POWER TRIM
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</table>
## Trim Pump Specifications

### Valve Pressure Specifications

<table>
<thead>
<tr>
<th>VALVE</th>
<th>PRESSURE</th>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td></td>
<td>PSI</td>
<td>kPa</td>
<td></td>
</tr>
<tr>
<td>Up Circuit</td>
<td>2200-2600</td>
<td>15173-17932</td>
<td></td>
</tr>
<tr>
<td>Down Circuit</td>
<td>400-600</td>
<td>2759-4138</td>
<td></td>
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### Electrical Specification

<table>
<thead>
<tr>
<th>PUMP AMPERAGE DRAW</th>
<th>PRESSURE</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>115 Amps at:</td>
<td>2200-2600</td>
<td>15173-17932</td>
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### Torque Specification

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>TORQUE</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Up Pressure Relief Valve</td>
<td>70</td>
<td>7.9</td>
<td></td>
</tr>
<tr>
<td>Down Pressure Relief Valve</td>
<td>70</td>
<td>7.9</td>
<td></td>
</tr>
<tr>
<td>Thermal Relief Valve</td>
<td>70</td>
<td>7.9</td>
<td></td>
</tr>
<tr>
<td>Pump-to-Adaptor Mounting Screws</td>
<td>70</td>
<td>7.9</td>
<td></td>
</tr>
<tr>
<td>Motor-to-Adaptor Mounting Screws</td>
<td>25</td>
<td>2.8</td>
<td></td>
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<tr>
<td>Hex Plug Retainers</td>
<td>38-50</td>
<td>51-67</td>
<td></td>
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<tr>
<td>“Up” Pressure Hydraulic Hose (Black)</td>
<td>100-150</td>
<td>11-16</td>
<td></td>
</tr>
<tr>
<td>“Down” Pressure Hydraulic Hose (Gray)</td>
<td>100-150</td>
<td>11-16</td>
<td></td>
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## Special Tools

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>PART NUMBER</th>
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<tbody>
<tr>
<td>Test Gauge Kit</td>
<td>91-52915A6</td>
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<tr>
<td>Torque Wrench (lb. in.)</td>
<td>91-66274</td>
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## Lubricants, Adhesives, and Sealers

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>PART NUMBER</th>
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<tbody>
<tr>
<td>Quicksilver Power Trim and Steering Fluid</td>
<td>92-90100A1</td>
</tr>
<tr>
<td>Quicksilver 2-4-C Marine Lubricant with Teflon</td>
<td>92-825407A12</td>
</tr>
<tr>
<td>Liquid Neoprene</td>
<td>92-25711-2</td>
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</tbody>
</table>
Trim Pump Exploded View

Oildyne Trim Pump

1 - Adaptor
2 - Coupling
3 - Pump
4 - Filter
5 - O-ring-Motor End
6 - O-ring, Reservoir End
7 - Dipstick
8 - Reservoir
9 - Cap (With Vent Hole)
10 - Screw (Includes O-ring)
11 - End Cap w/Bearing Screw
12 - Screw
13 - O-ring
14 - Screw
15 - Brush Holder Kit
16 - Brush set
17 - Armature
18 - Thrust Washer
19 - Field and Frame
20 - Housing
21 - Screw
22 - Relief Valve With:
23 - Spring
24 - Eyelet
25 - Check Ball

Replacement Relief Valve Color Code:
- Down Pressure: Green
- Up Pressure: Blue
- Thermal: Gold

Torque Specifications

- 75 lb. in. (8 N-m)
- 25 lb. in. (2.8 N-m)
## Trim Cylinder Specifications

### Torque Specifications

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>TORQUE</th>
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<tbody>
<tr>
<td>Piston Rod Bolt</td>
<td>lb. in.</td>
<td>lb. ft.</td>
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<tr>
<td></td>
<td>15-20</td>
<td>20-27</td>
</tr>
<tr>
<td>End Cap</td>
<td>40-50</td>
<td>55-68</td>
</tr>
<tr>
<td>Anode Screw</td>
<td>30</td>
<td>3.4</td>
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### Lubricants, Sealers, and Adhesives

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>PART NUMBER</th>
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<tbody>
<tr>
<td>Loctite 8831</td>
<td>92-823089-1</td>
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<tr>
<td>Quicksilver 2-4-C Marine Lubricant with Teflon</td>
<td>92-825407A12</td>
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<tr>
<td>Quicksilver Perfect Seal</td>
<td>92-34227--1</td>
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<tr>
<td>Quicksilver Power Trim and Steering Fluid</td>
<td>92-90100A12</td>
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## Special Tools

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>PART NUMBER</th>
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<tr>
<td>Spanner Nut Wrench</td>
<td>91-821709</td>
</tr>
<tr>
<td>Large Pin Set</td>
<td>91-811907</td>
</tr>
<tr>
<td>Medium Pin Set</td>
<td>91-811908</td>
</tr>
<tr>
<td>Small Pin Set</td>
<td>91-811909</td>
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</tbody>
</table>
Special Information

Bravo Three Notice: Trim “In” Limit Blocks or Limit Pin

**NOTE:** Some earlier Bravo Three models will be equipped with Trim-In Limit Blocks, later model Bravo One, Two, and Three will have a Trim-In Limit Pin.

It has been brought to our attention that some boats (predominantly deep-Vee heavy boats) will roll up on their side under certain, specific, operating conditions. The roll can be either to port or starboard and may be experienced while moving straight ahead, or while making a turn. The roll occurs most frequently at or near maximum speed, with the drive unit trimmed at or near full “In”. While the boat will not roll completely over, the roll may be sufficient to unseat the operator or passengers, and thereby create an unsafe situation.

The roll is caused by “stern lift.” “Stern lift” can be created by excessive drive unit trim “In.” Under these extreme “stern lift”/“bow down” conditions instability can be created which may cause the boat to roll. Weight distribution to the stern can reduce “stern lift” and, in some circumstances, eliminate the condition. Weight distribution in the bow, port or starboard, may worsen the condition.

The Trim “In” limit devices reduce “stern lift” by preventing the drive unit from reaching the last few degrees of full trim under. While this device should reduce the rolling tendency, they may not eliminate the tendency entirely. The need for these trim “In” limit blocks or pin, and the effectiveness of them, can only be determined through boat testing and is ultimately the responsibility of the boat manufacturer.

**WARNING**

It is recommended that only qualified personnel remove or adjust the Trim “In” Limit Blocks or adjust the Trim-In Limit Pin. Boat must be water tested after removing or adjusting the device to ensure that the modified trim “In” range does not cause the boat to exhibit an undesirable boat handling characteristic if the drive unit is trimmed “In” at higher speeds. Increased trim “In” range may cause handling problems on some boats which could result in personal injury.

**IMPORTANT:** On Bravo One, Two, and Three Models, the “Trim-In Limit Pin” (If equipped), must be properly positioned before installing the trim cylinder anchor pin.

**NOTE:** When removing the stern drive unit, make a note of the position of the pin for reference when reinstalling the drive unit.

1. If equipped, ensure that the Trim-In Limit Pin is positioned as shown for the appropriate Bravo model.

   **Bravo One and Two (Positioned Forward)**

   ![Bravo One and Two (Positioned Forward)](image)

   a - Trim-In Limit Pin

   **Bravo Three (Positioned Aft)**

   ![Bravo Three (Positioned Aft)](image)

   a - Trim-In Limit Pin

   **IMPORTANT:** The position of the Trim-In Limit Pin on the Bravo Three stern drive unit should only be changed after the boat has been properly tested. Contact the boat manufacturer if you are not sure of the original position for a particular boat application.
Trim “In” Limit Blocks - Removal, Installation or Adjustment

IMPORTANT: Prior to working on trim cylinders, make note of the position of Trim-In Limit Blocks, if so equipped.

⚠️ CAUTION

Avoid transom/drive alignment error or interference, or casting damage. Always install Trim “in” Limit Blocks with letters facing up (toward the gimbal ring clevis).

1. Disconnect the forward ends of both trim cylinders and remove the cylinders and their mounting hardware from the anchor pin. DO NOT disconnect the trim hoses.

2. Slide the anchor pin out of the gimbal ring. Follow instructions “a”, “b” or “c”:
   - **To remove blocks:** Continue to slide anchor pin out until the trim limit blocks fall off of the pin.
   - **To Install or adjust blocks to be 3/4 in. (19mm) of trim “In” limit:** Place block “A” on the port side and block “B” on the starboard side. Always install the blocks with the letter identifiers facing up (toward the gimbal ring clevis).
   - **To Install or adjust blocks to be 1 in. (25mm) of trim “In” limit:** Place block “B” on the port side and block “A” on the starboard side. Always install the blocks with the letter identifiers facing up (toward the gimbal ring clevis).

3. Follow appropriate instructions “a” or “b”:
   - **After removal:** Push the anchor pin back through the gimbal ring.
   - **After installation or adjustment:** Push the anchor pin through the Trim “In” Limit Blocks and on through the gimbal ring.

4. Reinstall the trim cylinder(s) and mounting hardware.

5. Test the boat to ensure the proper trim “In” limit was chosen.

**NOTE:** If these Trim “In” Limit Blocks do not provide the proper trim “In” that is required for your application, the following Quicksilver kits are available (DO NOT use Trim “In” Limit Blocks with the following kits). The following kits require internal changes to the trim cylinders.

- 23-806445A3 - Trim “In” Limit Spacer Kit - Limits Trim “In” by 1/4 or 1/2 in.
- 23-806445A2 - Trim “In” Limit Spacer Kit - Limits Trim “In” by 1-1/4 or 1-1/2 in.

---

a - Anchor Pin
b - Flat Washer (Large I.D.)
c - Snap Ring
d - Rubber Bushings (2)
e - Trim Cylinder
f - Flat Washer (Small I.D.)
g - Lock Nut
h - Plastic Cap
i - Limits The Trim “IN” by 1 in. (25 mm)
j - Limits the Trim “IN” By 3/4 In. (19mm)
1 - Screws
2 - Clamping Plate
3 - Trim Cylinder
4 - O-Ring
5 - Floating Piston
6 - Bolt
7 - Washer
8 - Spring Guide
9 - Spring
10 - Spring Guide Washer
11 - Check Balls
12 - Shock Piston
13 - O-Ring
14 - Small O-Ring
15 - Continuity Spring
16 - Small O-Ring
17 - Large O-Ring
18 - End Cap
19 - Rod Scraper
20 - Washer
21 - Retaining Ring
22 - Small O-Ring
23 - Piston Rod
24 - Anode
25 - Star Washer
26 - Screw
27 - Trim-In Limit Spacers (1/4 in.)
28 - Trim-In Limit Spacers (3/4 in.)
29 - Trim-In Limit Spacers (1-1/4 in.)

Lubricants, Sealers and Adhesives

Lubricate all internal parts with Quicksilver Power Trim and Steering Fluid before reassembling

Torque Specification

a 15-20 lb. ft. (20-27 N·m)
b 40-50 lb. ft. (55-68 N·m)
Alpha One Gen. II Trim Cylinders

1 - Screws
2 - Clamping Plate
3 - Trim Cylinder
4 - O-Ring
5 - Floating Piston
6 - Bolt
7 - Spacer
8 - Spring Guide Washer
9 - Springs
10 - Check Ball Eyelets
11 - Check Balls
12 - Shock Piston
13 - O-Ring
14 - Small O-Ring
15 - Continuity Spring
16 - Small O-Ring
17 - Large O-Ring
18 - End Cap
19 - Rod Scraper
20 - Washer
21 - Retaining Ring
22 - Small O-Ring
23 - Piston Rod
24 - Anode
25 - Star Washer
26 - Screw

Lubricants, Sealers and Adhesives
Lubricate all internal parts with Quicksilver Power Trim and Steering Fluid before reassembling

Torque Specification
A 15-20 lb. ft. (20-27 N·m)
B 40-50 lb. ft. (55-68 N·m)
1 - “In”/“Down” Hydraulic Hose (Gray)
2 - “Up”/“Out” Hydraulic Hose (Black)
3 - Hydraulic Hose (Trim Cylinder to Connector)
4 - Trim Cylinder (Starboard)
5 - Trim Cylinder (Port)
6 - Trim Cylinder Hose (Starboard)
7 - Trim Cylinder Hose (Port)
8 - Plate
9 - Screw
10 - Pin
11 - Bushing
12 - Washer
13 - E-ring
14 - Cap
15 - Connector (Trim Pump)
16 - Screw
17 - Star Washer
18 - Anode
19 - Continuity Wire
Bravo Trim System Components

1 - "In"/"Down" Hose to Trim Pump (Gray)
2 - "Up"/"Out" Hose to Trim Pump (Black)
3 - Hose to Trim Cylinder
4 - Starboard Trim Cylinder
5 - Port Trim Cylinder
6 - Starboard Trim Cylinder Hose
7 - Port Trim Cylinder Hose
8 - Plate
9 - Screw
10 - Front Pin
11 - Washer
12 - Bushing
13 - Washer
14 - Nut
15 - Cap
16 - Rear Pin
17 - Washer
18 - Bushing (Early Style)
19 - Washer
20 - Nut
21 - Cap
22 - Connector (Trim Pump)
23 - Retainer
24 - Bushing (Later Style)
25 - Derusting Compound
26 - Sealing Compound
Trim System Wiring Diagrams
Single Power Trim

BLK = BLACK
BLU = BLUE
BRN = BROWN
GRY = GRAY
GRN = GREEN
ORN = ORANGE
PNK = PINK
PUR = PURPLE
RED = RED
TAN = TAN
WHT = WHITE
YEL = YELLOW
LIT = LIGHT
DRK = DARK

a - 20 Amp Fuse
b - Pump Mounting Bracket Ground (-)
c - "UP" Solenoid
d - 110 Amp Fuse
e - "DOWN" Solenoid
f - Trailer Switch
g - Neutral Switch to Instrument Wiring Harness
h - Trim Limit Switch

INDEX

90-806534970 1096
Dual Power Trim

BLK = BLACK
BLU = BLUE
BRN = BROWN
GRY = GRAY
GRN = GREEN
ORN = ORANGE
PNK = PINK
PUR = PURPLE
RED = RED
TAN = TAN
WHT = WHITE
YEL = YELLOW
LIT = LIGHT
DRK = DARK

a - Starboard Trim Pump
b - 20 Amp Fuse
c - Pump Mounting Bracket Ground (-)
d - Port Trim Pump
e - “Up” Solenoid
f - 110 Amp Fuse
g - “Down” Solenoid
h - Purple Sleeve
i - Blue Sleeve
j - Connect to Power Supply Side of the Ignition Switch
k - Connect to “I” Terminal on Gauge or 12 volt source on the Switched side of the Ignition Switch
l - Brown Sleeve
m - Connect to Trim Position Sender Terminal Block or Merca-thode controller (If Installed)
n - (–) Negative to Ground
o - Control Box
p - Trim Position Senders
Dual Trim Control Box

a - Relay No. 1
b - Relay No. 2
c - Diode Module
d - Terminal Block
e - Control Panel
1 - Shuttle
2 - Pump Adaptor
3 - "Up"/"Out" Pressure Relief Valve
4 - Thermal Relief Valve
5 - Trim Cylinder
6 - "In"/"Down" Pressure Relief Valve
7 - "Up"/"Out" Hose
8 - "In"/"Down" Hose
9 - Pilot Check Valves