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YAMAHA / INTERCOOLER

# YAMAHA INTERCOOLER KIT WITH BLOW-OFF VALVE — INSTALL GUIDE

— Yamaha 1.8L Supercharged

GT40-YAM-IC-1819L

INTERMEDIATE

1.5-3 HRS

3 PAGES

## TOOLS

- 8 mm / 10 mm / 13 mm sockets + ratchet
- T25 + T30 Torx drivers
- 4 mm + 5 mm + 6 mm hex keys
- 1/4" + 3/8" drive torque wrenches, 5—25 Nm range
- Hose-clamp pliers
- Marine-grade thread sealant applicator
- Flashlight or headlamp

## PRO TIPS

Clock the BOV and couplers with the engine loaded in mind.

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Recheck clamp tension after the first ride.

**AVOID**

Pinching the BOV reference line

Clocking the coupler so it rubs under engine movement

Skipping boost-leak check after install

# YAMAHA INTERCOOLER KIT WITH BLOW-OFF VALVE — INSTALL GUIDE

**GT40 Marine** | SKU **GT40-YAM-IC-1819L** | Yamaha 1.8L SVHO/SHO Intercooler + BOV | Rev 1.0 — 2026-05-24

## FITMENT — YAMAHA 1.8L SUPERCHARGED

This intercooler kit fits the Yamaha 1.8L supercharged (SVHO + SHO) engine family. SHO-trim hulls were factory-equipped with a smaller intercooler than SVHO; this kit standardizes on the larger SVHO-equivalent geometry that supports Stage 2+ boost levels.

| Model | Years | Trim |

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

| FX Cruiser SHO | 2008-2016 | SHO supercharged |

| FX SHO | 2008-2015 | SHO supercharged |

| FX Cruiser SVHO | 2014-2023 | SVHO supercharged |


| FX SVHO | 2014-2023 | SVHO supercharged |

| FX Limited SVHO | 2018-2023 | SVHO supercharged |


| GP1800R SVHO | 2019-2023 | SVHO supercharged |

| FZR | 2012-2016 | SHO supercharged |

| FZS | 2012-2016 | SHO supercharged |



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**Not for:** 1.9L (2024+) — Yamaha changed the intercooler architecture in the 1.9L revision; that platform requires a different kit. Not for naturally-aspirated HO trims (no boost = no intercooler needed). Not for 1503 4-TEC platforms. Confirm engine displacement (1.8L) AND trim (SVHO or SHO) before install.

## BEFORE YOU START — DECISION TREE

| # | Question | Branch |

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

| 1 | Engine cover plate confirms 1.8L SVHO or SHO? | Continue |

| 2 | Are you running a tune above stock? | Stage 2+ tune is recommended pairing — this kit is built for higher boost than stock |

| 3 | Do you have a free-flow exhaust + intake already? | If yes, full Stage 2 path is unlocked; if no, gain will be modest until those land |

| 4 | Saltwater operation? | Plan annual freshwater-flush corrosion-check per Service section |

## IN THE BOX

(1) GT40 high-capacity intercooler, aluminum, ceramic-coated

(2) GT40-formed charge tubes (inlet + outlet)

(1) Blow-off valve, billet, spring-actuated

(1) BOV mounting flange, welded to outlet tube

(4) Silicone couplers, reinforced charge-grade

(8) T-bolt clamps, stainless

(1) Vacuum reference line, 6 ft silicone, 4 mm ID

(4) Spring vacuum-line clamps

(4) M8 × 25 mm SHCS — intercooler mounting

(4) M8 stainless flat washers

(2) M6 × 25 mm SHCS — BOV to flange

(1) Marine-grade thread sealant tube



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- (1) Install hardware bag — spare couplers, spare clamps
- (1) GT40 product registration card
- (1) This guide

## TOOLS REQUIRED

- 8 mm / 10 mm / 13 mm sockets + ratchet
- T25 + T30 Torx drivers
- 4 mm + 5 mm + 6 mm hex keys
- 1/4" + 3/8" drive torque wrenches, 5—25 Nm range
- Hose-clamp pliers
- Marine-grade thread sealant applicator
- Flashlight or headlamp
- Shop towels — residual condensate from disconnected intercooler

## SAFETY

- Battery disconnected** for duration
- Cold engine only** — supercharger and intercooler reach significant temperature
- Eye protection** when disconnecting charge tubing — residual condensate sprays
- Hand protection** when handling ceramic-coated tubing
- No smoking / open flame**
- Two-person lift recommended** for intercooler positioning — bulky, awkward in tight engine bay

## PRE-INSTALL CHECKLIST

- Watercraft on stable trailer or stand
- Battery negative disconnected and isolated
- Engine bay clean and dry
- Stock intercooler + charge tubing routing photographed
- All 4 supplied silicone couplers match to tube ends (varying ID)



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[ ] BOV pre-assembled to flange, hand-tight only

## STEP-BY-STEP INSTALL

### STEP 1 — ACCESS THE ENGINE BAY

Remove seat. Open engine bay top hatch. Disconnect battery negative terminal.

### STEP 2 — REMOVE THE STOCK INTERCOOLER AND CHARGE TUBING

The Yamaha 1.8L SHO/SVHO architecture uses:

**Inlet charge tube** from supercharger outlet to intercooler inlet

**Stock intercooler** mounted on engine bay sidewall

**Outlet charge tube** from intercooler to throttle body

Removal:

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

Pull inlet tube free — catch residual condensate with shop towel

Loosen four clamps on outlet tube (intercooler outlet + throttle body end)

Pull outlet tube free

Disconnect coolant lines feeding the intercooler (Yamaha intercoolers are typically water-cooled — 2 hose connections, spring clamps)

Remove 4 M8 mounting fasteners

Lift intercooler out — ~6 lbs

Set stock components aside (retain if you may sell craft in stock form).

### STEP 3 — INSTALL GT40 INTERCOOLER

Position new GT40 intercooler against engine bay mounting bosses

Thread 4 M8 × 25 mm SHCS with flat washers

Snug evenly, torque to **18 Nm (13 ft-lb)** in cross pattern, two passes

Reconnect water cooling lines to the intercooler (2 hose connections, spring clamps)



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## STEP 4 — PRE-FIT AND INSTALL CHARGE TUBING

Slide T-bolt clamps + silicone couplers onto supercharger outlet

Insert GT40 inlet charge tube, ceramic-coated side outboard

Slide T-bolt clamps + couplers onto intercooler inlet

Lower inlet tube into position — coupler engagement 1/2 in. minimum each end

Rotate tube for clearance from throttle linkage + harness loom (10 mm minimum)

Repeat for outlet tube — intercooler outlet → throttle body, with BOV flange facing outboard

## STEP 5 — TORQUE CHARGE-TUBE CLAMPS

Sequence: supercharger-end of inlet, intercooler-inlet end, intercooler-outlet end, throttle-body end.

Torque each T-bolt clamp to **5 Nm (44 in-lb)** alternating in two passes.

Pull-test each joint after torque.

## STEP 6 — INSTALL BOV ON OUTLET TUBE FLANGE

Position BOV body against the flange with supplied gasket

Thread 2 M6 × 25 mm SHCS through BOV into flange

Torque to **10 Nm (89 in-lb)** with 5 mm hex socket

Confirm BOV outlet points outboard — discharge vents to engine bay, not into hull

## STEP 7 — ROUTE VACUUM REFERENCE LINE

Locate factory MAP sensor port on intake manifold

Cut supplied 4 mm silicone line to length — direct route, no excess loop

Push ends onto BOV vacuum nipple and MAP port — secure with spring clamps

Verify line has no kinks, no contact with hot exhaust

## STEP 8 — REASSEMBLY AND FIRST START

Walk engine bay — every fastener, every clamp

Reconnect battery negative — torque to **10 Nm**

Connect cooling flush hose

Start engine on trailer — idle 60 seconds, listen for boost leaks (lean stumble = leak)

Bring to 3000 RPM briefly — confirm BOV opens on throttle close

Scan with Yamaha YDS — no fault codes (P0238 indicates charge-side leak)



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If clean: install complete.

## POST-INSTALL

### BREAK-IN

First water test: conservative throttle for first 5 minutes — gradual ramp to half throttle, then full pulls. Ceramic coating completes first heat-cure cycle.

### TUNING

Stage 2 tune is the matched calibration for this kit. Stock tune yields 5-8 HP; Stage 2 tune yields 15-25 HP gain when paired with intake + exhaust.

### SERVICE

Inspect couplers + clamps every 25 hours — retorque if relaxed

Inspect vacuum reference line every 50 hours

Coolant flow check on the water-cooled intercooler annually

Saltwater: rinse intercooler exterior with fresh water after every saltwater session

## TROUBLESHOOTING



| Symptom | Likely Cause | Fix |

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

| Lean stumble at high RPM | Charge-side leak | Recheck coupler torque |

| BOV doesn't open on lift | Vacuum line disconnected | Reseat vacuum line |

BOV OPENS AT LOW LOAD	VACUUM LINE ON WRONG PORT	VERIFY MAP-SIDE PORT
Check Engine + P0238	Boost-side leak	Recheck all 4 couplers
Excessive engine bay heat	Insufficient coolant flow	Verify intercooler coolant lines connected

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## TORQUE REFERENCE SUMMARY

| Fastener | Torque |

|---|---|

| Intercooler M8 SHCS (4) | 18 Nm / 13 ft-lb |

| Charge tube T-bolt clamps | 5 Nm / 44 in-lb |

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

| Vacuum spring clamps | Hand-set |

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

## WARRANTY

90-day GT40 warranty per the standard policy. Does not cover improper installation, boost above the BOV-rated ceiling (typically 18 psi for SVHO), saltwater corrosion without anode protection, or use outside fitment.

Claims: [support@gt40marine.com](mailto:support@gt40marine.com).

## SUPPORT

**Email:** [support@gt40marine.com](mailto:support@gt40marine.com)

**Site:** [gt40marine.com](http://gt40marine.com)

**Install help:** include SKU, hull HIN, trim (SVHO or SHO), and tune status in correspondence

Built in the United States. Designed for buyers who want the best.

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