

ENGINEERING REPORT

2023+ Honda Civic Type R Performance Intake | SKU: MMAI-CTR-23

By: Daniel Tafe, Mishimoto Product Engineer Manager

REPORT AT A GLANCE

- **Goal:** Develop a precision-engineered, direct-fit performance air intake system for the 2023+ Honda Civic Type-R.
- **Results:** Dyno and bench testing revealed that the Mishimoto intake system enhanced engine output throughout the RPM range, with max gains of 14.91 horsepower and 25.29 lb-ft of torque. Flow bench testing demonstrated a decrease of 17.9% in intake restriction compared to the factory intake system.
- **Conclusion:** This performance air intake provides a tangible performance boost and a more aggressive induction sound, all while maintaining full compatibility with the factory engine calibration—no custom tuning is required.

CONTENTS

PG	2	DESIGN OBJECTIVES
		MATERIAL SELECTION
		DESIGN & FITMENT
PG	3	SOUND TESTING
		PERFORMANCE TESTING
PG	4	INSTALLATION NOTES

DESIGN OBJECTIVES

- Improve volumetric airflow and reduce pressure drop across the intake system.
- Maintain appropriate MAF scaling to ensure safe operation with the stock ECU calibration.
- Bolt-on installation using standard hand tools with no irreversible modifications to the vehicle.
- Provide audible enhancement of engine and turbocharger acoustics.
- Compatible with Borne Off-Road snorkel
- Ensure compatibility with Mishimoto intercooler piping.

MATERIAL SELECTION

The Mishimoto Civic Type-R performance intake utilizes a rotomolded polyethylene airbox with UV inhibitors, providing thermal insulation and robust structural integrity. The MAF sensor housing is manufactured from glass-filled nylon via precision injection molding, ensuring dimensional accuracy and heat resistance.

DESIGN AND FITMENT

Our design process began with a thorough analysis of the stock intake system, which consists of a short rubber hose, an enclosed airbox, and a fresh air duct sealed against the hood. Fresh air is directed from the grille to the duct and into the airbox. Using our flow bench, we identified significant restrictions in the stock system, including limited filtration surface area, a corrugated rubber hose, and the geometry of the fresh air duct.

The Mishimoto intake addresses these issues by incorporating a conical oiled filter with an inverted top, significantly increasing filtration area and reducing air restriction. The corrugated stock hose was replaced with a smooth-surfaced silicone coupler to minimize turbulence. Additionally, the stock air duct was eliminated, and its functionality was integrated into the redesigned airbox.



Figure 1: Stock intake

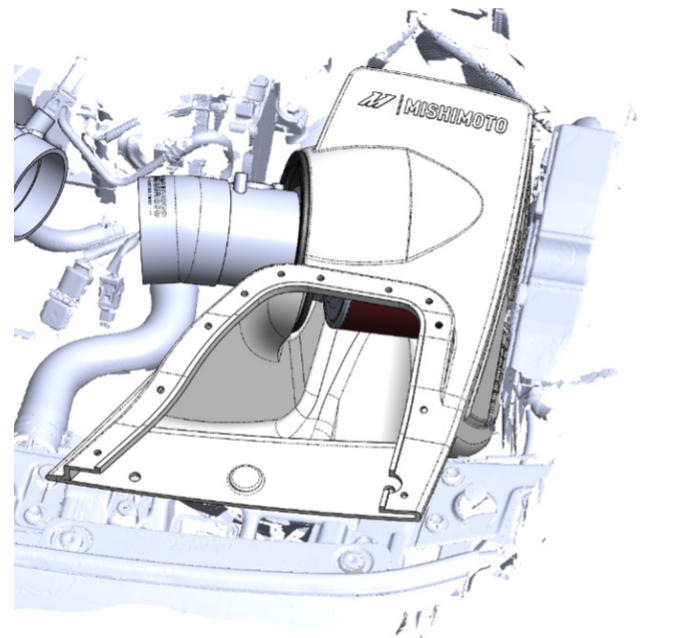


Figure 2: Mishimoto intake 3D design



Figure 3: 3D printed Mishimoto intake prototype

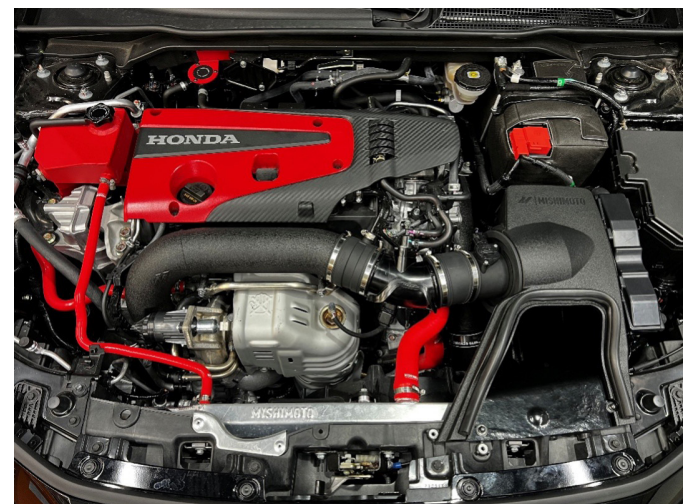


Figure 4: Mishimoto intake production sample, shown with Mishimoto turbo inlet pipe.

SOUND TESTING

The Mishimoto performance intake delivers a louder, deeper tone, emphasizing the turbo spool sound. Sound recordings of both the stock and Mishimoto intakes during dyno testing are available on our Engineering Blog at <https://www.mishimoto.com/engineering>.

PERFORMANCE TESTING

All performance testing was carried out using our in-house AWD Mustang dynamometer. The Mishimoto intake yielded consistent power and torque improvements over stock, with maximum gains of 14.91 hp and 25.29 lb-ft.

The intake was also tested on the flow bench. Results showed a 17.9% reduction in intake system restriction compared to the OEM unit, indicating a substantial increase in airflow efficiency.

2023 HONDA CIVIC TYPE R PERFORMANCE INTAKE DYN0 TEST - STOCK VS MISHIMOTO

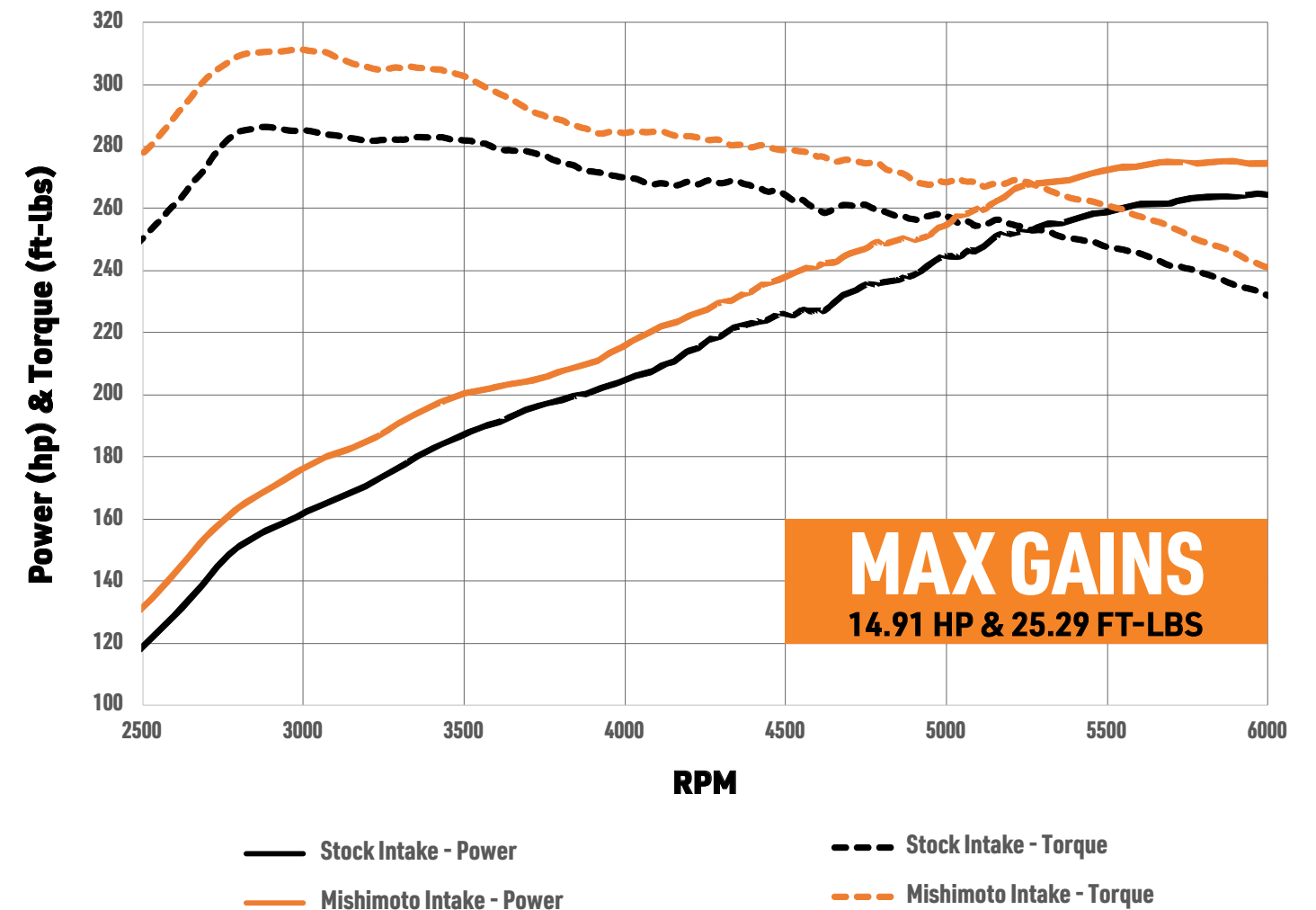


Figure 5: Dyno results

2023 HONDA TYPE R PERFORMANCE INTAKE FLOW BENCH TEST

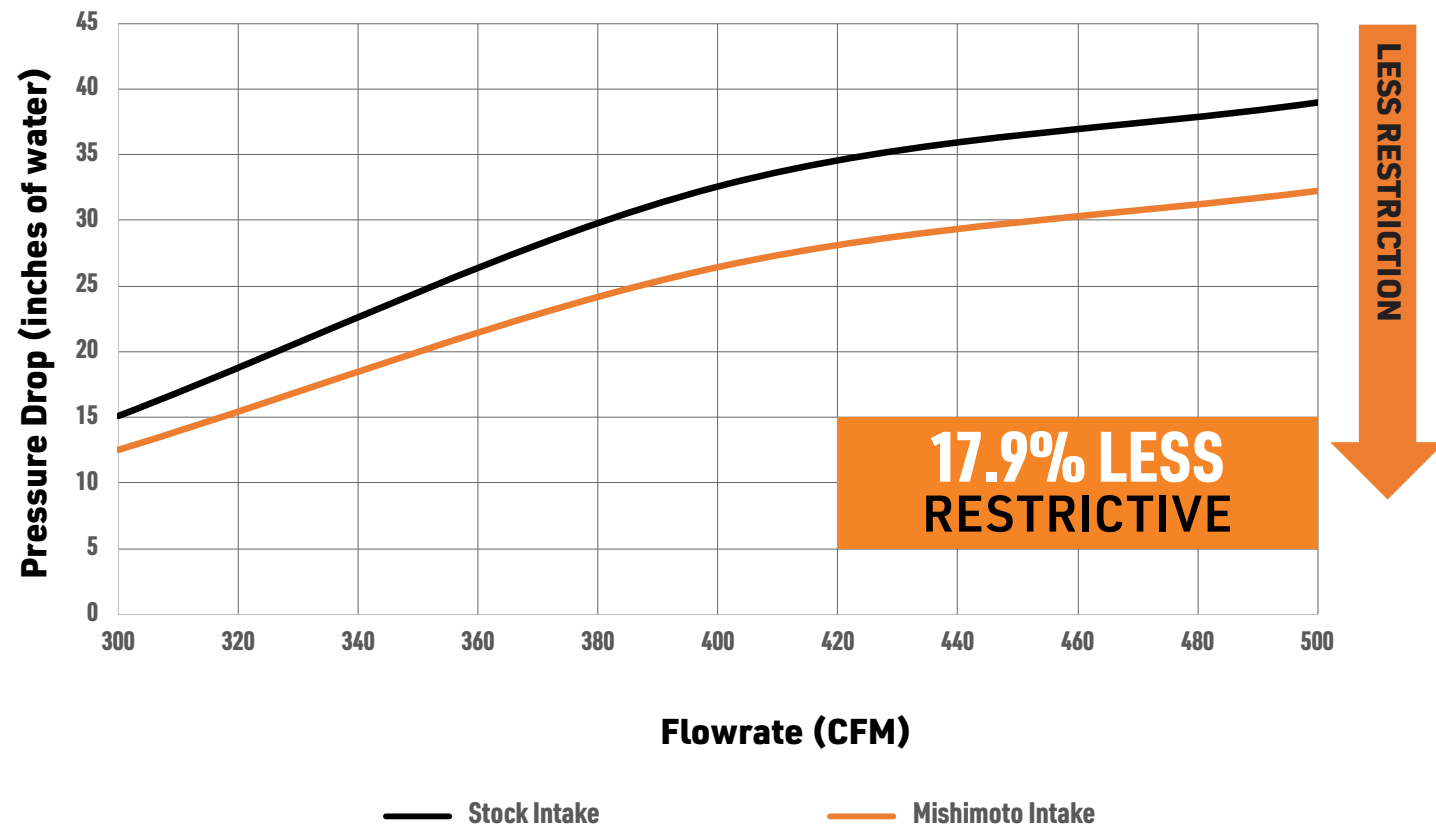


Figure 6: Flow bench results

INSTALLATION NOTES

The Mishimoto Intake is a fully reversible, bolt-on system designed for the 2023+ Honda Civic Type-R. It installs using OEM mounting points and requires no vehicle modification or tuning.

TESTING DONE BY:

Daniel Tafe, Mishimoto Product Engineering Manager

FOLLOW US

Mishimoto is very active on social media so we can be in constant contact with our customers. Our Social Media Team is available via Facebook, Instagram, Youtube, our Engineering Blog, and forums. We sponsor contests and promotional events, so be sure to follow us.



GOMISHIMOTO



MISHIMOTO.COM/
ENGINEERING



MISHIMOTO



#MISHIMOTO

CONTACT US

Email

For sales and technical questions please contact support@mishimoto.com

By Phone

USA: 877.466.4744
International:
+1.302.762.4501

Mail

Mishimoto
1515 Garnet Mine Road,
Garnet Valley, PA 19060

Visit

Mishimoto.com
Mishimoto.co.uk
Mishimoto.eu