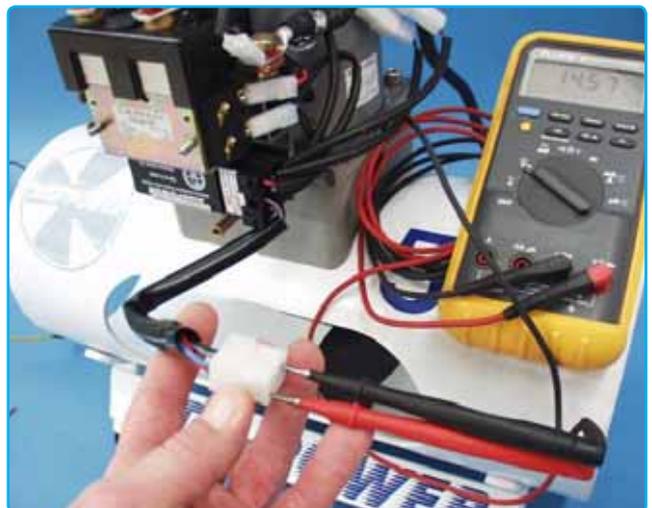


Checking voltage at thruster

3. Check for voltage on the control harness pigtail on motor and at control panel.

- With multi-meter set to DC volts, check from red wire (positive) to black wire (negative) on motor wiring harness pigtail. If there is battery voltage at the thruster battery cables, but no voltage at the motor harness pigtail, than proceed to step 4.

If there is battery voltage on the motor control harness repeat step 3 on control harness at the control panel to ensure there is no fault with the control harness run. If there is battery voltage at control panel then there is a problem with the control panel. Please contact your local Side-Power distributor for service support.



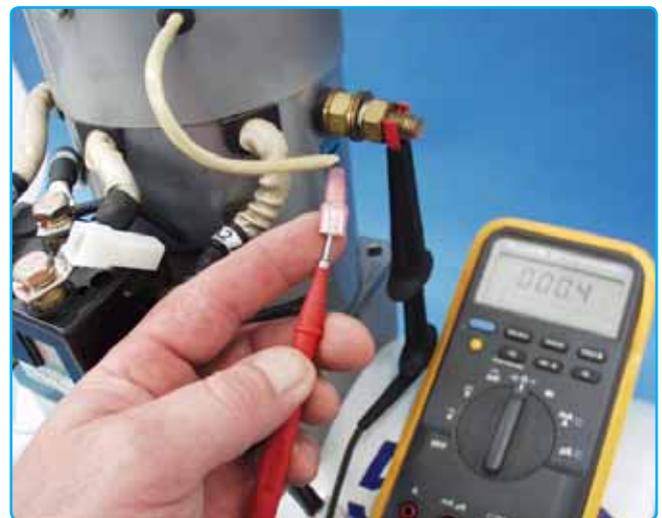
Checking voltage on motor harness

4. Check control system positive and negative.

- Check for voltage between the battery negative stud and red wire on motor harness pigtail.
- **If no voltage is present**, then check that all motor harness and control box plug connections are tight and in place. If the motor harness checks out, then there may be a problem with the control box. Please contact your local Side-Power distributor for service support.
- **If voltage is present**, locate the thermo switch lead and unplug it from the motor harness. With multi-meter set on ohm (Ω), check for continuity between the thermo switch lead and the battery negative stud. There should be continuity; ohms will go close to 0 (usually about 0.2Ω - 0.5Ω).
 - **If there is no continuity** between thermo switch lead and battery negative stud, then please contact your local Side-Power distributor for service support.
 - **If there is continuity** between thermo switch lead and battery negative stud then there is a problem with the control box or the motor wiring harness. Please contact your local Side-Power distributor for service support.



Checking voltage on motor harness to battery negative stud



Checking continuity between thermo switch lead and battery negative post

If control panel does turn on but thruster does not run, or thruster runs in one direction only.

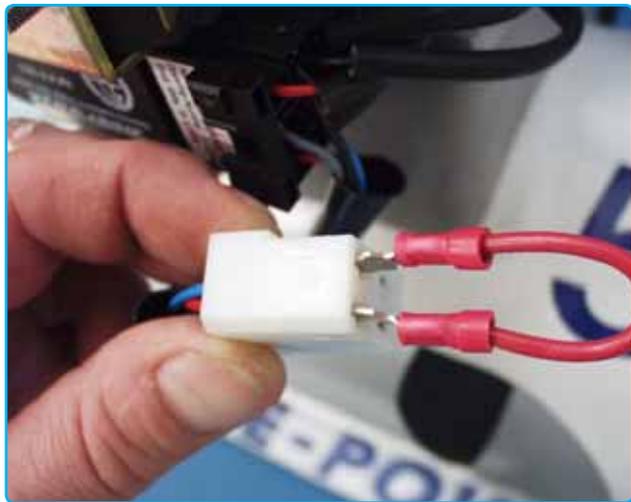
NOTE: The preceding tests are to be performed while the boat is in the water. Please contact your local Side-Power distributor for service support if you have any questions.

1. Bypass control panel and check thruster control box and solenoid operation.

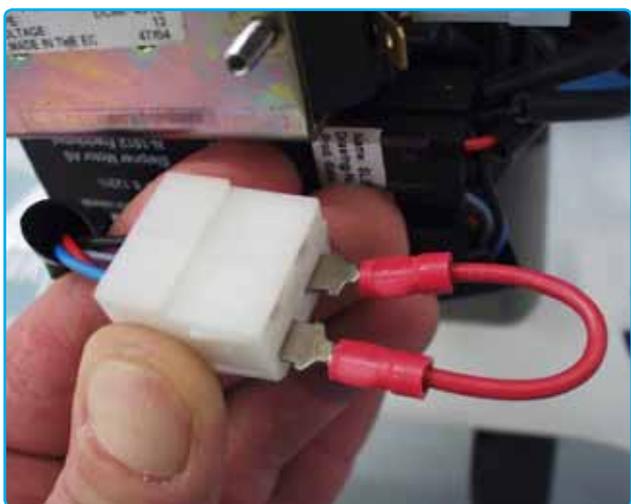
- Remove control panel and unplug wiring harness or unplug control harness from motor harness pigtail, whichever is more convenient. On the four wire Amp connector (wiring harness if disconnected at control panel or motor pigtail if disconnected at motor), with short jumper wire, jump from red to blue for starboard run, and red to grey for port run.

NOTE: Be careful not to jump red to black as this will permanently damage the control box

- **If thruster runs** when jumping red to blue and grey, than the control panel is most likely damaged. Please contact your local Side-Power distributor for service support.
- **If thruster does not run,** proceed to step 2.



Jumping red to blue on motor pigtail



Jumping red to grey on motor pigtail

2. Bypass thruster control box and check thruster solenoid operation.

With long jumper wire, jump from negative battery stud to D1 coil grey signal wire for port run, and to D2 coil blue signal wire for starboard run.

- **If thruster runs properly**, than the control box needs to be replaced.
- **If thruster does not run**, proceed to step 3



Jumping ground to grey on D1 coil

3. Check for solenoid output.

- With jumper wire still attached from step 2, check for voltage on the A2 terminal.
 - **If no voltage is present** on A2 terminal then the solenoid pack may need to be replaced. Please contact your local Side-Power distributor for service support.
 - **If voltage is present** on A2 terminal then the motor may be damaged. Please contact Your local Side-Power distributor for service support.



Jumping ground to blue on D2 coil

4. Check the operating voltage.

- Once the thruster is operating properly, check the voltage between the battery positive post and the battery negative post while the thruster is running. The voltage will drop initially and then should level off after approximately 5-10 seconds.

The voltage should be no lower than 9.5 for a 12 volt thruster and 19 volts for a 24 volt thruster after the voltage has stabilized.

If the voltage does not stabilize and continues to drop below 9.5 or stabilizes below 9.5 for 12 volt thrusters (19 volts for 24 volt thrusters), than the battery source needs to be check to ensure the amp capacity is sufficient to run the thruster or the cable run needs to be checked for voltage drop. Please contact your local Side-Power distributor for service support if you have low operating voltage.



Checking voltage on A2 with ground to blue jumper attached

Argentina

Trimer SA
 Buenos Aires
 Tel: +54 11 4580 0444
 Fax: +54 11 4580 0440
 www.trimer.com.ar
 trimer@trimer.com.ar

Australia

AMI Sales
 Freemantle, WA
 Tel: +61 89 331 0000
 Fax: +61 89 314 2929
 ami@amisales.com.au

Austria

G. Ascherl GmbH
 Hard, Bregenz
 Tel: +43 5574 899000
 Fax: +43 5574 89900-10
 www.ascherl.at
 office@ascherl.at

Benelux

ASA Boot Electro
 Watergang
 Tel: +31 20 436 9100
 Fax: +31 20 436 9109
 asaboot@worldonline.nl
 info@asabootelectro.nl

Brazil

Electra Service Ltda.
 Guarujá
 Tel: +55 13 3354 3599
 Fax: +55 13 3354 3471
 www.electraservice.br.com
 albertoni@electraservice.com.br

Bulgaria

Yachting BG
 Burgas
 tel: +359 56 919090
 fax: +359 56 919091
 www.yachting.bg
 info@yachting.bg

Canada

Imtra Corporation
 New Bedford, MA
 Tel: +1 508 995 7000
 Fax: +1 508 998 5359
 www.imtra.com
 side-power@imtra.com

China/Hong Kong

Storm Force Marine Ltd.
 Wanchai, Hong Kong
 Tel: +852 2866 0114
 Fax: +852 2866 9260
 www.stormforcemarine.com
 sales@stormforcemarine.com

Croatia

AC Yacht & nautical support
 Icici
 Tel: +385 51 704 500
 Fax: +385 51 704 600
 acy@net.hr

Denmark

Gertsen & Olufsen AS
 Hørsholm
 Tel: +45 4576 3600
 Fax: +45 4576 1772
 www.gertsen-olufsen.dk
 info@gertsen-olufsen.dk

Finland

Nautikulma OY
 Turku
 Tel: +358 2 2503 444
 Fax: +358 2 2518 470
 www.nautikulma.fi
 nautikulma@kolumbus.fi

France

Kent Marine Equipment
 Nantes
 Tel: +33 240 921 584
 Fax: +33 240 921 316
 www.kent-marine.com
 contact@kent-marine.com

Germany

Jabsco GmbH
 Norderstedt
 Tel: +49 40 535 373-0
 Fax: +49 40 535 373-11

Greece

Amaltheia Marine
 Athens
 Tel: +30 210 2588 985
 Fax: +30 210 2588 986
 www.amaltheiamarine.com
 amalmar@otenet.gr

Iceland

Maras EHF
 Reykjavik
 Tel: +354 555 6444
 Fax: +354 565 7230
 www.merkur.is
 velar@merkur.is

India

Indo Marine Engineering Co. Pvt. Ltd
 Pune, Maharashtra
 Tel: +91 20 2712 3003
 Fax: +91 20 2712 2295
 siddharth@indomarine.net

Ireland

Sleipner Motor Ltd.
 South Brent
 Tel: +44 1364 649 400
 Fax: +44 1364 649 399
 andy@sleipner.co.uk

Israel

Atlantis Marine Ltd.
 Tel Aviv
 Tel: +972 3 522 7978
 Fax: +972 3 523 5150
 www.atlantis-marine.com
 atlantis@inter.net.il

Italy

Saim S.P.A.
 Assago-Milan
 Tel: +39 02 488 531
 Fax: +39 02 488 254 5
 www.saim-group.com

Japan

Turtle Marine Inc.
 Nagasaki
 Tel: +81 95 840 7977
 Fax: +81 95 840 7978
 www.turtle-marine.com
 info@turtle-marine.com

Malta

S & D Yachts Ltd.
 Cali
 Tel: +356 21 339 908
 Fax: +356 21 332 259
 www.sdyachts.com
 info@sdyachts.com

New Zealand

Advance Trident Ltd.
 Auckland
 Tel: +64 9 845 5347
 Fax: +64 9 415 5348
 www.advancetrident.com
 service@advancetrident.com

Norway

Sleipner Motor AS
 Fredrikstad
 Tel: +47 69 30 00 60
 Fax: +47 69 30 00 70
 www.side-power.com
 sidepower@sleipner.no

Poland

Taurus Sea Power SP. Z.O.O
 Gdansk
 Tel: +48 58 344 30 50
 Fax: +48 58 341 67 62

Portugal

Krautli Portugal Lda.
 Lisboa
 Tel: +351 21 953 56 00
 Fax: +351 21 953 56 01
 www.krautli.com
 contact@krautli.pt

Russia

Standarte
 Starbeyevo
 Tel: +7 095 575 67 23
 Fax: +7 095 575 39 77
 www.standarte.ru
 info@standarte.ru

Spain

Imnasa Marine Products
 Girona
 Tel: +34 972 820210
 Fax: +34 972 325116
 www.imnasa.com
 imnasa@imnasa.com

Sweden

Sleipner AB
 Strömstad
 Tel: +46 526 629 50
 Fax: +46 526 152 95
 www.sleipnerab.se

Switzerland

Marine Parts Technics AG
 Volketswil
 Tel: +41 1 997 40 90
 Fax: +41 1 997 40 94
 www.marineparts.ch
 info@marineparts.ch

Singapore

Alquest Marketing
 Singapore
 Tel: +65 6749 9359
 Fax: +65 6749 9360
 www.alquest.com.sg
 alquest@singnet.com.sg

Singapore/Malaysia/Indonesia/Vietnam/Phillippines

OK-Maritime Pte Ltd
 Singapore
 Tel: +65 9669 8051
 Fax: +65 6769 0507
 www.ok-maritime.com
 sales@ok-maritime.com

Taiwan

Mercury Marine Supply
 Kaohsiung
 Tel: +886 7 3317 293
 Fax: +886 7 3314 232

Turkey

Denpar Ltd.
 Istanbul
 Tel: +90 212 285 0334
 Fax: +90 212 285 0311
 bilgebay@superonline.com

UK

Sleipner Motor Ltd.
 South Brent
 Tel: +44 1364 649 400
 Fax: +44 1364 649 399
 andy@sleipner.co.uk

United Arab Emirates

Teignbridge Propellers & Marine
 Equipment Co. Ltd.
 Dubai
 Tel: +971 4 324 0084
 Fax: +971 4 324 0153
 teignpro@emirates.net.ae

USA

Imtra Corporation
 New Bedford, MA
 Tel: +1 508 995 7000
 Fax: +1 508 998 5359
 www.imtra.com
 side-power@imtra.com

ALL OTHERS:

Sleipner Motor AS
 P.O. Box 519,
 N-1612 Fredrikstad, Norway
 Tel: +47 69 30 00 60
 Fax: +47 69 30 00 70
 sidepower@sleipner.no
 www.side-power.com