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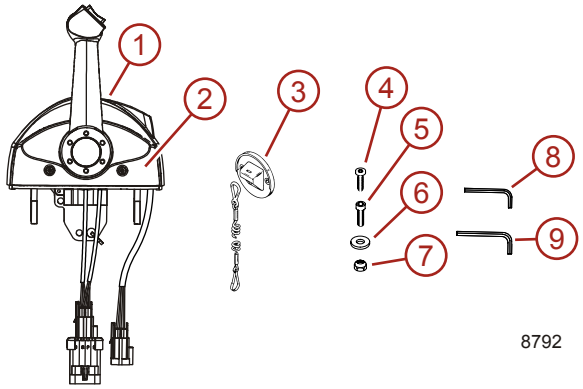
DTS DUAL CONSOLE REMOTE CONTROL WITH CAN TRACKPAD

NOTICE
After completing installation, these instructions should be placed with the product for the owner's future use.

NOTICE
This document is written to aid our dealers and company service personnel in the proper installation or service of our products. Persons who are not familiar with these or similar products produced by Mercury Marine, and who have not been trained in the recommended servicing or installation procedures should have the work performed by an authorized Mercury Marine dealer technician. Improper installation or servicing of the Mercury product could result in damage to the product or personal injury to the installer or persons operating the product.

Notice
This Product Requires Electronic Calibration Before Use.
Installation of this product will require electronic calibration. This calibration must not be attempted by anyone other than the Original Equipment Manufacturer (OEM) or a Mercury technician trained in Digital Throttle and Shift systems (DTS) at an authorized Mercury dealership. Improper installation and calibration of the DTS product will result in a system which is inoperable or unsafe for use.

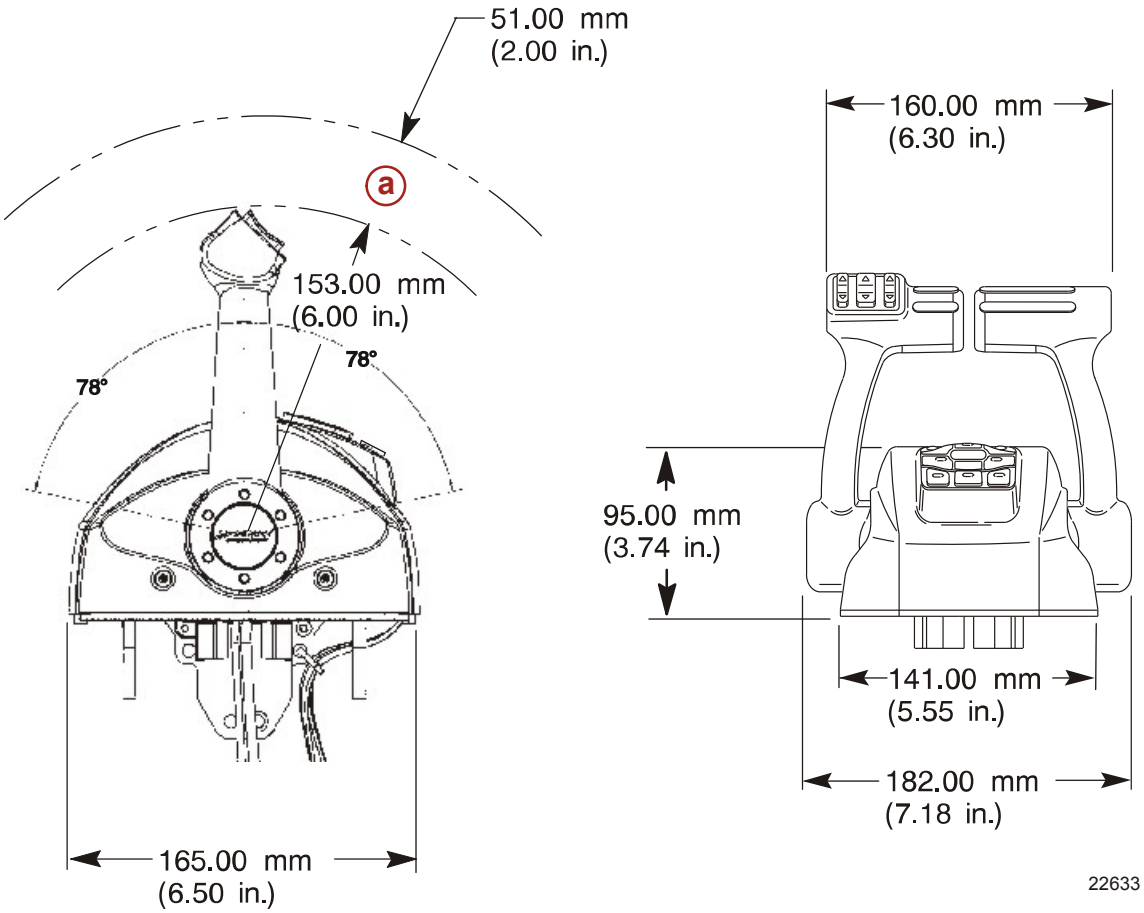
Components Contained in Kit



Ref.	Qty.	Description	Part Number
1	1	Electronic Remote Control (ERC)	NSS
2	2	Cover - with gasket	877752A1
3	1	Lanyard switch kit	NSS
4	4	Screw - M4 x 20	10-877754
5	4	Screw - M6 x 40	10-40088-40
6	4	Washer	12-40023-16
7	4	Nut - M6, Nylon insert	11-40138-6
8	1	Wrench - Allen 2.5 mm	NSS
9	1	Wrench - Allen 5 mm	NSS

Remote Control Installation

Required Mounting Clearances for DTS Dual Handle Control with CAN Trackpad

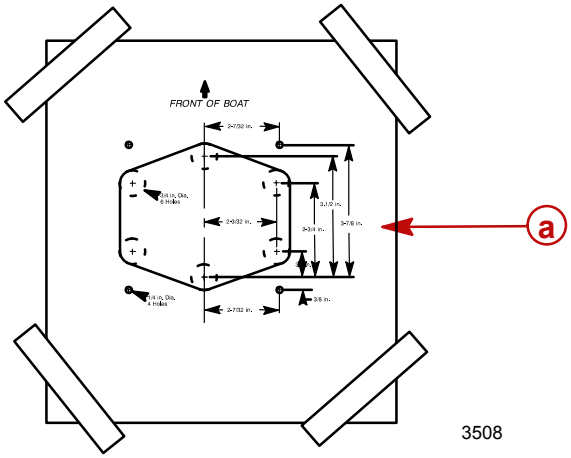


a - Hand clearance

Locating and Drilling Mounting Area for DTS Single/Dual Handle Console Control

1. Locate area of boat where the remote control is to be mounted. Allow sufficient clearance for handle movement and clearance for the wiring.
2. Select the correct template for mounting application.
3. Place template over mounting area; cut and drill as instructed on template.

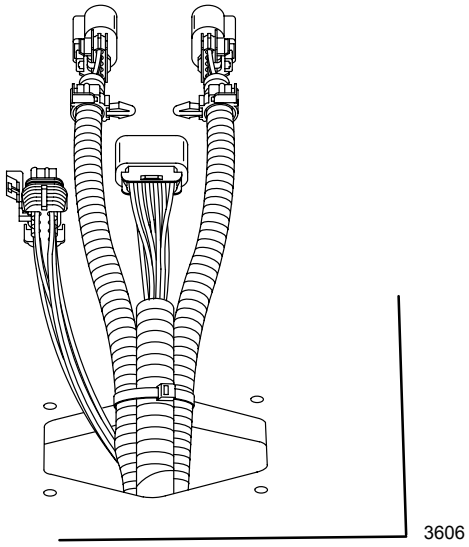
IMPORTANT: After cutting mounting area, make sure opening is free of sharp edges.



a - Template

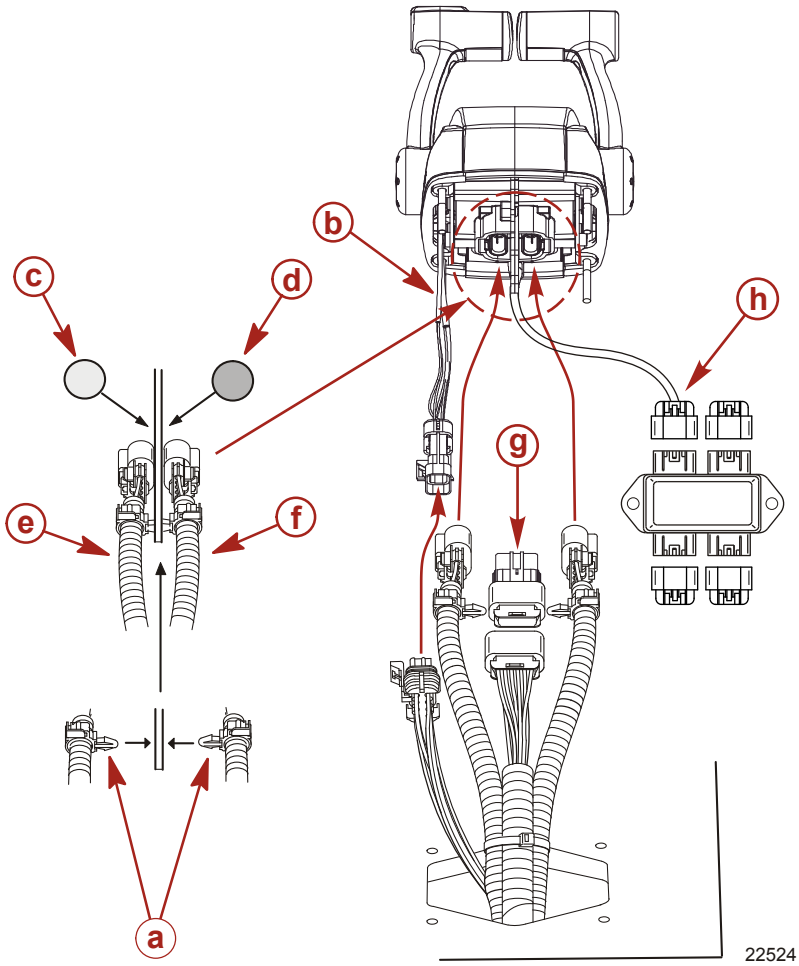
Installing the Dual Console Control with CAN Trackpad

1. Ensure the opening is free of sharp edges.
2. Route the wiring for the remote control into opening.



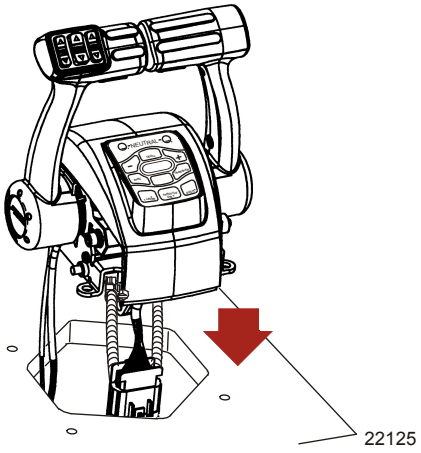
3. Insert the bayonet ends of the two lever harnesses into bracket holes. This will prevent connectors from pulling out.
4. Ensure the trackpad connector is sealed with a weather cap.
5. Connect the CAN trackpad connector to a junction box.

IMPORTANT: Allow slack in the trim button harness going to the control handle. This harness will flex and move during control handle movement.

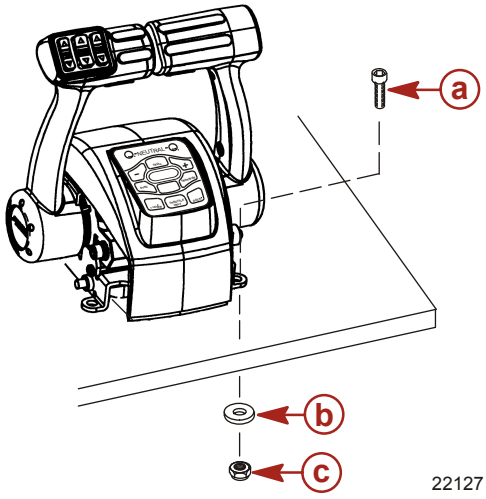


a - Bayonet ends
b - Trim button harness
c - Blue paint dot
d - Yellow paint dot
e - Starboard engine
f - Port engine
g - Weather cap
h - CAN trackpad connection

6. Place the remote control into the opening.



7. Fasten the remote control with four M6 x 40 screws.



a - Mounting Screw (4) M6 x 40
b - Washer
c - Nut - nylon insert

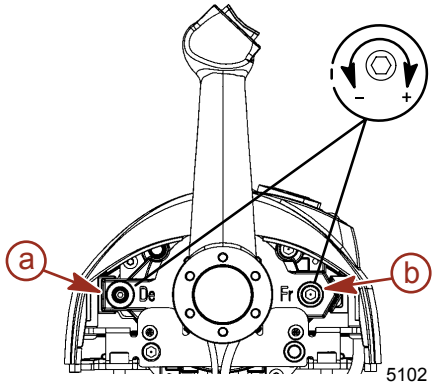
⚠ CAUTION

Do not turn control handle tension adjustment screw clockwise more than 11 turns from the initial point of hex head contact with bracket. Damage to the module may occur.

⚠ CAUTION

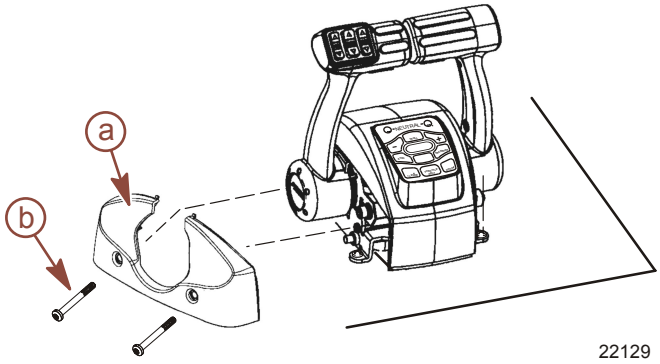
Do not turn detent tension adjustment screw clockwise more than 11 turns from full out position. Damage to the module may occur.

8. Control handle tension adjustment screw – This screw can be adjusted to increase or decrease the overall effort to move the control handle. This will help prevent the handle from unwanted motion in rough water. Turn screw towards "+" to increase tension or towards "–" to decrease tension.
9. Detent tension adjustment screw – This screw can be adjusted to increase or decrease the effort to move control handle into or out of detent position. Turn screw towards "+" to increase tension or towards "–" to decrease tension.



a - Detent tension adjustment
b - Control handle tension adjustment

10. Install the side cover with attaching screws.



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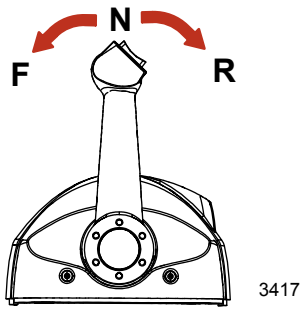
a - Side cover (2) **b -** Attaching screws (4) M4 x 20

Dual Console Control with CAN Trackpad Features and Operation

Dual Handle Console Control with CAN Trackpad Features and Operation

1. Operation of shift and throttle is controlled by the movement of the control handle. Push the control handle forward from neutral to the first detent for forward gear. Continue pushing the handle forward to increase speed. Pull the control handle back from neutral to the first detent for reverse gear. Continue pulling the handle back to increase speed.



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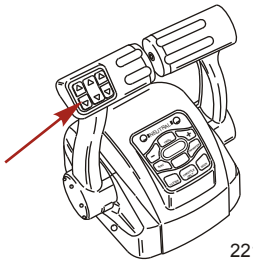
2. Trim switch (if equipped) - Pressing the trim switch allows the engine to trim up and down.



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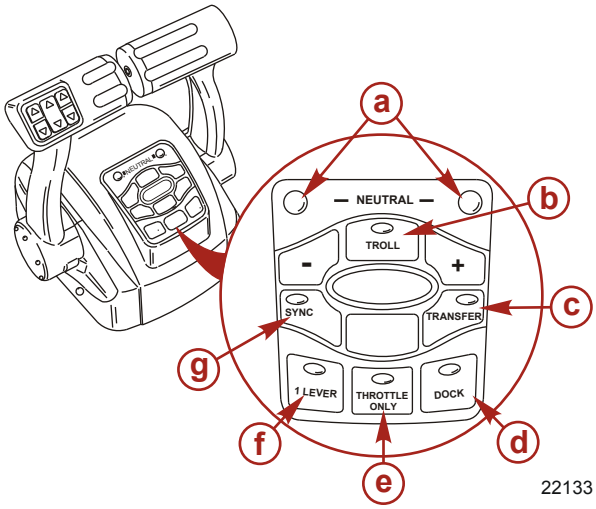
3. Neutral lights - The neutral lights illuminate when the engine is in neutral gear position. The lights will flash when the engine is in throttle only mode.

NOTE: *Gear position is determined by the position of the shift actuator on the engine, not the position of the control handle.*

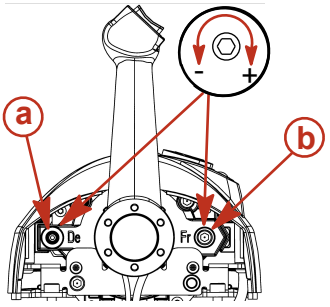
4. Troll button - Pressing the "TROLL" button activates troll control. The troll control feature allows the boat operator to set the engine speed for slow speed cruising or maneuvering. To activate, move the control handles into forward detent and press the button. Use the - or + buttons to decrease or increase speed, up to a maximum of 1000 RPM. If troll control is set at a desired speed and then shut off, the system remembers the set speed and will return to that speed when re-engaged. To turn off the troll control press the "TROLL" button, move the throttle to a different speed, or shift the engine into neutral.
5. Transfer button - Pressing the "TRANSFER" button allows engine operation to be transferred from a different helm. Refer to **Helm Transfer**.
6. Dock button - Pressing the "DOCK" button initiates docking mode. Docking mode reduces throttle capacity to approximately 50% of normal throttle. To turn off docking mode, shift the engine into neutral and press the "DOCK" button.
7. Throttle only button - Allows the boat operator to increase engine RPM for warm-up, without shifting the engine into gear. To engage throttle only, move the control handle into the neutral position. Press the throttle only button and move the control handle ahead to the forward detent. The horn will sound once and the neutral light will start flashing. The horn will sound twice when throttle only is engaged. Advance throttle to increase engine RPM. To disengage, return control handle to neutral position and press the throttle only button. Engine RPM is limited to prevent engine damage.
8. 1 lever button - Pressing the "1 LEVER" button initiates single lever mode. Single lever mode enables the throttle and shift functions of both engines to be controlled by the port control handle. To turn off single lever mode, shift the engine into neutral and press the "1 LEVER" button.
9. Sync button - Pressing the "SYNC" button turns off or on the auto synchronization feature. Refer to **Synchronizing Engines**.



a - Neutral LEDS
b - Troll button
c - Transfer button
d - Dock button
e - Throttle only
f - 1 lever button
g - Sync button

10. Control handle tension adjustment screw - This screw can be adjusted to increase or decrease the tension on the control handle (cover must be removed). This will help prevent unwanted motion of the handle in rough water. Turn the screw clockwise to increase tension and counterclockwise to decrease tension. Adjust to tension desired.

11. Detent tension adjustment screw - This screw can be adjusted to increase or decrease the effort to move control handle out of detent positions (cover must be removed). Turning the screw clockwise will increase tension. Adjust to tension desired.



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a - Detent tension adjustment screw

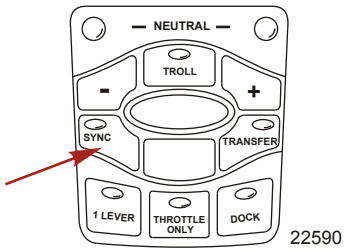
b - Control handle tension adjustment screw

Synchronizing Engines

The auto synchronizing feature, when engaged, will automatically adjust all engine speeds to match the speed of the starboard engine.

Press the "SYNC" button on the CAN trackpad to turn auto synchronization on or off. When the sync LED is yellow, the "SYNC" button has been pressed, but the conditions are not right for auto synchronization to engage. When the sync LED turns red, engine synchronization has been engaged. The engines will remain synchronized as long as engine speed is over 900 RPM for two seconds, remote control handles are positioned within 10% of each other, and the engines are below 95% throttle opening.

To disengage the auto synchronization feature, press the "SYNC" button.



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Helm Transfer

⚠ WARNING

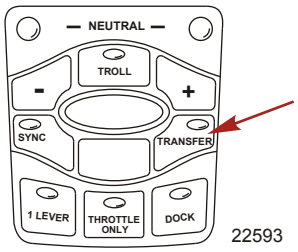
Avoid serious injury or death from loss of boat control. The boat operator should never leave the active station while engine is in gear. Helm transfer should only be attempted while both stations are manned. One person helm transfer should only be performed while engine is in neutral.

NOTE: *Neutral position is preferred when doing a station transfer. If conditions do not allow the remote control to be placed in the neutral position, a helm transfer can be done while in gear.*

The helm transfer function allows the boat operator to select which helm is in control of engine operation. Pressing the "TRANSFER" button two times allows engine control to be transferred to a new helm. When a helm transfer is initiated, the control will automatically start adjusting engine RPM and gear position to match the control handle setting at the new helm. Adjust the control handles to the desired throttle and gear position.

Once the "TRANSFER" button is pressed, the transfer LED will light up and one beep will sound. Press the "TRANSFER" button again to complete the helm transformation. When helm transformation is complete, another beep will sound and the transfer LED will turn off.

NOTE: *There is a 10 second time frame to complete a helm transfer. If the helm transfer is not completed, the action will be cancelled and a double beep will sound. Pressing the "TRANSFER" button again will re-initiate a helm transfer.*

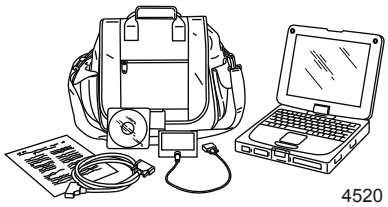


SYNCHRONIZING HELMS PRIOR TO TRANSFER

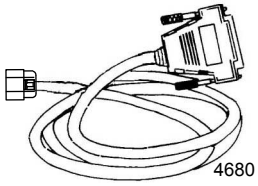
Pressing the "TRANSFER" button allows the boat operator 10 seconds to match up the control handle settings at the new helm with the handle settings that are at the old (to be inactive) helm. If the handles are not matched, the neutral lights will flash. The light blinks faster as the handles are nearing match position. Once the light stays on continuously, the handles are matched and the button can be pressed again to complete the transfer. This completes the transfer process, and gives control to the new station. If the helm transfer is not completed within 10 seconds, the action will be cancelled.

Helm Calibration with the Computer Diagnostic System

CDS Connection to the Helm

Computer Diagnostic System (CDS)	Order through SPX
 4520	Monitors all electrical systems for proper function, diagnostics, and calibration purposes. For additional information, pricing, or to order the Computer Diagnostic System contact: SPX Corporation 28635 Mound Rd. Warren, MI 48092 or call: USA - 1-800-345-2233 Canada - 800-345-2233 Europe - 49 6182 959 149 Australia - (03) 9544-6222

1. Connect the CAN 1 diagnostic cable between the junction box and the CDS SmartComms box.

Can 1 Diagnostic Cable	84-892663
 4680	Connects into a junction box or male to male adapter cable for Command Module configuration. Not for use with DDT.

2. Connect the SmartComms box to the CDS tool.

DTS System Calibration - Non-Shadow Mode Applications

1. Connect the CDS tool to the junction box.
2. Ensure that the ignition key switch is in the "RUN" position, and that the CDS tool is communicating with the command module.

NOTE: *If the red Mercury SmartComm icon is flashing, the system cannot establish a connection with the SmartComm interface box. If the yellow Mercury SmartComm icon is flashing, the SmartComm interface box is detected, but communication with the command module cannot be established. Check the connections, and ensure the ignition key is turned on.*

3. Click on the Engine Select button to enter engine information. To calibrate the command module:
   a. Set the make to "GENERIC".
   b. Set the model to "DTS Command Module".
   c. Enter the number of engines.
   d. Enter the engine serial number and click the OK button.
4. If necessary, click on the Toolbox button. Click on the Calibration and System Info button.

NOTE: *A command module city ID will appear in the helm 1 starboard outside location. This is the default factory setting for all command modules regardless of engine helm configuration.*

DTS VESSEL CONFIGURATION

IMPORTANT: The DTS vessel configuration sets the location of each command module connected to the DTS system. A vessel configuration must be completed on any DTS installation regardless of the number of engines.

1. Click on the "DTS Vessel Configuration" tab.
2. Select the number of engines and helms. Press the "Next" button.
3. Ensure the ignition key switch for all engines are in the "RUN" position and the control handles are in the neutral position. Press the "Next" button.
4. If there are multiple helms, select the helm and lever location to be configured. Move the selected control handle to the reverse wide open throttle (RWOT) position. Press the "Next" button.
5. After all handles have been adapted press the "Finished" button.
6. Turn the ignition key switch to the "OFF" position for all engines and return all control handles to the neutral position. Press the "Next" button.
7. DTS Vessel Configuration is now complete.

DTS HANDLE ADAPTATION

1. Click on the "DTS Handle Adaptation" tab.
2. Select the number of engines and helms. Press the "Next" button.
3. Ensure the ignition key switch for all engines are in the "RUN" position and the control handles are in the neutral position. Press the "Next" button.
4. Select the ERC type. If a foot throttle is installed, click the "Foot Throttle Installed" box.

NOTE: *In a dual console application, the "Console, port handle" and "Console, starboard handle" will need to be selected individually.*

5. Select the shift polarity. Normal is standard right hand rotation (clockwise), reverse is left hand rotation (counterclockwise).

NOTE: *Verado and Bravo III are always normal shift polarity.*

6. Select the lever to be adapted. In a dual engine application, ensure the engine location matches the ERC handle selected. Press the "Next" button.
7. Move the control handles according to the instructions on the screen. Press the "Next" button after each time the control handle is moved. After all handles have been adapted press the "Finished" button.
8. Turn the ignition key switch to the "OFF" position for all engines and return all control handles to the neutral position. Press the "Next" button.
9. DTS Handle Adaptation is now complete.

CAN Trackpad Calibration

1. Connect the CDS tool to the junction box.
2. Ensure that the ignition key switch is in the "RUN" position, and that the CDS tool is communicating with the command module.

NOTE: *If the red Mercury SmartComm icon is flashing, the system cannot establish a connection with the SmartComm interface box. If the yellow Mercury SmartComm icon is flashing, the SmartComm interface box is detected, but communication with the command module cannot be established. Check the connections, and ensure the ignition key is turned on.*

3. Click on the Engine Select button to enter engine information. To calibrate the CAN Trackpad:
   a. Select the engine make. "GENERIC" may also be selected.
   b. Set the model to "DTS Command Module".
   c. Enter the number of engines.
   d. Enter the engine serial number and click the OK button.
4. If necessary, click on the Toolbox button. Click on the Calibration and System Info button.
5. Click on the Trackpad tab.

NOTE: *A CAN trackpad city ID will appear in the helm 1 location. This is the default factory setting for all CAN trackpads regardless of engine helm configuration.*

NOTE: *If there are no CAN trackpads connected to the system, the screen will show there are no trackpads detected. If the number of trackpads connected to the system exceeds 15, the screen will display a message saying there can be a maximum of 15 trackpads attached to the DTS system until the number is within range.*

Configuring the CAN Trackpad

IMPORTANT: The CAN trackpad configuration sets the location of each trackpad connected to the DTS system. A CAN trackpad configuration must be completed on any remote control or dash mounted trackpad installation regardless of the number of trackpads.

1. Click on the "Trackpad" tab. The total number of trackpads will appear.

NOTE: *The cell is highlighted to show that there is more than one CAN trackpad with the same city ID.*

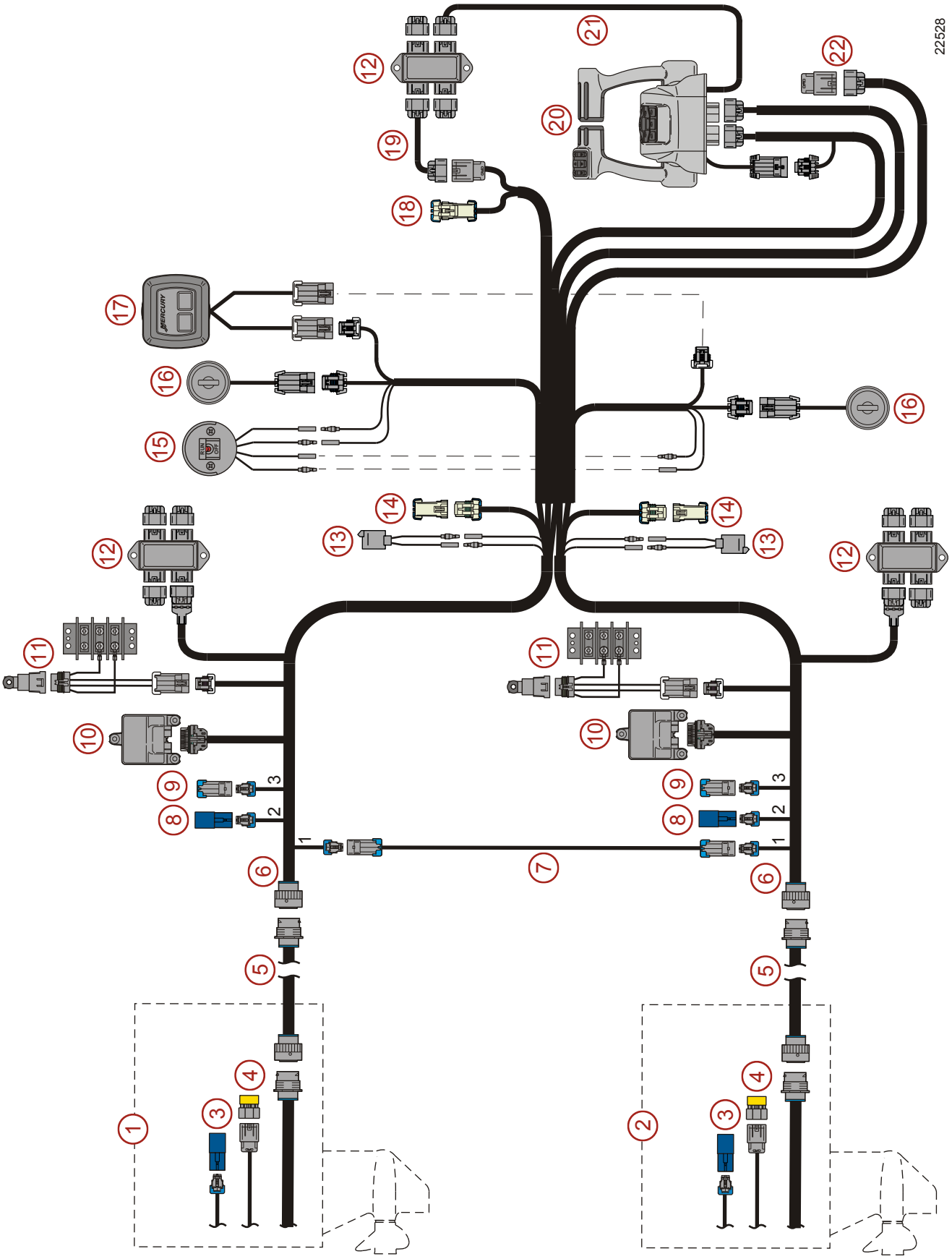
2. Select the number of helms. Press the "Configure" button.
3. Ensure the ignition key switches for all engines are in the "RUN" position. Select the number of trackpads on helm 1 and press the "Next" button.

NOTE: *There can be a maximum of 15 trackpads connected to the DTS system.*

4. All the CAN trackpads connected to the system should start flashing. Verify they are all flashing and press the "Yes" button. If any trackpads are not flashing, press the "No" button.
5. Go to helm 1 and press a throttle only button on a flashing trackpad. The trackpad will stop flashing. Press the "Next" button to save the trackpad location.
6. The CDS will repeat these steps for the number of trackpads selected on helm 1. All remaining trackpads at helm 1 will flash until calibrated.
7. When all trackpads at helm 1 have been calibrated, the CDS will repeat the calibration for each remaining helm. When all trackpads have been calibrated, turn all key switches to the "OFF" position and press the "Next" button.
8. CAN trackpad calibration is now complete. Press the "Finished" button.
9. The city ID, helm, and quantity for each CAN trackpad will appear on the screen. Verify there is one CAN trackpad for each city ID. If multiple trackpads are assigned to a city ID, the CAN trackpads must be re-calibrated.

Notes:

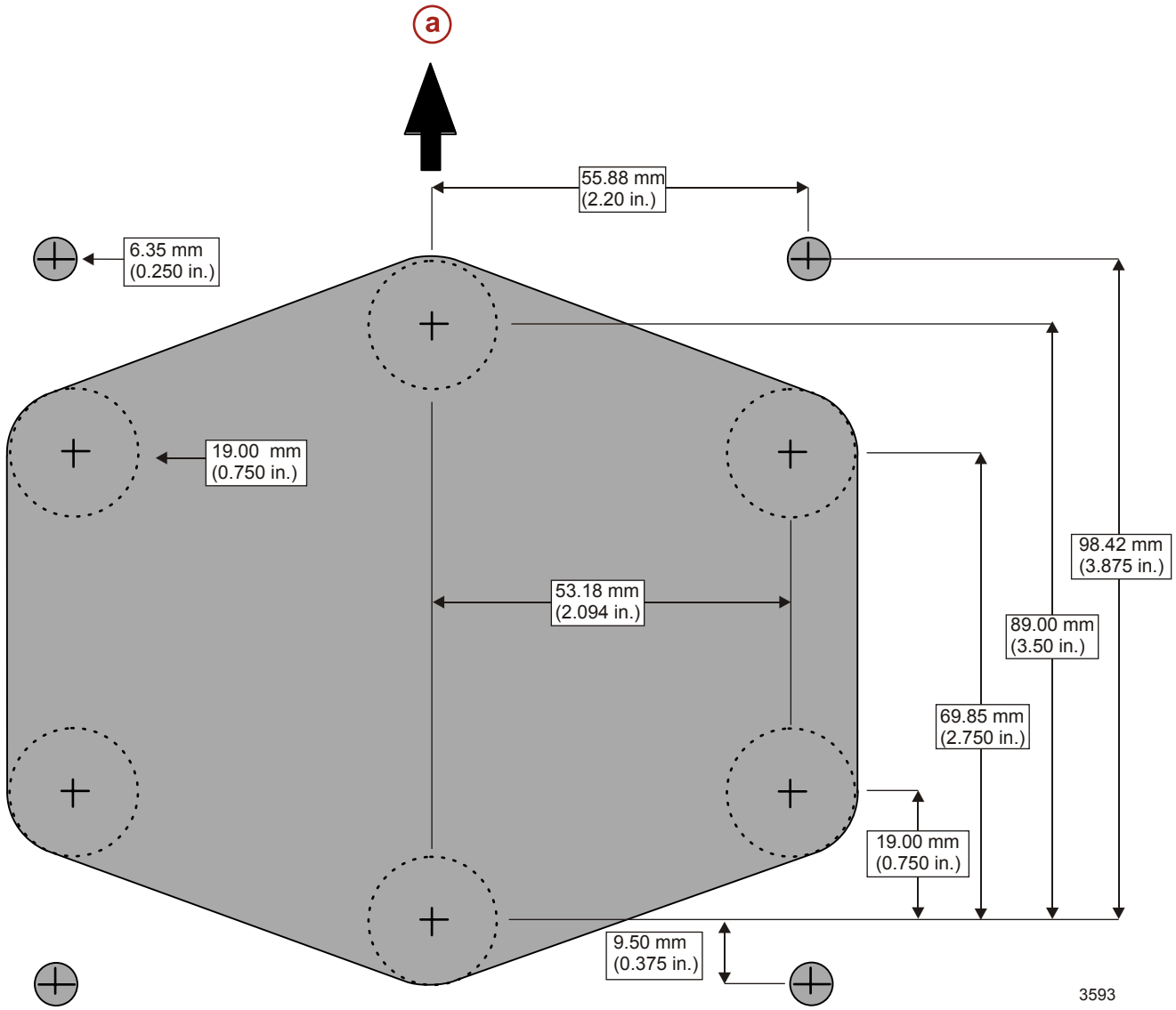
DTS Dual Engine Single Helm with CAN Trackpad Console Control



1 - Port engine
2 - Starboard engine
3 - Engine CAN 2 connector (brown and yellow) - blue terminator resistor
4 - Engine CAN 1 connector (blue and white) - yellow terminator resistor
5 - 14 pin data harness
6 - Command module harness
7 - CAN 1 link harness - 2 pin
8 - CAN 2 connector (brown and yellow) - blue terminator resistor
9 - CAN 3 connector (orange and green) - weather cap
10 - Command module
11 - Switched power relay
12 - Junction box
13 - Warning horn
14 - Lever 3 and 4 connectors - weather cap
15 - Lanyard stop switch
16 - Ignition key switch
17 - Start/stop switch (optional)
18 - 5 pin vessel connector - weather cap
19 - Male to male adapter harness
20 - Dual console control with CAN trackpad
21 - CAN trackpad connector
22 - Command module harness trackpad connector - weather cap

Notes:

DTS Console Cut-Out Template



a - Front of boat

NOTE: *Due to variances in the printing process image may not be to scale. Verify the accuracy of the template, using the remote control mounting bracket, before cutting the mounting holes.*

Products of Mercury Marine
W6250 Pioneer Road
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