



Manufactured by
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SH 5150/5155 SAFE-T™ II *nfb* HELM INSTRUCTIONS

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INSTALLER: THESE INSTRUCTIONS CONTAIN IMPORTANT SAFETY INFORMATION AND MUST BE FORWARDED TO BOAT OWNER.

These instructions show you how to install SSC62 steering cables into **SAFE-T™ II NFB** Helms. These helms contain a clutch mechanism to prevent the engine torque from being felt at the steering wheel. This reduces driver fatigue by eliminating constant fighting of the wheel. IT DOES NOT ELIMINATE THE ENGINE TORQUE. This can only be reduced by proper trim and tilt setting by trial and error when running the boat. The instructions for mounting the helm to the dash are given in the bezel kit instructions.

For a complete SAFE-T™ II NFB steering system the following additional components are required:

- **Bezel Kit** - SB27484 (90°) or SB27483 (20°)
- **Steering Cable** - SSC62xx (xx = length in feet)
- **Steering Wheel** - See Teleflex catalog.
Note: Maximum wheel diameter is 16 inches.
- **Engine Connection Kit** - See Teleflex catalog.

NOTE: HELMS AND CABLE ASSEMBLIES ARE SUPPLIED LUBRICATED READY FOR INSTALLATION, DO NOT ADD ANY LUBRICANT TO EITHER ASSEMBLY. USE OF OTHER LUBRICANTS CAN CAUSE DAMAGE TO THE STEERING CABLE, RESULTING IN THE CABLE SEIZING OR PREMATURE WEAR. KEEP THE CABLE AND DRIVE ASSEMBLY CLEAN DURING INSTALLATION. DIRT WILL DAMAGE THE SYSTEM AND CAUSE PREMATURE WEAR. DO NOT TAKE THE PLASTIC SLEEVE OFF THE END OF THE CABLE UNTIL YOU ARE READY TO INSTALL IT INTO THE HELM.

PREPARATION FOR INSTALLATION

Before the steering cable can be installed, the helm, bezel, and steering wheel must be fully installed as shown in the bezel kit instructions.

CABLE ROUTING

The steering cable must be routed to the starboard side of the boat. When routing the steering cable, select a path with the minimum number of bends, making the bends as large a radius as possible. **DO NOT MAKE BENDS OF LESS THAN 8" RADIUS.** Sharp or frequent bends will result in hard steering and premature cable wear. When it is necessary to pass through a bulkhead, a 1-1/2" diameter hole is required. Cable should be clamped or tied for support at regular intervals.

CAUTION

THE CABLE MUST NOT BE BUNDLED TOGETHER WITH ELECTRICAL WIRING. THE CABLE MUST NOT REST ON SHARP EDGES WHICH CAN CAUSE CHAFING.

STEERING CABLE INSTALLATION

Before the steering cable is installed the steering wheel should be positioned as shown in Figure 1, so that it is in the correct orientation when installation is completed.

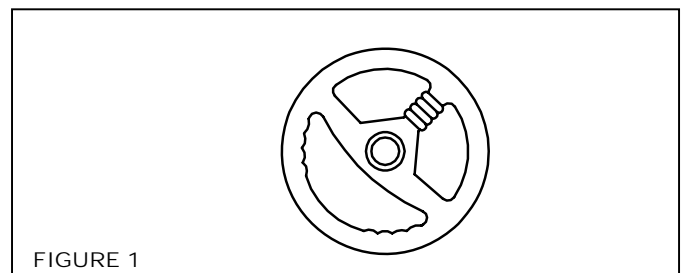


FIGURE 1

WARNING

BEFORE STARTING INSTALLATION READ THESE INSTRUCTIONS AND ENGINE MAKERS INSTRUCTIONS THOROUGHLY. FAILURE TO FOLLOW EITHER OF THESE INSTRUCTIONS OR INCORRECT ASSEMBLY CAN RESULT IN LOSS OF CONTROL AND CAUSE PROPERTY DAMAGE OR INJURY.

DO NOT SUBSTITUTE PARTS FROM OTHER MANUFACTURERS, THEY MAY CAUSE A SAFETY HAZARD FOR WHICH TELEFLEX INC., USA CANNOT ACCEPT RESPONSIBILITY. USE TELEFLEX STEERING CABLES ONLY WITH THIS HELM.

TO AVOID EXCESSIVE STEERING LOADS, AND TO GET THE BEST STEERING PERFORMANCE, THE OUTBOARD MOTOR OR OUTDRIVE TRIM TABS AND TILT POSITION MUST BE ADJUSTED AS INSTRUCTED IN THE MOTOR MANUFACTURERS OPERATION MANUAL. FAILURE TO DO SO CAN EFFECT THE PERFORMANCE OF THE BOAT AND ITS SAFE OPERATION.

DO NOT ATTACH ANY ELECTRICAL GROUND WIRES TO THE HELM. THIS WOULD RESULT IN AN ELECTROLYTIC REACTION TO THE STEERING CABLE THAT MAY RESULT IN CABLE FAILURE OR GREATLY REDUCED SERVICE LIFE.

WARNING

HELMS MUST NOT BE DISASSEMBLED FOR ANY REASON. FAILURE TO REASSEMBLE CORRECTLY MAY LEAD TO TOTAL FAILURE OF THE SYSTEM, WHICH COULD RESULT IN PERSONAL INJURY OR PROPERTY DAMAGE.

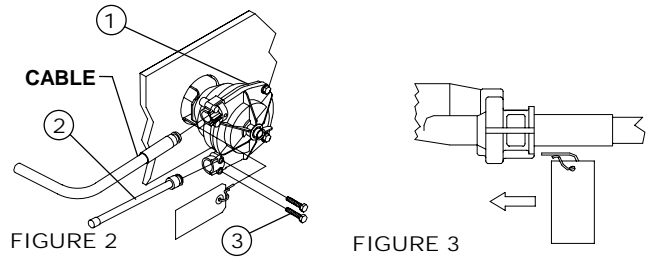
STEP 1. Remove pin from cable entry spigot of helm (**DO NOT REMOVE TAG FROM PIN**).

STEP 2. Remove protective sleeve from cable end, making sure that dirt does not get onto the lubricated cable end. Feed cable end into **UPPER** helm entry spigot until it contacts the internal gear, then turn steering wheel counterclockwise to draw cable fully into the helm (see Figure 2). Continue turning wheel until end fitting of cable is entered into the entry spigot, and wheel cannot be turned further. During this you may hear a click as the locking mechanism engages. Turn steering wheel fully in the other direction until it cannot be turned any further, and check that cable end fitting is retained inside the entry spigot.

STEP 3. Replace pin as shown in Figure 3, making sure that it is fully seated. **DO NOT REMOVE TAG FROM PIN.**

STEP 4. Turn steering wheel fully to both extremes of rotation and check that the cable fitting is retained in the entry spigot.

STEP 5. Feed Spent Travel Tube (Item 2) over exposed cable end and insert bolts (Item 3) into helm and tighten fully (see Figure 2).



OPERATION & MAINTENANCE NOTES

CAUTION

IT IS POSSIBLE TO OVERTRIM THE ENGINE AND INCREASE THE STEERING TORQUE TO THE POINT THAT THE STEERING WHEEL CANNOT BE TURNED, EVEN THOUGH THE TORQUE IS NOT FELT AT THE WHEEL. THIS MAY GIVE THE IMPRESSION THAT THE STEERING IS "LOCKED". THIS CONDITION CAN OCCUR MORE WHEN JACK PLATES ARE USED TO RAISE THE ENGINE ON THE TRANSOM, AND CAN ONLY BE OVERCOME BY REDUCING THE BOAT SPEED OR ENGINE TRIM OUT POSITION. UNTIL YOU ARE COMPLETELY FAMILIAR WITH THE BOAT AND THE EFFECTS OF POWER TRIM, MAKE ALL ADJUSTMENTS OF TRIM WITH EXTREME CAUTION.

1. After a few hours of operation and at frequent intervals thereafter, check all fasteners and the complete steering system for security and integrity.

DANGER

LOOSENING OR LOSS OF ONE OR MORE FASTENERS MAY CAUSE FAILURE OF THE STEERING SYSTEM, RESULTING IN LOSS OF STEERING CONTROL AND COULD CAUSE PERSONAL INJURY OR PROPERTY DAMAGE.

2. Keep all moving parts free from build-up of salt and other foreign material. This will affect their operation and create steering problems. Pay particular attention to the hinge tube of outboard motors. Periodically remove the cable, clean hinge tube thoroughly and lubricate with a waterproof grease.

3. Inspect periodically for corrosion. Any parts affected by corrosion must be replaced. When replacing hardware, self-locking hardware must be used.

4. Inspect steering cable periodically for cracks or other damage. If any is found the cable must be replaced.

DANGER

DO NOT COVER CRACKS WITH TAPE OR OTHER SEALANTS, THIS WILL CREATE A HAZARD IN WHICH THE CABLE CAN FAIL SUDDENLY WITHOUT WARNING.

CONNECTION TO ENGINE

For engine-mounted steering systems, slide the output ram through the engine support tube. Thread the cable coupler nut fully onto the support tube. **NOTE:** The coupler nut has a locking ring in the threads. Make sure the nut is drawn up fully and its internal plastic locking ring is engaged. If you do not tighten this nut fully there will be excessive play in the steering system. Connect the cable output ram to the engine tiller arm as shown in the instructions packed with the connection kit.

CAUTION

ENSURE THAT THE CABLE OUTPUT END IS NOT BENT WHEN INSTALLING. IF NECESSARY, THE ENGINE MUST BE REMOVED FROM THE BOAT.

For a boat-mounted steering system, attach the cable to the boat and engine in accordance with the instructions furnished with the connection kit.

PARTS LIST		
ITEM	DESCRIPTION	QUANTITY
1	HELM	1
2	SPENT TRAVEL TUBE	1
3	HEX BOLT ¼ X 1" L	2
4	HEX BOLT ¼ X ¾" L	3*

*These bolts to be used to mount the helm to the SB 27484/27483 Bezel Kit mounting bracket (Follow instructions supplied with bezel kit).

KEEP THESE INSTRUCTIONS WITH YOUR BOAT FOR FUTURE REFERENCE.