

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

TOYOTA MOTOR CORPORATION,

Petitioner,

v.

BUNKER HILL TECHNOLOGIES, LLC

Patent Owner

Case No.: IPR2026-00333
U.S. Patent No. 11,374,508

SEARCH DISCLOSURE DECLARATION

The Petition for Inter Partes Review cites six references in its grounds:

1. JP2010-036880 (“Tsuzuki”)
2. JP2010-221979 (“Imai”)
3. U.S. Patent No. 8,618,752 (“Zing”)
4. US2006/0098390 (“Ashtiani”)
5. JP2001-218380 (“Satoru”)
6. US2014/0100726 (“Reynolds”)
7. Collectively, those six references are the asserted prior art.

Per the November 17, 2025 memorandum, and without waiving the attorney-client privilege, attorney work product protection, or any other applicable privilege or protection, Petitioner provides the information for where the asserted prior art was located:

- a. Database and repositories in which the asserted prior art was located: The Tsuzuki, Imai, and Reynolds references were located using Petitioner’s internal repository. The Ashtiani, Satoru, and Zing references were located by Global Prior Art, a third-party search service. For further details on Global Prior Art’s search, please see Exhibit A hereto.
- b. General search approach, search terms, filters, queries or classification pathways employed: Petitioner had its own personnel conduct the search for relevant prior art from Petitioner’s internal repository. This internal search involved using search terms from the automobile industry as it relates to the

subject matter of the challenged claims, *e.g.*, “motor,” “generator,” and “M/G.” For further details on Global Prior Art’s search, please see Exhibit A hereto.

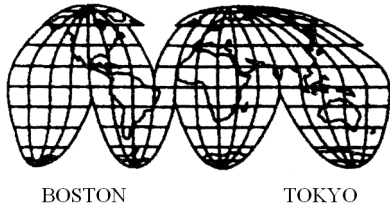
- c. Other analytics or publicly accessible resources consulted: None
- d. The amount of time spent on the search: Approximately 25-30 hours internally. In addition, Global Prior Art spent approximately 40 hours on its search. *See* Exhibit A.
- e. The amount of time spent reviewing search results from the search: Approximately 25-30 hours.

Respectfully submitted,

Date: April 7, 2026

/s/ Alexander Englehart
Alexander B. Englehart
Counsel for Petitioner
Registration No. 62,031

EXHIBIT A



GLOBAL PRIOR ART INC.
21 Milk Street, 6th Floor, Boston, MA 02109

Telephone: 617-574-9574
Telefax: 617-574-9559

U.S. and Rest-of-World Patent Coverage for Targeted Invalidity Search to Bunker Hill Technologies LLC's U.S. Patent 11,374,508 Titled "Electric Drive System and Energy Management Method"

Priority Date: December 3, 2012

CPC / IPC Classes Targeted During Manual Patent Review

CPC / IPC Class	Description
B60L	PROPULSION OF ELECTRICALLY-PROPELLED VEHICLES
B60L50/00	Electric propulsion with power supplied within the vehicle
B60L50/50	. using propulsion power supplied by batteries or fuel cells
B60L50/51	.. characterised by AC-motors
B60L50/52	.. characterised by DC-motors
B60L50/75	.. using propulsion power supplied by both fuel cells and batteries
B60L15/00	Methods, circuits, or devices for controlling the traction-motor speed of electrically-propelled vehicles
B60L15/20	. for control of the vehicle or its driving motor to achieve a desired performance, e.g. speed, torque, programmed variation of speed
B60L15/2027	 whilst maintaining constant speed
B60L15/2045	.. for optimising the use of energy
B60L15/2063	.. for creeping
B60L15/2072	.. for drive off
B60L15/32	. Control or regulation of multiple-unit electrically-propelled vehicles
B60L 7/00	Electrodynamic brake systems for vehicles in general
B60L7/18	.. Controlling the braking effect
H02J	ELECTRIC POWER NETWORKS; CIRCUIT ARRANGEMENTS OR SYSTEMS FOR SUPPLYING OR DISTRIBUTING ELECTRIC POWER; SYSTEMS FOR STORING ELECTRIC ENERGY
H02J7/02	. for charging batteries from AC mains by converters
Y02T	CLIMATE CHANGE MITIGATION TECHNOLOGIES RELATED TO TRANSPORTATION
Y02T10/64	.. Electric machine technologies in electromobility
Y02T10/70	.. Energy storage systems for electromobility, e.g. batteries

Total Time Spent on Search

- 40 hours

Databases Used

- PatSnap (patent database provider used to manually cover the full text and figures of patent documents)
- Google Patents

Keywords Used:

- Battery / capacitor / cell / energy / accumulator
- “Electric motor”/ “electric propulsion”/ “electrically propelled”
- Start / stationary/ “ignition on”
- Motor / motors / drive
- Two / plural / dual / pair
- Ultracapacitor / “ultra capacitor” / supercapacitor / “super capacitor”
- Mode / function / operation

(The keyword strings used during the broader search are typically tailored to the larger classes and publications under review, and also evolve in an iterative manner as new terms are added as the search progresses and the varied terminology is studied.)

Companies and Inventors Targeted**Inventors**

- Atsushi Tabata
- Yutaka Tuga
- Roland A. Holland
- Mark E. Wagner
- Mark A. Anderson
- Takeshi Kitahata
- Kozo Yamaguchi
- Peter Nysen

Companies / Institutions

- Toyota
- Honda
- EV-IP
- BMW
- Ford
- Hyundai
- Atieva, Inc.
- General Motors
- Maxwell Technologies
- Johnson Controls
- Daimler Chrysler
- Panasonic
- Peugeot Citroen Automobiles