2023 Toyota Highlander at 50,000 mi

5TDKDRAH2PS123456

MODEL / CHASSIS	ENGINE	MILEAGE	DRIVETRAIN
Highlander · XU70 Highlander XLE 2.4 turbo AWD	Toyota / Lexus T24A-FTS 2.4L turbo four (incl. Hybrid MAX)	50,000 mi	AWD
BUILD MONTH	**REPORT DATE**	**MODE**	**PREPARED FOR**
Not entered (door jamb)	October 28, 2026	Owner	Sample Owner

VIN check: check digit valid; model-year code 'P' = 2023, matches the year entered. The VIN doesn't record the build month. Sample report: synthetic VIN.

1 · SUMMARY

What this car needs, in order

Each item compares this car's mileage with when owners and shops report the part failing. It is not an inspection: a qualified technician decides what the car actually needs.

0
jobs recommended now

0
to plan in the next 30,000 miles · plus 1 factory maintenance item

2
to watch or check at each service

Safety recalls NHTSA lists for this model year (3 of 5)

- **26V-128** · Seats · second-row seat back lock: A second-row seat back may not lock after adjustment, so it may not hold the passenger properly in a crash.
- **25V-040** · Steering column · spiral cable (re-check of 23V-480 repair): If the earlier 23V-480 repair was done wrong, the driver air bag can be deactivated and may not deploy in a crash.
- **23V-480** · Steering column · spiral cable: A poorly welded connection in the steering column spiral cable can separate and deactivate the driver air bag, so it may not deploy in a crash.

A model-year list, not a VIN check. The full report lists the others. Repairs are free at a Toyota dealer if open. Check this VIN at nhtsa.gov/recalls.

Step 0 · Free: run the VIN at nhtsa.gov/recalls and ask a Toyota dealer for a campaign printout. Read the build month (MM/YY) on the driver's door-jamb label.

Recommended now at the next service

Good news: nothing on the 2.4L T24A-FTS turbo watch list is due at this mileage. Worth a fresh look at about 60,000 mi.

Next 12 months up to about 62,000 mi

Nothing scheduled here.

Within the next 30,000 miles up to 80,000 mi

Nothing else enters its reported range in this window.

Watch inspect at each service, fix on condition, or optional

Hesitation pulling away from a stop (engine software) **$70–$110**
Past the range (7,000–31,000 mi, the middle half of 11 owner reports) · Inspect at each service; fix at the first sign
labor only, parts extra

Check-engine light with code P05CE00 (exhaust cam timing software) `Free if covered` check the VIN
Any mileage (Certain 2023–2024 Highlander, NX 350, RX 350, 2024 Grand Highlander and TX 350 (campaigns 24TC05 / 24LC03)) · Ask for this check at every service

Recommended now

No repairs due now

Independent shop, installed. Dealers often charge more.

Planned through 80,000 mi

No repairs planned

Now + next 12 months + next 30,000 miles. Excludes factory maintenance (listed separately), “watch” and optional items.

Costs are published independent-shop ranges (low end + low end, high end + high end). Bundled jobs are priced together because the labor overlaps. Routine service (oil, brakes, tires) isn't included; factory fluid and spark plug intervals are listed below.

FACTORY MAINTENANCE

Scheduled maintenance from 50,000 mi to 80,000 mi

The maker's normal schedule for this car. Service history isn't known here, so an item is shown at its next interval mark; skip it if the records show it was done.

ITEM	INTERVAL	THIS CAR
Spark plugs	every 40,000 mi	**Was due at 40,000 mi, next 80,000 mi** [M1][M2][M3][M4][M5][M6]
Engine coolant Toyota Super Long Life Coolant: first change at 100,000 mi or 10 years, then every 50,000 mi or 5 years.	first at 100,000 mi, then every 50,000 mi or 5 years	Next at 100,000 mi [M1][M2][M3]
Automatic transmission fluid No change on the normal schedule (inspect only); Toyota lists a 60,000-mi replacement only for towing, heavy loads or long idling/low-speed use.	no fixed interval	— [M1][M3]

M1. 2023 Toyota Highlander Warranty & Maintenance Guide OFFICIAL
https://assets.sia.toyota.com/publications/en/omms-s/T-MMS-23Highlander/pdf/T-MMS-23Highlander.pdf

M2. 2024 Toyota Grand Highlander Warranty & Maintenance Guide OFFICIAL
https://assets.sia.toyota.com/publications/en/omms-s/T-MMS-24GrandHighlander/pdf/T-MMS-24GrandHighlander.pdf

M3. 2024 Toyota Tacoma Warranty & Maintenance Guide OFFICIAL
https://assets.sia.toyota.com/publications/en/omms-s/T-MMS-24Tacoma/pdf/T-MMS-24Tacoma.pdf

M4. 2024 Toyota Land Cruiser Warranty & Maintenance Guide OFFICIAL
https://assets.sia.toyota.com/publications/en/omms-s/T-MMS-24LandCruiser/pdf/T-MMS-24LandCruiser.pdf

M5. 2023 Lexus RX 350 Warranty and Services Guide OFFICIAL
https://assets.sia.toyota.com/publications/en/omms-s/L-MMS-23RX350/pdf/L-MMS-23RX350.pdf

M6. 2024 Lexus TX 350 Warranty and Services Guide OFFICIAL
https://assets.sia.toyota.com/publications/en/omms-s/L-MMS-24TX350/pdf/L-MMS-24TX350.pdf

WHERE 50K SITS FOR EACH WEAK POINT

#	WEAK POINT	REPORTED RANGE	THIS CAR
1	Hesitation pulling away from a stop (engine software)	7,000–31,000 mi (middle half of 11 owner complaints that state a mileage) COMPUTED FROM NHTSA DATA	Past the range
2	Check-engine light with code P05CE00 (exhaust cam timing software)	Certain 2023–2024 Highlander, NX 350, RX 350, 2024 Grand Highlander and TX 350 (campaigns 24TC05 / 24LC03) OFFICIAL	Any mileage

Colors compare mileage with reported failures, not the car's condition. Red: past the range. Amber: inside or approaching. Green: below, or not listed for a recall.

2 · RECALLS AND BULLETINS

Recalls to check for this 2023 Toyota Highlander

Safety recall repairs are free at Toyota dealers. Nothing here can tell whether a recall is open or already done on this VIN; only the official VIN lookup or a dealer can.

Official VIN check (2 minutes)

1. Go to nhtsa.gov/recalls and enter 5TDKDRAH2PS123456.
2. Note every recall shown as “Recall incomplete” and keep a screenshot.
3. Ask a Toyota dealer for a campaign printout; it also lists completed campaigns.

2.4L T24A-FTS TURBO RECALLS WE TRACK

Other 2.4L T24A-FTS turbo recalls we track, not listed by NHTSA for this model and year: 26V-673 (fuel tube connection can come loose and leak (2024–2027 Land Cruiser Hybrid)).

EVERY RECALL NHTSA LISTS FOR THE 2023 TOYOTA HIGHLANDER (5)

RECALL	COMPONENT	WHAT CAN HAPPEN (NHTSA, SHORTENED)
26V-128	Seats · second-row seat back lock	A second-row seat back may not lock after adjustment, so it may not hold the passenger properly in a crash. Details
25V-040	Steering column · spiral cable (re-check of 23V-480 repair)	If the earlier 23V-480 repair was done wrong, the driver air bag can be deactivated and may not deploy in a crash. Details
23V-480	Steering column · spiral cable	A poorly welded connection in the steering column spiral cable can separate and deactivate the driver air bag, so it may not deploy in a crash. Details
25V-595	Instrument panel · startup software	The instrument panel may stay blank at startup, so the driver may not see speed and warning lights, raising the risk of a crash. Details
23V-720	Body · front lower bumper cover	A minor bump can loosen the front lower bumper cover so it detaches and becomes a road hazard. Details

Source: NHTSA recalls API, fetched 2026-10-28 and combined across NHTSA model names: HIGHLANDER. Safety categories (air bags, fire, brakes, stalling, roll-away and loss of control) are listed first; listings whose NHTSA text names another engine, or an aftermarket part, go last. OFFICIAL

Left out of this list (HIGHLANDER): 25V-744 (Panoramic View Monitor camera software) is for vehicles with that option, which this XLE sample does not have. 24V-548, 24V-452 and 24V-419 cover distributor-installed accessories (Gulf States and Southeast Toyota accessory packages and 20-inch accessory tires) and are left out; a VIN check would show any of these if they applied.

SERVICE ACTIONS, BULLETINS AND WARRANTY PROGRAMS

Manufacturer bulletins and warranty programs for this engine are cited on each weak point in section 4, where they apply.

4 · THE 2 WEAK POINTS

Each weak point, one card each

Every figure carries its source. Retailer part numbers are shown only when the retailer lists them for this chassis (XU70). Left out because they apply to other models, years, engine sizes or body codes: Hybrid MAX transmission codes and shudder at a stop (software); Manual gearbox will not select 2nd, 4th or 6th (2024 Tacoma).

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1 Hesitation pulling away from a stop (engine software)

Past the range

Severity: Medium: leaks and wear · 77 mentions in counted NHTSA complaints

COMPUTED FROM NHTSA DATA

At 50,000 mi this car is past the reported range (7,000–31,000 mi (middle half of 11 owner complaints that state a mileage)). If the original parts are still fitted, have them checked and plan for them. Range: 7,000–31,000 mi (middle half of 11 owner complaints that state a mileage) COMPUTED FROM NHTSA DATA [1]



Applies to: 2023 Highlander, 2023 RX 350 and 2024 Grand Highlander Hybrid built before the change

WHAT FAILS OFFICIAL [2][3][4]

Some of these vehicles hesitate when accelerating from a stop, or accelerate unevenly from a stop or rolling stop with steady throttle. Toyota and Lexus changed the engine computer (ECM) logic; the fix is a reprogram covered by the federal emission warranty (8 years / 80,000 miles). Hesitation from a stop is the most common engine complaint in the NHTSA data for these models.

SYMPTOMS

- Delay before the vehicle pulls away
- Uneven or surging acceleration from a stop
- Lag at a rolling stop

IF IT'S LEFT TOO LONG

A delay when pulling into traffic is a safety concern.

IS IT WORTH DOING EARLY? OUR ESTIMATE

Ask a Toyota or Lexus dealer for the ECM reprogram; it is covered by the emission warranty.

ESTIMATED REPAIR COST

Labor only, 0.7 h Toyota warranty time	**$70–$110** OUR ESTIMATE [2][12] labor only, parts extra
Labor only, 0.7 h Toyota warranty time	**$70–$110** OUR ESTIMATE [2][12] labor only, parts extra
Dealer	**Often 1.5–2× the independent-shop price** OUR ESTIMATE

1.0× The failure-bill midpoint ($90) is about 1.0× the early-fix midpoint ($90). A cost ratio, not a probability.

Where the numbers come from: Estimate: Toyota warranty labor time of 0.7 h (bulletin [2]) × $100–$160/h independent-shop labor rate [12]. Parts are extra unless stated; check the VIN for open warranty coverage first.

PARTS FOR XU70

- Ask your parts supplier for the OE part number for this VIN.

WHAT TO ASK YOUR SHOP

- Any hesitation from a stop?
- ECM reprogram done?

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2 Check-engine light with code P05CE00 (exhaust cam timing software)

Any mileage

Severity: Medium: leaks and wear · 22 mentions in counted NHTSA complaints

COMPUTED FROM NHTSA DATA

Reports cover a wide mileage span (Certain 2023–2024 Highlander, NX 350, RX 350, 2024 Grand Highlander and TX 350 (campaigns 24TC05 / 24LC03)), so mileage doesn't say much here. Range: Certain 2023–2024 Highlander, NX 350, RX 350, 2024 Grand Highlander and TX 350 (campaigns 24TC05 / 24LC03) OFFICIAL [5][6]

WHAT FAILS OFFICIAL [5][6]

A programming error in the engine computer can let the exhaust variable valve timing (VVT) locking pin stick for a moment. The check-engine light comes on with P05CE00. Toyota and Lexus update the software for free under special service campaigns 24TC05 and 24LC03.

SYMPTOMS

- Check-engine light with P05CE00, often after a cold start

IF IT'S LEFT TOO LONG

Mostly a warning-light problem, but the light can hide other faults until it is fixed.

IS IT WORTH DOING EARLY? OUR ESTIMATE

Check the VIN for campaign 24TC05 or 24LC03; it is free at a dealer.

ESTIMATED REPAIR COST

Free under campaign 24TC05 / 24LC03	**Free if covered** OFFICIAL [5][6] independent shop, installed
No published bill outside the campaign	**No published price** reported range for the bill after a failure
Dealer	**Often 1.5–2× the independent-shop price** OUR ESTIMATE

PARTS FOR XU70

- Ask your parts supplier for the OE part number for this VIN.

WHAT TO ASK YOUR SHOP

- Campaign 24TC05 / 24LC03 done?

5 · ALSO REPORTED, NOT RANKED

Other themes in 2.4L T24A-FTS turbo owner complaints

Every NHTSA complaint theme with 10 or more counted reports is either a weak point above or explained here.

THEME	COMPLAINTS	WHY IT ISN'T A WEAK POINT
Brakes	193	Brake complaints, including recall 25V-058 on the 2024 Tacoma; not an engine fault.
Transmission (automatic)	137	Counts every transmission complaint (harsh or slipping shifts, mostly Tacoma); no Toyota bulletin found for the 8-speed automatic.
Stalling / loss of power	68	Mixed causes; the Land Cruiser fuel-tube recall 26V-673 can apply. Check the VIN.

6 · BUYING OR SELLING

Used-car checklist and resale helper

For owners this is a resale checklist: it's what a careful buyer will ask.

Ask the inspecting shop to check

- Hesitation from a stop on a road test
- Check-engine codes (P05CE00, P279762)
- Open campaigns on the VIN

Ask the seller

- ECM reprogram and campaign 24TC05 / 24LC03 done?
- Any transmission complaints?

Documents to request

- Dealer service-history printout for the VIN
- nhtsa.gov/recalls screenshot

WHAT A BUYER MAY DEDUCT

FINDING	ESTIMATED ADJUSTMENT
Hesitation pulling away from a stop (engine software): symptoms or fault codes present	$70–$110 + parts
Check-engine light with code P05CE00 (exhaust cam timing software): fault found on inspection	No published price
Pre-ticked rows (●), if no records clear them	**None at this mileage**

● = expected at this mileage. Estimated repair costs, not an appraisal. Recalls cost the seller nothing: ask for open recalls to be completed rather than discounted. OUR ESTIMATE

7 · METHOD AND SOURCES

How this report is built

Inputs. VIN, model year, model, mileage and build month (if entered). Model and engine are checked with NHTSA's vPIC decoder.

Mileage positions. Below: more than 10,000 miles before the reported range. Approaching: within 10,000. Inside: in the range, or past the start of an open-ended range. Past: beyond the top of the range. These bands are our rules, not an industry standard.

The plan. Critical items inside or past their range go first; high-severity items follow, and jobs that share labor are bundled. At most three jobs land in “Recommended now”. Leaks that are cheap to watch are fixed on condition; inspections are asked for at each service.

Costs. Published independent-shop ranges from shop quotes, retailer prices and owner reports. The worst-case cost of every item failing is not shown: it isn't an expected cost.

Labels. OFFICIAL NHTSA/Toyota documents · SHOP/RETAILER parts prices and shop articles · FORUM/BLOG owner forums and blogs · COMPUTED FROM NHTSA DATA our analysis of NHTSA data · OUR ESTIMATE ours.

NHTSA complaint data. Pulled Oct 27, 2026 from NHTSA's complaints API for All 2024–2025 Tacoma, 2025 4Runner, 2024–2025 Land Cruiser, NX 350, 2023–2025 RX 350 / RX 500h and 2024–2025 TX 350 / TX 500h complaints, non-hybrid 2023–2025 Highlander and 2024–2025 Grand Highlander complaints, and Crown / Grand Highlander Hybrid complaints that mention the Hybrid MAX or turbo: 1,221 complaints. Some of these nameplates were sold with other engines too. For some we kept only complaints whose text names this engine (which under-counts); for others we left out complaints that name another engine or a hybrid (so a few about other engines can remain). Themes are keyword matches on the complaint text. COMPUTED FROM NHTSA DATA

THEME	COMPLAINTS	IN THIS REPORT
Brakes	193	Also reported
Transmission (automatic)	137	Also reported
Hesitation / turbo lag	77	Item 1
Stalling / loss of power	68	Also reported
Check-engine light / cam timing	22	Item 2
Hybrid transmission shudder	15	Other years or engine sizes
Manual gearbox	9	Other years or engine sizes

Limits: complaints are self-reported and not adjusted for cars sold; keyword matching over- and under-counts; owners rarely file safety complaints about oil seeps, so leaks look rarer than they are.

SOURCES

1. NHTSA owner complaints for 2023–2025 Highlander and 2024–2025 Grand Highlander (non-hybrid), 2024–2025 Tacoma, 2025 4Runner, 2024–2025 Land Cruiser, Crown and Grand Highlander Hybrid MAX, 2022–2025 Lexus NX 350, 2023–2025 RX 350 / RX 500h and 2024–2025 TX 350 / TX 500h, pulled Oct 27, 2026 (ODI numbers in the cost notes) OFFICIAL
https://www.nhtsa.gov/report-a-safety-problem#complaints

2. Toyota T-SB-0087-23: Hesitation / non-linear acceleration from a stop: ECM reprogram, 2023 Highlander (2023-11-03), filed with NHTSA OFFICIAL
https://static.nhtsa.gov/odi/tsbs/2023/MC-10247799-9999.pdf

3. Lexus L-SB-0056-23: Hesitation / non-linear acceleration from a stop: ECM reprogram, 2023 RX 350 (2023-11-02), filed with NHTSA OFFICIAL
https://static.nhtsa.gov/odi/tsbs/2023/MC-10247797-9999.pdf

4. Toyota T-SB-0017-24 Rev1: Hesitation accelerating 0–40 mph with steady throttle: ECM reprogram, 2024 Grand Highlander Hybrid (2024-04-01), filed with NHTSA OFFICIAL
https://static.nhtsa.gov/odi/tsbs/2024/MC-11003577-0001.pdf

5. Toyota Special Service Campaign 24TC05: MIL on with DTC P05CE00 (exhaust VVT locking pin): ECM software update, certain 2023–2024 Highlander and 2024 Grand Highlander (2024-10-10), filed with NHTSA OFFICIAL
https://static.nhtsa.gov/odi/tsbs/2024/MC-11010336-0001.pdf

6. Lexus Special Service Campaign 24LC03: MIL on with DTC P05CE00: ECM software update, certain 2023–2024 NX 350 and RX 350 and 2024 TX 350 (2024-10-10), filed with NHTSA OFFICIAL
https://static.nhtsa.gov/odi/tsbs/2024/MC-11010337-0001.pdf

7. Toyota T-SB-0056-24: MIL on with DTC P279762 (electromagnetic oil pump): TCM reprogram, 2023–2024 Crown and 2024 Grand Highlander Hybrid (PC60 hybrid transmission) (2024-06-25), filed with NHTSA OFFICIAL
https://static.nhtsa.gov/odi/tsbs/2024/MC-11005066-0001.pdf

8. Toyota T-SB-0028-25: Shudder at a complete stop with high hybrid battery charge: hybrid control computer reprogram, 2023–2025 Crown and 2024–2025 Grand Highlander Hybrid (2025-02-24), filed with NHTSA OFFICIAL
https://static.nhtsa.gov/odi/tsbs/2025/MC-11015511-0001.pdf

9. Lexus L-SB-0028-24: MIL on with DTC P279762: TCM reprogram, 2023–2024 RX 500h and 2024 TX 500h (2024-06-04), filed with NHTSA OFFICIAL
https://static.nhtsa.gov/odi/tsbs/2024/MC-11005022-0001.pdf

10. Toyota T-SB-0058-24: Manual transmission unable to select 2nd, 4th and/or 6th gear (cracked shift lever retainer housing), 2024 Tacoma RC60F (2024-07-08), filed with NHTSA OFFICIAL
https://static.nhtsa.gov/odi/tsbs/2024/MC-11006144-0001.pdf

11. NHTSA recall records: 26V-673 (Land Cruiser Hybrid fuel tube connection), checked Oct 27, 2026 OFFICIAL
https://www.nhtsa.gov/recalls?nhtsaId=26V673000

12. Tekmetric: average auto repair labor rates by state, 2026 (national average $132/h; state averages $85–$197/h). We use $100–$160/h for labor-time estimates. SHOP/RETAILER
https://tours.tekmetric.com/answers/average-auto-repair-labor-rates-by-state-2026

This report contains no affiliate links; retailer prices are quoted as price sources only. Found an error? Email hello@repairahead.com.

PLEASE READ

Important

Based on public records and published repair costs. Not a diagnosis or a guarantee. Your technician's inspection decides what your car needs. Confirm recalls with a dealer using your VIN.

Informational only. This report is not a mechanical inspection, a diagnosis, or professional, legal or financial advice. Nobody from RepairAhead has seen, driven or inspected this vehicle.

Reported ranges and estimates, not predictions

Failure mileages are reported ranges compiled from public owner complaints, manufacturer bulletins, recalls and repair-shop reports. Costs are estimates. Parts can fail earlier, later or not at all, and other problems can occur. Statistics from owner complaints describe past reports to NHTSA; NHTSA has not reviewed or endorsed this analysis.

Safety issues go to a dealer

If you notice overheating, a burning or fuel smell, smoke, a brake-assist problem, stalling or loss of power, pull over when it's safe and contact a Toyota dealer or qualified shop. Safety recall repairs are free at Toyota dealers. Confirm recalls for this VIN at nhtsa.gov/recalls.

No warranty

Provided “as is”, without warranties of any kind, under the Terms of Use at repairahead.com/terms.

Trademarks and independence

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Wrong input (VIN, mileage, build date)? Email hello@repairahead.com with report ID RA-TOYT24A-123456-20261028 and we'll correct and reissue it.

Based on public records and published repair costs. Not a diagnosis or a guarantee. Your technician's inspection decides what your car needs. Confirm recalls with a dealer using your VIN.