What Every Member of the Trade Community Should Know About:

Internal Combustion Piston Engines

AN INFORMED COMPLIANCE PUBLICATION

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PREFACE

On December 8, 1993, Title VI of the North American Free Trade Agreement Implementation Act (Pub. L. 103-182, 107 Stat. 2057), also known as the Customs Modernization or "Mod" Act, became effective. These provisions amended many sections of the Tariff Act of 1930 and related laws.

Two new concepts that emerge from the Mod Act are "***informed compliance***" and "***shared responsibility***," which are premised on the idea that in order to maximize voluntary compliance with laws and regulations of U.S. Customs and Border Protection, the trade community needs to be clearly and completely informed of its legal obligations. Accordingly, the Mod Act imposes a greater obligation on CBP to provide the public with improved information concerning the trade community's rights and responsibilities under customs regulations and related laws. In addition, both the trade and U.S. Customs and Border Protection share responsibility for carrying out these requirements. For example, under Section 484 of the Tariff Act, as amended (19 U.S.C. 1484), the importer of record is responsible for using reasonable care to enter, classify and determine the value of imported merchandise and to provide any other information necessary to enable U.S. Customs and Border Protection to properly assess duties, collect accurate statistics, and determine whether other applicable legal requirements, if any, have been met. CBP is then responsible for fixing the final classification and value of the merchandise. An importer of record's failure to exercise reasonable care could delay release of the merchandise and, in some cases, could result in the imposition of penalties.

The Office of Regulations and Rulings (ORR) has been given a major role in meeting the informed compliance responsibilities of U.S. Customs and Border Protection. In order to provide information to the public, CBP has issued a series of informed compliance publications on new or revised requirements, regulations or procedures, and a variety of classification and valuation issues.

This publication, prepared by the National Commodity Specialist Division, ORR, is a study of the classification of internal combustion piston engines. "Internal Combustion Piston Engines" provides guidance regarding the classification of imported merchandise. We sincerely hope that this material, together with seminars and increased access to rulings of U.S. Customs and Border Protection, will help the trade community to improve voluntary compliance with customs laws and to understand the relevant administrative processes.

The material in this publication is provided for general information purposes only. Because many complicated factors can be involved in customs issues, an importer may wish to obtain a ruling under Regulations of U.S. Customs and Border Protection, 19 C.F.R. Part 177, or to obtain advice from an expert who specializes in customs matters, for example, a licensed customs broker, attorney or consultant.

Comments and suggestions are welcomed and should be addressed to the Assistant Commissioner at the Office of Regulations and Rulings, U.S. Customs and Border Protection, 1300 Pennsylvania Avenue, NW, (Mint Annex), Washington, D.C. 20229.

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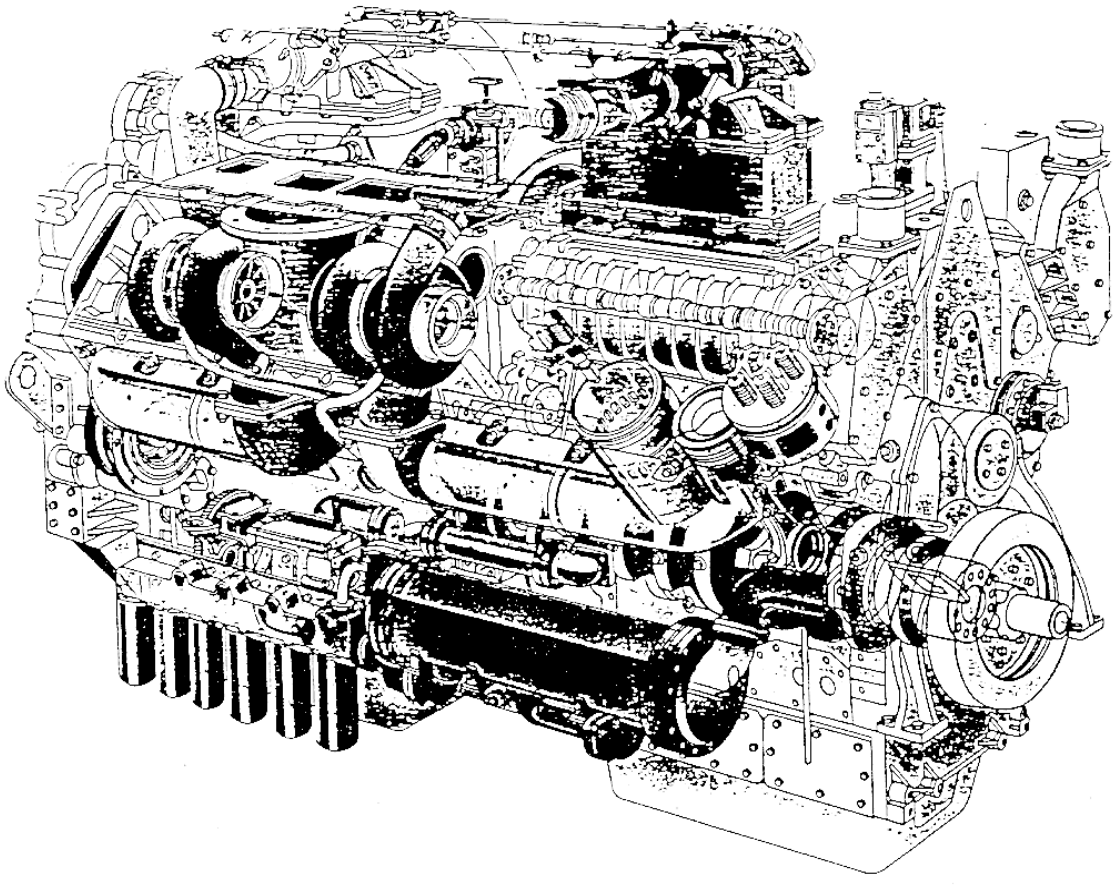
INTRODUCTION

For people with little knowledge of how things work, and even for those who like to "get under the hood," the terminology and requirements imposed by the Harmonized Tariff Schedule of the United States (HTSUS) for the gasoline and diesel engines of headings 8407 and 8408 can be quite daunting. What exactly is an internal combustion engine? What does spark-ignition mean? How does that differ from compression-ignition? Do rotary engines really have "pistons"? How can one tell how many cubic centimeters of cylinder capacity an engine has or what an engine's power output is in kilowatts if the invoice doesn't say? Which parts of gasoline and diesel engines are classifiable as engine parts in heading 8409 and which ones go elsewhere?

The goal of this presentation is to lay out in straightforward language how such engines and their parts should be classified, and why, so that the importing community will have the guidance it needs to classify them correctly and so that U.S. Customs officers will be able to easily tell when they are not.



TECHNICAL OVERVIEW

Before we examine the tariff provisions involved and get into the inner workings of the tariff classification process, a brief primer on engine technology would be helpful.

Most sources commonly define an engine as a machine or apparatus for converting energy into mechanical power or motion. The engine's purpose is to translate the potential energy locked in a fuel into a rotating force called “torque”, which is a twisting force or action that performs work. It is created in the engine by burning a mixture of fuel and air at a controlled rate. This is called “combustion” and when it occurs within the confines of an enclosed cylinder, it is referred to as “internal combustion”, as opposed to engines which burn their fuel externally like the steam engine of an old-fashioned paddle wheeler which employs steam raised in a fire-driven boiler to drive a piston up and down in a cylinder.

Internal combustion engines, then, for the purposes of this discussion, are those in which power is produced by burning fuel inside a combustion chamber or cylinder containing a piston which goes up and down in a reciprocating motion resulting from the combustion. Extending down from the piston is a connecting rod which links the piston to the crankshaft. The connecting rod and crankshaft convert the reciprocating motion of the piston into motion or work.

Technically, internal combustion engines can be categorized in many ways. The most common ways of talking about engines include the combustion cycle, the valve location, the cooling system, the number and placement of the cylinders and the type of fuel used.

Most internal combustion engines use a two- or four-stroke combustion cycle. The vast majority of automobile engines are of the four-stroke cycle type. In this type, there is an intake stroke, wherein the intake valve opens to admit the air/fuel mixture to be burned during one complete cycle. Next is the compression stroke, wherein the mixture is squeezed into a smaller volume than as admitted. The power stroke, which comes next, ignites the mixture which forcefully thrusts the piston into turning the crankshaft, whose power is then transmitted into motion or work. Finally, the exhaust stroke results in the opening of the exhaust valve to vent the spent gases of the power stroke. The rotary engine, or Wankel engine (named after its inventor), also uses a four-stroke cycle, but does not employ conventional pistons. Instead it uses triangular rotors which function like pistons, but in place of the up and down reciprocating motion of the piston, the rotors continually revolve in the same direction as their eccentric shafts.

The two-stroke cycle engine reduces these strokes from four to two and does not employ valves. Two-stroke engines can operate at very high speeds and can be compact and light. Thus, they are popular in small engine operations such as chain saws, lawn mowers, marine outboard motors and the like. They are not noted for fuel efficiency or emissions control.

The engines which most dominate the fields of design and use are the V-8, V-6 and in line 4-cylinder engines. The in-line arrangement of the engine's cylinders is self-evident while the V classification indicates placement of the engine's cylinders in two rows at an angle to each other. Another example of an engine categorized by cylinder arrangement is the radial engine, which has been very popular for use in propeller-driven aircraft. In this engine all the connecting rods leading from the pistons are connected to a master rod.

In the category of engines by valve location, the I-Head arrangement is in almost universal use. In the I-Head engine, both the intake and exhaust valves are located in the engine's cylinder head, either in a straight line or staggered.

Another method of categorizing engines is by the type of fuel used. Internal combustion engines may employ a wide variety of fuels, including, but not limited to, gasoline, diesel fuel, gasohol (a mixture of gasoline and alcohol), LNG (liquefied natural gas), CNG (compressed natural gas) or LPG (liquefied propane gas). Internal combustion piston engines which ignite their fuels with a spark ignition system are classified in heading 8407. Diesel-fueled engines, on the other hand, do not use an ignition system, but rely on the heat of very high compression, instead of spark ignition, to ignite their heavier, less refined diesel fuel. These engines are classified in heading 8408.

TARIFF MATTERS

Internal combustion piston engines and their parts are generally provided for in headings 8407, 8408, and 8409, which are included, of course, in Chapter 84 of Section XVI. We will include the individual tariff provisions as we discuss them and will also refer to Section and Chapter notes as warranted. However, please be advised that these are the provisions and notes which were in effect on the date of this publication and are used for discussion purposes only. You are urged to consult the current edition of these references for the most up-to-date information. We have not included the general or special program duty rates. Again, you should consult the most current edition of the tariff for this information.

Not all gasoline and diesel engines are classified in headings 8407 and 8408. Following Note 1 (p), Section XVI and Note 3, Chapter 95, internal combustion piston engines which are for use solely or principally with the articles of Chapter 95 are to be classified with those articles. For example, internal combustion engines for use solely or principally in scale model airplanes (goods of Chapter 95) will be classified in Chapter 95 as parts of those scale model planes. Similarly, laboratory appliances consisting of internal combustion engines, along with other components, designed specially for the determination of the octane and cetane value of motor fuels, are classified in Chapter 90. See Section Note 1(m), Section XVI.

These exclusions aside, virtually all other types of internal combustion piston engines are classified in the aforementioned headings. Gasoline and diesel engines share similar mechanical designs and have the same essential elements as each other: cylinders containing pistons, connecting rods, camshafts, a crankshaft, and intake and

exhaust valves. They may have only one cylinder, as with engines used on lawn mowers and other small lawn and garden tools, or over a dozen cylinders. Automobiles usually have four or six cylinders, but the diesel engines used on railway locomotives may have as many as 16 or more.

All the engines of headings 8407 and 8408 may be equipped with fuel injectors, ignition parts, fuel or oil reservoirs, radiators, oil coolers, pumps for oil or fuel, blowers, air or oil filters, clutches or power drives, or starting devices and still remain engines for classification purposes. They may also be fitted with change speed gears or equipped with a flexible shaft and still be considered an engine. Reference Section XVI, Note 3.

A. The Engines of Heading 8407

As you may see from a reading of the tariff provisions, the tariff classification process for the engines of this heading will require that you know how the engines you wish to classify are going to be used. There are four main subheading groups in 8407, covering spark-ignition internal combustion piston engines for: (1) aircraft (8407.10), (2) marine propulsion (8407.21 & 8407.29), (3) reciprocating piston engines of a kind used for the propulsion of vehicles of Chapter 87 (8407.31 through 8407.34) and (4) all other spark ignition internal combustion piston engines, including rotary (Wankel) engines (8407.90). The first question one needs to ask after determining that the article is a spark-ignition reciprocating or rotary internal combustion piston engine is what is the sole or principal use of this engine? Guidance in this process is offered by Additional U. S. Rule of Interpretation 1 (a), which states:

> a tariff classification controlled by use (other than actual use) is to be determined in accordance with the use in the United States at, or immediately prior to, the date of importation, of goods of that class or kind to which the imported goods belong, and the controlling use is the principal use;

Principal use, in this context, is that use which exceeds any other single use of the good. Following this rule, then, we need to know the engine's principal use: is it used in aircraft, vessels, automobiles, trucks, tractors, electric generators or somewhere else? Determining the principal use is important to start with but there are other "use" factors which may also have to be considered. There are three different kinds of "use" which come into play in the HTSUS provisions covering engines. As already stated, most of the classifications of 8407 are based on the concept of principal use, but some are also "actual use" provisions and still others are "suitable for ... use" provisions as well. More on this later.

To begin with, subheading 8407.10.00 covers certain aircraft engines. You will need to know whether they are for use in civil aircraft or for use in other than civil aircraft, whether they are new, used, or rebuilt and their power output in kilowatts:

8407.10.00 Aircraft engines
For use in civil aircraft:
New:
20 Less than 373 kW
40 373 kW or over
60 Used or rebuilt
90 Other

General Note 6 (b)(i), of the Harmonized Tariff Schedule instructs us that "[f]or purposes of the tariff schedule, the term 'civil aircraft' means any aircraft, aircraft engine, or ground flight simulator (including parts, components, and subassemblies thereof)

(A) that is used as original or replacement equipment in the design, development, testing, evaluation, manufacture, repair, maintenance, rebuilding, modification, or conversion of aircraft;

and

(B) (1) that is manufactured or operated pursuant to a certificate issued by the Administrator of the Federal Aviation Administration (hereafter referred to as the 'FAA') under section 44704 of title 49, United States Code, or pursuant to the approval of the airworthiness authority in the country of exportation, if such approval is recognized by the FAA as an acceptable substitute for such an FAA certificate; [or]

(2) for which an application for such certificate has been submitted to, and accepted by, the Administrator of the FAA by an existing type and production certificate holder pursuant to section 44702 of title 49, United States Code, and regulations promulgated thereunder; or

(3) for which an application for such approval or certificate will be submitted in the future by an existing type and production certificate holder, pending the completion of design or other technical requirements stipulated by the Administrator of the FAA.

General Note 6 (ii) goes on to say that "[t]he term 'civil aircraft' does not include any aircraft, aircraft engine, or ground flight simulator (or parts, components, and subassemblies thereof) purchased for use by the Department of Defense or the United States Coast Guard, unless such aircraft, aircraft engine, or ground flight simulator (or parts, components, and subassemblies thereof) satisfies the requirements of subdivisions (i) (A) and (i) (B) (1) or (2)."

In simpler language, this means that the term "civil aircraft" includes aircraft, aircraft engines and flight simulators (including parts, components and subassemblies thereof)

that are (1) certified by (or for which an application for certification has been accepted by) the FAA or a foreign airworthiness authority recognized by the FAA or (2) purchased for use by the Department of Defense or the Coast Guard, if these goods are manufactured or operated pursuant to a certificate issued or recognized by the FAA. This will also include those goods, usually for testing, for which an application for FAA certification will be submitted to the FAA in the future.

The testing and development provision (subdivision (i)(B)(3)) is limited to a person who holds an existing type and production certificate. The quantity of units that may be imported under subdivision (i)(B)(3) is limited to the amount specified in the design or technical requirements stipulated by the FAA. Customs may verify by requesting a copy of the design or other technical requirements sanctioned by the FAA. Post-importation claims may be made but no interest is payable if a refund of duty results.

If you are satisfied that the aircraft engine meets this definition, then all you will need to know is whether it is new, used or rebuilt. If new, you need to know its power output. Power output is measured in terms of kilowatts (kW) or watts (W) in the HTSUS. One kW equals 1,000 watts. If you know the horsepower (hp) of the engine, all you need to do is to simply multiply that number by 0.7457 to convert it to kW and then classify it accordingly. This formula will apply anywhere in the tariff.

Subheadings 8407.21 and 8407.29 deal with marine propulsion engines, those engines which are principally used to power the vessels of Chapter 89:

		Marine propulsion engines:
8407.21.00		Outboard motors
	40	Less than 22.38 kW
	80	Other
8407.29.00		Other
	10	Inboard engines with outboard drive
		Inboard engines with inboard drive:
	20	Less than 746 W
	30	746 W or greater, but not exceeding 18.65 kW
	40	Exceeding 18.65 kW

A helpful definition of outboard motors may be found in the Explanatory Notes to the Harmonized Commodity Description and Coding System. The Explanatory Notes constitute the official interpretation of the scope and content of the tariff classifications at the international level. While not legally dispositive, they represent the views of classification experts on the Harmonized System Committee of the World Customs Organization, and are given considerable weight by those whose business it is to interpret the HTSUS. Outboard motors are defined in the Explanatory Notes to heading 8407 as follows:

> The heading includes “outboard motors” for the propulsion of small boats, consisting of a motor of this heading, a propeller and a steering device, the whole constituting a single, indivisible unit. These motors, designed to be attached to the outside of the hull of the boat, are detachable, that is they can be attached and removed easily and are adjustable, the unit turning on the point of attachment. However, motors designed to be fixed to the inside of the hull at the rear of the boat combined with a block holding a steering propeller fixed to the exterior of the boat at the corresponding place are not regarded as outboard motors.

With the outboard motors of 8407.21.00 you will need to know their power output for appropriate statistical classification. The last sentence of the above note refers to marine engines known as inboard/outdrive engines and they are classified in 8407.29.0010. Lastly, inboard engines with inboard drive are those engines which are located somewhere inboard of the vessel, usually in a hold, and which feature a drive shaft fitted through the vessel’s hull with a propeller mounted at the end of the shaft. These are classified in 8407.29.0020, 30 or 40 depending on their power output. Incidentally, the engines used to power personal watercraft, commonly referred to as jet skis, are classified as hydrojet engines in 8412.29.4000.

The next several subheadings deal with reciprocating piston engines of a kind used for the propulsion of vehicles of Chapter 87. These would not include rotary engines (Wankel engines) since these do not employ reciprocating pistons but trilobal rotors which act as pistons. Rotary engines are generally classified in 8407.90.

		Reciprocating piston engines of a kind used for the propulsion of vehicles of chapter 87:
8407.31.00		Of a cylinder capacity not exceeding 50 cc
	40	Less than 746 W
	80	Other
8407.32		Of a cylinder capacity exceeding 50 cc but not exceeding 250 cc:
8407.32.10	00	To be installed in tractors suitable for agricultural use
8407.32.20		To be installed in vehicles of subheading 8701.20, or heading 8702, 8703 or 8704
	40	Used or rebuilt
	80	Other
8407.32.90		Other
	40	Not exceeding 18.65 kW
	80	Exceeding 18.65 kW
8407.33		Of a cylinder capacity exceeding 250 cc but not exceeding 1,000 cc:
8407.33.10		To be installed in tractors suitable for agricultural use

	30	Not exceeding 37.3 kW
		Exceeding 37.3 kW:
	60	Air-cooled
	90	Other
8407.33.10 (con.)		To be installed in vehicles of subheading 8701.20, or heading 8702, 8703 or 8704:
8407.33.30		To be installed in vehicles specially designed for traveling on snow, golf carts, non-amphibious all-terrain vehicles and burden carriers
	40	Used or rebuilt
	80	Other
8407.33.60		Other
	40	Used or rebuilt
	80	Other
8407.33.90		Other
	40	Not exceeding 18.65 kW
	80	Exceeding 18.65 kW
8407.34		Of a cylinder capacity exceeding 1,000 cc:
		Of a cylinder capacity not exceeding 2,000 cc:
8407.34.05		To be installed in tractors suitable for agricultural use
	30	Not exceeding 37.3 kW
		Exceeding 37.3 kW:
	60	Air-cooled
	90	Other
		To be installed in vehicles of subheading 8701.20, or heading 8702, 8703 or 8704:
8407.34.14	00	Used or rebuilt
8407.34.18	00	Other
8407.34.25	00	Other
		Of a cylinder capacity exceeding 2,000 cc:
8407.34.35		To be installed in tractors suitable for agricultural use
	30	Not exceeding 37.3 kW
		Exceeding 37.3 kW:
	60	Air-cooled
	90	Other
		To be installed in vehicles of subheading 8701.20, or heading 8702, 8703 or 8704:
8407.34.44	00	Used or rebuilt

8407.34.48 00 Other

8407.34.55 00 Other

At first glance these subheadings appear to be quite intimidating, but things are not nearly as forbidding as they might seem.

There are four major subheadings in this group and they are ordered by cylinder capacity: (1) Not exceeding 50 cc (8407.31); (2) exceeding 50 cc but not exceeding 250 cc (8407.32); (3) exceeding 250 cc but not exceeding 1,000 cc (8407.33) and (4) exceeding 1,000 cc (8407.34). These subheadings have as their first point of departure the size of the engine's cylinder capacity in cubic centimeters (cc). From there on, things will fall into place by use. In order to determine an engine's cylinder capacity or displacement, we may need to apply another fairly simple formula. Invoices for engines seldom give an engine's cylinder capacity in cubic centimeters, but normally do so in terms of liters. A liter of cylinder displacement for an engine equals 1,000 cc. A 2.2 liter engine, therefore, equal 2,200 cc and so on. The first order of business, then, is to compute the cylinder capacity and go to the appropriate subheading group.

Once in the appropriate subheading group by cylinder capacity, you will need to know the tariff classification of the Chapter 87 vehicle in which the engine will be used. Each of these subheading groups has a three-part structure, broken out according to the class of Chapter 87 vehicle. The first part concerns tractors suitable for agricultural use found in subheadings 8701.30.10 and 8701.90.10. The second part deals with vehicles of certain named provisions: vehicles of 8701.20 (road tractors for semi-trailers), of heading 8702 (motor vehicles for the transport of 10 or more persons), of heading 8703 (automobiles) and of heading 8704 (trucks). The last part of each of these subheading groups encompasses engines principally used in vehicles of Chapter 87 other than the foregoing.

After you have identified the vehicle in question, simply slide down to the appropriate subheading and find the provision where your engine belongs. In some cases you will need to know if the engine is used or rebuilt or air cooled or of a certain power output.

The subheadings for engines to be installed in tractors suitable for agricultural use are actual use provisions and are governed by Additional U.S. Rule 1(b), which reads as follows:

> a tariff classification controlled by the actual use to which the imported goods are put in the United States is satisfied only if such use is intended at the time of importation, the goods are so used and proof thereof is furnished within 3 years after the date the goods are entered.

Administrative requirements associated with this rule are spelled out in Sections 10.131 through 10.139 of the Customs Regulations.

The “suitability” for agricultural use referred to in these provisions is rather broad and encompasses those tractors which are actually, practically and commercially fit for such use. A tractor does not have to be principally or actually used in agriculture to fall into this category, but its use in agricultural applications must be substantial enough to be more than casual, incidental, exceptional or merely possible.

Following the agricultural tractor part in each of the following subheading and heading groups is the part for certain “named” vehicles. The engines of this group are of a kind which are designed to be principally used and installed in the vehicle classifications named in each provision, that is, in the vehicles of 8701.20, 8702, 8703, and 8704. In one subheading, 8407.33.30, you are further asked to distinguish between these general classes of named vehicles and certain special kinds of vehicles of those classes, namely, vehicles specially designed for traveling on snow, golf carts, non-amphibious all-terrain vehicles or burden carriers. Importers are reminded that they are required to enter engines that are designed for and to be installed in these “named” vehicles in the subheading provided for them and are responsible for any other administrative requirements that may be associated with them.

The last part of each of the subheading groups for engines principally used in vehicles of Chapter 87 constitutes the “Other” provisions, which describe engines that answer to the terms of the superior subheadings but which are not described in the eo nomine subheadings indented under them. So, for example, a reciprocating piston engine of a kind used for the propulsion of a vehicle of Chapter 87 which has a cylinder capacity exceeding 1000 cc and which is not classified in either of the two named provisions indented under this subheading group would fall in 8407.34.5500. This might be an engine for industrial-type tractors or for another Chapter 87 vehicle not described in subheading 8701.20 or headings 8702, 8703, or 8704.

To recap, for these “vehicles of Chapter 87” subheadings: first, determine the engine’s cylinder capacity in cubic centimeters (1,000 cc = 1 liter); second, know the classification of the Chapter 87 vehicle in question; if it’s not named it’s “other”; and last, know any special details that may be required; also be alert to the actual use subheadings and suitability questions. The process is exacting but logical.

The last subheading in 8407 involves all other engines covered by the terms of the heading:

8407.90		Other engines:
8407.90.10		To be installed in agricultural or horticultural machinery or equipment
		Not exceeding 37.3 kW:
	10	Less than 4,476 W
	20	Other
		Other:
	60	Air-cooled

	80		Other
8407.90.90		Other	
	10		Gas (natural or LP) engines
			Other:
	20		Less than 746 W
	40		746 W or greater but less than 4,476 W
	60		4,476 W or greater but not exceeding 18.65 kW
	80		Exceeding 18.65 kW

Therefore, all spark-ignition reciprocating or rotary internal combustion piston engines not described in any of the 3 foregoing subheading groups are classified here. This would include engines to be installed (actual use again) in agricultural or horticultural machinery or equipment, like harvesters, combines, lawn mowers, hedge trimmers and the like. It would also include engines which meet the terms of the heading but which do not have a principal use identified in the named subheadings, that is, are not principally used in aircraft, marine propulsion or reciprocating engines for vehicles of Chapter 87. So, for example, industrial engines, rotary engines, natural gas engines and the like, none of which have a principal use in the named subheadings, are classified in 8407.90

B. Engines of Heading 8408

The information requirements for compression-ignition internal combustion piston engines are basically like those for gasoline engines. Once again, you need to know the principal use of the engine. The provisions of 8408 are broken out in 3 major subheading groups, easily presented at a glance:

8408			Compression-ignition internal combustion piston engines (diesel or semi-diesel engines):
8408.10.00			Marine propulsion engines
	05		Not exceeding 111.9 kW
	15		Exceeding 111.9 kW but not exceeding 149.2 kW
	20		Exceeding 149.2 kW but not exceeding 223.8 kW
	30		Exceeding 223.8 kW but not exceeding 373 kW
	40		Exceeding 373 kW but not exceeding 746 kW
	50		Exceeding 746 kW
8408.20			Engines of a kind used for the propulsion of vehicles of chapter 87:
8408.20.10			To be installed in tractors suitable for agricultural use

	40	Not exceeding 37.3 kW
	80	Exceeding 37.3 kW
8408.20.20	00	To be installed in vehicles of subheading 8701.20, or heading 8702, 8703 or 8704
8408.20.90	00	Other
8408.90		Other engines:
8408.90.10		To be installed in agricultural or horticultural machinery or equipment
	40	Not exceeding 37.3 kW
	80	Exceeding 37.3 kW
8408.90.90		Other
	10	Not exceeding 149.2 kW
	20	Exceeding 149.2 kW but not exceeding 373 kW
	30	Exceeding 373 kW but not exceeding 746 kW
	40	Exceeding 746 kW but not exceeding 1,119 kW
	50	Exceeding 1,119 kW

Subheadings 8408.10 and 8408.20 are straightforward principal use provisions and cover diesel engines for marine propulsion and engines of a kind used for the propulsion of vehicles of Chapter 87, respectively. Subheading 8408.90 covers all other diesel engines, such as those for agricultural or horticultural machinery or equipment, locomotives, or industrial use. The same complications and cautionary advice arising over “actual use” and “suitable for ... use” seen in 8407 apply here as well. Unlike the classifications covering gasoline engines, the subheadings for diesel engines do not require any knowledge of cylinder capacity. They do require, however, power output information similar to that of heading 8407. So, if you have power ratings given in horsepower (hp), keep in mind that 1 hp equals 0.7457 kW.

C. Parts of Engines (8409)

In the HTSUS there is no area that is more troubling and causes more confusion that the classification of parts. The classification of engine parts is no exception to this rule. Parts of engines provided for in headings 8407 and 8408 are generally classifiable under heading 8409.

The classification of parts of goods of Section XVI is governed by Section Note 2 to Section XVI, which, in simple terms, states that:

(a) parts which in themselves constitute an article covered by their own heading in chapters 84 or 85 are to be classified in that heading. For example, pumps are classified in heading 8413, compressors are in 8414, filtering machinery in 8421, ball bearings in 8482 and so on;

(b) parts that are suitable for use solely or principally with a particular kind of machine or with a number of machines of the same heading are to be classified with the machines of that kind or in one of a group of headings providing for such parts. Heading 8409 is just such a heading; and

(c) parts which are suitable for use solely or principally with machines of more than one heading or which do not have a sole or principal use are to be classified in a parts heading which describes them, for example, heading 8409 or, failing that, in heading 8485.

If a part of a machine is not excluded from Section XVI by any of the exceptions found in Note 1 to Section XVI, Note 1 to Chapter 84, and Note 1 to Chapter 85, then in most cases it will be classified in one of the headings of chapters 84 or 85, following the rules established by Note 2 of Section XVI. This logic will not prevail, however, where a more specific provision for the part is found outside of Section XVI. See Additional U.S. Rule of Interpretation 1(c). But there are exceptions to this as well, depending on the context. For example, there is a provision covering gaskets and other seals of plastic in Chapter 39 (subheading 3926.90.45). If you have a plastic gasket machine part it would not be classified in Chapter 39, despite the specific provision, but in the appropriate heading in Section XVI. This is so because the only exclusion from Section XVI applying to plastic goods is found in Section Note 1(a), wherein it is stated that transmission, conveyor or elevator belts or belting of plastics of Chapter 39 are not covered by Section XVI. This is echoed by Note 2(o) of Chapter 39 which states that articles of Section XVI are not covered by Chapter 39, the obvious “exception” to this rule being the transmission, conveyor or elevator belts or belting of plastics, since such goods, by exclusionary language, are not articles of Section XVI. Actually, most engine gaskets are composite goods made of more than one material. This can result in the need to consider which component imparts “essential character”. However, cylinder head gaskets and similar seals of metal sheeting combined with other material, or of two or more layers of metal, are provided for in heading 8484.

Another complicating factor which can sometimes be misleading is product designation and language. Sometimes a particular engine part may have the same name as something which is specifically provided for elsewhere than as engines parts, but because of design or function is nonetheless classified as an engine part. The mushroom-shaped intake and exhaust valves on engines are commonly known as “valves” and serve a valve-like function, but have no valve body and are therefore classifiable under 8409 rather than in 8481. Piston pins, also known as wrist pins, may have a fastener-like function, but this function is outweighed by their more important pivoting role and are also considered engine parts rather than fastener pins of heading 7318. Similarly, thermostats

may be provided for in heading 9032, but the “thermostats” which go in motor vehicles are actually thermostatically-controlled valves of heading 8481.

Sometimes the tariff language itself can be confusing (surprise, surprise). Heading 8483, for example, covers "transmission shafts." Transmission shafts are articles which transmit power. This term is not just describing the transmission shaft in the transmission portion of a motor vehicle's drive train. Consequently, any shafts which transmit power, for example the crankshaft and the camshaft in an engine, are classifiable under subheading 8483.10. However, to double up on the confusion, it should be noted that those goods described in heading 8483 which function as parts of the goods of Section XVII (motor vehicles, planes, trains and vessels) and which are not integral parts of engines or motors, are classifiable in heading 8708. See Note 2 (e) of Section XVII and Note 1 (l) of Section XVI.

Fortunately, most of the major components of the engines of 8407 and 8408 are classifiable under 8409. The Explanatory Notes to 8409 specifically mention pistons, cylinders and cylinder blocks, cylinder heads, cylinder liners, inlet or exhaust valves, piston rings, connecting rods, carburetors and fuel nozzles as examples of the kind of internal combustion piston engine parts that go there. Conversely, the Explanatory Notes specifically exclude: (a) injection pumps (heading 8413); (b) engine crankshafts, camshafts and gearboxes (heading 8483); and (c) electrical starting or ignition equipment such as spark plugs and glow plugs (heading 8511).

There are two major subheading groups in 8409. These are parts suitable for use solely or principally with the engines of 8407 and 8408 which are (1) for aircraft engines and (2) which are for all other engines. Once you get past this simple dichotomy, however, things get a little tricky.

8409		Parts suitable for use solely or principally with the engines of heading 8407 or 8408:
8409.10.00		For aircraft engines
	40	For use in civil aircraft
	80	Other
		Other:
8409.91		Suitable for use solely or principally with spark-ignition internal combustion piston engines (including rotary engines):
8409.91.10		Cast-iron parts, not advanced beyond cleaning, and machined only for the removal of fins, gates, sprues and risers or to permit location in finishing machinery
	40	For vehicles of subheading 8701.20, or heading 8702, 8703 or 8704

	60	For marine propulsion engines
	80	Other
		Other:
		For vehicles of subheading 8701.20, or heading 8702, 8703 or 8704:
8409.91.30	00	Aluminum cylinder heads
8409.91.50		Other
	10	Connecting rods
	80	Other
8409.91.92		For marine propulsion engines
	10	Connecting rods
	90	Other
8409.91.99		Other
	10	Connecting rods
	90	Other
8409.99		Other:
8409.99.10		Cast-iron parts, not advanced beyond cleaning, and machined only for the removal of fins, gates, sprues and risers or to permit location in finishing machinery
	40	For vehicles of subheading 8701.20, or heading 8702, 8703 or 8704
	60	For marine propulsion engines
	80	Other
		Other:
8409.99.91		For vehicles of subheading 8701.20, or heading 8702, 8703 or 8704
	10	Connecting rods
	90	Other
8409.99.92		For marine propulsion engines
	10	Connecting rods
	90	Other
8409.99.99		Other
	10	Connecting rods
	90	Other

Subject to any pertinent exclusionary language and following Note 2 to Section XVI, and except as noted previously, parts which are suitable for use solely or principally with internal combustion piston aircraft engines are to be classified in subheading 8409.10. You will need to know whether the aircraft engine in which the engine parts are principally used are certified or accepted for use in civil aircraft or not. See our discussion of this matter under the engines of heading 8407. See also General Note 6 to the HTSUS.

The other major subheading in this provision is for parts for all other internal combustion piston engines. Indented under this "Other" provision are two subheading groups: 8409.91, which covers parts principally used in the gasoline engines of heading 8407, and 8409.99, which covers all other parts, including those parts principally used on diesel engines of heading 8408 and those parts which are engine parts but not principally used with the engines of 8407. This latter kind might be a part that can be used equally on the engines of both headings 8407 and 8408. See Note 2 (c), Section XVI.

Each of these subheadings has an initial breakout covering "Cast-iron parts, not advanced beyond cleaning, and machined only for the removal of fins, gates, sprues and risers or to permit location in finishing machinery." Since these provisions are unconditionally free, caution should be exercised to be certain that goods entered under these subheadings are (1) actually made of cast iron (a mill certificate will provide evidence of the chemical composition of this product or random lab testing may suffice); (2) have not been advanced beyond cleaning (a process such as stress relieving is permitted, but not heat treating); and (3) have not been machined beyond mere clean-up or have been machined merely to permit location for finishing the machinery. If eligible for classification in either of the "cast-iron parts" subheadings, it will be necessary to classify the article according to its principal use, either in certain vehicles (that is, road tractors for semi-trailers, public-transport type passenger motor vehicles, motor vehicles for the transport of persons, or motor vehicles for the transport of goods), in marine propulsion engines, or in "other" than these two.

Assuming the cast-iron provisions do not apply, the classification of the article will be by its principal use in one of the three classes of goods just enumerated.

EXAMPLES OF ENGINE PART CLASSIFICATIONS		
Under 8409	**Not Under 8409**	**HTSUS**
Carburetors	Bearings	8483
Connecting Rod	Camshafts & Crankshafts	8483
Cylinder Blocks	Electronic Control Units & Sensors	9026-9032
Cylinder Heads	Fans & Turbo chargers	8414
Cylinder Liners	Filters	8421
Fuel Nozzles	Fuel Injectors (gasoline/diesel)	8481/8413

EXAMPLES OF ENGINE PART CLASSIFICATIONS		
Under 8409	**Not Under 8409**	**HTSUS**
Gaskets of Cork or Plastic	Gasket Kits of Dissimilar Materials	8484
Intake & Exhaust Manifolds	Gears & Gearing	8483
Intake & Exhaust Valves	Pulleys & Non-magnetic Flywheels	8483
Oil Pans	Pumps	8413
Pistons	Rubber hoses, belts & gaskets	4009/4010/4016
Piston Rings & Pins	Spark plugs, Glow Plugs & Coils	8511
Rocker Arms	Timing Chain	7315
Valve Lifters & Seats	Valves, Other than Intake & Exhaust	8481

ADDITIONAL INFORMATION

The Internet

The home page of U.S. Customs and Border Protection on the Internet's World Wide Web, provides the trade community with current, relevant information regarding CBP operations and items of special interest. The site posts information -- which includes proposed regulations, news releases, publications and notices, etc. -- that can be searched, read on-line, printed or downloaded to your personal computer. The web site was established as a trade-friendly mechanism to assist the importing and exporting community. The web site also links to the home pages of many other agencies whose importing or exporting regulations that U.S. Customs and Border Protection helps to enforce. The web site also contains a wealth of information of interest to a broader public than the trade community. For instance, on June 20, 2001, CBP launched the "Know Before You Go" publication and traveler awareness campaign designed to help educate international travelers.

The web address of U.S. Customs and Border Protection is http://www.cbp.gov

Customs Regulations

The current edition of *Customs Regulations of the United States* is a loose-leaf, subscription publication available from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402; telephone (202) 512-1800. A bound, 2003 edition of Title 19, *Code of Federal Regulations*, which incorporates all changes to the Regulations as of April 1, 2003, is also available for sale from the same address. All proposed and final regulations are published in the *Federal Register*, which is published daily by the Office of the Federal Register, National Archives and Records Administration, and distributed by the Superintendent of Documents. Information about on-line access to the *Federal Register* may be obtained by calling (202) 512-1530 between 7 a.m. and 5 p.m. Eastern time. These notices are also published in the weekly *Customs Bulletin* described below.

Customs Bulletin

The *Customs Bulletin and Decisions ("Customs Bulletin")* is a weekly publication that contains decisions, rulings, regulatory proposals, notices and other information of interest to the trade community. It also contains decisions issued by the U.S. Court of International Trade, as well as customs-related decisions of the U.S. Court of Appeals for the Federal Circuit. Each year, the Government Printing Office publishes bound volumes of the *Customs Bulletin*. Subscriptions may be purchased from the Superintendent of Documents at the address and phone number listed above.

Importing Into the United States

This publication provides an overview of the importing process and contains general information about import requirements. The February 2002 edition of *Importing Into the United States* contains much new and revised material brought about pursuant to the Customs Modernization Act ("Mod Act"). The Mod Act has fundamentally altered the relationship between importers and U.S. Customs and Border Protection by shifting to the importer the legal responsibility for declaring the value, classification, and rate of duty applicable to entered merchandise.

The February 2002 edition contains a section entitled "Informed Compliance." A key component of informed compliance is the shared responsibility between U.S. Customs and Border Protection and the import community, wherein CBP communicates its requirements to the importer, and the importer, in turn, uses reasonable care to assure that CBP is provided accurate and timely data pertaining to his or her importation.

Single copies may be obtained from local offices of U.S. Customs and Border Protection, or from the Office of Public Affairs, U.S. Customs and Border Protection, 1300 Pennsylvania Avenue NW, Washington, DC 20229. An on-line version is available at the CBP web site. *Importing Into the United States* is also available for sale, in single copies or bulk orders, from the Superintendent of Documents by calling (202) 512-1800, or by mail from the Superintendent of Documents, Government Printing Office, P.O. Box 371954, Pittsburgh, PA 15250-7054.

Informed Compliance Publications

U.S. Customs and Border Protection has prepared a number of Informed Compliance publications in the "*What Every Member of the Trade Community Should Know About:…"* series. Check the Internet web site http://www.cbp.gov for current publications.

Value Publications

Customs Valuation under the Trade Agreements Act of 1979 is a 96-page book containing a detailed narrative description of the customs valuation system, the customs valuation title of the Trade Agreements Act (§402 of the Tariff Act of 1930, as amended by the Trade Agreements Act of 1979 (19 U.S.C. §1401a)), the Statement of Administrative Action which was sent to the U.S. Congress in conjunction with the TAA, regulations (19 C.F.R. §§152.000-152.108) implementing the valuation system (a few sections of the regulations have been amended subsequent to the publication of the book) and questions and answers concerning the valuation system. A copy may be obtained from U.S. Customs and Border Protection, Office of Regulations and Rulings, Value Branch, 1300 Pennsylvania Avenue, NW, (Mint Annex), Washington, D.C. 20229.

Customs Valuation Encyclopedia (with updates) is comprised of relevant statutory provisions, CBP Regulations implementing the statute, portions of the Customs Valuation Code, judicial precedent, and administrative rulings involving application of valuation law. A copy may be purchased for a nominal charge from the Superintendent of Documents, Government Printing Office, P.O. Box 371954, Pittsburgh, PA 15250-7054. This publication is also available on the Internet web site of U.S. Customs and Border Protection.

The information provided in this publication is for general information purposes only. Recognizing that many complicated factors may be involved in customs issues, an importer may wish to obtain a ruling under CBP Regulations, 19 C.F.R. Part 177, or obtain advice from an expert (such as a licensed Customs Broker, attorney or consultant) who specializes in customs matters. Reliance solely on the general information in this pamphlet may not be considered reasonable care.

Additional information may also be obtained from U.S. Customs and Border Protection ports of entry. Please consult your telephone directory for an office near you. The listing will be found under U.S. Government, Department of Homeland Security.

"Your Comments are Important"

The Small Business and Regulatory Enforcement Ombudsman and 10 regional Fairness Boards were established to receive comments from small businesses about Federal agency enforcement activities and rate each agency's responsiveness to small business. If you wish to comment on the enforcement actions of U.S. Customs and Border Protection, call 1-888-REG-FAIR (1-888-734-3247).

REPORT SMUGGLING 1-800-BE-ALERT OR 1-800-NO-DROGA

Visit our Internet web site: http://www.cbp.gov