
FOCUSED DIY MANUAL

Intake Manifold Removal & Reinstallation

Kia Stinger | Genesis G70 | Kia K5

This manual treats manifold removal as an access job, not a single bolt-removal step. Every engine has a separate procedure. The manifold is never used as a lever to discover a hidden hose, bracket or fuel connection.

START HERE

Choose the exact procedure

Pick the exact engine and vehicle combination that matches the car, then stay inside that section.
Each line below is a clickable jump. The selector uses a plain one-column layout.

Stinger / G70 3.3T

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Kia Stinger 2018-2023 3.3T, Genesis G70 2019-2026 3.3T

Stinger / G70 2.0T

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Kia Stinger 2018-2021 2.0T, Genesis G70 2019-2023 2.0T

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Kia Stinger 2022-2023 2.5T, Genesis G70 2024-2026 2.5T

K5 1.6T

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K5 2.5L NA

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Kia K5 2025-2026 2.5L naturally aspirated

Parts, tools and torque reference

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Read before starting

Label rules

Factory/OEM = Kia or Genesis service material. Field access = practical tool/reach guidance.

Unverified exact torque values remain marked for KGIS or Genesis TechInfo verification by VIN.

Tools, gaskets and torque

ACCESS TOOLS

- 1/4 and 3/8 in ratchets
- 3, 6 and 10 in extensions
- Wobble or universal joint
- Small metric socket set
- Hose-clamp pliers
- Connector pick
- Low-range and mid-range torque wrenches

MATERIALS

- Correct intake-manifold gasket set by VIN
- Throttle-body seal if removed and required
- Fuel-line seals or one-time pipes if opened
- Lint-free intake-port plugs
- Replacement clips and retainers as needed

Public Kia reference: Kia SA458 identifies intake-manifold gasket 28312-2CTA0 for its affected 2021 Stinger 2.0T service operation and gives 9.8-11.8 N·m for the cited coolant-line bracket fasteners. Do not apply those values to other engines.

Safety: Any opened GDI fuel connection must follow the exact current pressure-relief, one-time seal and tightening procedure. Never improvise a high-pressure fuel seal.

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General pre-removal checklist

Before lifting the manifold, perform a 360-degree connector and hose sweep. A hidden bracket or fuel/EVAP line can crack if the manifold is used as a lever.

- 1.** Read the entire engine-specific section before disconnecting anything. Intake-manifold removal can cross into GDI fuel-system work on some engines.
- 2.** Cool engine fully. Relieve residual pressure only if the exact engine procedure requires a fuel line to be opened.
- 3.** Record DTCs. A preexisting MAP/TMAP, EVAP, fuel-pressure, or misfire code matters after reassembly.
- 4.** Disconnect battery negative terminal before moving major engine harness branches or opening fuel-system connectors.
- 5.** Photograph all four sides of the manifold and every hose/connector. Use numbered tape tags on both halves of each connection.
- 6.** Remove intake/charge ducting needed to expose the throttle body and manifold. Cap open turbo/charge pipes against debris.
- 7.** Disconnect electrical connectors by the connector body. Do not leave the manifold hanging from a hidden harness.
- 8.** Disconnect PCV, vacuum, brake-booster, purge/EVAP, and coolant hoses only as required. Cap fluid/vacuum openings.
- 9.** Deal with fuel-system components exactly as the engine-specific procedure requires. GDI high-pressure pipe tightening is safety-critical.
- 10.** Remove throttle body if the service procedure or access requires it. Support the electrical connector/harness; do not let the throttle body hang.
- 11.** Remove upper manifold fasteners, then locate lower stays/support brackets before attempting to lift the manifold.
- 12.** Perform a 360-degree “free manifold” check: harness, hoses, fuel lines, ground straps, support brackets, and rear connectors must all be free.
- 13.** Lift evenly. If the manifold does not release with light hand force after fasteners are removed, stop and find what is still attached.
- 14.** Immediately cover every open intake port with clean lint-free plugs or tape positioned so nothing can fall into the engine.
- 15.** Remove old gasket(s) only after the ports are protected.

VEHICLE-SPECIFIC PROCEDURE

Stinger / G70 3.3T

Applies to: Kia Stinger 2018-2023 3.3T; Genesis G70 2019-2026 3.3T

DIFFICULTY

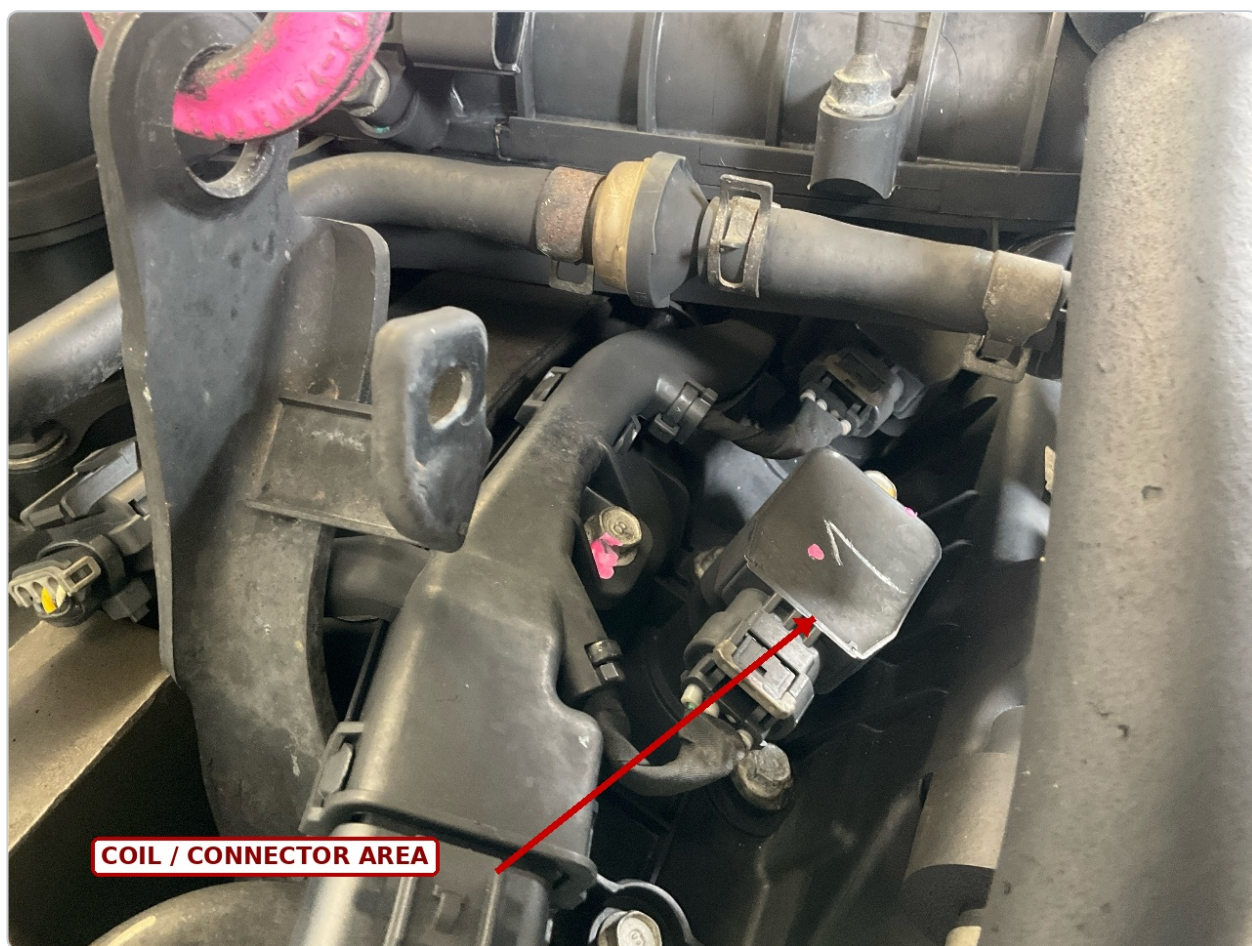
Advanced DIY

TYPICAL DIY TIME

2-4 hr

MAIN RISK

Fuel-system openings, hidden brackets, vacuum/
EVAP connections.



Real 3.3T top-engine photo. Use it as an orientation reference only. The manifold procedure still requires a full 360-degree hose, harness and bracket check.

Before lifting the manifold, perform a 360-degree connector and hose sweep. A hidden bracket or fuel/EVAP line can crack if the manifold is used as a lever.

Reality check

The 3.3T job is not “remove a few bolts.” The manifold sits inside a dense twin-turbo V6 package with PCV/EVAP, throttle/charge plumbing, harnesses, and GDI hardware nearby. Use live KGIS/Genesis TechInfo for the exact vehicle before opening any high-pressure fuel connection.

Detailed removal sequence

Step-by-step procedure

- 1.** Cool engine completely and remove the engine cover.
- 2.** Disconnect battery negative terminal and secure it from accidental contact.
- 3.** Photograph both intake sides, front throttle/charge connection, rear manifold area, and any aftermarket catch-can or methanol lines.
- 4.** Remove the upper intake tubes/ducting that obstructs the manifold and throttle body. Cap open tubes.
- 5.** Disconnect throttle-body electrical connector. If the throttle body must be removed, mark gasket orientation and set the unit in a clean bag.
- 6.** Disconnect MAP/TMAP and manifold-related harness connectors that attach directly to or route over the manifold. Release harness clips from the manifold rather than stretching the harness.
- 7.** Label and disconnect purge/EVAP line(s). Use the connector release tabs; do not twist brittle plastic nipples.
- 8.** Label PCV/breather/vacuum connections on both sides. Note any non-stock catch-can routing separately.
- 9.** Identify brake-booster/vacuum supply connections and disconnect only if they physically retain the manifold.
- 10.** Inspect whether fuel rails, HPFP lines, or low-pressure feed hardware prevent manifold removal on your exact year. If so, stop and execute the current GDI pressure-relief and fuel-line procedure from the OEM service manual before proceeding.
- 11.** Never loosen a high-pressure GDI fitting simply because the manifold feels trapped. Verify the dependency first.
- 12.** Remove upper manifold fasteners in a controlled pattern, leaving two accessible fasteners loosely installed until lower supports are confirmed free.
- 13.** Locate lower manifold support/stay fasteners with a light and mirror. Use extension/wobble access rather than pulling the manifold sideways.
- 14.** Remove lower stays/supports. Keep each bracket with its fasteners and photograph installed orientation.
- 15.** Check rear harness grounds or clips that can be hidden between the manifold and firewall side of the engine.
- 16.** Remove the two loose upper fasteners and perform the 360-degree free-manifold check.
- 17.** Lift the manifold a few millimeters only. Stop and inspect underneath before raising it farther. Hidden connectors/hoses should become visible without being stretched.

- 18.** Disconnect any remaining under-manifold connector or hose by its release mechanism while the manifold is supported.
- 19.** Lift the manifold straight off the gasket/sealing surfaces and move it to a clean padded bench.
- 20.** Immediately seal all six intake ports with clean lint-free covers that cannot fall into the ports.
- 21.** Remove manifold gasket(s) and inspect for flattening, tears, oil saturation, or sections pulled out of groove.
- 22.** Inspect manifold for cracked nipples, loose inserts, oil pooling, carbon deposits, and damaged harness retainers.
- 23.** If the purpose is port injection, injector work, valve cleaning, or head access, keep the intake ports covered until the next task begins. Reinstallation-specific steps
- 24.** Vacuum debris away from the port perimeter before removing protective covers one at a time.
- 25.** Install new or verified-reusable gaskets exactly as the OEM procedure specifies. Do not add RTV unless the service manual explicitly calls for it.
- 26.** Lower the manifold squarely without sliding the gasket out of position.
- 27.** Install all manifold fasteners finger-tight, including supports/stays, before final torque.
- 28.** Follow the engine-specific factory tightening sequence and torque from KGIS/Genesis TechInfo.
- 29.** Reconnect every under-manifold hose/connector before access disappears. Use your pre-removal photos and tape tags.
- 30.** Reconnect GDI lines only with the specified new seals/pipe replacement rules and exact torque. Perform a leak inspection before installing decorative covers.
- 31.** Reconnect throttle/charge plumbing and verify every clamp is seated behind its hose bead.
- 32.** Reconnect battery, prime fuel system if opened, check for fuel leaks, then start and check vacuum/boost leaks and DTCs.

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VEHICLE-SPECIFIC PROCEDURE

Stinger / G70 2.0T

Applies to: Kia Stinger 2018-2021 2.0T; Genesis G70 2019-2023 2.0T

DIFFICULTY

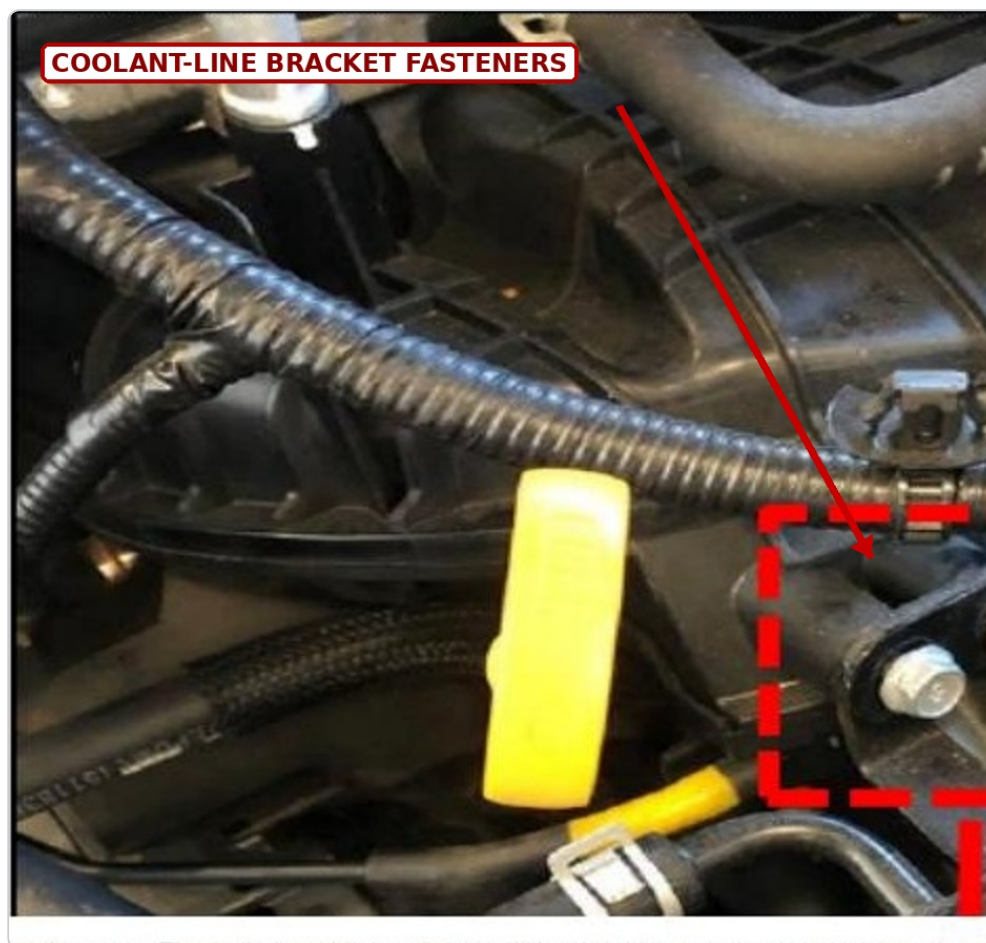
Moderate-Advanced

TYPICAL DIY TIME

1.5-3 hr

MAIN RISK

Fuel and coolant connections near the manifold.



COOLANT-LINE BRACKET FASTENERS

OEM-authored Stinger 2.0T reference photo showing the coolant-line bracket fasteners cited in Kia SA458.

Before lifting the manifold, perform a 360-degree connector and hose sweep. A hidden bracket or fuel/EVAP line can crack if the manifold is used as a lever.

Kia SA458 OEM image of a Stinger 2.0T coolant-line bracket area. The bulletin publishes 9.8-11.8 N.m for these two bracket bolts on the affected vehicle population. This is an example of why access hardware must be tracked and torqued, not merely moved aside.

OEM gasket reference

Kia SA458 lists intake manifold gasket 28312-2CTA0 for the affected 2021 Stinger 2.0T engine replacement. Confirm supersession by VIN before ordering.

Detailed removal sequence

Step-by-step procedure

1. Cool the engine, disconnect battery negative, and remove the engine cover.
2. Remove the intake/charge-air outlet plumbing required to reach the throttle body/manifold. Cap open charge pipes.
3. Label the radiator/engine coolant hose connections in the manifold/throttle area. Drain coolant only if the exact procedure opens a coolant passage.
4. Disconnect manifold and throttle electrical connectors. Free harness clips from the manifold.
5. Disconnect PCV and purge/EVAP lines using their release locks.
6. Inspect low-pressure and high-pressure GDI hardware near the manifold. If a fuel line blocks removal, relieve pressure and follow the engine-specific KGIS fuel-line procedure.
7. Remove throttle body if required for clearance. Protect its bore and gasket surface.
8. Move the oil-level tube or other bracket only if the exact manifold geometry requires it; label each fastener location.
9. Remove manifold stay/support fasteners before trying to lift the manifold. Use a long extension/wobble for lower fasteners rather than pulling on the manifold.
10. Remove upper manifold fasteners, leaving one or two loose until the rear/bottom attachments are verified free.
11. Check alternator-side and firewall-side harness/hoses for hidden retention points.
12. Remove the last fasteners and lift the manifold slightly. Stop at the first resistance and inspect underneath.
13. Disconnect any final hidden hose/connector, then remove the manifold.
14. Cover all four intake ports immediately.
15. Remove and inspect the gasket. Kia SA458 identifies 28312-2CTA0 for its affected Stinger 2.0T application; confirm current VIN part before reuse/replacement.

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Stinger / G70 2.5T

Applies to: Kia Stinger 2022-2023 2.5T; Genesis G70 2024-2026 2.5T

DIFFICULTY

Advanced DIY

TYPICAL DIY TIME

2-4 hr

MAIN RISK

Smartstream fuel, EVAP, PCV and coolant routing.

Before lifting the manifold, perform a 360-degree connector and hose sweep. A hidden bracket or fuel/EVAP line can crack if the manifold is used as a lever.

Smartstream warning

Do not treat the 2.5T as a newer 2.0T. Smartstream 2.5T plumbing, injection hardware, PCV routing, and charge-air connections differ. Use the current VIN procedure for any fuel-system or coolant connection.

Step-by-step procedure

1. Cool engine, record DTCs, disconnect battery negative, and remove engine cover.
2. Photograph the complete Smartstream top-end from front, both sides, and firewall side. Label PCV, purge, vacuum, and harness connections.
3. Remove intake/charge tubing that physically blocks throttle/manifold access. Cap the open charge path.
4. Disconnect throttle and manifold sensors. Release harness clips so the harness can move without tension.
5. Disconnect PCV/check-valve hoses only at their designed quick-connect/clamp points. Do not pull the hard line from under the manifold.
6. Identify any coolant hose or vacuum-pump hose that blocks the manifold. Use hose-clamp pliers and cap fluid openings if disconnected.
7. Inspect GDI fuel rail/HPFP/low-pressure line relationship to the manifold. If any line must be opened, use the exact factory pressure-relief, seal-replacement, and torque procedure.
8. Remove manifold supports/stays before upper fasteners. Use extensions and a wobble joint for lower supports, keeping the socket square.
9. Remove upper manifold fasteners and keep them organized by length/location.
10. Lift only enough to inspect underneath. Disconnect hidden harness/EVAP/PCV items before full removal.
11. Remove manifold and cover all four intake ports immediately.
12. Inspect gasket(s), PCV nipples, MAP/TMAP ports, and oil deposits. Replace damaged seals and confirm the correct VIN gasket through Kia/Genesis parts information.

- 13.** On reassembly, place gasket(s) dry unless the factory procedure specifies otherwise, hand-start all fasteners, install supports, then follow the exact factory sequence/torque.
- 14.** Reconnect fuel/PCV/EVAP/coolant hardware, prime and leak-check if fuel was opened, then perform a vacuum/boost leak and DTC check after first start.

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K5 1.6T

Applies to: Kia K5 2021-2024 1.6T

DIFFICULTY

Advanced DIY

TYPICAL DIY TIME

2-4 hr

MAIN RISK

Transverse-engine access and hidden firewall-side connections.

Before lifting the manifold, perform a 360-degree connector and hose sweep. A hidden bracket or fuel/EVAP line can crack if the manifold is used as a lever.

Configuration warning

The K5 1.6T is transverse and uses different Smartstream plumbing from the 2.5T. Use the exact KGIS model/year procedure.

Detailed removal sequence

Step-by-step procedure

1. Cool engine, record DTCs, disconnect battery negative, and remove engine cover.
2. Photograph the transverse engine bay and label every connection at the manifold. Pay special attention to the firewall side where visibility is limited.
3. Remove airbox/intake ducting and, on turbo engines, charge-air plumbing needed to access the throttle/manifold. Cap open ducts.
4. Disconnect throttle body and manifold sensor connectors. Release harness clips from manifold brackets.
5. Label and disconnect purge/EVAP and PCV hoses. Use proper clamp or quick-connect release instead of twisting plastic fittings.
6. Identify fuel-system components that prevent manifold lift. If a fuel line must be opened, use KGIS pressure-relief and exact line/seal instructions.
7. Disconnect coolant hoses only if the exact engine procedure requires it. Capture coolant and cap openings.
8. Locate lower support brackets with a light/mirror before removing all upper bolts. Use extension/wobble access.
9. Remove manifold fasteners and stays, keeping different lengths/locations organized.
10. Lift manifold only slightly and check all sides and underside for hidden connectors/hoses.
11. Remove the manifold and immediately cover intake ports.
12. Replace/inspect gasket per VIN parts information. Clean sealing surfaces without dropping debris into ports.

- 13.** Reinstall squarely, hand-start all fasteners, attach supports, then torque in the current KGIS sequence.
- 14.** Reconnect every line/connector, refill/bleed coolant if opened, prime/leak-check fuel if opened, then start and verify no vacuum leak or DTC.

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K5 GT 2.5T

Applies to: Kia K5 GT 2021-2026 2.5T

DIFFICULTY

Advanced DIY

TYPICAL DIY TIME

2-4 hr

MAIN RISK

Fuel rail/HPFP proximity and transverse access.

K5 2.5T GT - intake manifold removal

Before lifting the manifold, perform a 360-degree connector and hose sweep. A hidden bracket or fuel/EVAP line can crack if the manifold is used as a lever.

Configuration warning

The K5 GT 2.5T shares Smartstream architecture themes with other 2.5T vehicles, but the transverse installation changes charge-pipe, airbox, and support access.

Detailed removal sequence

Step-by-step procedure

1. Cool engine, record DTCs, disconnect battery negative, and remove engine cover.
2. Photograph the transverse engine bay and label every connection at the manifold. Pay special attention to the firewall side where visibility is limited.
3. Remove airbox/intake ducting and, on turbo engines, charge-air plumbing needed to access the throttle/manifold. Cap open ducts.
4. Disconnect throttle body and manifold sensor connectors. Release harness clips from manifold brackets.
5. Label and disconnect purge/EVAP and PCV hoses. Use proper clamp or quick-connect release instead of twisting plastic fittings.
6. Identify fuel-system components that prevent manifold lift. If a fuel line must be opened, use KGIS pressure-relief and exact line/seal instructions.
7. Disconnect coolant hoses only if the exact engine procedure requires it. Capture coolant and cap openings.
8. Locate lower support brackets with a light/mirror before removing all upper bolts. Use extension/wobble access.
9. Remove manifold fasteners and stays, keeping different lengths/locations organized.
10. Lift manifold only slightly and check all sides and underside for hidden connectors/hoses.
11. Remove the manifold and immediately cover intake ports.

- 12.** Replace/inspect gasket per VIN parts information. Clean sealing surfaces without dropping debris into ports.
- 13.** Reinstall squarely, hand-start all fasteners, attach supports, then torque in the current KGIS sequence.
- 14.** Reconnect every line/connector, refill/bleed coolant if opened, prime/leak-check fuel if opened, then start and verify no vacuum leak or DTC.

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K5 2.5L NA

Applies to: Kia K5 2025-2026 2.5L naturally aspirated

DIFFICULTY

Moderate-Advanced

TYPICAL DIY TIME

1.5-3 hr

MAIN RISK

Different intake/fuel layout from K5 GT.

Before lifting the manifold, perform a 360-degree connector and hose sweep. A hidden bracket or fuel/EVAP line can crack if the manifold is used as a lever.

Configuration warning

The 2025+ non-turbo 2.5L does not have the turbo charge-air path used by the GT. Do not follow the GT charge-pipe steps.

Detailed removal sequence

Step-by-step procedure

1. Cool engine, record DTCs, disconnect battery negative, and remove engine cover.
2. Photograph the transverse engine bay and label every connection at the manifold. Pay special attention to the firewall side where visibility is limited.
3. Remove airbox/intake ducting and, on turbo engines, charge-air plumbing needed to access the throttle/manifold. Cap open ducts.
4. Disconnect throttle body and manifold sensor connectors. Release harness clips from manifold brackets.
5. Label and disconnect purge/EVAP and PCV hoses. Use proper clamp or quick-connect release instead of twisting plastic fittings.
6. Identify fuel-system components that prevent manifold lift. If a fuel line must be opened, use KGIS pressure-relief and exact line/seal instructions.
7. Disconnect coolant hoses only if the exact engine procedure requires it. Capture coolant and cap openings.
8. Locate lower support brackets with a light/mirror before removing all upper bolts. Use extension/wobble access.
9. Remove manifold fasteners and stays, keeping different lengths/locations organized.
10. Lift manifold only slightly and check all sides and underside for hidden connectors/hoses.
11. Remove the manifold and immediately cover intake ports.
12. Replace/inspect gasket per VIN parts information. Clean sealing surfaces without dropping debris into ports.

- 13.** Reinstall squarely, hand-start all fasteners, attach supports, then torque in the current KGIS sequence.
- 14.** Reconnect every line/connector, refill/bleed coolant if opened, prime/leak-check fuel if opened, then start and verify no vacuum leak or DTC.

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Gasket and intake-port preparation

- Cover ports before scraping or cleaning.
- Vacuum around port edges before removing protective covers.
- Use plastic/non-marring gasket tools on aluminum surfaces.
- Do not use abrasive discs that remove aluminum or shed abrasive into the engine.
- Do not add RTV to a molded/rubber manifold seal unless the factory manual explicitly specifies sealant at a location.
- Replace any damaged quick-connect seal, injector seal, GDI line, or throttle-body gasket according to the exact OEM procedure.

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Reassembly leak checks

1. Before first start, perform a tool/fastener inventory. No rag, cap, or plug may remain in an intake port or charge pipe.
2. Reconnect battery and prime fuel system if opened. Inspect fuel connections dry with a light. Never use flame.
3. Start and idle. Listen for whistle/hiss and watch fuel trims/MAP readings if a scan tool is available.
4. Check coolant level and bleeding if coolant was opened.
5. Check EVAP/PCV connections and any brake-booster vacuum line.
6. Road test lightly first, then re-scan for lean, MAP/TMAP, throttle, fuel-pressure, and misfire codes.

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SOURCES

Verification trail

- KGIS and Genesis TechInfo for current manifold, fuel-system and torque procedures.
- Kia SA458 for the affected 2021 Stinger 2.0T gasket and coolant-line bracket reference.
- Kia and Genesis public parts/media references for engine-year applicability.

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