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GT40 GARAGE

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# INTERCOOLER TUBING + BOV — INSTALL GUIDE

Not for: 230 / 300 HP 1630 ACE (use GT40-SD-TUBE-230300-BOV). Not for 260 HP iS / aS Limited (use GT40-SD-TUBE-260-BOV). Not for 1503 4-TEC. Confirm engine c...

GT40-SD-TUBE-325-BOV

INTERMEDIATE

1.5-3 HRS

4 PAGES

## 🔑 TOOLS

- ✔ 8 mm / 10 mm / 13 mm sockets + ratchet, 3/8" drive
- ✔ T25 + T30 Torx drivers
- ✔ 4 mm + 5 mm hex (Allen) keys
- ✔ 1/4" drive torque wrench, 5—25 Nm range
- ✔ Long Phillips screwdriver (reach into tight clamp positions)
- ✔ Hose-clamp pliers (vacuum-line spring clamps)
- ✔ Flashlight or headlamp — the charge tube run sits low in the engine bay

## 🔧 PRO TIPS

Clock the BOV and couplers with the engine loaded in mind.  
Recheck clamp tension after the ride.



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**AVOID**

- Pinching the BOV reference line
- Clocking the coupler so it rubs under engine movement
- Skipping boost-leak check after install

# INTERCOOLER TUBING + BOV — INSTALL GUIDE

**GT40 Marine** | SKU **GT40-SD-TUBE-325-BOV** | 325HP Charge Tubing + Blow-Off Valve | Rev 1.0 — 2026-05-24

## FITMENT

| Platform | Model | Year | Engine |

|---|---|---|---|

| Sea-Doo | RXP-X 325 | 2024—present | 1630 ACE 325 |

| Sea-Doo | RXT-X 325 | 2024—present | 1630 ACE 325 |

| Sea-Doo | GTX Limited 325 | 2025—present | 1630 ACE 325 |

Not for: 230 / 300 HP 1630 ACE (use **GT40-SD-TUBE-230300-BOV**). Not for 260 HP iS / aS Limited (use **GT40-SD-TUBE-260-BOV**). Not for 1503 4-TEC. Confirm engine code stamped on the block and HP rating on the BRP placard before install.

## IN THE BOX

- (1) GT40-formed intercooler-to-throttle charge tube, aluminum, ceramic-coated charcoal
- (1) GT40-formed supercharger-to-intercooler charge tube, aluminum
- (1) Blow-off valve assembly, billet, spring-actuated
- (1) BOV mounting flange, welded to upper tube, machined seat
- (4) Silicone couplers, reinforced, charge-grade
- (8) T-bolt clamps, stainless 2.5" x 3" assortment to suit



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- (1) Vacuum reference line, 6 ft. silicone, 4 mm ID
- (4) Spring vacuum-line clamps
- (2) M6 × 25 mm SHCS — BOV-to-flange
- (2) M6 stainless flat washers
- (1) Install hardware bag — spare couplers, clamps, two spare clamps
- (1) GT40 product registration card
- (1) This guide

Verify all components present before starting. Missing parts: support@gt40marine.com.

## TOOLS REQUIRED

- 8 mm / 10 mm / 13 mm sockets + ratchet, 3/8" drive
- T25 + T30 Torx drivers
- 4 mm + 5 mm hex (Allen) keys
- 1/4" drive torque wrench, 5—25 Nm range
- Long Phillips screwdriver (reach into tight clamp positions)
- Hose-clamp pliers (vacuum-line spring clamps)
- Flashlight or headlamp — the charge tube run sits low in the engine bay
- Shop towels — keep several handy, the intercooler will leak residual condensate when disconnected

## SAFETY

Read in full before starting.

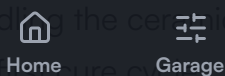
**Battery disconnected** for the duration of the install.

**Cold engine only.** The charge tubing reaches significant temperature in operation.

**Eye protection.** Removing the stock tubing may release residual condensate or boost-pressure-trapped vapor.

**No smoking / open flame.**

**Hand protection** when handling the ceramic-coated tubing — the coating is durable but skin oils can mark fresh finish before cure.



If you are not comfortable with PWC engine bay work, take the install to a certified marine technician.

## PRE-INSTALL CHECKLIST

- Watercraft on stable trailer or stand
- Battery negative disconnected and isolated
- Engine bay clean and dry
- Factory tubing routing photographed from multiple angles before disassembly
- All 4 supplied silicone couplers laid out and matched to tube ends (varying ID — 2.5" vs 3" depending on location)
- BOV pre-assembled to its flange with the M6 SHCS, hand-tight only — final torque after install

## STEP-BY-STEP INSTALL

### STEP 1 — ACCESS THE ENGINE BAY

Remove the seat. Lift the storage bin to expose the engine bay top hatch.

Disconnect the battery negative terminal. Secure the cable away from the post.

### STEP 2 — REMOVE THE STOCK CHARGE TUBING

The 325HP 1630 ACE uses two charge tubes:

The **lower tube** runs from the supercharger outlet down and around to the intercooler inlet

The **upper tube** runs from the intercooler outlet up to the throttle body inlet

Loosen all four clamps on the lower tube (supercharger end + intercooler end)

Pull the lower tube free — expect a small amount of residual condensate to spill from the intercooler side. Catch it with a shop towel

Loosen all four clamps on the upper tube (intercooler end + throttle body end)

Pull the upper tube free

Inspect the supercharger outlet seal and intercooler inlet/outlet seals — wipe clean

Set the stock tubes aside. Do not discard if you may sell the craft in stock form later.



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### STEP 3 — PRE-FIT THE GT40 LOWER TUBE

Slide a silicone coupler onto the supercharger outlet, push fully to the shoulder, slide a T-bolt clamp onto the coupler (do not tighten yet)

Slide a second silicone coupler onto the intercooler inlet, T-bolt clamp on (loose)

Lower the GT40 ceramic-coated tube into position — supercharger end first, intercooler end second

Push both coupler-tube joints fully home (1/2 in. minimum coupler engagement on both sides)

Rotate the tube to clear the throttle linkage, fuel rail, and harness loom — 10 mm clearance minimum to any moving or hot component

### STEP 4 — PRE-FIT THE GT40 UPPER TUBE + BOV FLANGE

Slide a coupler onto the intercooler outlet, T-bolt clamp on (loose)

Slide a coupler onto the throttle body inlet, T-bolt clamp on (loose)

Lower the GT40 upper tube into position, intercooler end first

The BOV flange must orient outboard with the valve body facing the open engine bay sidewall — verify before final clamp torque

Push both coupler-tube joints fully home

Rotate the upper tube to align the BOV flange — confirm clearance to the harness loom and the upper hull bulkhead (15 mm minimum)

### STEP 5 — TORQUE ALL CHARGE-TUBE CLAMPS

Working in this sequence — supercharger end of lower tube, intercooler-inlet end of lower tube, intercooler-outlet end of upper tube, throttle-body end of upper tube — torque each T-bolt clamp to **5 Nm (44 in-lb)** alternating in two passes.

Pull-test each joint after torque. No coupler should rotate or slide on either fitting.

### STEP 6 — INSTALL THE BOV ON ITS FLANGE

Position the BOV body against the upper-tube flange with the supplied gasket

Thread both M6 × 25 mm SHCS through the BOV and into the flange with flat washers

Snug both bolts evenly, then torque to **10 Nm (89 in-lb)** with a 5 mm hex socket

Confirm the BOV outlet points outboard — discharge will vent to the engine bay (not into the hull bilge or onto the intercooler)



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## STEP 7 — ROUTE THE VACUUM REFERENCE LINE

The BOV requires a manifold-pressure reference signal to open at the correct boost-spike moment.

Locate the factory MAP sensor port on the intake manifold or an existing tee fitting

Cut the supplied 4 mm silicone vacuum line to length — direct route, no excess loop, no contact with hot components

Push one end onto the BOV vacuum nipple, secure with a spring clamp

Push the other end onto the MAP-port nipple or tee, secure with a spring clamp

Confirm the line is fully seated and the clamps are oriented for visual inspection at next service

## STEP 8 — REASSEMBLY AND FIRST START

Walk the engine bay — every coupler, every T-bolt, every M6 fastener

Confirm no tools or hardware remaining in the bay

Reconnect the battery negative terminal — torque to **10 Nm (89 in-lb)**

Replace the engine bay hatch, storage bin, seat

Start the engine on the trailer with the cooling hose connected

Idle for 60 seconds — listen for any boost leak (hissing, lean stumble)

Bring engine up to 3000 RPM briefly — listen for BOV operation as throttle closes

Scan with BUDS or compatible OBD diagnostic — no fault codes (P0238 / P0299 indicate a charge-side leak)

If clean: install complete.

## POST-INSTALL

### BREAK-IN

The first water test should run a conservative throttle profile — gradual ramp to half throttle for the first 5 minutes, then full throttle pulls. This lets the ceramic coating complete its first heat-cure cycle without thermal shock.

### TUNING

This kit is mechanical-only at the stock 325HP calibration. No ECU tune required for fitment on a stock-tune craft.



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For Stage 2 / Stage 3 / Stage 4 builds, the BOV spring rate may need adjustment to match the target boost ceiling — see kit-level guides for **GT40-SD-STG2-325** and above.

### SERVICE

Inspect all clamps and couplers every 25 run hours — retorque if any have relaxed

Inspect the vacuum reference line every 50 hours — replace if any cracking or oil saturation

The BOV diaphragm and spring are field-serviceable — contact support for replacement parts

### TROUBLESHOOTING

| Symptom | Likely Cause | Fix |

|---|---|---|

| Lean stumble at high RPM | Charge-side leak | Recheck all 4 couplers + BOV flange torque |

| BOV does not open on lift | Vacuum reference line disconnected or pinched | Reseat reference line, recheck MAP port |

| BOV opens at low load | Vacuum reference line connected to wrong port | Verify port is manifold-side, not pre-throttle |

| Check Engine + P0238 | Charge-pressure sensor seeing leak | Recheck coupler torque, replace coupler if visibly damaged |

| Coupler swelling visible after 1 hour run | Defective coupler material | Stop operation, replace coupler, contact support |

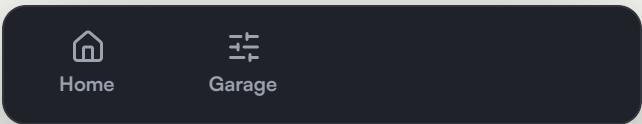
| Tubing contacts harness during full-throttle hull flex | Clearance not verified at install | Reroute harness, retorque T-bolt clamps |

If symptoms persist after the checks above, contact GT40 Marine support before further operation.

### TORQUE REFERENCE SUMMARY

| Fastener | Torque |

|---|---|



| Charge-tube T-bolt clamps (all 4 positions) | 5 Nm / 44 in-lb |

| BOV to flange M6 SHCS | 10 Nm / 89 in-lb |

| Vacuum line spring clamps | Hand-set, no torque |

| Battery negative terminal | 10 Nm / 89 in-lb |

All torque values nominal — refer to current Sea-Doo factory service manual for any conflicting OEM specifications.

## WARRANTY

GT40 Marine warrants this kit free from defects in materials and workmanship for **ninety (90) days** from date of purchase. Warranty covers replacement of defective GT40-supplied components.

Warranty does not cover:

Damage from improper installation

Damage from operation outside design intent

Damage from operation outside factory ECU calibration limits without supporting modifications

Damage from boost levels above the kit-rated ceiling (BOV spring-rated to 22 psi)

Use on craft outside the listed fitment matrix

To submit a warranty claim: email **support@gt40marine.com** with order number, photographs of the installed kit, and a description of the failure mode. Response within two business days.

## SUPPORT

**Email:** support@gt40marine.com

**Site:** gt40marine.com

**Install help:** include the GT40 SKU above and your hull serial number in any support correspondence

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