



INSTALLATION INSTRUCTIONS AND OWNERS MANUAL

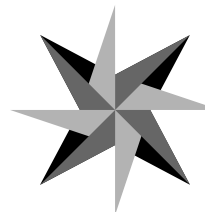
Part # 055000-215, Rev 3, 07/2013

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Twin SR Control
Part # CH5400P

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mt3
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*Before you do it your way,
please try it our way.*

TWIN SR CONTROL

PART # CH5400P

NOTICE

Installer: these instructions contain important safety information and must be forwarded to the boat owner.

For use with Type 3300/33C cables.

For use with Type 4300 cables with the addition of Kit 040090 (1 kit per cable).

An accessory clutch detent kit, # 036774, is recommended when used for clutch control applications (except for dual station installation). This kit provides positive detent feel at forward, neutral and reverse.

NOTICE

Cable installation and connections must be made in accordance with the motor manufacturer's instructions.

To insure best performance, free operation of all linkages and the remote control is essential. Follow the manufacturer's recommended procedures for adjustment and lubrication.

All specifications and features are subject to change without notice.

⚠ 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, injury, or death.

⚠ WARNING

DO NOT substitute parts from other manufacturers, they may cause a safety hazard for which SeaStar Solutions cannot accept responsibility.

NOTICE

SeaStar Solutions highly recommends the installation and usage of an engine shut off switch as a important emergency safety feature for boats. This switch should be connected by a cord to the boat driver. Should the driver be thrown from the helm position, the engine will automatically shut off.

This shut off switch is not a standard part of the control you are using. It can, however, be obtained from most marine dealers and distributors.

The Twin SR Control can be used to control both the throttle and clutch operation of a single engine installation. Dual station control to provide operation from both the cabin and the bridge can be obtained by using Twin SR Controls connected either in tandem or in parallel.

The following components are required to make a remote control installation for ONE engine. For twin engine installations, each of these requirements should be doubled.

COMPONENTS	SINGLE STATION	DUAL STATION
<i>Not Included With Control</i>		
Clutch Connection Kit	1	1
Throttle Connection Kit	1	1
Clutch Detent Kit	1	—
3300/33C type Push-Pull Cable	2	4

Mounting Control

STEP 1. Using the template provided, determine the proper position for the control head. Clearance must be allowed for full forward and reverse movement of the hand lever. (See Figure 2.)

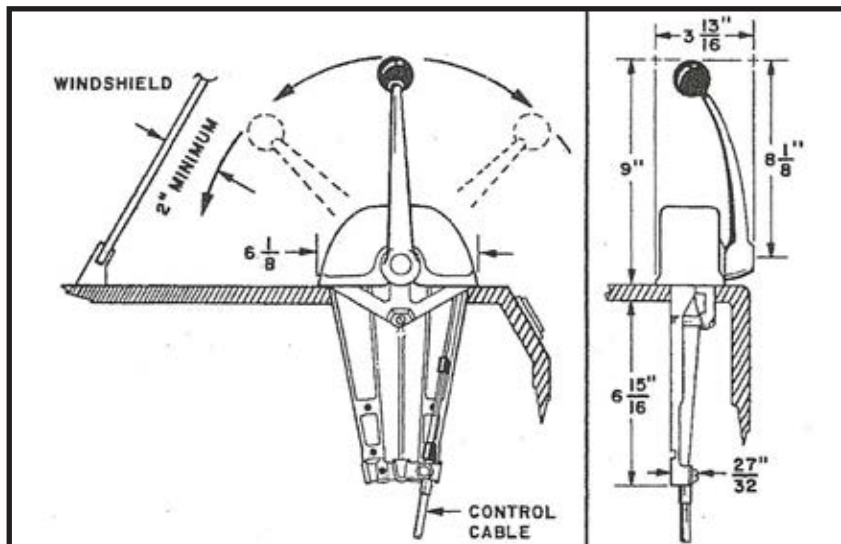


Figure 2.

STEP 2. Cut the opening required, according to template provided.

⚠ CAUTION

Do not cut opening any larger than template indicates.

Installation of Cables

A. BEND RADIUS. When routing the control cables, select a path with the minimum number of bends, making the bends as large as possible. Sharp or frequent bends will result in difficult throttle or shift control, loss of motion, and premature cable wear. **DO NOT MAKE BENDS OF LESS THAN THE RECOMMENDED MINIMUM BEND RADIUS AS NOTED BELOW.**

Cable Type	Minimum Bend Radius
Standard 3300/33C	8"
Xtreme 3300 Cable	4"
Xtreme 4300 Cable	5"

For best performance, SeaStar Solutions recommends using Xtreme cables with this control.

B. SUPPORTING THE CABLE. Do not tie or clamp the cable within 36 inches of the control. When supporting the cable beyond 36 inches of the control, cables should be loosely clamped or tied for support at regular intervals.

⚠ CAUTION

Cables must not be bundled together with electrical wiring.
Cables must not rest on sharp edges which can cause chafing.

C. CABLE ROUTING. Cables shall not be installed in areas of excess heat such as on, or close to, exhaust manifolds where temperatures may exceed 212°F (100°C).

Cable Connection-Control End

STEP 1. Remove control cover (5) by removing screw (3) and washer (4). (See Figure 5.)

STEP 2. Determine whether push or pull operation of cable is required for forward operation of clutch, and whether push or pull to open operation of throttle is required.

Cable will be installed in control using outer hole (2 3/4" travel) of control arm in either the push or pull mode as required. Push is toward bow and pull is toward stern of boat. (See Figure 3.)

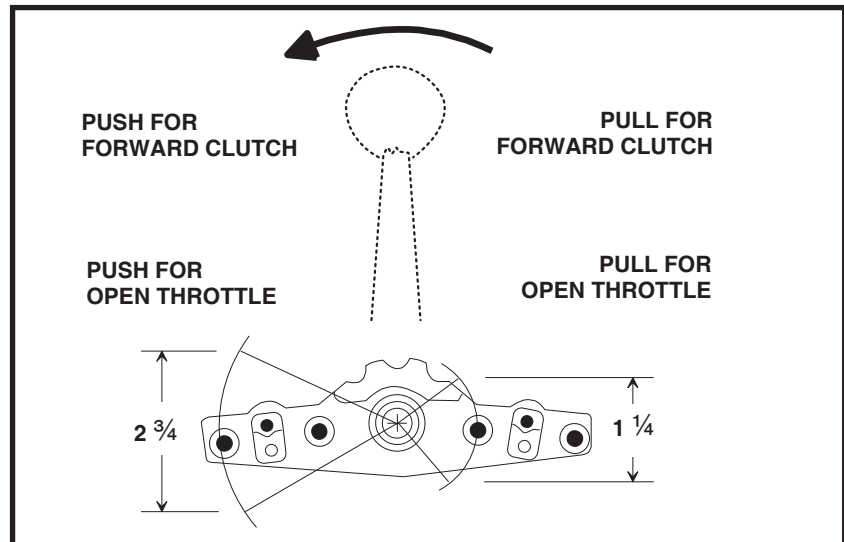


Figure 3.

NOTICE

Inner hole (1 1/4" travel) of control arm is normally only used for electric switch or special application.

STEP 3. Screw terminal (20) onto cable approximately 9/16 inch. (See Figure 7.)

STEP 4. Place cable hub into groove on lower part of main housing and retain with plate (24), screw (22) and bowed washer (23). (See Figure 7.)

Fasten terminal (20) to arm (17) with pin (29), retainer (19), screw (18) and nut (12). (See Figure 4 & 5.)

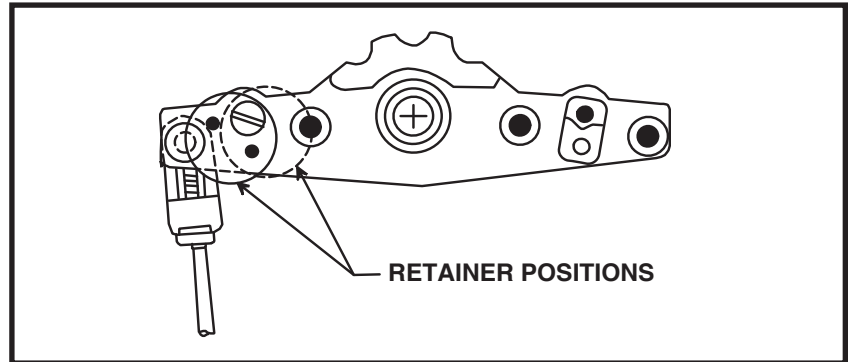


Figure 4.

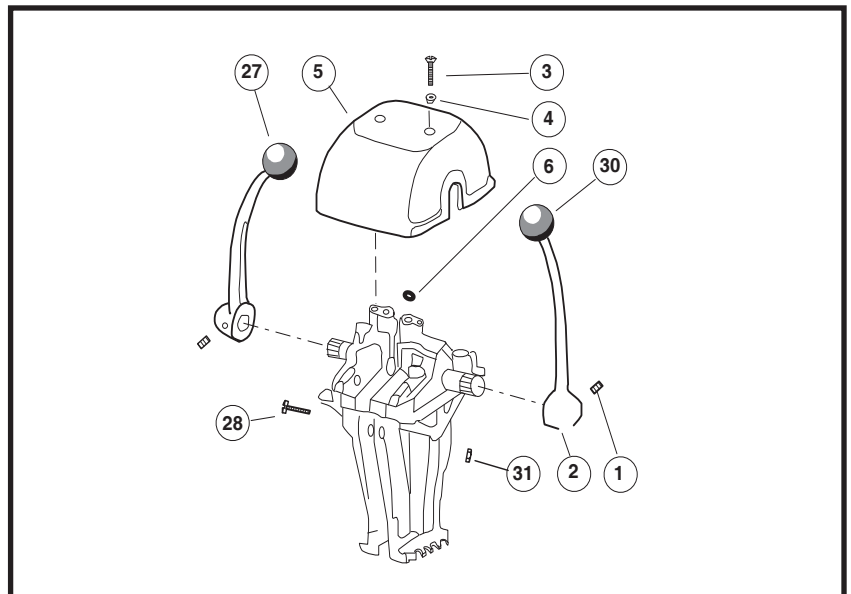


Figure 5.

NOTICE

A clutch detent kit #036774 should be installed, unless the transmission has an internal detent.

STEP 5. Feed control cables down through opening cut in console to the engine throttle and clutch levers.

The cables should be run as straight as possible, avoiding any sharp bends and as few bends as possible. No bend should be less than the minimum bend radius.

STEP 6. Fasten control to console with hardware provided.

Cable Connection-Engine End

STEP 1. Install the correct engine throttle and clutch connection kit on engine, if not already provided with engine.

STEP 2. Connect cables to engine in the manner specified with engine kit instructions or as provided by engine manufacturer.

Final Adjustment

STEP 1. Operate the clutch hand lever. The detent positions and the clutch lever detents of the transmission **MUST COINCIDE EXACTLY** at forward, neutral and reverse positions. Adjust the cable terminal at the transmission, if necessary, to obtain correct operation.

STEP 2. ADJUST THE CONTROL HAND LEVER STOP SCREWS to prevent operation of control hand lever beyond forward and reverse detent positions.

STEP 3. Operate the throttle hand lever. Adjust throttle cable terminal at engine as required to obtain full open throttle movement. ADJUST THROTTLE HAND LEVER STOP SCREWS so lever rests on rear stop screw at full open throttle position and on front stop screw at idle.

STEP 4. Friction brake screws (14) may be turned clockwise to increase drag on hand lever or counterclockwise to decrease drag as desired.

Complete Installation of Control

STEP 1. Tighten cable jam nuts at terminals on both ends of cables.

STEP 2. Grease should be placed on moving parts just installed.

STEP 3. Install cover (5), using screw (3) and washer (4). A bead of caulking around base of cover will help seal against water running under cover.

STEP 4. Secure all cable supports, but not so tight as to crush cable conduit.

STEP 5. The control hand levers should operate freely with light hand pressure. Any stiffness or binding in the operation of the hand levers can usually be traced to:

- 1. Excessive number of bends in cable run.**
- 2. Sharp bend in the cables throughout the cable run.**
- 3. Bends smaller than the recommended minimum radius.**
- 4. Cable compressed too tightly by cable supports.**
- 5. Damaged cable.**
- 6. Friction brakes too tight.**
- 7. Tight or misaligned engine linkage.**

NOTICE

Do not expect the dual station control operation to feel as good as the single station set up since the system friction has been approximately doubled.

Pay special attention to the 7 bold points listed above.

Dual Station Applications Maintenance

SeaStar Solutions Xtreme control cables are recommended for dual station applications.

STEP 1. Typical dual station applications are shown in Figure 6.

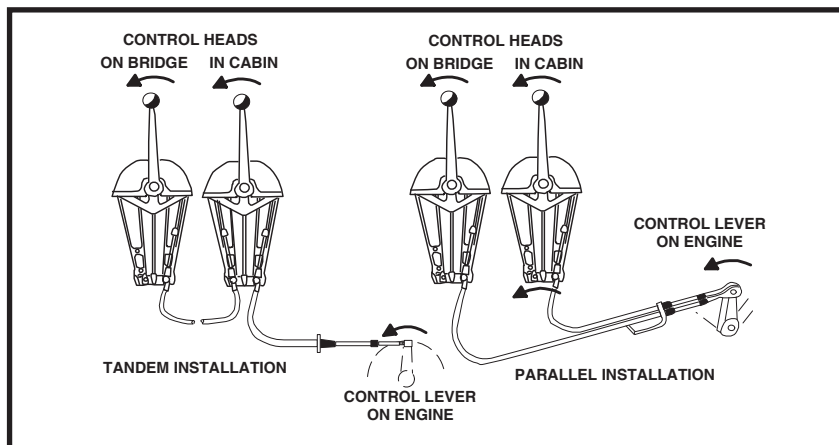


Figure 6.

STEP 2. It is extremely important for cable to be run as straight as possible, avoiding sharp bends, and as few bends as possible.

STEP 3. Special connection kits are available for installing dual stations.

Replacement Parts

Replacement Hardware Kit #060991

Item #	Kit Description	Includes
23	Bowed Washer	2
24	Cable Retaining Plate	2
22	Retainer Screw	2
9	Control Mounting Screw	4
10	Flat Washer	6
11	Split Lockwasher	4
12	Nut	8
29	Pin	2
20	Cable Terminal	2
19	Cable Terminal Retainer	2
18	Terminal Retainer Screw	2

Bearings Rebuild Kit #CA67870P

Item #	Kit Description	Includes
16	Long Shaft Bearing	4
21	Short Shaft Bearing	4
17	Control Arm	2
15	Throttle Tension Strap	2

Decorative Rebuild Kit #CA68350P

Not Shown in Figure 7.

Kit Description	Includes
Stainless Steel Cover	1
Handles	2
Handle set screws	2
Bezel Screws	2
O-Rings	2
Red Knob	1
Black Knob	1

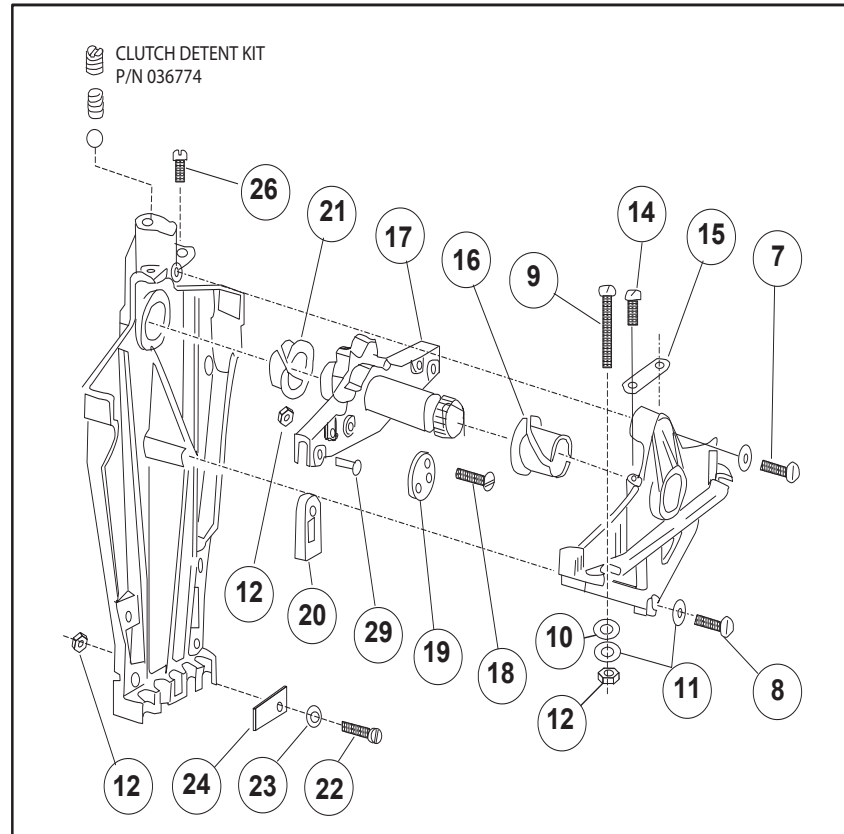


Figure 7. One half of the twin SR shown.

40 Series Cable Connection Kit #040090

(To connect one 40 Series Cable to Control)

Replacement Stainless Cover #047682

Replacement Handle #CA69060P

Neutral Safety Switch Kit #041117

(for one clutch)

In-Series Dual Station Kit, 3300/33C Series #039490-002

(to connect one cable to second side of lower control arm from upper station)

In-Series Dual Station Kit, 40 Series #048501-002

(to connect one cable to second side of lower control arm from upper station)

Clutch Detent Kit #036774

(for one clutch)

Hand Lever Ball Knob Kit #CA68287P

(Includes 1 red knob, 1 black knob)

Optional Adapter Kit For SR Controls For 4300 Style Cables P/N 040090

This kit contains all the parts necessary to convert the Twin SR Control for use with a Type 4300 control cable (One kit is required for each cable used).

STEP 1. Determine whether push or pull cable action is required. Refer to Figure 3 on page 3.

NOTICE

When control is used with this kit, cable terminal can be attached only in the outer hole of control arm as shown.

STEP 2. The following, packed with the Control and shown on Figure 7, page 8, are to be discarded:

Item 20 - Terminal

Item 22 - Hex. Head Screw #10-32 x $\frac{3}{4}$ lg.

Item 23 - Bowed Washer

Item 24 - Retaining Plate

STEP 3. Attach bracket (2) as shown in Figure 8, using screws (7), lock washers (3) and nut (6).

STEP 4. Screw cable terminal (1) into cable rod approximately $\frac{5}{8}$ ". Tighten cable rod nut against cable terminal (1). Insert cable terminal into slot in control arm and lock with pin, retaining clip and screw. **(NOTE: - Lubricate pin first.)**

STEP 5. Attach cable hub to bracket as shown using clamp (4), shim (5), screws (7), lock washers (3) and nuts (6).

STEP 6. Refer to SR Control Instructions and Connection Kit Instructions to complete Installation.

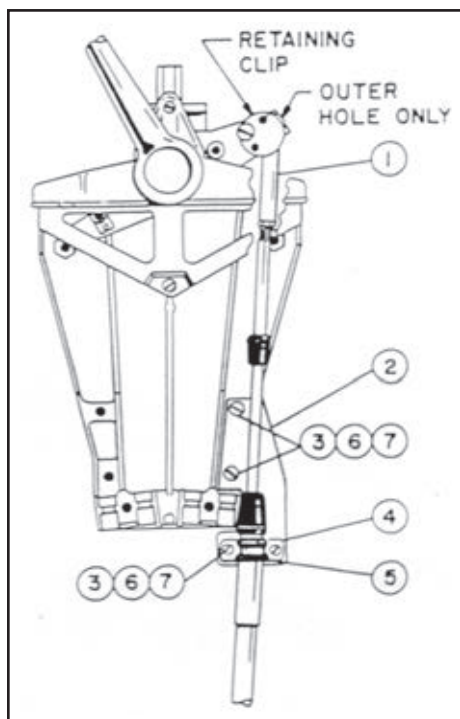


Figure 8.

Item #	Description	No. Req'd
1	Cable Terminal	1
2	Bracket	1
3	Lockwasher, Int. Tooth, #10	4
4	Clamp	1
5	Shim	1
6	Nut, Reg. Hex, #10-32	4
7	Screw, Fil. Hd. #10-32 x 5/8" long	4

Optional Neutral Safety Switch Kit #041117

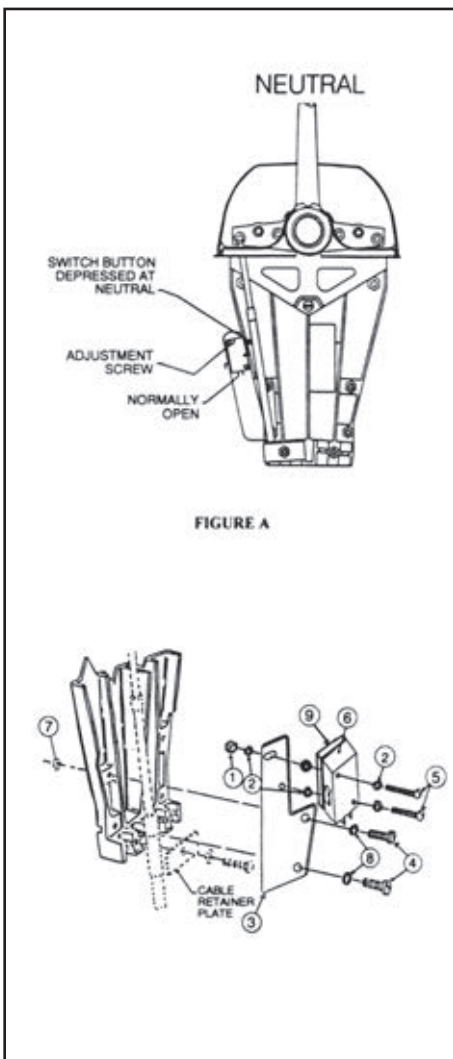
This neutral safety switch kit is designed for use with the SeaStar Solutions Twin SR Control. Its purpose is to prevent the engine from being started while the control is in gear.

Prior to installing the cable into the control, secure the bracket to the control base as shown in Figure 9, using the screws, nuts and lock washers (items 4, 7 and 8). Place the cable in the mounting slot of the control and retain it with the cable retainer plate, the screw and the washer that came with the control.

Next, attach the switch to the bracket with the hardware as shown. Make sure that you have lock washers between the spacer and the metal switch bracket. **DO NOT TIGHTEN THE SCREWS DOWN AT THIS TIME.**

Adjust the switch at the slotted hole in the bracket so that the cable sleeve closes the switch at the position nearest to neutral. **TIGHTEN THE SCREWS AT THIS POINT.**

Finally, wire the switch into the circuit between the starter solenoid and the starter key switch. Use the common and normally open terminals. At this point check the setup to verify that the engine will not start if the control is out of the neutral position.



Item #	Description	No. Req'd
1	Nut, Hex, #4-40	1
2	Internal Tooth Lockwasher, #4	5
3	Bracket	1
4	Screw, Fillet Head, #10-32 x 5/8" long	2
5	Screw, Round Head, #4-40 x 7/8" long	2
6	Switch	1
7	Nut, Hex #10-32	2
8	Internal Tooth Lockwasher, #10	2
9	Spacer	1

Figure 9.

Maintenance Notes

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

DANGER

Loosening or loss of one or more fasteners may cause failure of the control system and could cause property damage, injury, or death.

2. Keep all moving parts free from build-up of salt and other foreign material. This will affect their operation and create control problems.

3. Periodically inspect for corrosion. Any parts affected by corrosion must be replaced. Any replacement hardware must be as originally supplied (i.e. similar material and locking features).

4. Periodically inspect control cables for cracks and other damage. If any is found the cable must be replaced.

5. If cable is stiff in operation, it is unsafe to use and must be replaced immediately.

DANGER

DO NOT cover cracks with tape or other sealants. This will create a hazard in which the cable can fail suddenly without warning, resulting in property damage, injury, or death.

NOTICE

Boat builder and boat dealer, please supply these Installation Instructions and Owner's Manual with the delivery of boat. Boat owner keep these instructions with your boat for future reference. Boat owner consult with your boat builder, boat dealer, or SeaStar Solutions if you have any questions regarding these instructions.



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