



**CUSTOMS AUTHORITY FOR ADVANCE RULINGS**  
**5<sup>TH</sup> FLOOR, NDMC BUILDING, YASHWANT PLACE, SATYA MARG,**  
**CHANAKYAPURI, NEW DELHI-110021**  
**[Email: cus-advrulings.del@gov.in]**

Present  
Samar Nanda (Customs Authority for Advance Rulings, New Delhi)

The day of 2<sup>nd</sup> February, 2023  
Ruling No. CAAR/Del/Hitachi/04/2023  
In Application No. VIII/CAAR/Delhi/Hitachi/24/2022

Name and address of the applicant : M/s Hitachi Astemo FIE Private Limited,  
Plot No. 81-83,94-96, Sector-6,  
Industrial Model Township,  
Bawal, Haryana-123501

Commissioner concerned : Principal Commissioner of Customs,  
(Import), Air Cargo Complex,  
New Custom House, Near IGI  
Airport, New Delhi-110037

Present for the Applicant : Shri Lalitendra Gulani, advocate,  
Shri Laxman Yadav, representative  
M/s Hitachi Astemo FIE Private Limited

Present for the Department : None

**Ruling**

M/s. Hitachi Astemo FIE Private limited, Plot NO. 81-83,94-96, Sector-6, Industrial Model Township, Bawal, Haryana-123501 having IEC No. 3199005748 and PAN-AABCK2407R (applicant, in short) filed an application dated 27.08.2022 before the Customs Authority for Advance Rulings, New Delhi (CAAR, New Delhi, in short), seeking advance ruling under section 28-H of the Customs Act, 1962. The application was accordingly registered under serial No. 20/2022 dated 30.08.2022.

2. The applicant has proposed to import stepper motor for idle air control valve (3800-B07F-0000) [subject goods, in short]. For understanding the subject goods, the



applicant has referred to the functionality of internal combustion piston engine, role of throttle body assembly and idle air control valve ('IACV') and stated inter-alia that any two-wheeler running on an internal combustion piston engine requires fuel; the fuel is injected into the engine chamber by an injector and ignited using spark plug; the chemical reaction of combustion of fuel results in movement of piston, viz. mechanical energy; it is trite that the process of combustion also requires air (oxygen); the air flows into the engine chamber through throttle body assembly; throttle body assembly is essentially a valve; the movement of accelerator results in opening or closing of element at pre-determined angles; the opening of element allows the air to the flow through the same into the engine chamber; the greater the acceleration, the higher angle at which element opens; the element is closed when the accelerator is at rest; notably, at the time of starting the two-wheeler and when the two-wheeler is stationery, say at the signal or for a stopover, the accelerator is at rest and element is closed; however, even in this situation the engine is required or remains in operation; the operation of engine implies combustion and movement of pistons, albeit at lower capacity; the process of combustion would inevitably require air even when the element in throttle body assembly is closed; the above-mentioned situation is remedied through IACV; IACV annexed to the throttle body assembly is again a valve, much smaller in size, which when open allows air to flow through the same into the engine chamber; this air flow is essential to ensure continuous combustion of fuel within the engine, allowing the engine to run even when the vehicle is stationary; additionally, continuous combustion of fuel is essential to ensure that power consuming accessories, like alternators, can continue functioning; the IACV is used to bypass the throttle valve and allow air to reach the intake manifold, when the vehicle is idle; an IACV is fitted onto the throttle body and connected to the electronic control unit ('ECU'); the IACV unit consists of a spring-loaded plunger and a stepper motor (subject good); the movement of upward and downward movement of plunger results in opening or closing of IACV; the movement of plunger is in turn actuated through a stepper motor; the subject good is a brushless direct current (DC) motor; brushed DC motors rotate continuously when DC voltage is applied to their terminals, however, the subject good can convert a train of input pulses into precise increments in the shaft's rotational position; each pulse rotates the shaft through a fixed angle; the subject goods can be operated in either direction by supplying pulses in the proper phase to the windings; the subject goods controls the movement of the spring-loaded



plunger based on the input pulses received from the ECU, which thereby controls the amount of by-pass air flowing into the intake manifold. The applicant has also stated that they had earlier imported stepper motor (3800-B07F-00A1) which serves similar purpose, i.e. for use in idle air control valve; the specific product bearing specific part number was only for testing purposes; the applicant classified aforesaid product under Heading 8501 of the First Schedule of the Customs Tariff Act. The applicant has further stated that *vide* the instant application they have now approached the Customs Authority for Advance Rulings to obtain ruling on the following question:

***Whether the stepper motor (3800-B07F-0000) for use in manufacture of idle air control valve will be classifiable under Tariff Item 8409 91 99, Tariff Item 8409 99 90, Tariff Item 8501 10 12 or Tariff Item 8481 90 90?"***

The applicant has also stated to take note of all the entries that arise for classification of the subject goods; the 8 entries which arise for consideration for classification of subject goods are 84099199, 84099990, 85011012, 85012000, 85013112, 84819090, 87141090 and 87149990; the *Explanatory Notes to Harmonised System of Nomenclature*, [6<sup>th</sup> Edition (2017), *World Customs Organisation*] explains the scope of 'electric motors' covered under Heading 8501 as machines for transforming electrical energy into mechanical power; the subject goods uses the electrical energy, i.e. DC current, and convert it into mechanical power, i.e. movement of rotor; the movement of rotor in turn moves the spring-loaded plunger or IACV; there is a clear process of conversion of DC current into desired mechanical movement of machines; thus, the subject goods qualify as electric motors falling under Heading 8501; the Explanatory Notes to heading 8501 only exclude starter motors for internal combustion engines; these starter motors are specifically covered under heading 8511 which provides for ignition devices for internal combustion engines; the Explanatory Notes define 'Starter Motors' as DC motors used to start an internal combustion engine; the subject goods are completely distinct from starter motors; tariff item 8501 10 12 bears the description stepper motors; stepper motors are brushless DC motors which are capable of achieving incremental rotations of the rotors at specific angles; the subject good is a stepper motor that generates output power not exceeding 37.5W; subject good is not covered under 85012000 which bears the description 'Other DC motors; DC generators, other than photovoltaic generators'; the use of the term 'other' implies that 85012000 covers motors operating on DC current which do not answer to the description against



previous single-dash entry at Sub-heading 8501 10 bearing the description 'Motors of an output not exceeding 37.5W'; as noted above, the subject good is a stepper motor that generates an output power not exceeding 37.5W, and therefore answer to the description of goods against single-dash entry at Sub-heading 8501 10; as a corollary, the subject goods are not covered under 85012000; subject good is not covered under tariff item 8501 31 12 which bears the description 'Stepper motor'; as noted above, the subject good is a stepper motor that generates an output power not exceeding 37.5W, and therefore answer to the description of goods against single-dash entry at Sub-heading 8501 10; as a corollary, the subject good is not covered under 85013112; heading 8409 covers parts of engines, and not merely parts suitable for use with the engines; notably, the Explanatory Notes are in direct conflict with the expression used in Heading 8409; the subject good is evidently incorporated in IACV which essentially is a valve allowing flow of air through it into the engine; as a corollary, the subject good is also covered under Subheading 84819090.

3. The concerned Principal Commissioner has commented inter-alia that a stepper motor also known as step motor or stepping motor is a brushless DC electric motor that divides a full rotation into a number of equal steps; the motor's position can be commanded to move and hold at one of these steps without any position sensor for feedback (an open-loop controller), as long as the motor is correctly sized to the application in respect to torque and speed; the stepper motor driver sends a special pulse to the stepper motor for each step; since each pulse causes the motor to rotate a precise angle, typically 1.8°, the motor's position can be controlled without any feedback mechanism; as the digital pulses increases in frequency, the step movement changes into continuous rotation, with the speed of rotation directly proportional to the frequency of the pulses; the Explanatory note of heading 8501 states that this group also includes-(3) valve actuators, electrical, consisting of any electric motor with reducing gear and drive shaft and in some cases, with various devices (electric starter, transformer, hand-wheel etc.) to operate the valve plug; therefore, the item is classifiable in CTH 85011012 which is a specific heading for stepper motor; this classification is also supported by Section Note 2 of Section XVII which states, "2. The expression 'parts' and 'parts and accessories' do not apply to the following articles, whether or not they are identifiable as for the goods of this section:- (f) Electrical machinery or equipment (Chapter 85)"; therefore, the instant stepper motor will be



classifiable in CTH 85011012; this classification is also supported by rule 3 (a) of General Rules for Interpretation which states that the heading which provides the most specific description shall be preferred to heading providing a more general description; thus, as the CTH 85011012 has specific description of stepper motor, therefore, the same will prevail and stepper motor will be classifiable in CTH 85011012.

4. In respect of this application personal hearing took place on 23.12.2022 wherein the advocate started with explaining reasons for approaching CAAR to seek advance ruling and explained functioning & end-use of the stepper motor. He submitted a compilation of their submissions and referred to coverage of the subject goods under various probable Subheadings under Chapter 84, 85 and 87 of the Customs Tariff. He also referred to relevant Section Notes, Chapter Notes, HSN Explanatory notes along with a number of judicial pronouncements and particularly CBIC Instruction No. 1/2022-Cus. dated 05.01.2022 & 25/2022-Customs dated 03.10.2022 in support of their claim for classification of the subject goods and submitted that 8501 is the most appropriate heading as function test out-perform the end-use test in the instant case. On enquiry by the Authority regarding frequency of usage of the subject goods in the industry, it was replied that usage of stepper motor for two wheeler has recently started and it was also answered by the advocate that the applicant has already imported a different variant of stepper motor under the heading 8501 however due to certain apprehension regarding classification, they are seeking advance ruling, in the matter but it was also clarified that no issue/litigation, in the matter is pending with any officer of Customs or judicial forum.

5. Having completed the procedure laid down in the CAAR Regulations, I first allow the application, taking into account the facts of the case and submissions made by the applicant and the concerned Principal Commissioner of Customs. In view of the submissions made in the application for advance ruling, during the personal hearing, I proceed to discuss and give ruling on the question:

*(a) Whether the stepper motor (3800-B07F-0000) for use in manufacture of idle air control valve will be classifiable under Tariff Item 8409 91 99, Tariff Item 8409 99 90, Tariff Item 8501 10 12 or Tariff Item 8481 90 90?"*

6. I note that the concerned Principal Commissioner of Customs, ACC (Import), New Customs House, New Delhi has opined inter-alia that the instant stepper motor will be



classifiable in CTH 85011012; this classification is also supported by rule 3 (a) of General Rules for Interpretation which states that the heading which provides the most specific description shall be preferred to heading providing a more general description; thus, as the CTH 85011012 has specific description of stepper motor, therefore, the same will prevail and stepper motor will be classifiable in CTH 85011012.

7. I also note that rule 3 of the General Rules for the Interpretation of Import Tariff provides that, 'when by application of rule 2(b) or any other reason, goods are, prima facie, classifiable under two or more headings, classification shall be effected as follows, (a) the heading which provides the most specific description shall be preferred to heading providing a more general description. However, when two or more headings each refer to part only of the materials or substances contained in mixed or composite goods or to part only of the items in a set put up for retail sale, those headings are to be regarded as equally specific in relation to those goods, even if one of them gives a more complete or precise description of the goods.'. Further, Note 2 (f) of Section XVII provides that the expression, 'parts' and 'parts and accessories' do not apply to 'electrical machinery or equipment (Chapter 85)', whether or not they are identifiable as for the goods of this Section.

7.1 I have also noticed that the applicant has stated in the application for advance ruling that they propose to import Stepper motor for idle air control valve (3800-B07F-0000) for use in manufacture of throttle body assembly for two-wheelers; subject goods are brushless direct current (DC) motor that generates output power not exceeding 37.5W. The applicant has also stated that the subject goods are completely distinct from starter motors. In this regard, it is also noted that 'Stepper motor' which are in the nature of DC motor, of an output not exceeding 37.5W are specifically under Sub-heading 85011012 of the First Schedule of the Customs Tariff Act, 1975.

7.2 From the M.F.(D.R.) Instruction No. 1/2022-Cus. dated 05.01.2022, it is observed inter-alia that *the Hon'ble Supreme Court vide judgment in the case of M/s Westinghouse Saxby Farmer Ltd. v. Commissioner of Central Excise, Kolkata [2022(376)E.L.T. 14 (S.C.)], held that the 'relay' are classifiable as parts of 'railway signaling equipment' under heading 8608 of the Central Excise Tariff; in holding so, the Hon'ble Supreme Court has given precedence to the 'sole or principal use' test of Section Note 3 over the Note 2 (f) of Section XVII which specifically excluded 'electric*



*equipment' from being classified under Section XVII whether or not it is identifiable as being for the goods of that Section. However, in the current case of Westing Saxby, the judgments referred [Intel Design Systems (India) Pvt. Ltd. V. Commissioner of Customs and C.Ex. 2008 (223) E.L.T. 135 (S.C.) and CCE Delhi v. Uni products Ltd.-2020 (372) E.L.T. 465 (S.C.)] have not come up for consideration and the Hon'ble Supreme Court has applied the 'sole or principal use' test of Section Note 3 to the exclusion of the embargo in Note 2 and therefore, the judgment of the Hon'ble Supreme Court appears to be at variance with the stand taken by the Hon'ble Supreme Court in classifying other parts of the goods falling under Section XVII. The said Instructions further states that in this regard, it may be considered that the judgment in the case of M/s Westinghouse Saxby has decided the classification of the commodity, 'relay' used in railway signaling equipment of Chapter 86 and not parts of goods falling under Chapter 87; the judgment itself does not refer to it's wider applicability to any other case or issue of a similar nature; also this judgment pertains to a matter under the Central Excise Tariff Act in the year 1994 when the Central Excise Tariff and the Customs Tariff were not aligned; moreover the Hon'ble Supreme Court in the Westinghouse Saxby judgment itself, has acknowledged the complexity of the issue and has pointed to the undesirability of generalizing the decision of one case to others. The said instructions also noted the judgment of the Hon'ble Court in the case of A. Nagaraju Bros v. State of A.P. and Commissioner of Central Excise, Mumbai v. M/s Fiat India (P) Ltd. [2012 (283) E.L.T. 161 (S.C.)] and stated, 'thus, the classification of various parts of Section XVII is to be decided taking into account all facts, details of individual cases, all the decisions on the subject, and arrive at the appropriate classification.'*

8. In view of the foregoing, I rule that the stepper motor (3800-B07F-0000) proposed to be imported by the applicant for use in manufacture of idle air control valve will be classifiable under Sub-heading 8501 10 12 of the First Schedule of the Customs Tariff Act, 1975.

Date: 02.02.2023

(Samar Nanda)  
Customs Authority for Advance Rulings, New Delhi



**F. No.VIII/CAAR/Delhi/Hitachi/24/2022**

**Dated: 02.02.2023**

1. M/s. Hitachi Astemo FIE Private Limited, Plot No. 81-83, 94-96, Sector-6, Industrial Model Township, Bawal, Haryana-123501,
2. The Principal Commissioner of Customs, Air Cargo Import, Near IGI Airport, New Custom House, New Delhi-110037.
3. The Customs Authority for Advance Rulings, Mumbai, New Custom House, Ballard Estate, Mumbai-400001.
4. The Principal Chief Commissioner of Customs, Delhi Customs Zone, New Custom House, IGI Airport Complex, New Delhi-110037.
5. The Chief Commissioner (AR), Customs Excise & Service Tax Appellate Tribunal (CESTAT), West Block-2, Wing-2, R.K. Puram, New Delhi-110066.
6. The Member (Customs), CBIC, North Block, New Delhi.
7. Guard file.
8. Webmaster.

*AS*  
*02.02.2023*

(Anamika Singh)  
Secretary,

Customs Authority for Advance Rulings, New Delhi

