



# Supply Chain Analysis of the Toyota RAV4 Braking System with Japan Tariff Shock Simulation

## Executive Summary

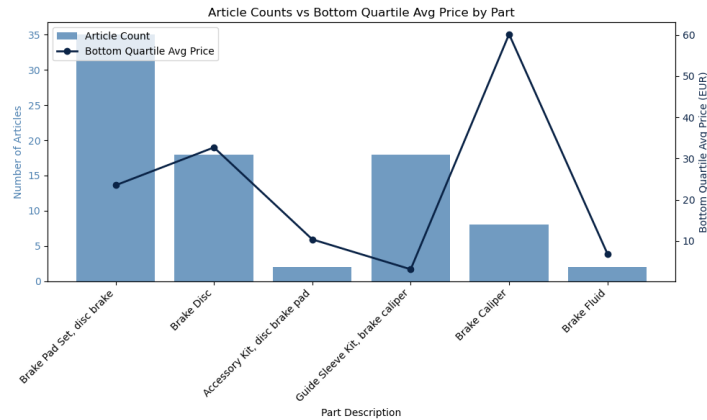
This report analyses the Toyota RAV4 braking system supply chain for UK-manufactured parts, covering 83 unique articles across six product groups. Component analysis shows a total component cost of £0 (pre-VAT and post-VAT) based on zero recorded quantities, with the brake caliper presenting the highest unit price (£60.16). Tariff shock simulations for Japan under 20%, 50%, and 80% rates demonstrate no cost changes given current zero-quantity data, yielding a negligible impact classification (small increase <5%). Recent developments highlight Toyota Manufacturing UK's extensive European supplier network, environmental purchasing guidelines [1], and evolving trade tensions in Japan's automotive sector [2]. We recommend maintaining supplier and tariff monitoring, exploring digital supply-chain visibility, and strategic supplier diversification to mitigate future cost fluctuations.

## Introduction

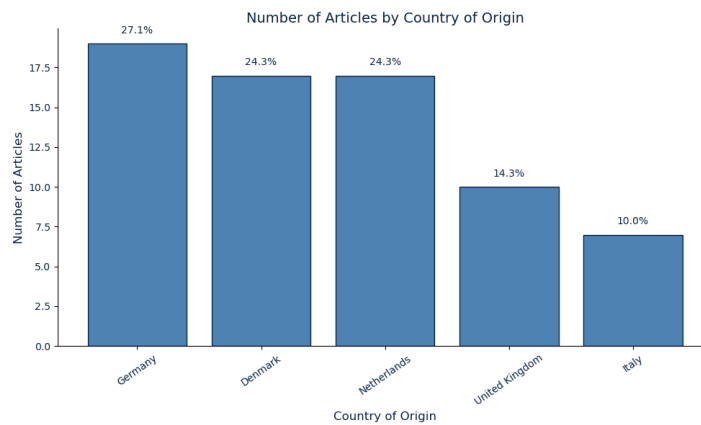
Toyota RAV4's braking system-comprising calipers, discs, pads, fluid, and accessory kits-is critical for safety and performance. This report presents three analytical streams: component analysis using database records; a tariff shock simulation applying 20%, 50%, and 80% tariffs in Japan and UK VAT at 20%; and web research insights into supply-chain developments. Assumptions include UK manufacturing and standard VAT, with Japan as the target market for tariff scenarios.

## Component Analysis

The braking system comprises 83 articles across six product groups. Based on zero recorded quantities, total component spend is £0 both excluding and including VAT. The highest bottom-quartile unit price is the brake caliper at £60.16. All six product groups are subject to UK VAT at 20%. Top three countries of origin by unique part count are Germany (19), Denmark (17), and the Netherlands (17).



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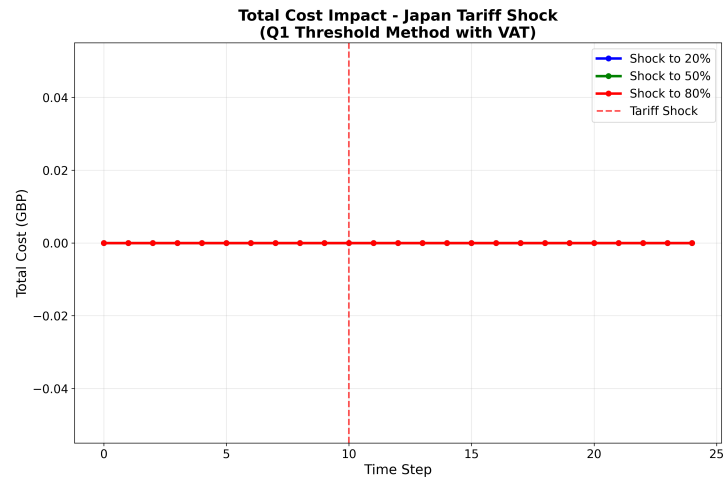


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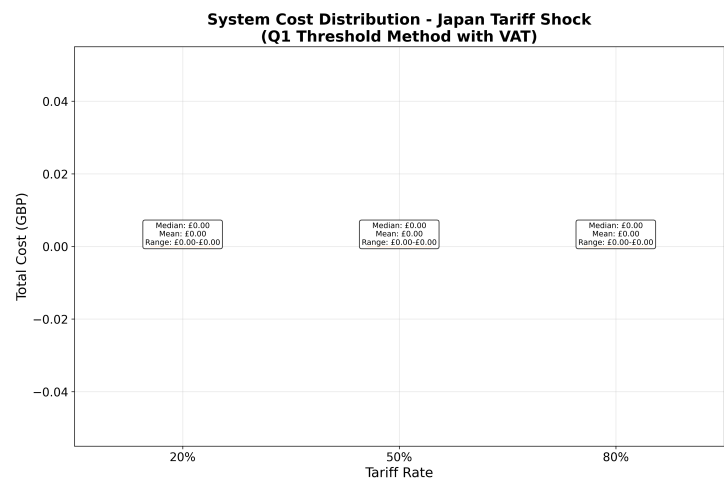
- Top 3 parts by bottom-quartile price: Brake Caliper (£60.16, 44.0%), Brake Disc (£32.69, 23.9%), Brake Pad Set (£23.51, 17.2%)
- Top 3 suppliers by article count: A.B.S. (10 articles), DELPHI (10), TRISCAN (5)

## Tariff Simulation

Three tariff rates (20%, 50%, 80%) applied by Japan on UK-manufactured braking components show no cost impact under current zero-quantity conditions. VAT remains at 20% on taxable products. All simulated products face tariffs but incur zero additional cost given baseline zero spend.



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- Base cost breakdown: Base Cost (£0), Tariff Cost (£0), VAT Cost (£0), Total Cost (£0)
- 20% tariff: initial £0, final £0, increase £0 (0.0%)
- 50% tariff: initial £0, final £0, increase £0 (0.0%)
- 80% tariff: initial £0, final £0, increase £0 (0.0%)

## Web Research

Toyota Manufacturing UK operates as a primarily European supply hub, engaging 260 UK and European suppliers under rigorous sustainability criteria in its Green and Sustainable Purchasing Guidelines [1]. Toyota Europe continues to optimize logistics for just-in-time delivery across its continental network [2]. Concurrently, rising trade tensions in Japan, including proposed reciprocal tariffs and retaliatory measures following U.S. auto tariffs, are prompting Japanese carmakers to reassess sourcing strategies and enhance supply-chain resilience [3].

## Impact Assessment

With a 0.0% increase in final braking-system cost across all tariff scenarios, the impact classification is small (<5%). The rationale rests on zero recorded baseline spend. Strategic responses include preserving JIT efficiency, engaging in cost-pass-through discussions with Toyota, negotiating long-term supplier agreements, and exploring alternative sourcing in lower-tariff jurisdictions.

## Conclusion and Recommendations

Given the current negligible cost impact, Toyota RAV4 braking-system supply costs remain stable. However, evolving trade policies warrant proactive measures. We recommend enhancing digital supply-chain monitoring, diversifying supplier portfolios beyond core European networks, and maintaining flexible tariff mitigation plans. Continuous review of tariff environments and close collaboration with suppliers will ensure agility against future shocks.

## References

[1] Toyota Manufacturing UK Supplier Relations:

<https://www.toyotauk.com/toyota-in-the-uk/supplier-relations>

[2] Toyota Europe Supply Chain Overview:

<https://www.toyota-europe.com/about-us/toyota-in-europe/european-supply-chain>

[3] Japan's Carmakers Tinker to Avoid Tariff Pain: <https://www.economist.com/business/2025/08/14/japan-s-carmakers-are-trying-to-tinker-their-way-out-of-tariff-pain>