



TR-1 Gladiator Autopilot
Verado Adapter Kit
Supplemental Installation Instructions
1.2 and 2.1 liter pump units

TR-1 Gladiator Verado Adapter Kit Supplement Instructions

These instructions are a supplement to the standard installation and setup manuals that are located in the box with the Gladiator core packs. This is not a replacement for the standard installation and setup manual, but are additional installation instructions for the Mercury Verado specific parts. For additional installation and setup procedures not in this supplement, please refer to those manuals.

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TR-1 Gladiator Verado Adapter Kit

Part Number 120-3000-00



Hose Kit

- 1 ea 5' with 4-ORFS Female fittings
130-2770-00
- 1 ea 4' with 4-ORFS Female fittings
130-2760-00
- 1 ea 1' with 4-ORFS Female fittings
130-2740-00



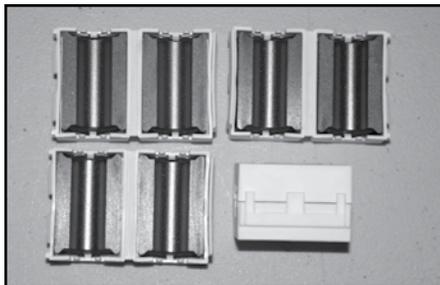
Return Hose

- 1 ea. 3/8" ID 6' hose for Return
130-2780-00
- 4 ea Hose Clamps
310-0087-00



Fitting Kit

- 1 ea. Tee with 3/8" Barbs
for Return Hose Conn.
321-0071-00
- 1 ea. Barbed Return
Fitting for pump end
321-0070-00



4 ea. Ferrite Beads:
120-2530-00



**2 ea. Tach to J box
adapter plugs**



**1 ea. Mercury Synthetic
Power Steering Fluid**
(Only fluid compatible with Mercury
Verado Hydraulic Helms)
120-0002-00



1 ea. Omega Mount
(For mounting Check
Valve Assembly)
380-4500-00



2 ea. 90 degree fittings
321-0060-00

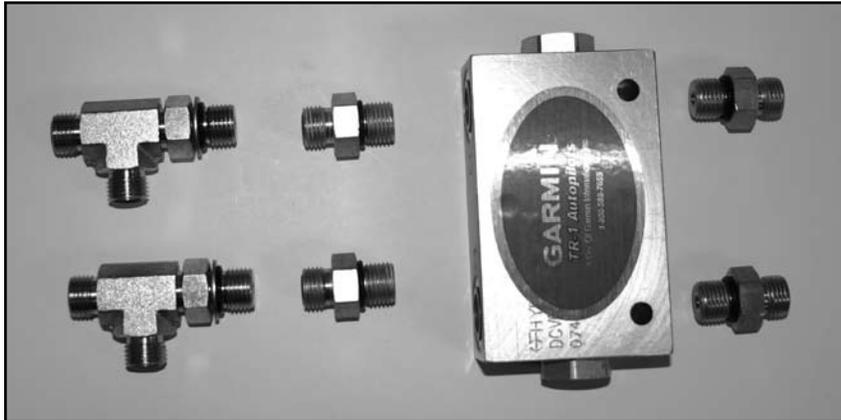


**2 sets of Shadow
Drive fittings**

TR-1 Gladiator Check Valve Assembly Kit

120-2600-00

This kit is sold separately



Check Valve Assembly

2 ea. 1/4" NPT male to 1/4" NPT female 90 degree fitting

1 ea. 17" Cable Tie Wrap 305-0002-17

1 ea. Cable Tie Mounts

1 ea #8 x 5/8" Phil Ft Sts 310-0072-16

TR-1 Gladiator Isolation Hose Kit

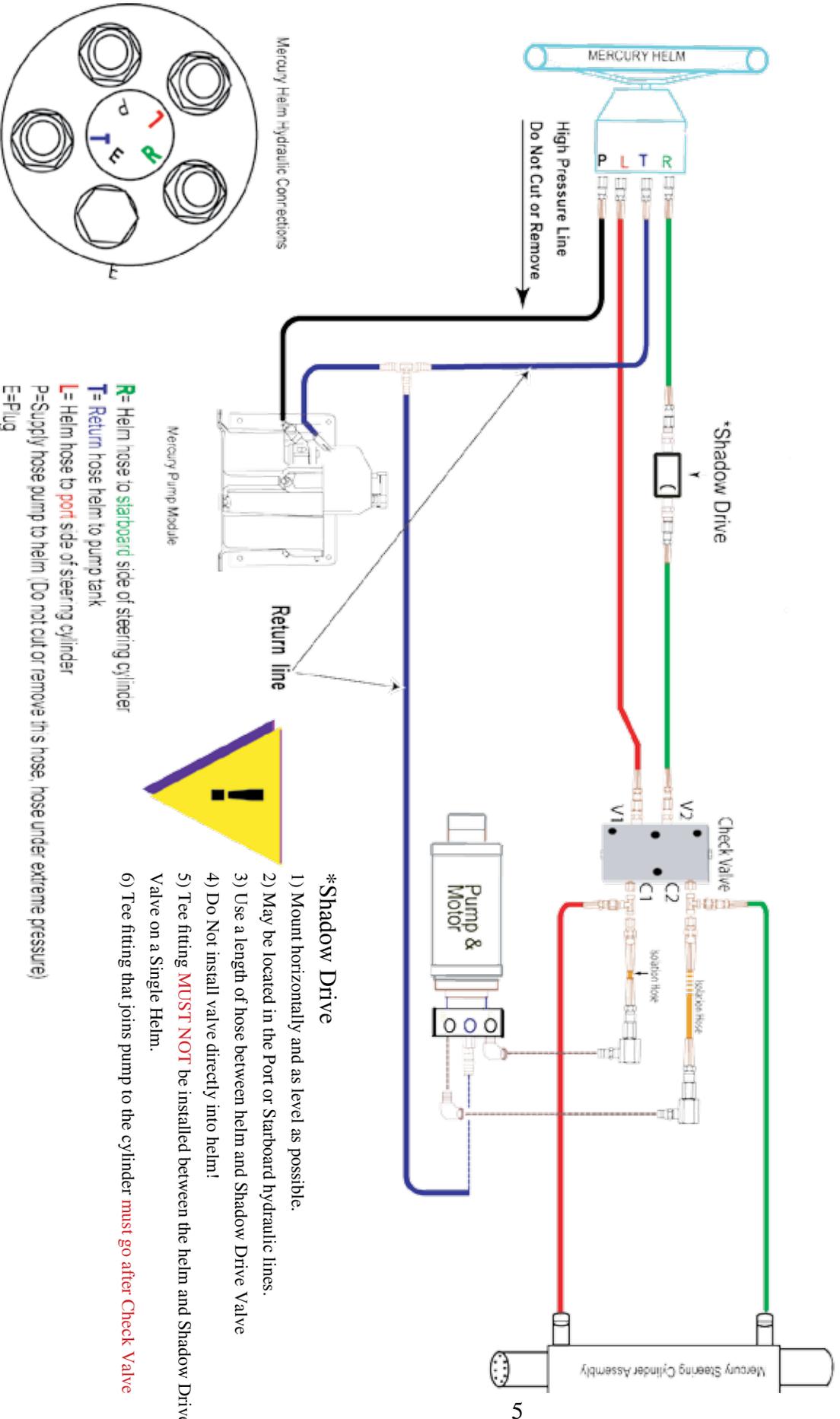
120-2730-00

This kit is sold separately



Hydraulic Layout Single Helm Mercury Verado 1.2 Liter Pump

Before starting the hydraulic installation, please verify the type of hydraulic steering in the boat. If it does not match the hydraulic layout in this manual, call technical support for specific installation procedures.

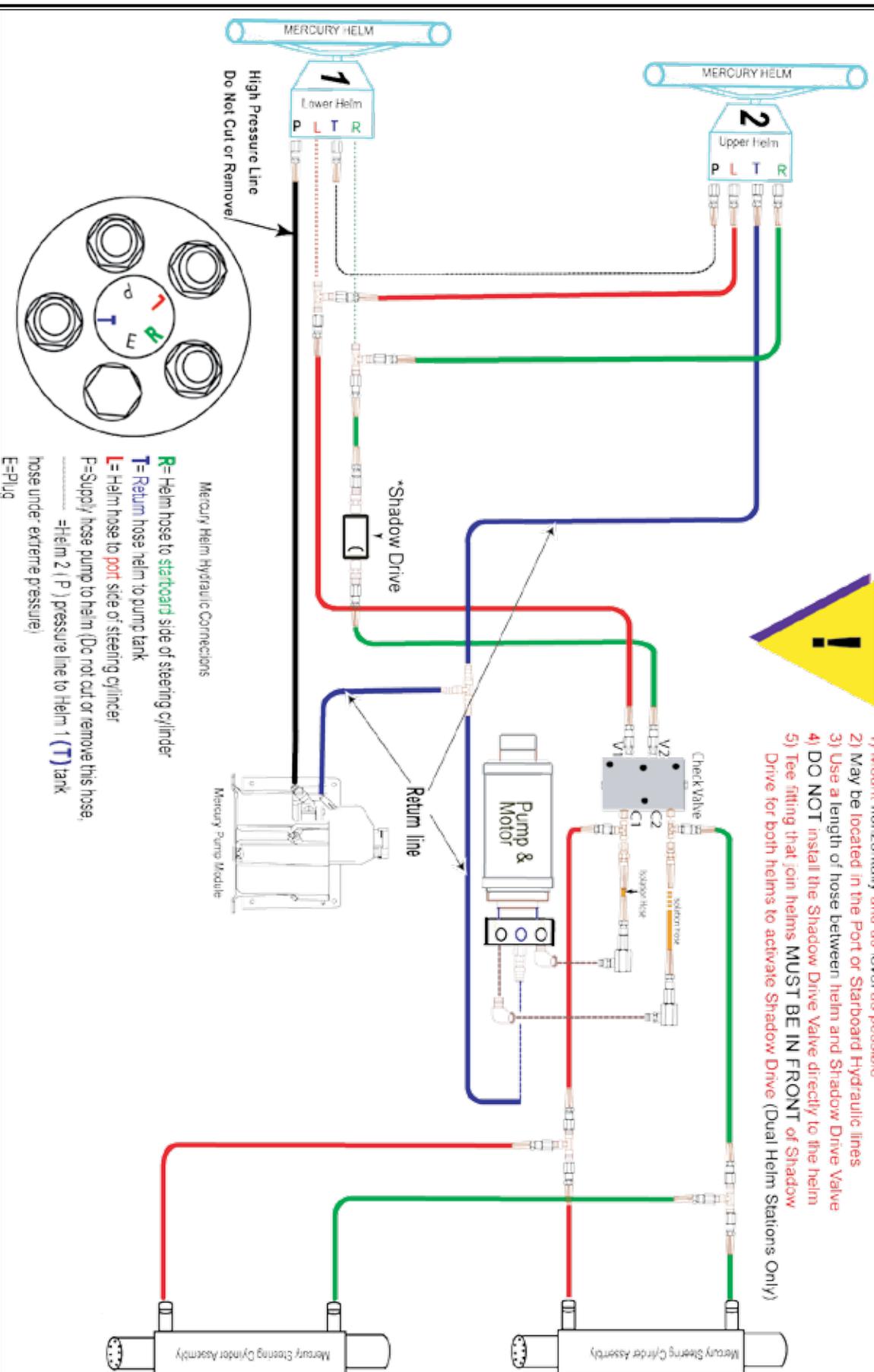


Hydraulic Layout Dual Helm Mercury Verado 1.2 Liter Pump



- 1) Mount horizontally and as level as possible
- 2) May be located in the Port or Starboard Hydraulic lines
- 3) Use a length of hose between helm and Shadow Drive Valve
- 4) DO NOT install the Shadow Drive Valve directly to the helm
- 5) Tee fitting that join helms **MUST BE IN FRONT** of Shadow Drive for both helms to activate Shadow Drive (Dual Helm Stations Only)

*Shadow Drive



Mercury Helm Hydraulic Connections

R= Helm hose to starboard side of steering cylinder

T= Return hose helm to pump tank

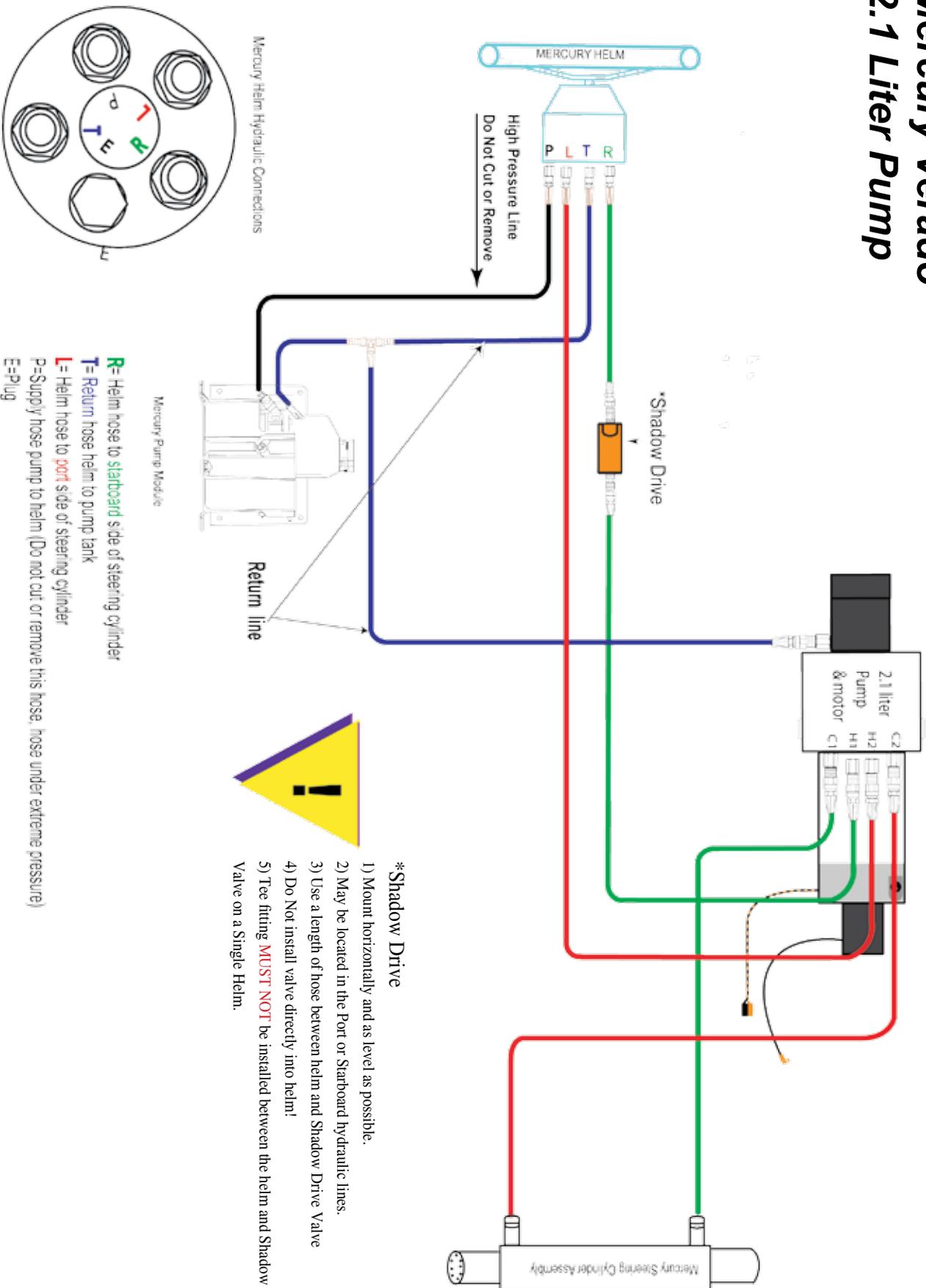
L= Helm hose to port side of steering cylinder

F=Supply hose pump to helm (Do not cut or remove this hose,

=Helm 2 (P) pressure line to Helm 1 (T) tank
hose under extreme pressure.)

E=Plug

Hydraulic Layout Single Helm Mercury Verado 2.1 Liter Pump



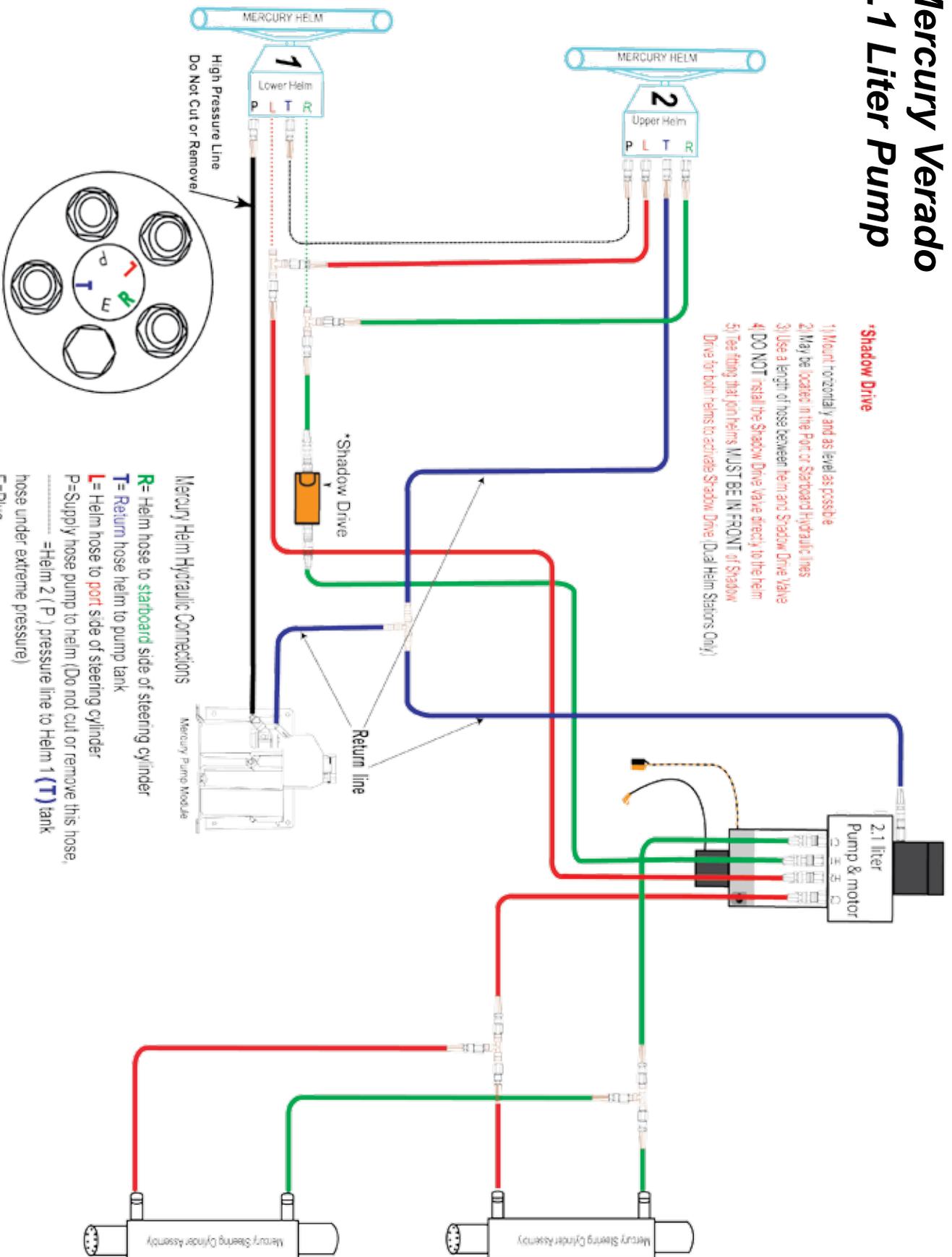
- *Shadow Drive**
- 1) Mount horizontally and as level as possible.
 - 2) May be located in the Port or Starboard hydraulic lines.
 - 3) Use a length of hose between helm and Shadow Drive Valve
 - 4) Do Not install valve directly into helm!
 - 5) Tee fitting **MUST NOT** be installed between the helm and Shadow Drive Valve on a Single Helm.

R = Helm hose to starboard side of steering cylinder
T = Return hose helm to pump tank
L = Helm hose to port side of steering cylinder
P = Supply hose pump to helm (Do not cut or remove this hose, hose under extreme pressure)
E = Plug

Hydraulic Layout Dual Helm Mercury Verado 2.1 Liter Pump

Shadow Drive

- 1) Mount horizontally and as level as possible
- 2) May be located in the Port or Starboard Hydraulic lines
- 3) Use a length of hose between helm and Shadow Drive Valve
- 4) **DO NOT** install the Shadow Drive Valve directly to the helm
- 5) Tee fitting that join helms **MUST BE IN FRONT** of Shadow Drive for both helms to activate Shadow Drive (Dual Helm Stations Only)



Mercury Helm Hydraulic Connections

R= Helm hose to starboard side of steering cylinder

T= Return hose helm to pump tank

L= Helm hose to port side of steering cylinder

P=Supply hose pump to helm (Do not cut or remove this hose,

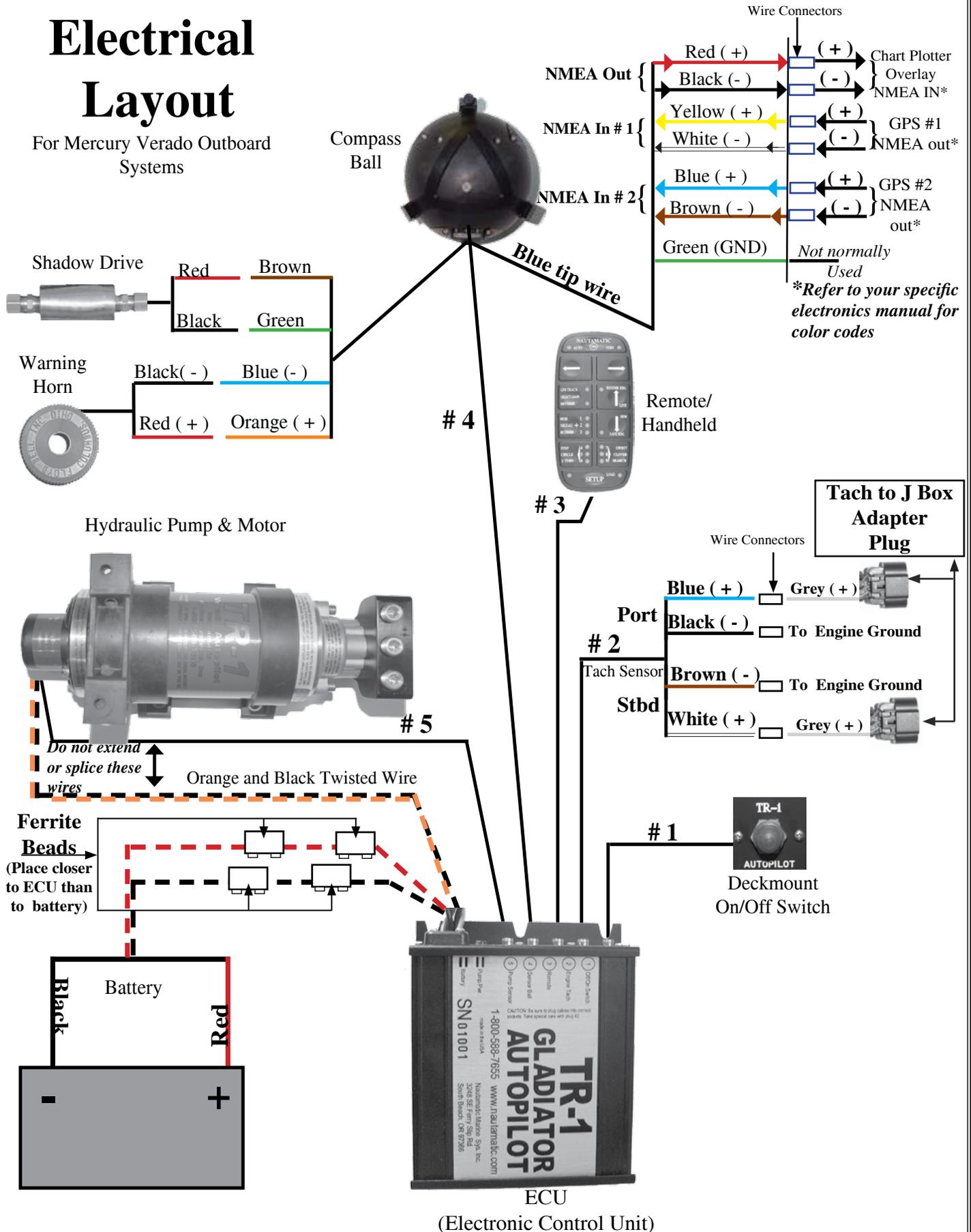
=Helm 2 (P) pressure line to Helm 1 (T) tank

hose under extreme pressure)

E=Plug

Electrical Layout

For Mercury Verado Outboard Systems



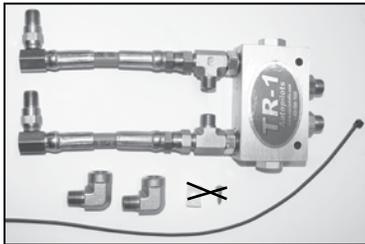
Installation of Check Valve Assembly and Isolation Hoses

Standard mounting using the 1.2 liter pump and omega mount

Mounting Considerations:

Spend some time to figure out where you are going to mount all of the components before you start to mount any of them. Place the pump assembly where you expect to mount it and verify you have access to, length, and routes for the hoses and cables that connect to the pump, and helm. You will **not** be using the cable mount or screw in this type application.

You will need to install the omega mount by sliding it over the back of the pump unit and pulling the wires through as shown.



Parts required for this application



1.2 liter Pump & Motor Assembly



Omega Mount

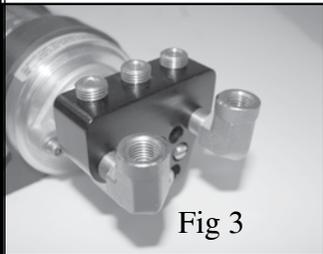


Fig 3

Install the 90 degree fittings into the manifold of the pump as shown in Fig 3. Use a Loctite "Pro Lock" tight multi-purpose anaerobic gel, part number 51604, or equivalent on **pipe threads only** (see fig 8) Tighten fittings securely.

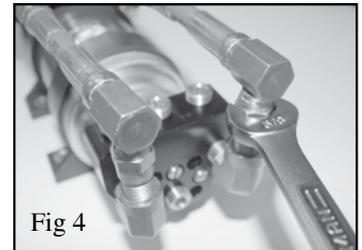


Fig 4

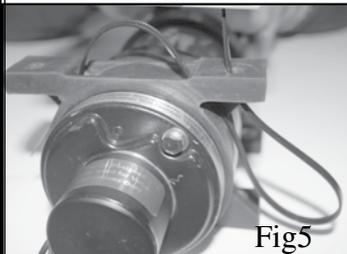


Fig 5

Install the Check Valve, matching the two sets of 90 degree fittings as in Fig 4 and tighten securely (use appropriate anaerobic gel on threads). Secure the assembly using the Tie wrap supplied, as shown in Fig 5 and Fig 6. Secure the Tie wrap as shown in Fig 7.

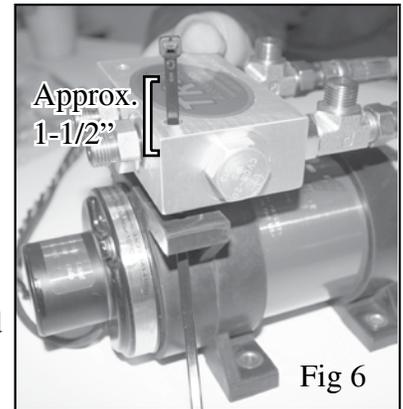


Fig 6

Align the Tees in the position you want them and then tighten all fittings securely to prevent leaks.



Fig 7

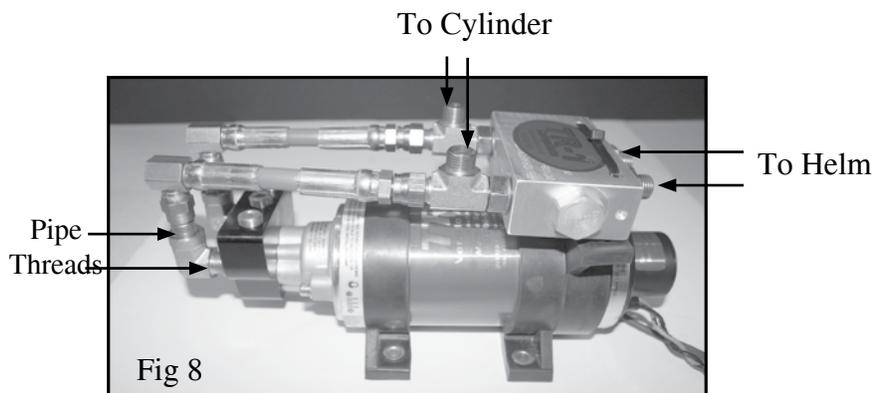


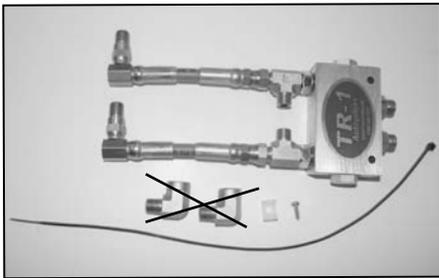
Fig 8

Installation of Check Valve Assembly and Isolation Hoses Vertical mounting using the 1.2 liter pump

Another option to mounting the Check Valve Assembly is to mount it vertically. The standard option is preferred but in some instances this option may work better. You will **not** be using the two 90 degree fittings or the omega mount in the kit in this installation.

Mounting Considerations:

Spend some time to figure out where you are going to mount all of the components before you start to mount any of them. Place the pump assembly where you expect to mount it and verify you have access to, length, and routes for the hoses and cables that connect to the pump, and helm. You will **not** be using the cable mount or screw in this type application.



Parts required for this application



1.2 liter Pump & Motor Assembly

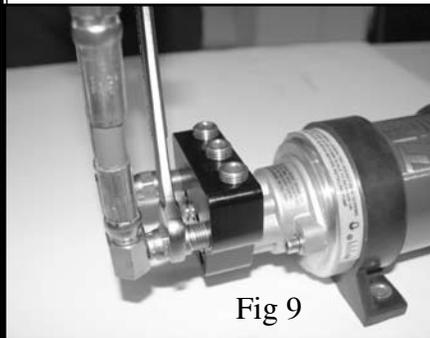
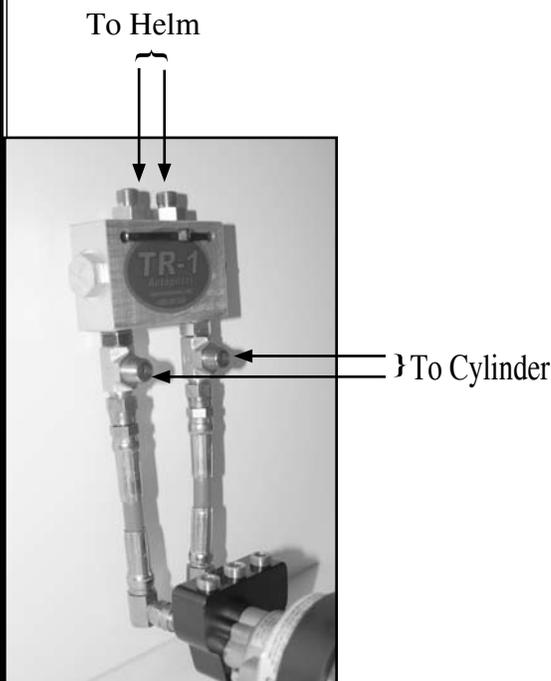


Fig 9

Mount the Valve Assembly 90 degree fittings directly into the manifold, using care not to cross thread them in the holes (use appropriate anaerobic gel on threads). Align tees and tighten fittings securely. See Fig 9.



It is advisable to secure the valve to a solid surface after you have assembled the rest of the hydraulic hoses to the valve assembly. Use the Tie wrap mount and screw provided in the kit, see Fig 10. You should use a small amount of silicone sealant on the screw before tightening it, for a watertight seal. Using the two holes in the valve as shown in Fig 12, secure the Tie wrap through the tie wrap mount and snug up the tie wrap firmly as shown. Be sure to align Tees correctly before tightening fittings.

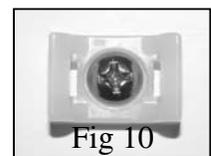


Fig 10

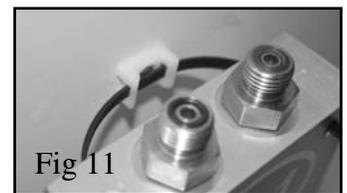


Fig 11



Fig 12

Connecting Hydraulic Hoses (Verado Single Helm, 1.2 liter)

Use only the supplied hoses with this Verado adapter kit. These hoses are specifically made to handle the high pressures of the Verado steering system. Longer hoses are available from TR-1 dealer.

If you are unfamiliar with the Mercury Verado Steering System, please contact TR-1 technical support at 1-866-559-0229 before beginning this installation.

Locate the Port (L) and the Starboard (R) Mercury Factory Hoses at the back of the Verado Helm. Remove these one at a time, and install them into the Port (C1) and Starboard (C2) Tee fittings in the Check Valve assembly. Refer to drawing below for guidance.

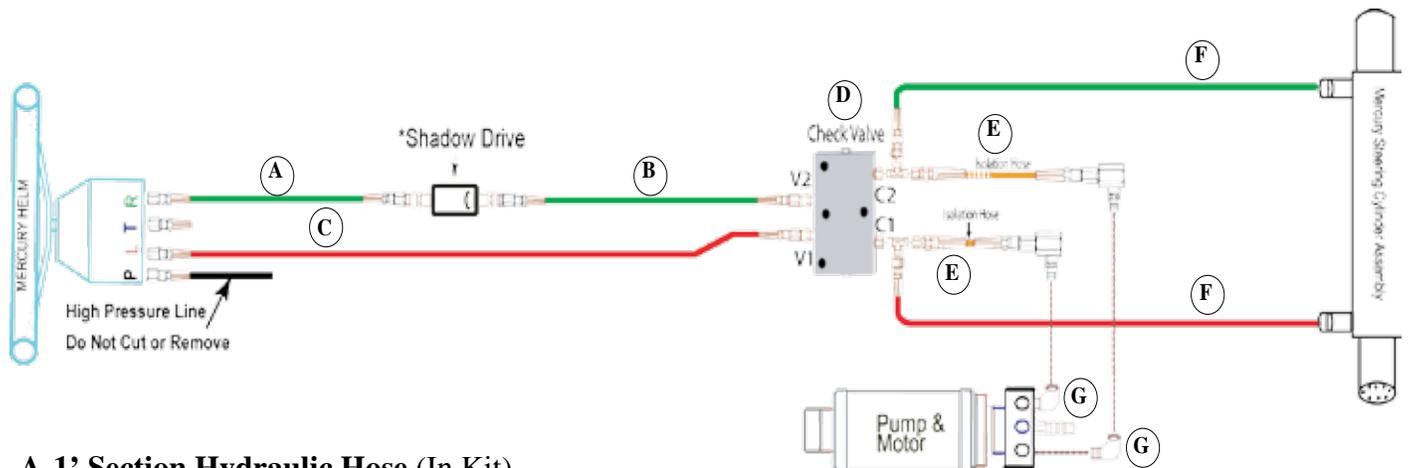
Install the 1' section (A) of hydraulic hose supplied in the installation kit. Install one end to the verado helm marked (R) for Starboard and the other end will connect to the Shadow Drive Valve, See page 16.

The 4' section of hose (B) will connect at the Shadow drive and the other end will connect to the V2 fitting at the Check Valve.

Install the 5' section (C) of hydraulic hose supplied in the installation kit. Install one end to the verado helm marked (L) for Port and the other end will connect to the V1 fitting at the Check Valve.

R= Starboard
 T= Return
 L= Port
 P=Supply hose pump to helm (Do not cut or remove this hose, hose under extreme pressure)

Tighten all hydraulic fittings to prevent leaks.



- A-1' Section Hydraulic Hose (In Kit)**
- B-4' Section Hydraulic Hose (In Kit)**
- C-5' Section Hydraulic Hose (In Kit)**
- D-Check Valve Assembly**
- E-Isolation Hoses**
- F-Original Mercury Hoses**
- G-90 degree fittings**

Note: Depending on the type of installation used for the Check Valve the 90 degree fittings (G) may be optional in the pump Manifold.

Connecting Hydraulic Hoses (Verado Single Helm, 2.1 liter pump)

Use only the supplied hoses with this Verado adapter kit. These hoses are specifically made to handle the high pressures of the Verado steering system. Longer hoses are available from TR-1 dealer.

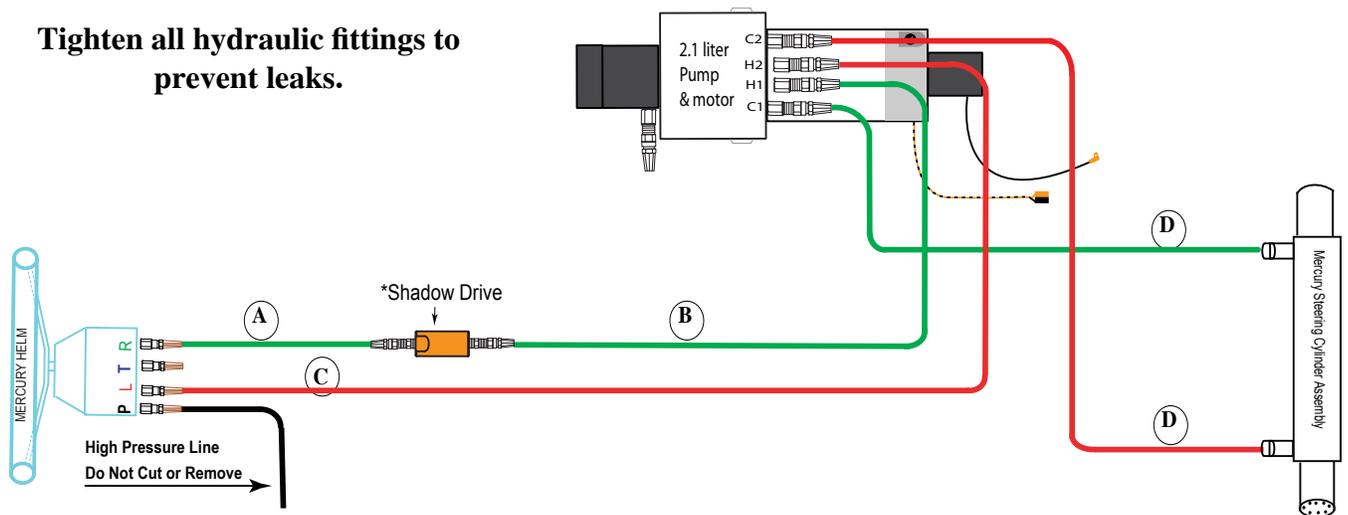
If you are unfamiliar with the Mercury Verado Steering System, please contact TR-1 technical support at 1-866-559-0229 before beginning this installation.

Locate the Port (L) and the Starboard (R) Mercury Factory Hoses at the back of the Verado Helm. Remove these one at a time, and install them into the (C1) and (C2) fittings on the Pump assembly. Refer to drawing below for guidance.

Install the 1' section (A) of hydraulic hose supplied in the installation kit. Install one end to the verado helm marked (R) for Starboard and the other end will connect to the Shadow Drive Valve.

The 4' section of hose (B) will connect at the Shadow drive and the other end will connect to the H1 fitting at the Pump.

Install the 5' section (C) of hydraulic hose supplied in the installation kit. Install one end to the verado helm marked (L) for Port and the other end will connect to the H2 fitting at the pump.



- A-1' Section Hydraulic Hose (In Kit)**
- B-4' Section Hydraulic Hose (In Kit)**
- C-5' Section Hydraulic Hose (In Kit)**
- D-Original Mercury Hoses**

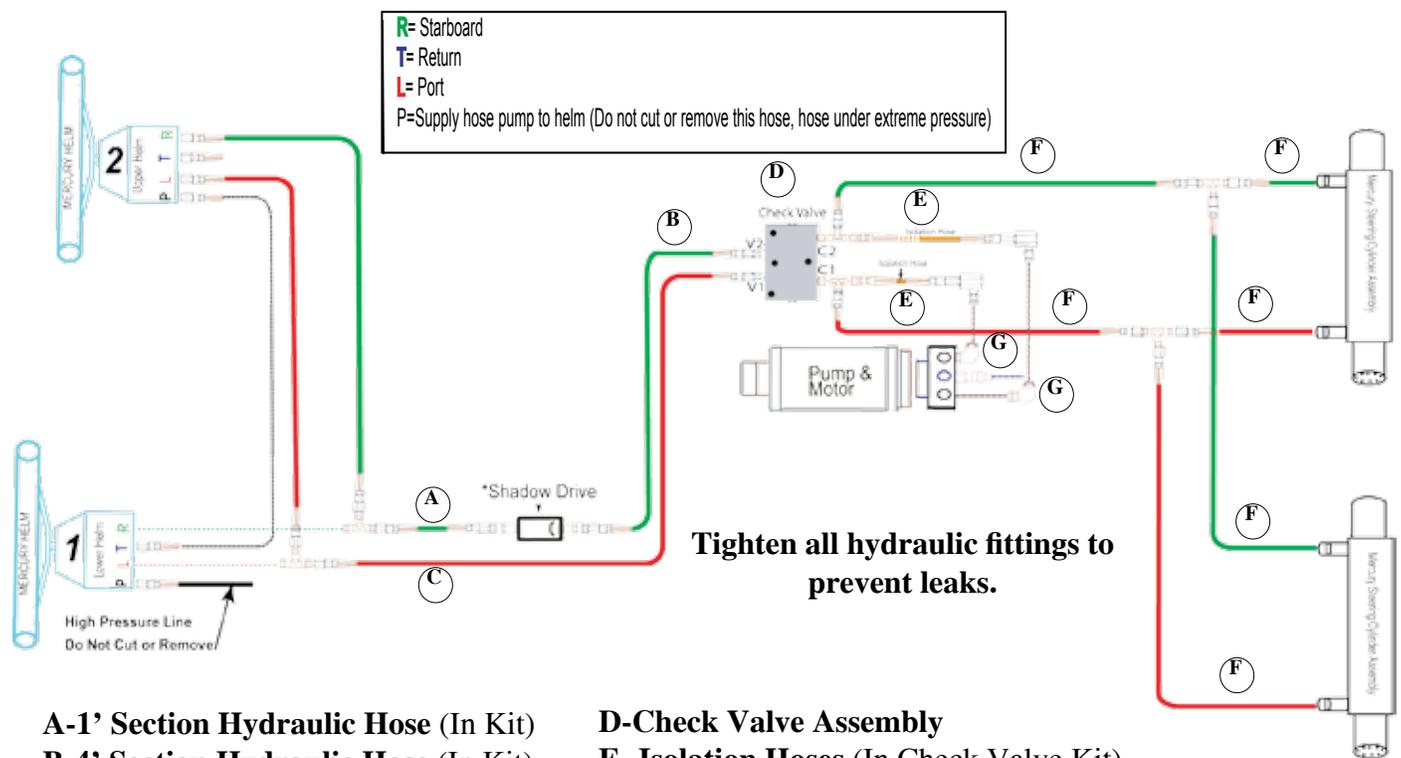
Connecting Hydraulic Hoses (Verado Dual Helm Station Only, 1.2 liter pump)

Locate the Port (L) and the Starboard (R) Mercury Factory Hoses at the back of the Verado Helm 1. Remove these hoses one at a time from the Tee fittings in helm #1, and install them into the Port (C1) and Starboard (C2) Tee fittings, (Hoses F). Refer to drawings below for guidance.

Install the 1' section (A) of hydraulic hose supplied in the installation kit. Install one end to tee fitting from the verado helm 1 marked (R) for Starboard and the other end will connect to the Shadow Drive Valve.

The 4' section of hose (B) will connect at the back side of the Shadow drive Valve and the other end will connect to the V2 fitting at the Check Valve.

Install the 5' section of hose (C) supplied in the installation kit. Install one end to the Verado helm tee marked (L) for Port and the other end will connect to the V1 fitting at the check valve as shown below.



- A-1' Section Hydraulic Hose (In Kit)**
- B-4' Section Hydraulic Hose (In Kit)**
- C-5' Section Hydraulic Hose (In Kit)**

- D-Check Valve Assembly**
- E- Isolation Hoses (In Check Valve Kit)**
- F-Original Mercury Hoses**
- G-90 degree fittings**

Note: Depending on the type of installation used for the Check Valve the 90 degree fittings (G) may be optional in the pump Manifold.

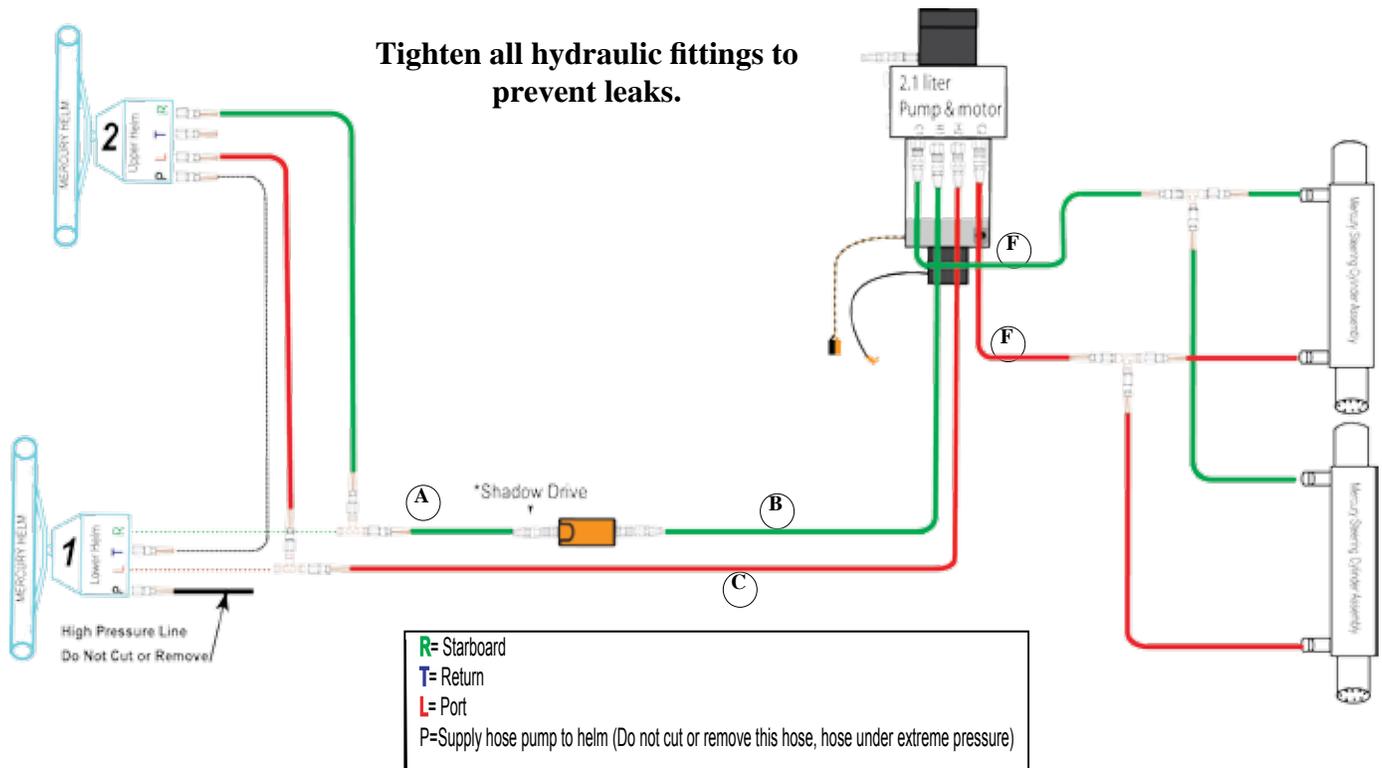
Connecting Hydraulic Hoses (Verado Dual Helm Station Only, 2.1 liter pump)

Locate the Port (L) and the Starboard (R) Mercury Factory Hoses at the back of the Verado Helm 1. Remove these hoses one at a time from the Tee fittings in helm #1, and install them into the Starboard (C1) and Port (C2) Pump fittings, (Hoses F). Refer to drawings below for guidance.

Install the 1' section (A) of hydraulic hose supplied in the installation kit. Install one end to tee fitting from the verado helm 1 marked (R) for Starboard and the other end will connect to the Shadow Drive Valve.

The 4' section of hose (B) will connect at the back side of the Shadow drive Valve and the other end will connect to the H1 fitting at the Pump.

Install the 5' section of hose (C) supplied in the installation kit. Install one end to the Verado helm #1 tee marked (L) for Port and the other end will connect to the H2 fitting at the Pump as shown below.



A-1' Section Hydraulic Hose (In Kit)

B-4' Section Hydraulic Hose (In Kit)

C-5' Section Hydraulic Hose (In Kit)

F-Factory Installed Verado Hose

Shadow Drive Placement (Verado Single Helm Station 1.2 liter pump)

The Shadow Drive is an electronic bi-directional valve, and can be mounted with fittings in either direction. It will need to be mounted as shown in the system layout, and closer to the helm than to the pump unit. It will need to be **mounted horizontally**, using the cable ties & mounts with screws included in installation pack **and as level as possible**. **Do Not Install** valve directly into the fittings at the back of the helm. **It will damage the helm**. Be sure to install a length of hose between the fitting and the Shadow Drive valve. **Do not place a tee in the line between the helm and Shadow Drive Valve**. This is very important for the Shadow Drive feature to work correctly. Avoid loops in the hydraulic lines, air can and will get trapped in the valve during installation and bleeding and cause the autopilot not to function properly.



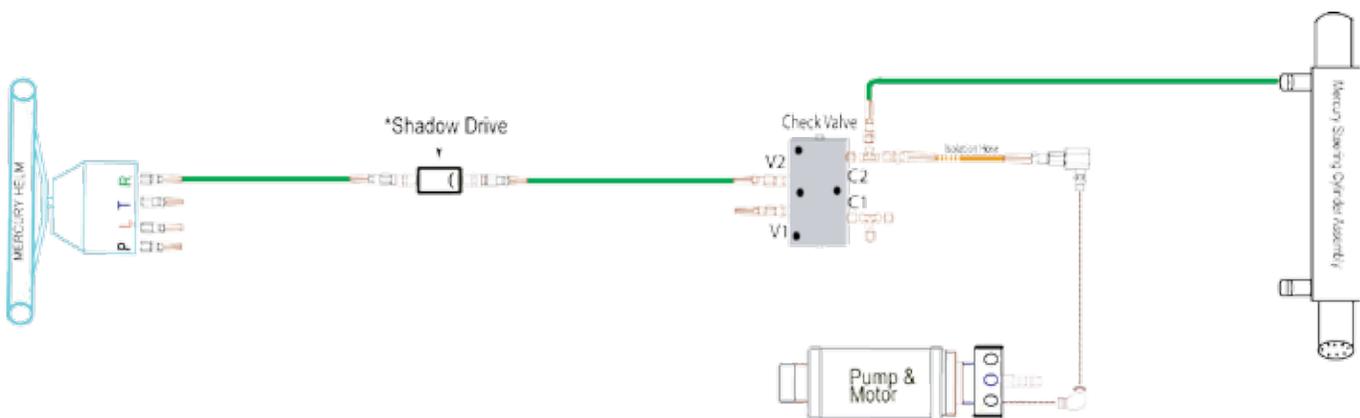
Use only the fittings supplied with the Verado Adapter Kit in the Shadow Drive Valve. Install the fittings into the Shadow drive valve using an appropriate thread sealant such as, Loctite “pro Lock” multipurpose anaerobic gel, part number 51604, or equivalent on all pipe threads. **Do not use teflon Tape**, a piece may dislodge and clog valve.

The shadow drive valve must be installed **in line** as shown in the drawing below. **Install the Shadow drive on the Starboard (R) hydraulic hose**. Install the 1' section of hydraulic hose supplied in the kit, to the Starboard (R) fitting at the back of the Verado helm, the other end connects to the Shadow Drive as shown in Fig 7-a.

Warning: Do not install in the Tank (T) or Pressure (P) hydraulic line. Do not install directly into the helm fitting, Use the length of hose provided between fitting and Valve. Tee fittings Cannot be used between helm and Shadow Drive Valve. Do not use Teflon tape on hydraulic fittings.

Electrical Connections:

Connect the red and black wires from the Shadow Drive Valve to the Brown and Green wires located at the Compass Ball. See page 9. Use the blue connectors from the accessory pack to make those connections.



Do not install Shadow Drive within 12” of a magnetic source such as, radio speakers or electric motors such as the autopilot pump motor.

Shadow Drive Placement (Verado Single Helm Station 2.1 liter pump)

The **Shadow Drive** is an electronic bi-directional valve, and can be mounted with fittings in either direction. It will need to be mounted as shown in the system layout, and closer to the helm than to the pump unit. It will need to be **mounted horizontally**, using the cable ties & mounts with screws included in installation pack **and as level as possible**. **Do Not Install** valve directly into the fittings at the back of the helm. **It will damage the helm**. Be sure to install a length of hose between the fitting and the Shadow Drive valve. **Do not place a tee in the line between the helm and Shadow Drive Valve**. This is very important for the Shadow Drive feature to work correctly. Avoid loops in the hydraulic lines, air can and will get trapped in the valve during installation and bleeding and cause the autopilot not to function properly.



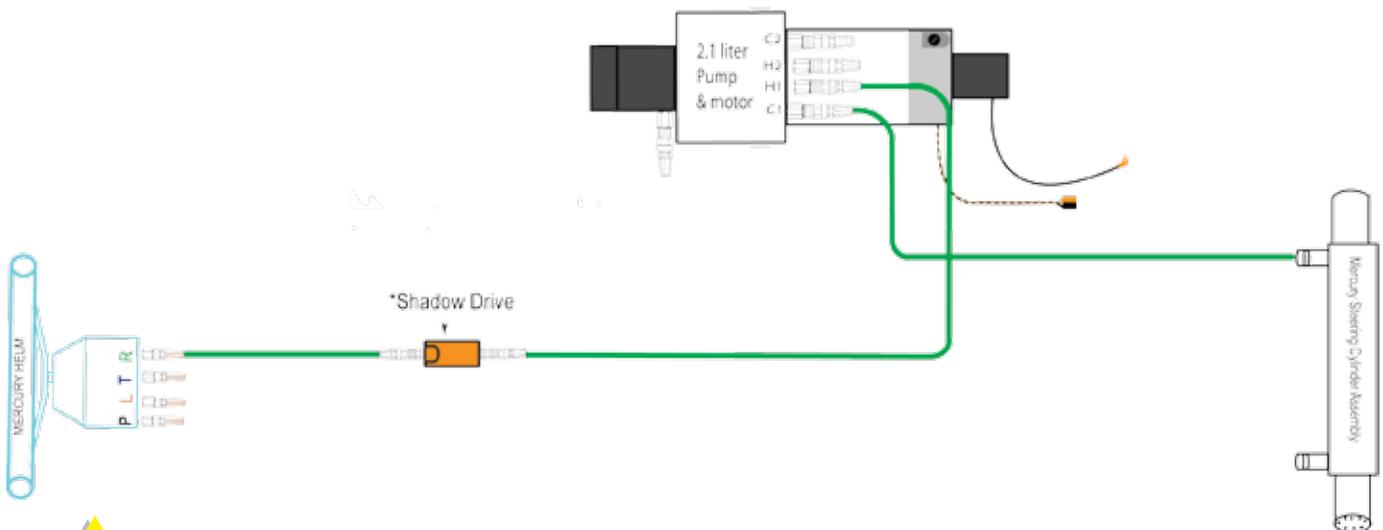
Use only the fittings supplied with the Verado Adapter Kit in the Shadow Drive Valve. Install the fittings into the Shadow drive valve using an appropriate thread sealant such as, Loctite “pro Lock” multipurpose anaerobic gel, part number 51604, or equivalent on all pipe threads. **Do not use teflon Tape**, a piece may dislodge and clog valve.

The shadow drive valve must be installed **in line** as shown in the drawing below. **Install the Shadow drive on the Starboard (R) hydraulic hose**. Install the 1’ section of hydraulic hose supplied in the kit, to the Starboard (R) fitting at the back of the Verado helm, the other end connects to the Shadow Drive as shown in Fig 7-a.

Warning: Do not install in the Tank (T) or Pressure (P) hydraulic line. Do not install directly into the helm fitting, Use the length of hose provided between fitting and Valve. Tee fittings Cannot be used between helm and Shadow Drive Valve. Do not use Teflon tape on hydraulic fittings.

Electrical Connections:

Connect the red and black wires from the Shadow Drive Valve to the Brown and Green wires located at the Compass Ball. See page 9. Use the blue connectors from the accessory pack to make those connections.



Do not install Shadow Drive within 12” of a magnetic source such as, radio speakers or electric motors such as the autopilot pump motor.

Shadow Drive Placement (Verado Dual Helm Station Only 1.2 liter pump)

The Shadow Drive is an electronic bi-directional valve, and can be mounted with fittings in either direction. It will need to be mounted as shown in the system layout, and closer to the helm than to the pump unit. It will need to be **mounted horizontally**, using the cable ties & mounts with screws included in installation pack **and as level as possible**. **Do Not Install** valve directly into the fittings at the back of the helm. **It will damage the helm**. Be sure to install a length of hose between the fitting and the Shadow Drive valve. Avoid loops in the hydraulic lines, air can and will get trapped in the valve during installation and bleeding and cause the autopilot not to function properly.



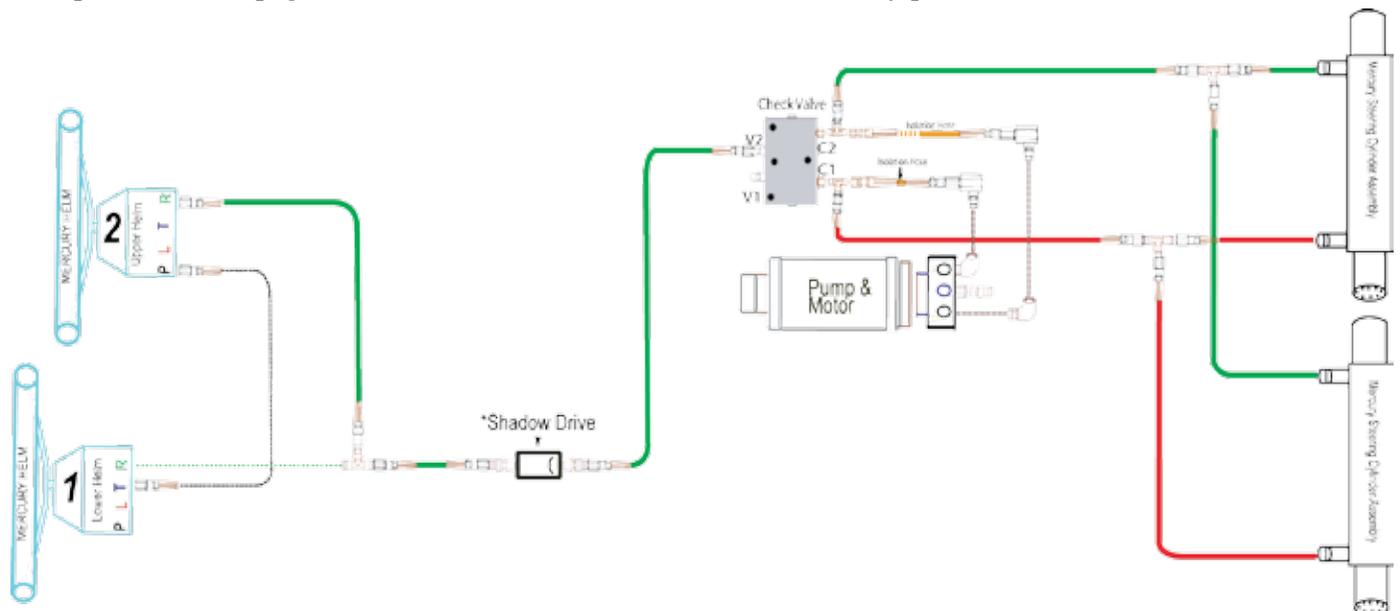
Use only the fittings supplied with the Verado Adapter Kit in the Shadow Drive Valve. Install the fittings into the Shadow drive valve using an appropriate thread sealant such as, Loctite "pro Lock" multipurpose anaerobic gel, part number 51604, or equivalent on all pipe threads. **Do not use teflon Tape**, a piece may dislodge and clog valve.

The shadow drive valve must be installed **in line** as shown in the drawing below. **Install the Shadow drive on the Starboard (R) hydraulic hose**. **Install the 1' section of hydraulic hose supplied in the kit, to the Starboard (R) fitting at the back of the Verado helm, the other end connects to the Shadow Drive as shown in Fig 7-a.**

Warning: Do not install in the Tank (T) or Pressure (P) hydraulic line. Do not install directly into the helm fitting, Use the length of hose provided between fitting and Valve. Tee fittings Cannot be used between helm and Shadow Drive Valve. Do not use Teflon tape on hydraulic fittings.

Electrical Connections:

Connect the red and black wires from the Shadow Drive Valve to the Brown and Green wires located at the Compass Ball. See page 8. Use the blue connectors from the accessory pack to make those connections.



Do not install Shadow Drive within 12" of a magnetic source such as, radio speakers or electric motors such as the autopilot pump motor.

Shadow Drive Placement (Verado Dual Helm Station Only 2.1 liter pump)

The Shadow Drive is an electronic bi-directional valve, and can be mounted with fittings in either direction. It will need to be mounted as shown in the system layout, and closer to the helm than to the pump unit. It will need to be mounted horizontally, using the cable ties & mounts with screws included in installation pack and as level as possible. **Do Not Install** valve directly into the fittings at the back of the helm. **It will damage the helm.** Be sure to install a length of hose between the fitting and the Shadow Drive valve. Avoid loops in the hydraulic lines, air can and will get trapped in the valve during installation and bleeding and cause the autopilot not to function properly.



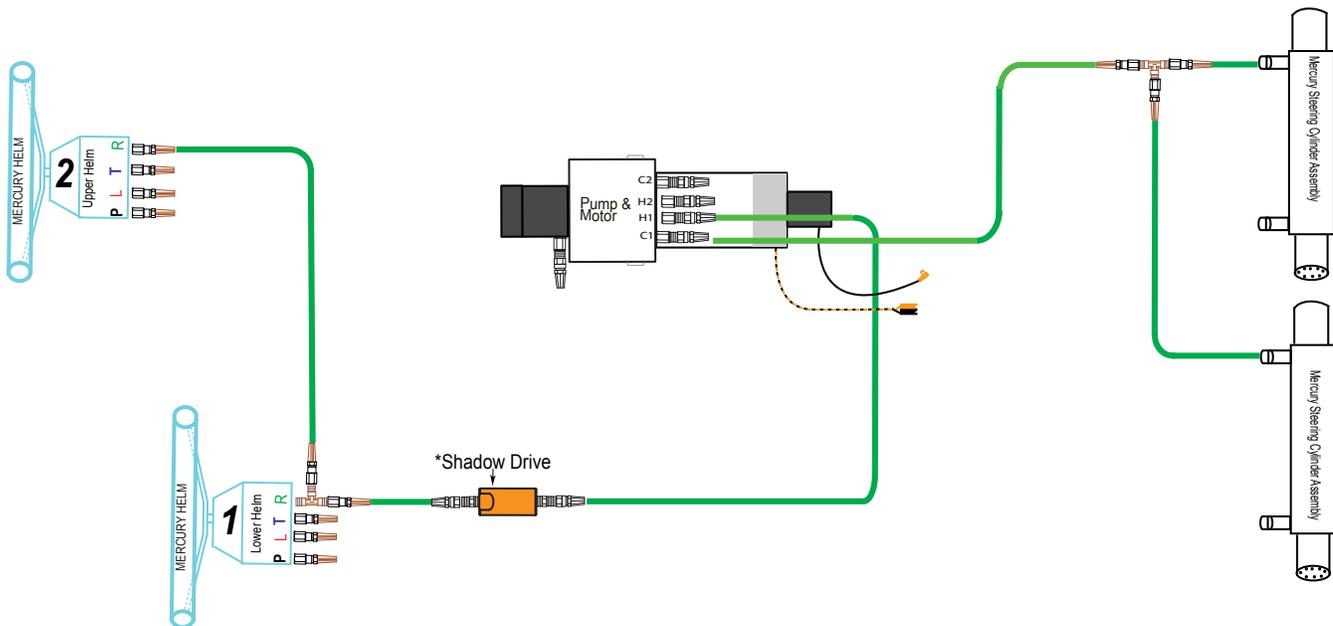
Use only the fittings supplied with the Verado Adapter Kit in the Shadow Drive Valve. Install the fittings into the Shadow drive valve using an appropriate thread sealant such as, Loctite “pro Lock” multipurpose anaerobic gel, part number 51604, or equivalent on all pipe threads. **Do not use teflon Tape**, a piece may dislodge and clog valve.

The shadow drive valve must be installed **in line** as shown in the drawing below. **Install the Shadow drive on the Starboard (R) hydraulic hose.** Install the 1' section of hydraulic hose supplied in the kit, to the Starboard (R) fitting at the back of the Verado helm, the other end connects to the Shadow Drive as shown in Fig 7-a.

Warning: Do not install in the Tank (T) or Pressure (P) hydraulic line. Do not install directly into the helm fitting, Use the length of hose provided between fitting and Valve. Tee fittings Cannot be used between helm and Shadow Drive Valve. Do not use Teflon tape on hydraulic fittings.

Electrical Connections:

Connect the red and black wires from the Shadow Drive Valve to the Brown and Green wires located at the Compass Ball. See page 9. Use the blue connectors from the accessory pack to make those connections.



Do not install Shadow Drive within 12” of a magnetic source such as, radio speakers or electric motors such as the autopilot pump motor.

Connecting Barbed Tee In Return Line to Mercury Pump Module (1.2 liter pump only)

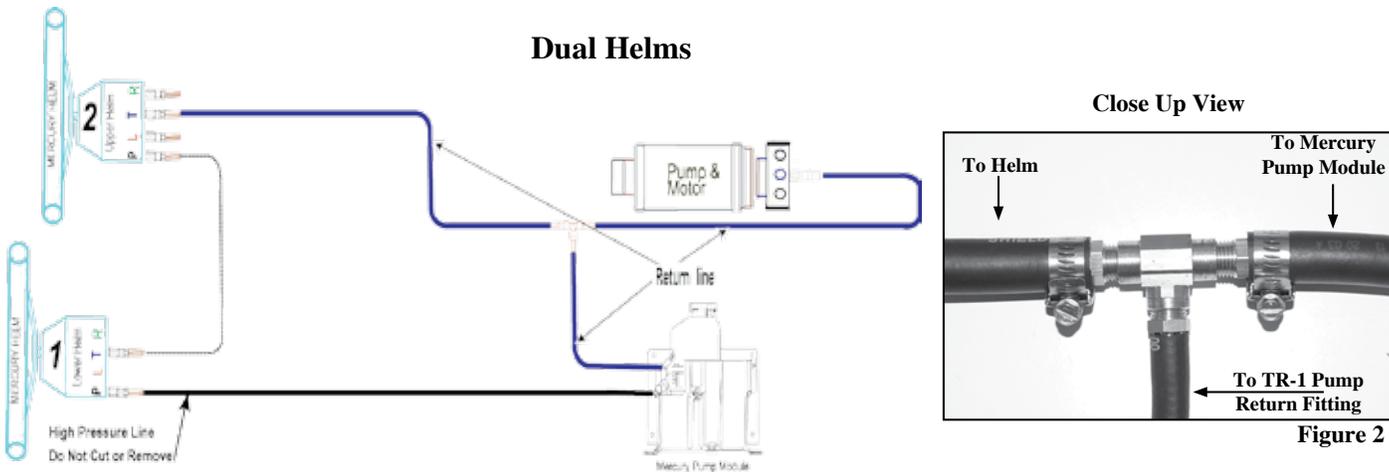
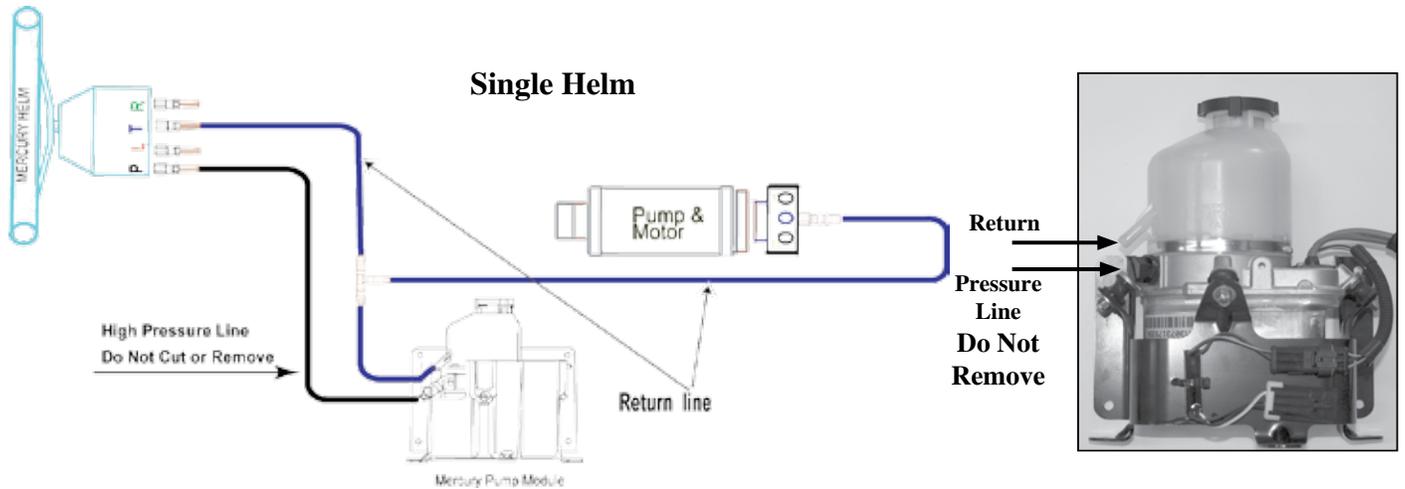


Figure 2

Locate the low pressure return hydraulic hose. It will run from the (T) fitting at the Mercury Helm to the return fitting on the Mercury Pump Module. ***It is very important that you verify that you have the right hose .*** You will need to cut this hose and install the barbed tee fitting, as shown in Figure 2.

Install a length of 3/8" ID hose from the Tee fitting to the TR-1 pump barbed return fitting. (Provided in Kit)
See Figure 2-A.

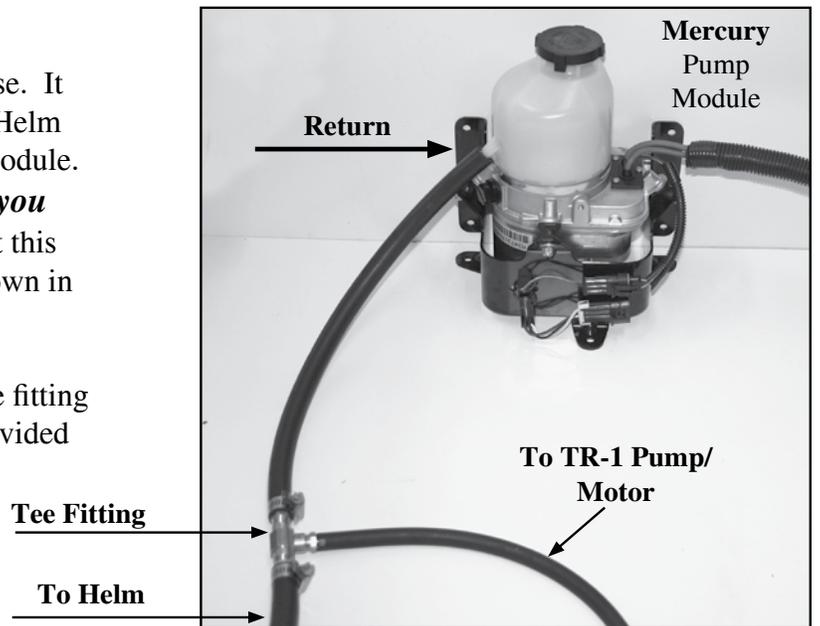
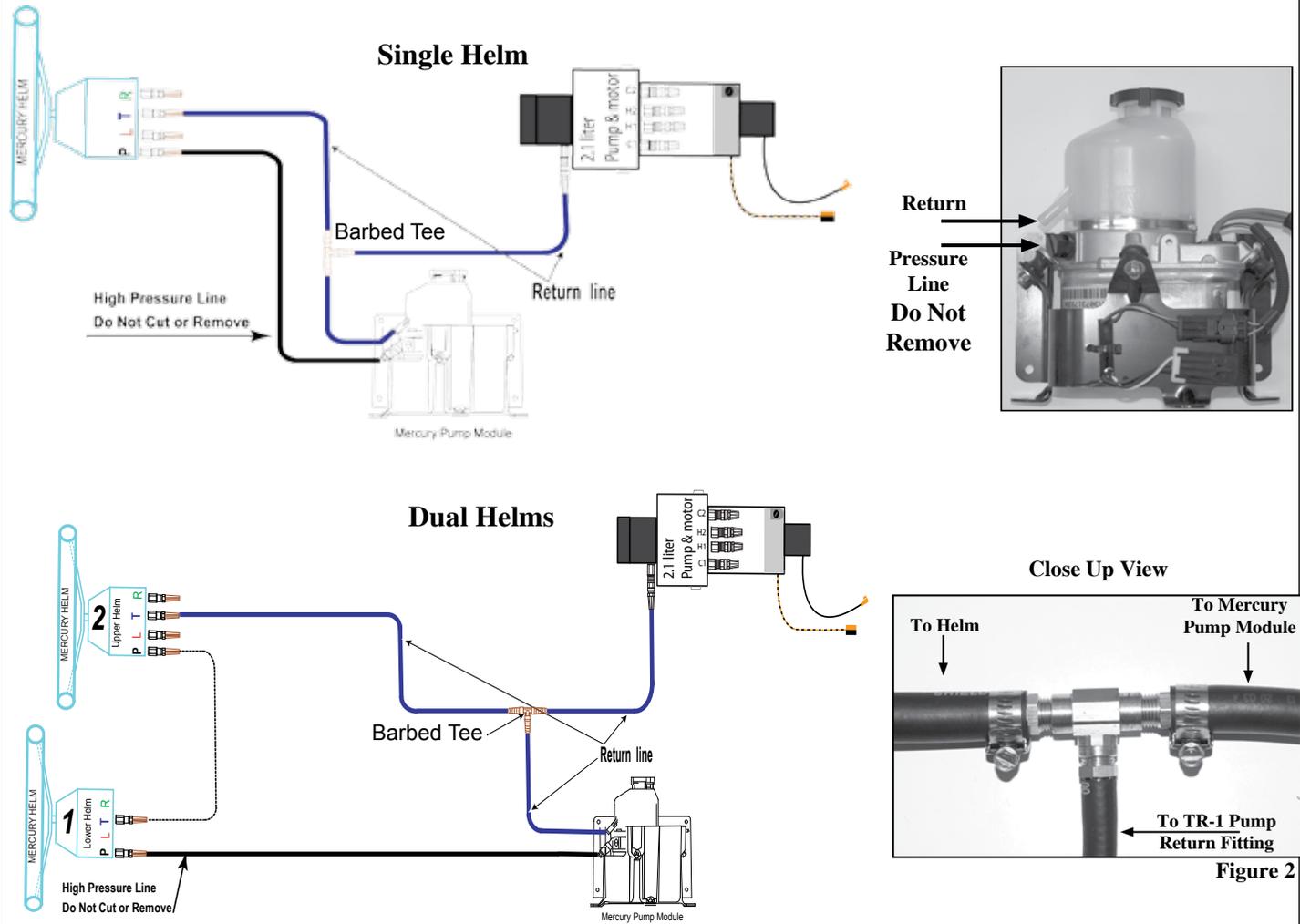


Figure 2-A

Connecting Barbed Tee In Return Line to Mercury Pump Module (2.1 liter pump only)



Locate the low pressure return hydraulic hose. It will run from the (T) fitting at the Mercury Helm to the return fitting on the Mercury Pump Module. ***It is very important that you verify that you have the right hose.*** You will need to cut this hose and install the barbed tee fitting, as shown in Figure 2.

Install a length of 3/8" ID hose from the Tee fitting to the TR-1 pump barbed return fitting. (Provided in Kit)
See Figure 2-A.

Barbed Tee Fitting

To Helm

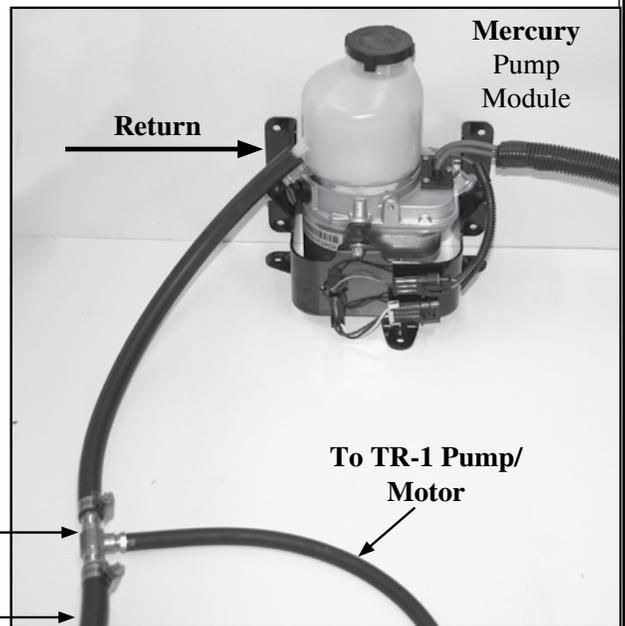


Figure 2-A

Bleeding Verado Hydraulics

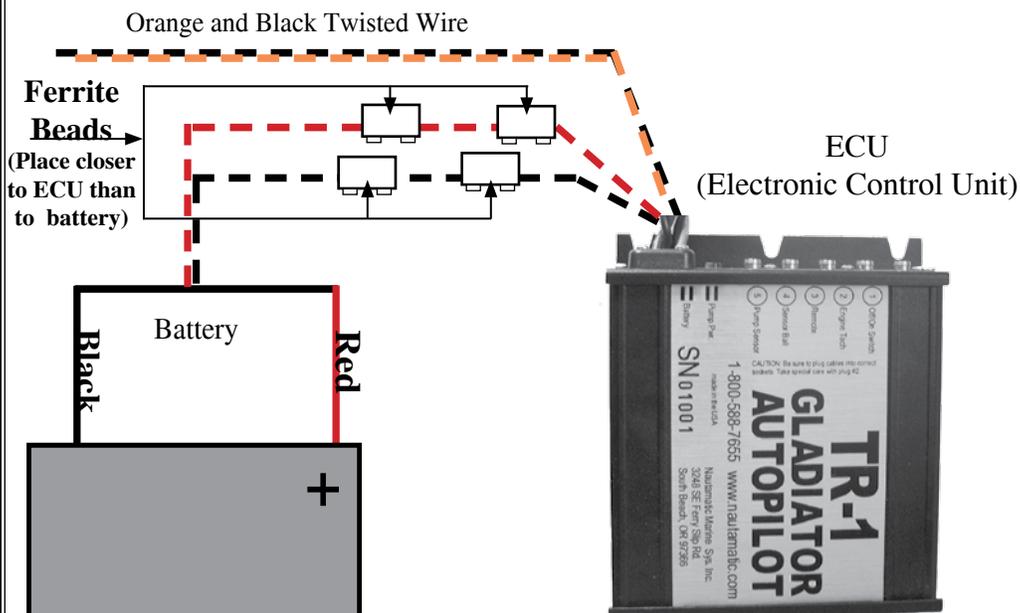
You will need to follow the Mercury Verado Power Steering directions for bleeding the hydraulic system after the installation of the autopilot. See pages 24 & 25 (Filling Power Steering System with Engine Running) of section 8A of the Mercury PS Service Instructions 90-896580700.

Installation of the ferrite beads onto the battery cable



TR-1 highly recommends that the ferrite beads are to be installed onto the battery cable.

1. Separate the red and black wires close the red and black connectors. Note: The ferrite beads must be closer to the ECU than to the battery.
2. With the ferrite beads open, wrap each the red and black wire separately around the ferrite bead and then snap it closed around the wire as shown.



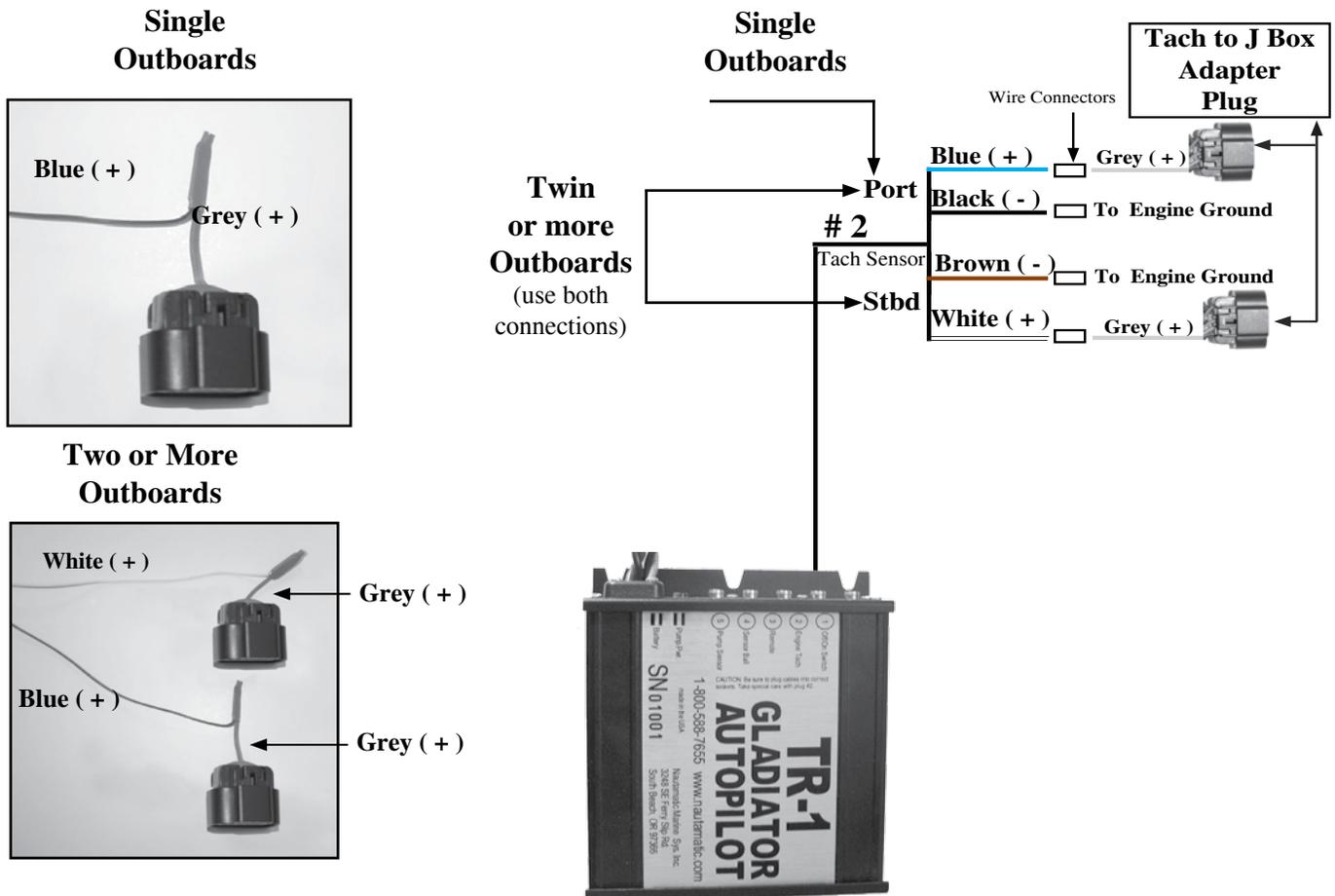
Verado Tachometry Connections

Tach Sensor Cables: The tachometry connection is a very intricate part of the Gladiator and must always be connected. The Mercury J Box adapter plug supplied with this unit **MUST** be used. Failure to use this adapter plug will void the warranty of the TR-1 Gladiator and Mercury Verado Motor.

These instructions have been written for those dealers and installers that have been trained or familiar with the Verado Outboards and steering systems, and the TR-1 Gladiator Autopilot. If you have any questions, please do not hesitate to call TR-1 Technical Support for more information.

The Gladiator Positive (+) tach wire will need to be connected to the J Box adapter plug as shown using a waterproof connector, and then the adapter plug will then be installed into the Mercury Junction Box. The Negative (-) wire needs to be connected to an engine ground. For two or more engines Two (2) Plug adapters will be needed. For two or more engines, the value of the parameter of Code 259 will need to be set to 4 (Both). Factory default has it set to 2 (Port) or for a single engine configuration.

On Single Engines Only, the Blue (+) wire connects to the Grey wire on the J Box Adapter Plug, the Black (+) connects to engine ground. The Brown and White wires will not be used, but need to be stripped back and twisted together and a connector used.



Note: It may be necessary to convert the tach signal from the Mercury Outboard from digital to analog signal. Only a Mercury Service Center may make this change. Please contact technical support at 1-866-559-0229 if you have any questions.

Limited Warranty

This TR-1 product is warranted to be free from defects in materials or workmanship for one year from the date of purchase. Within this period, TR-1 will, at its sole option, repair or replace any components that fail in normal use. Such repairs or replacement will be made at no charge to the customer for parts or labor, provided that the customer shall be responsible for any transportation cost. This warranty does not cover failures due to abuse, misuse, accident, or unauthorized alteration or repairs.

THE WARRANTIES AND REMEDIES CONTAINED HEREIN ARE EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES EXPRESS, IMPLIED, OR STATUTORY, INCLUDING ANY LIABILITY ARISING UNDER ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, STATUTORY OR OTHERWISE. THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, WHICH MAY VARY FROM STATE TO STATE.

IN NO EVENT SHALL TR-1 BE LIABLE FOR ANY INCIDENTAL, SPECIAL, INDIRECT, OR CONSEQUENTIAL DAMAGES, WHETHER RESULTING FROM THE USE, MISUSE, OR INABILITY TO USE THIS PRODUCT OR FROM DEFECTS IN THE PRODUCT. SOME STATES DO NOT ALLOW THE EXCLUSION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATIONS MAY NOT APPLY TO YOU.

TR-1 retains the exclusive right to repair or replace the unit or offer a full refund of the purchase price at its sole discretion. SUCH REMEDY SHALL BE YOUR SOLE AND EXCLUSIVE REMEDY FOR ANY BREACH OF WARRANTY.

Online Auction Purchases: Products sold through online auctions are not eligible for rebates or other special offers from TR-1. Online auction confirmations are not accepted for warranty verification. To obtain warranty service, an original or copy of the sales receipt from the original retailer is required. TR-1 will not replace missing components from any package purchased through an online auction.

International Purchases: A separate warranty is provided by international distributors for units purchased outside the United States. This warranty is provided by the local in-country distributor and this distributor provides local service for your unit. Units purchased outside the United States or Canada must be returned to a TR-1 authorized dealer in the United States for service.

To obtain warranty support, call or email TR-1 Technical Support Specialists to describe the problem you are experiencing and request a Return Material Authorization (RMA) tracking number. You will need to provide the unit's serial number (if applicable), your return shipping address, and a daytime telephone number.

Phone: 1-866-559-0229

e-mail: autopilot.support@garmin.com

After you receive the RMA number, securely package the unit and ship it (insured) to the following address:

Garmin International, Inc.

1200 E. 151st Street

RMA number (insert your RMA number here)

Dock Door #1

Olathe, KS 66062