

EXHIBIT 12

U.S. Patent No. 7,067,944

Claim 3

Aisin Small Pump

Toyota / Aisin Water Pump G9040-52010

"3. A motor comprising:"

3. A motor comprising:

The Toyota / Aisin Water Pump G9040-52010 ("Pump") includes a motor.

The Pump has Aisin part number WQT-001.

O.E. Part #	Manufacturer	AISIN Part #
16120-49046	Toyota	WPT-065
16120-49055	Toyota	WPT-065
16120-49065	Toyota	WPT-084
16120-49080	Toyota	WPT-084
161A0-29015	Toyota	WPT-190
161A0-39015	Toyota	WPT-190
161A0-39025	Toyota	WPT-191
G9040-33030	Toyota	WQT-002
G9040-33040	Toyota	WQT-002
G9040-52010	Toyota	WQT-001

Aisin Cooling Catalog 2016.pdf at 145 (hereinafter "Aisin Cooling Catalog"), available at <https://www.aisinaftermarket.com/FlipBook/CoolingCatalog/index.html>.

The Aisin Cooling Catalog indicates that the Pump is used in the following Toyota vehicles:

- Toyota Highlander Hybrid Limited 3.5L V6 - Electric/Gas
- Toyota Highlander LE 2.7L L4 - Gas
- Toyota Highlander XLE 3.5L V6 - Gas
- Toyota Highlander LE Plus 3.5L V6 - Gas
- Toyota Highlander Limited 3.5L V6 - Gas
- Toyota Highlander LE 3.5L V6 – Gas

"3. A motor comprising:"



See, http://usnews.rankingsandreviews.com/cars-trucks/Toyota_Highlander/2016/

- Toyota Prius C Four 1.5L L4 - Electric/Gas
- Toyota Prius C One 1.5L L4 - Electric/Gas
- Toyota Prius C Three 1.5L L4 - Electric/Gas
- Toyota Prius C Two 1.5L L4 - Electric/Gas
- Toyota Prius C Persona Series 1.5L L4 - Electric/Gas
- Toyota Prius V Five 1.8L L4 - Electric/Gas
- Toyota Prius V Four 1.8L L4 – Electric/Gas
- Toyota Prius V Three 1.8L L4 – Electric/Gas
- Toyota Prius V Two 1.8L L4 – Electric/Gas

"3. A motor comprising:"



<http://o.aolcdn.com/dims-global/dims3/GLOB/resize/708x398/quality/60/http://o.aolcdn.com/commerce/autodata/images/USC60TOC161D022000.jpg>

Lexus				
ES250	1990-1991	2.5L V6	2VZFE Desig.	WPT-002
ES300	1992-1993	3.0L V6	3VZFE Desig.	WPT-002
	1994-2003	3.0L V6	1MZF Desig.	WPT-057
ES300h	2013-2015	2.5L L4	2ARFXE Desig.; Engine Water Pump	WPT-191
			2ARFXE Desig.; Inverter Water Pump	WQT-002
ES330	2004-2006	3.3L V6	3MZF Desig.	WPT-057
ES350	2007-2015	3.5L V6	2GRFE Desig.	WPT-803
GS300	1993-1997	3.0L L6	2JZGE Desig.; Water Pump w/o Housing	WPT-038
			2JZGE Desig.; Water Pump w/ Housing	WPT-110
	1998-2005	3.0L L6	2JZGE Desig.; Water Pump w/ Housing	WPT-116
	2006	3.0L V6	3GRFSE Desig.	WPT-137
GS350	2007-2015	3.5L V6	2GRFSE Desig.	WPT-137
GS400	1998-2000	4.0L V8	1UZFE Desig.	WPT-800
GS430	2001-2007	4.3L V8	3UZFE Desig.	WPT-800
GS450h	2007-2011	3.5L V6	2GRFSE Desig.	WPT-137
			2GRFXE Desig.	WPT-137
GS460	2008-2011	4.6L V8	1URFSE Desig.	WPT-187
GX460	2010-2015	4.6L V8	1URFSE Desig.	WPT-807
GX470	2003-2009	4.7L V8	2UZFE Desig.	WPT-800
HS250h	2010-2012	2.4L L4	2AZFXE Desig.	WPT-801
IS F	2008-2014	5.0L V8	2URGSE Desig.	WPT-187
IS250	2006-2015	2.5L V6	4GRFSE Desig.	WPT-137
IS300	2001-2005	3.0L L6	2JZGE Desig.; Water Pump w/ Housing	WPT-116
IS350	2006-2015	3.5L V6	2GRFSE Desig.	WPT-137
LS400	1990-2000	4.0L V8	1UZFE Desig.	WPT-800
LS430	2001-2006	4.3L V8	3UZFE Desig.	WPT-800
LS460	2007-2014	4.6L V8	1URFSE Desig.	WPT-187
LS600h	2008-2014	5.0L V8	2URFSE Desig.	WPT-187
LX450	1996-1997	4.5L L6	1FZFE Desig.	WPT-023
LX470	1998-2007	4.7L V8	2UZFE Desig.	WPT-800
LX570	2008-2011	5.7L V8	3URFE Desig.	WPT-804
			3URFE Desig.	WPT-804
RC F	2015	5.0L V8	2URGSE Desig.	WPT-187
			3URFE Desig.	WPT-804
RX300	1999-2003	3.0L V6	1MZF Desig.	WPT-057
RX330	2004-2006	3.3L V6	3MZF Desig.	WPT-057
RX350	2007-2015	3.5L V6	2GRFE Desig.	WPT-803
RX400h	2006-2008	3.3L V6	3MZF Desig.	WPT-057
RX450h	2010-2015	3.5L V6	2GRFXE Desig.; Engine Water Pump	WPT-803
			2GRFXE Desig.; From 03/2012: Inverter Water Pump	WQT-001
SC300	1992-2000	3.0L L6	2JZGE Desig.; Water Pump w/ Housing	WPT-110
SC400	1992-2000	4.0L V8	2JZGE Desig.; Water Pump w/o Housing	WPT-038
			1UZFE Desig.	WPT-800

"3. A motor comprising:"

Highlander	2010-2014	4.0L V6	1GRFE Desig.	WPT-169
	2001-2003	3.0L V6	1MZFE Desig.	WPT-057
	2004-2007	2.4L L4	2AZFE Desig.	WPT-801
		3.3L V6	3MZFE Desig.	WPT-057
	2008-2009	3.3L V6	3MZFE Desig.; Hybrid	WPT-057
	2008-2015	3.5L V6	2GRFE Desig.; Engine Water Pump	WPT-803
	2010-2014	2.7L L4	1ARFE Desig.	WPT-805
	2011-2015	3.5L V6	2GRFXE Desig.; Hybrid; Engine Water Pump	WPT-803
	2013-2015	3.5L V6	2GRFXE Desig.; Hybrid; Inverter Water Pump	WQT-001
Land Cruiser	1976	4.2L L6	2F Desig.; California Spec; w/ Oil Cooler	WPT-020
Prius	1990-1997	2.4L L4	1NZFE Desig.	WPT-014
	2001-2009	1.5L L4	1NZFXE Desig.	WPT-111
	2010-2015	1.8L L4	2ZRFXE Desig.; Engine Water Pump	WPT-190
	2012-2015	1.8L L4	2ZRFXE Desig.; From 12/2011; Including Plugin; Inverter Water Pump	WQT-001

Aisin Cooling Catalog 2016.pdf at 34, 43, 44.

The Pump's packaging is marked with the Toyota logo:



IMG_1896.JPG

"3. A motor comprising:"


The Pump itself is marked with the Aisin logo:



IMG_1900.JPG

"3. A motor comprising:"

The Pump includes an electric motor. For example, as shown below on the purchase receipt, the Pump is referred to as a pump:



Henry Thomas' OLATHE TOYOTA

685 N. Rawhide
Olathe, Kansas 66061

Tollfree: (800) 596-1970 · Phone (913) 780-5919 · Wholesale Parts (913) 782-1370 · Fax (913) 780-5062
 E-mail: parts@olathetoyota.com · Web: www.olathetoyota.com

ALL CLAIMS AND RETURNED GOODS MUST BE ACCOMPANIED BY THIS INVOICE.
 NO RETURNS ON ELECTRICAL OR SPECIAL ORDER PARTS.
 NO RETURNS AFTER 30 DAYS. 20% RE-STOCK CHARGE ON ALL RETURNED PARTS.

DISCLAIMER OF WARRANTIES
 All expressed warranties, if any, by a Manufacturer or supplier other than the Dealer are theirs, not Dealer's, unless otherwise provided in writing on the face of this order or in a separate writing furnished to Customer by Dealer.
ALL PARTS INSTALLED ARE NEW UNLESS SPECIFIED OTHERWISE AS BEING USED OR REMANUFACTURED.

DATE ENTERED 02 DEC 15	YOUR ORDER NO. 28023	DATE SHIPPED 02 DEC 16	INVOICE DATE 02 DEC 16	INVOICE NUMBER 645567
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ACCOUNT NO. P65 PAGE 1 OF 1

GRUFF NEAL GRUFF NEAL
 707 S. VERMONT ST 707 S. VERMONT ST
 PALATINE, IL 60067 PALATINE, IL 60067

SHIP VIA PEDX HOME (K) 468	ALSA 468	HL NO. (415) 902-6600	TERMS	F.O.B. POINT OLATHE, KS
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QTY	UNIT	PART NO.	DESCRIPTION	LIST	NET	AMOUNT
1	1	80960-08070	0 MOTOR	456.26	456.26	456.26
			*** ABOVE PART IS PREPAID ***			
1	1	80960-52090	0 MOTOR	289.06	291.75	291.75
			*** ABOVE PART IS PREPAID ***			
1	1	161A0-29015	15203 1 PUMP	433.05	433.03	433.03
1	1	89040-47040	C PUMP	171.77	171.77	171.77
			*** ABOVE PART IS PREPAID ***			
1	1	39040-52010	11504 0 PUMP	171.77	171.77	171.77
			*** ABOVE PART IS PREPAID ***			
			FREIGHT 21.65			
			The following parts have been special ordered:			
		1 80960-08070	MOTOR ASSY			
		1 80960-52090	MOTOR ASSY			
		1 89040-47040	PUMP ASSY,			
		1 89040-52010	PUMP ASSY,			

***** WELCOME TO THE NEW *****
 ***** OLATHE TOYOTA *****

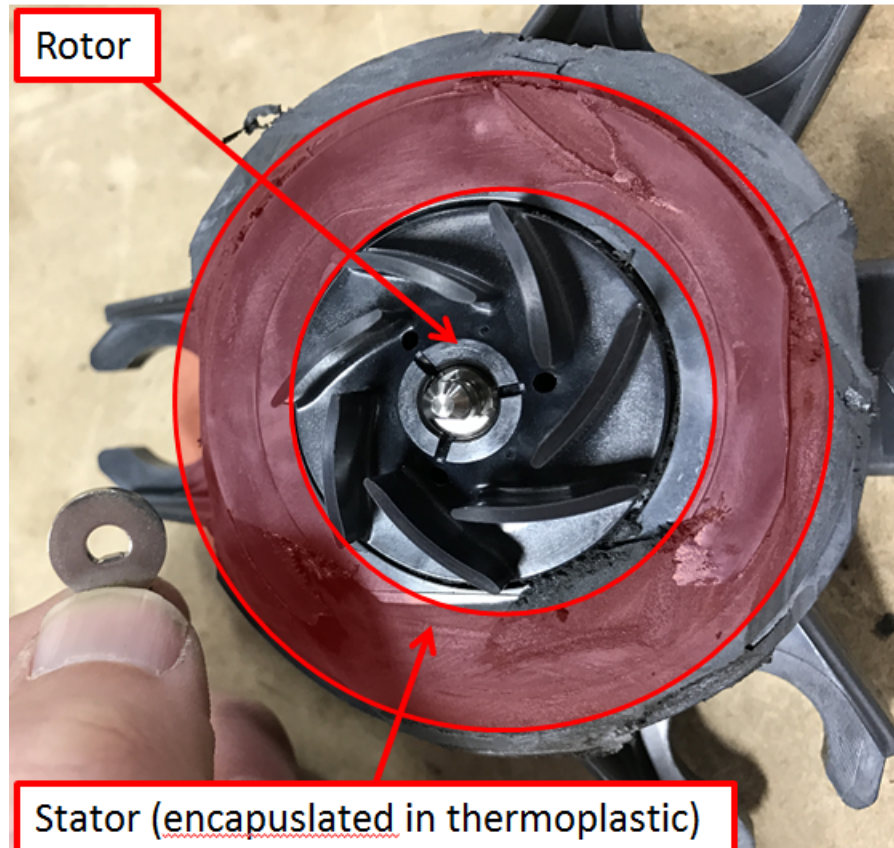
PARTS	1,524.62
SHRIFT	
FREIGHT	21.65
SALES TAX	0.00
TOTAL	\$1,546.27

CUSTOMER'S SIGNATURE
 X

685 N. Rawhide
 H340WH

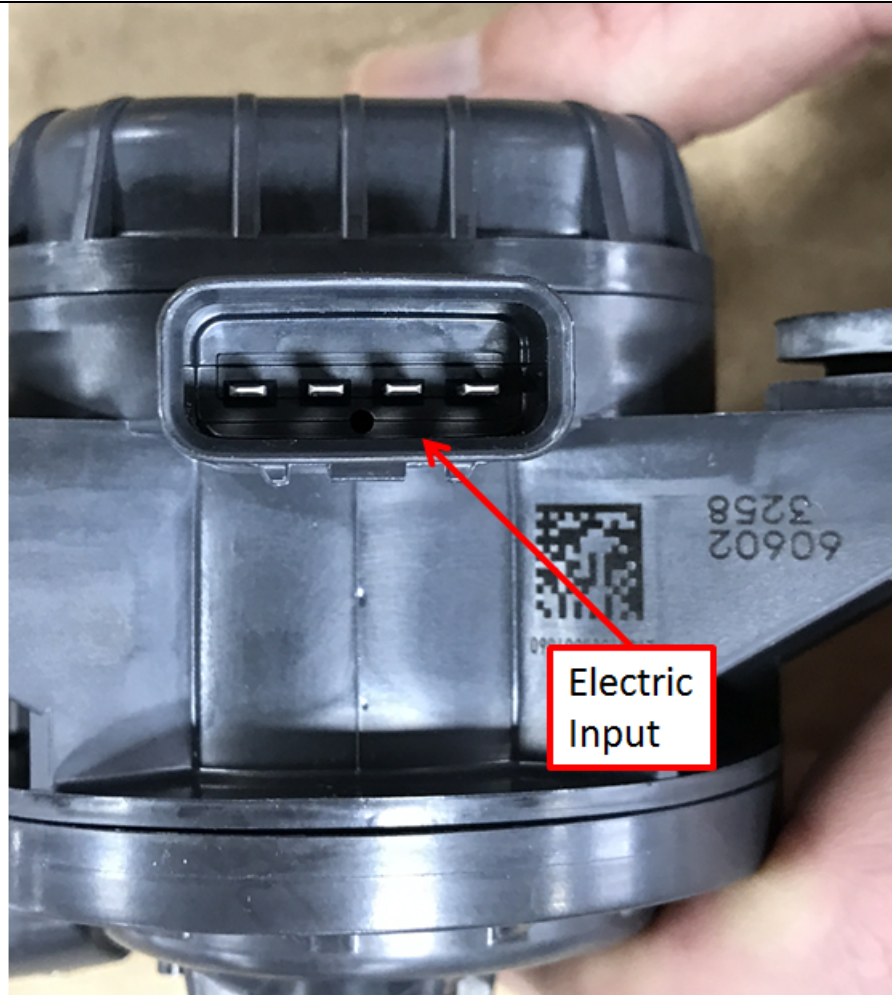
"3. A motor comprising:"

As shown in greater detail below, the Aisin Pump is an electric motor having a stator and a rotor, where the stator is designed to cause the rotor to rotate during operation.



IMG_1956.JPG

"3. A motor comprising:"



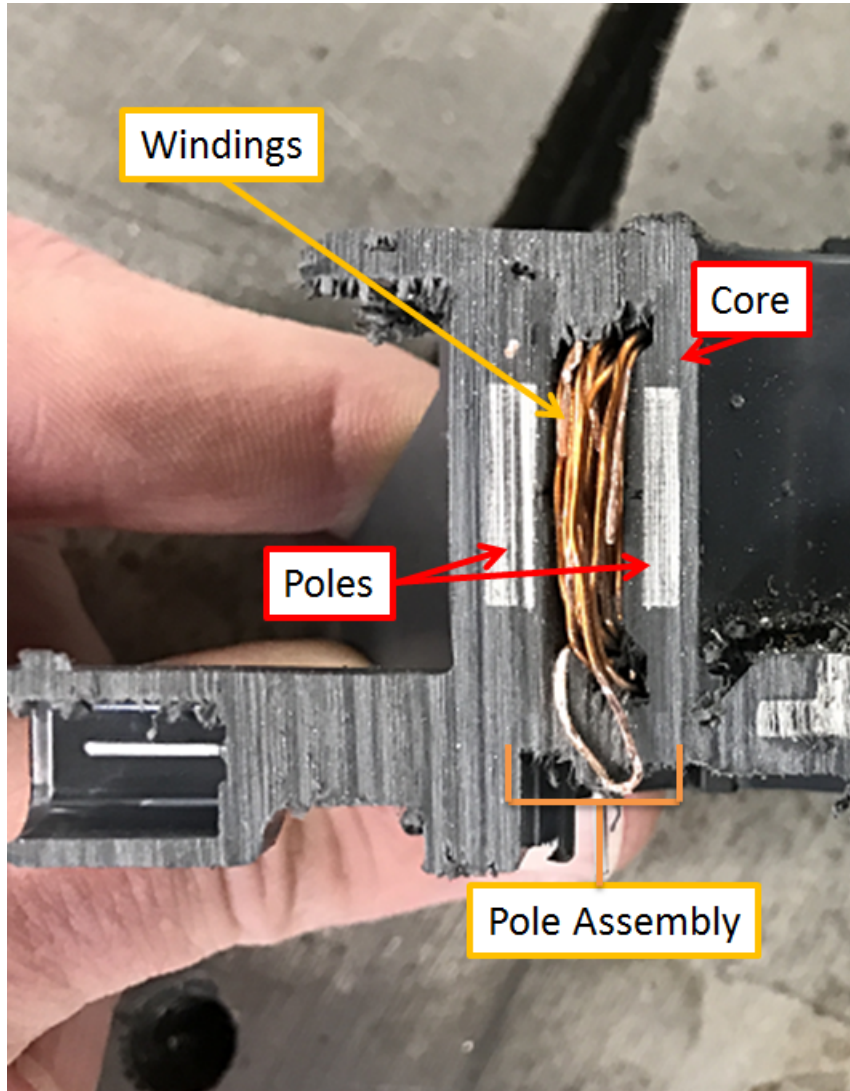
IMG_1905.JPG

"a) a core having poles and windings around said poles forming a pole assembly;"

a) a core having poles and windings around said poles forming a pole assembly;

The Pump comprises a core having poles and windings around said poles forming a pole assembly.

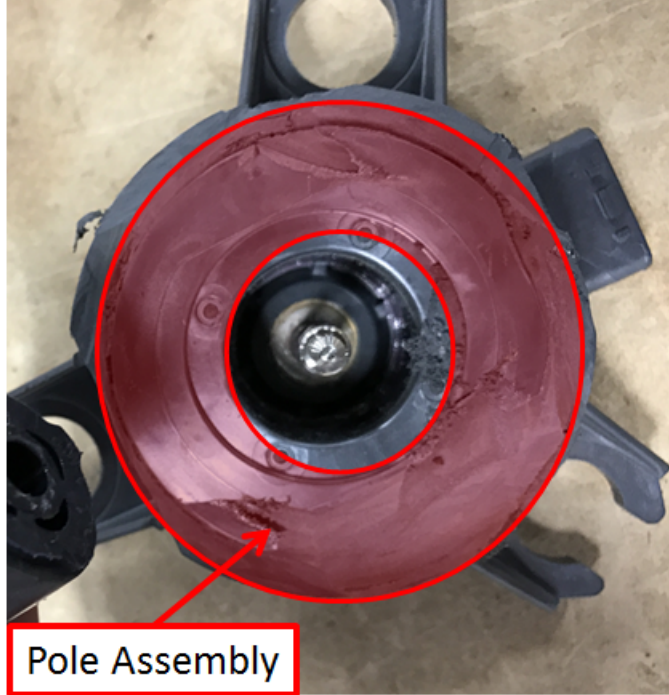
For example, as shown in the photo below, the motor of the Pump has a plurality of poles that are formed by laminations and arranged together in a circular shape to form a core. Each pole is wrapped with copper wire windings.



IMG_2010.JPG

"a) a core having poles and windings around said poles forming a pole assembly;"

For example, the Pump's poles and windings around said poles form a pole assembly:



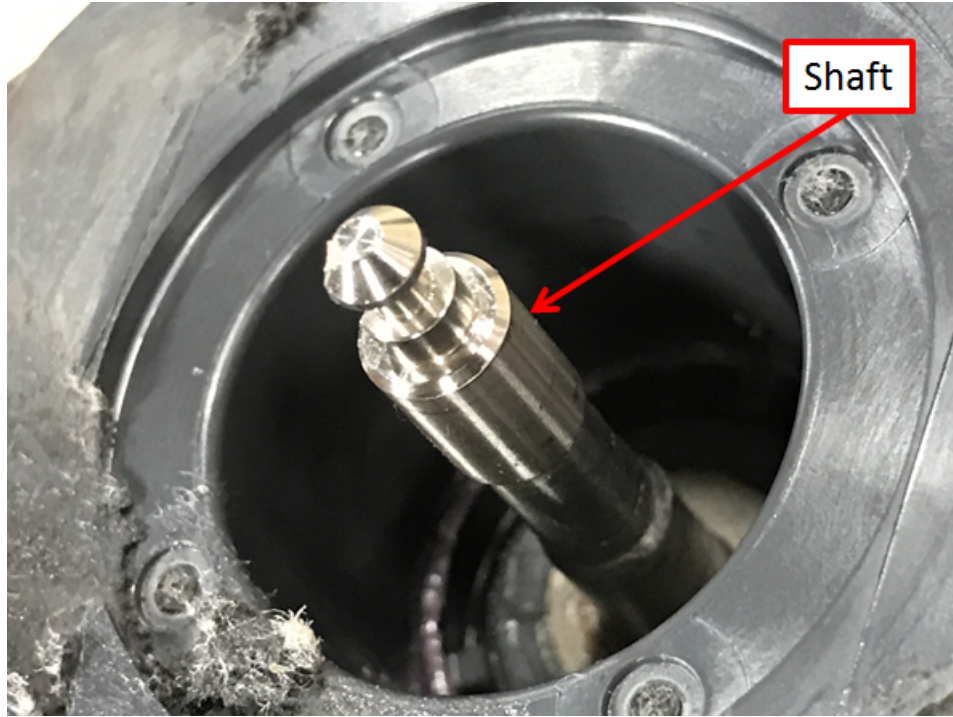
IMG_1960.JPG

"b) a shaft, the shaft and pole assembly not being in direct contact with one another, but rather the shaft being spaced from the pole assembly; and"

b) a shaft, the shaft and pole assembly not being in direct contact with one another, but rather the shaft being spaced from the pole assembly; and

The Pump comprises a shaft, the shaft and pole assembly not being in direct contact with one another, but rather the shaft being spaced from the pole assembly.

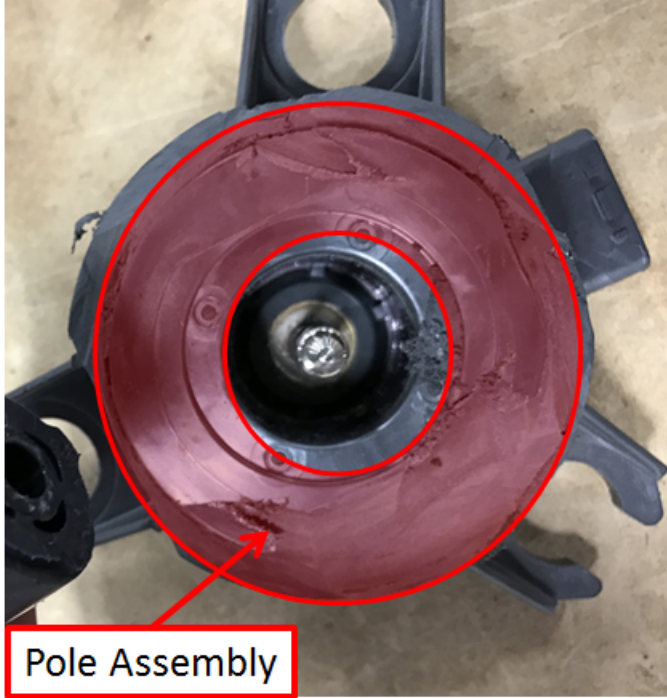
For example, as shown in the picture below, the motor of the Pump contains a shaft:



IMG_1976.JPG

"b) a shaft, the shaft and pole assembly not being in direct contact with one another, but rather the shaft being spaced from the pole assembly; and"

The shaft does not directly contact the core or the windings of the pole assembly. The shaft is positioned within and spaced from the pole assembly:



IMG_1960.JPG

"c) a thermoplastic material secured to the shaft and substantially encapsulating the pole assembly,"

c) a thermoplastic material secured to the shaft and substantially encapsulating the pole assembly

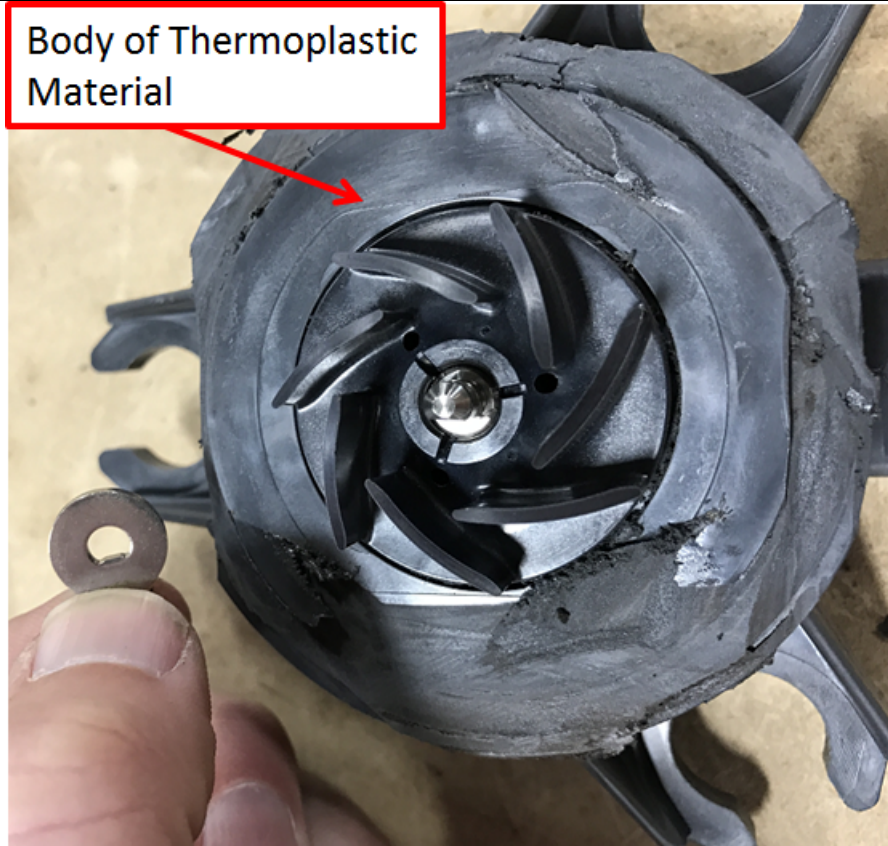
The Pump comprises a thermoplastic material secured to the shaft and substantially encapsulating the pole assembly.

For example, the motor of the Pump includes a thermoplastic body that is formed from a material identified on the Pump as "PPS – GF 30" as shown below:



IMG_2043.JPG

"c) a thermoplastic material secured to the shaft and substantially encapsulating the pole assembly,"



IMG_1956.JPG

This label indicates that the body is made from polyphenylene sulfide with 30% glass fiber filler ("PPS-GF30"). PPS-GF30 is a known thermoplastic.

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Overview of materials for Polyphenylene Sulfide (PPS) with 30% Glass Fiber Filler

Categories: [Polymer](#); [Thermoplastic](#); [Polyphenylene Sulfide \(PPS\)](#); [Polyphenylene Sulfide \(PPS\) with 30% Glass Fiber Filler](#)

Material Notes: This property data is a summary of similar materials in the MatWeb database for the category "Polyphenylene Sulfide (PPS) with 30% Glass Fiber Filler". Specific grades with glass content between 25% and 34% are included. Each property range of values reported is minimum and maximum values of appropriate MatWeb entries. The comments report the average value, and number of data points used to calculate the average. The values are not necessarily typical of any specific grade, especially less common values and those that can be most affected by additives or processing methods.

"c) a thermoplastic material secured to the shaft and substantially encapsulating the pole assembly,"

<http://www.matweb.com/search/DataSheet.aspx?MatGUID=c43bc743bdc0413ead2b87aca2e38a30&ckck=1>

PPS-GF30 is used in injection molding processes to manufacture parts.

PROSPECTOR®



Home > Plastics > Generics > Polyphenylene Sulfide (PPS)

Polyphenylene Sulfide (PPS) Plastic

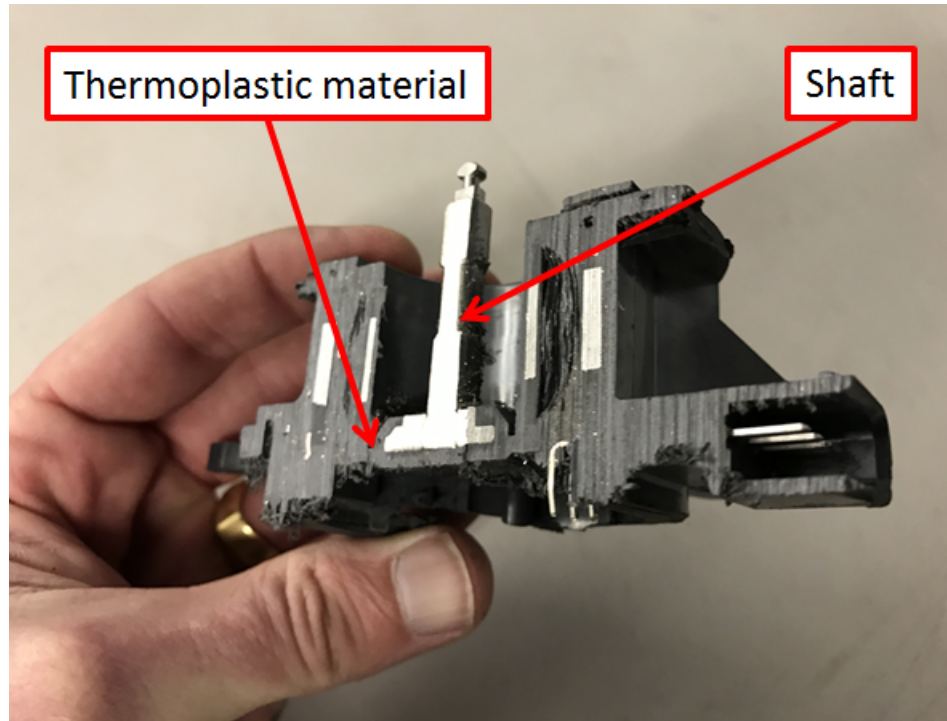
Polyphenylene Sulfide (PPS) - [Manufacturers](#) - [Materials](#) - [Classification](#)

Polyphenylene Sulfide (PPS) - A crystalline polymer having a symmetrical, rigid backbone chain consisting of recurring p-substituted benzene rings and sulfur atoms. A variety of grades suitable for slurry coating, fluidized-bed coating, electrostatic spraying, as well as **injection** and compression **molding** are offered. Polyphenylene sulfides exhibit outstanding chemical resistance, thermal stability, dimensionally stability, and fire resistance. PPS's extreme inertness toward organic solvents, and inorganic salts and bases make for outstanding performance as a corrosion-resistant coating suitable for contact with foods.

<https://plastics.ulprospector.com/generics/41/polyphenylene-sulfide-pps>

"c) a thermoplastic material secured to the shaft and substantially encapsulating the pole assembly,"

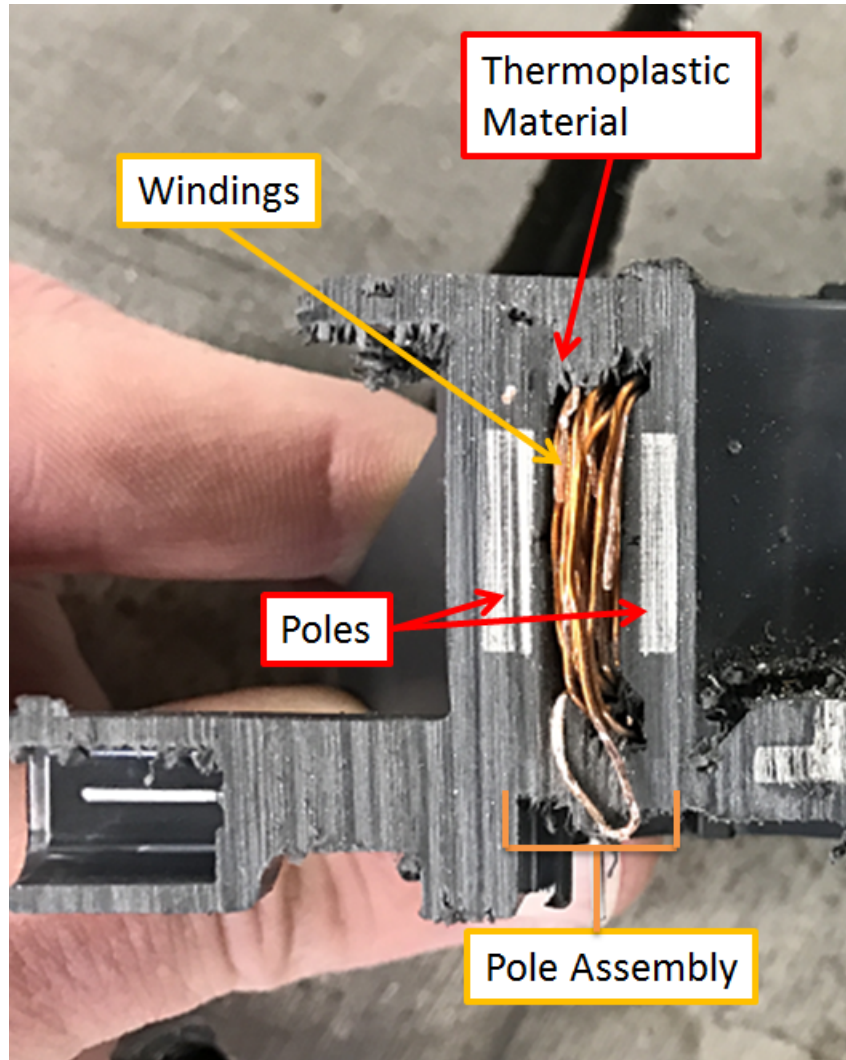
The thermoplastic body contains a portion that surrounds and secures to the shaft:



IMG_2013.JPG

"c) a thermoplastic material secured to the shaft and substantially encapsulating the pole assembly,"

The thermoplastic material secured to the shaft also substantially encapsulates the pole assembly. For example, as shown in the picture below the thermoplastic material of the Pump encapsulates all of the core and the pole assembly.



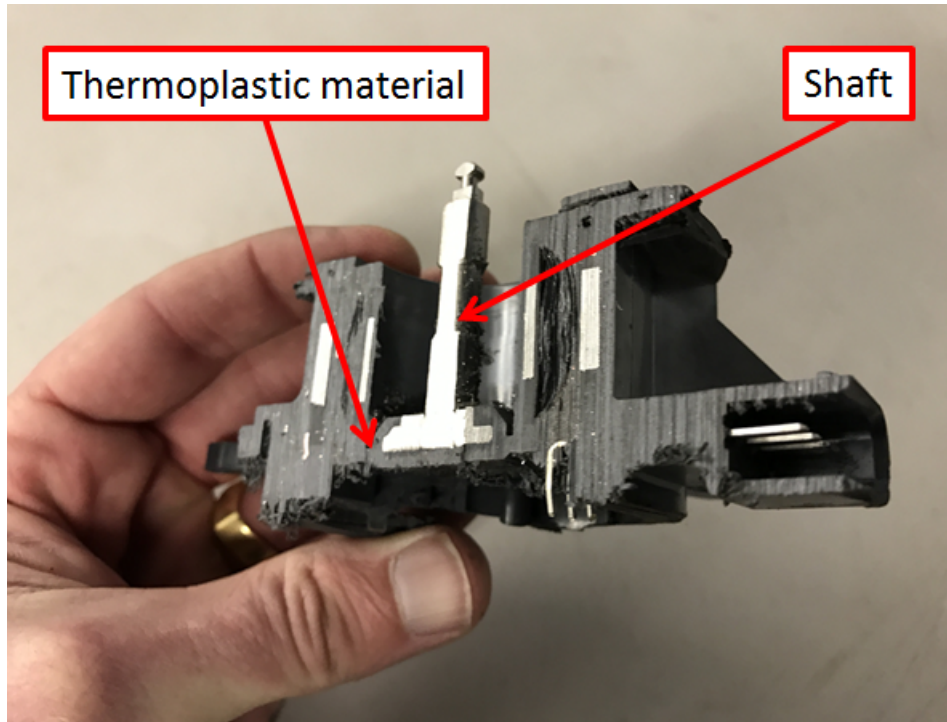
IMG_2010.JPG

"c) the thermoplastic material joining the pole assembly to the shaft in the space between the pole assembly and the shaft, filling in the space between them such that the windings, core and shaft are rigidly fixed together."

c) the thermoplastic material joining the pole assembly to the shaft in the space between the pole assembly and the shaft, filling in the space between them such that the windings, core and shaft are rigidly fixed together.

The pump comprises thermoplastic material joining the pole assembly to the shaft in the space between the pole assembly and the shaft, filling in the space between them such that the windings, core and shaft are rigidly fixed together.

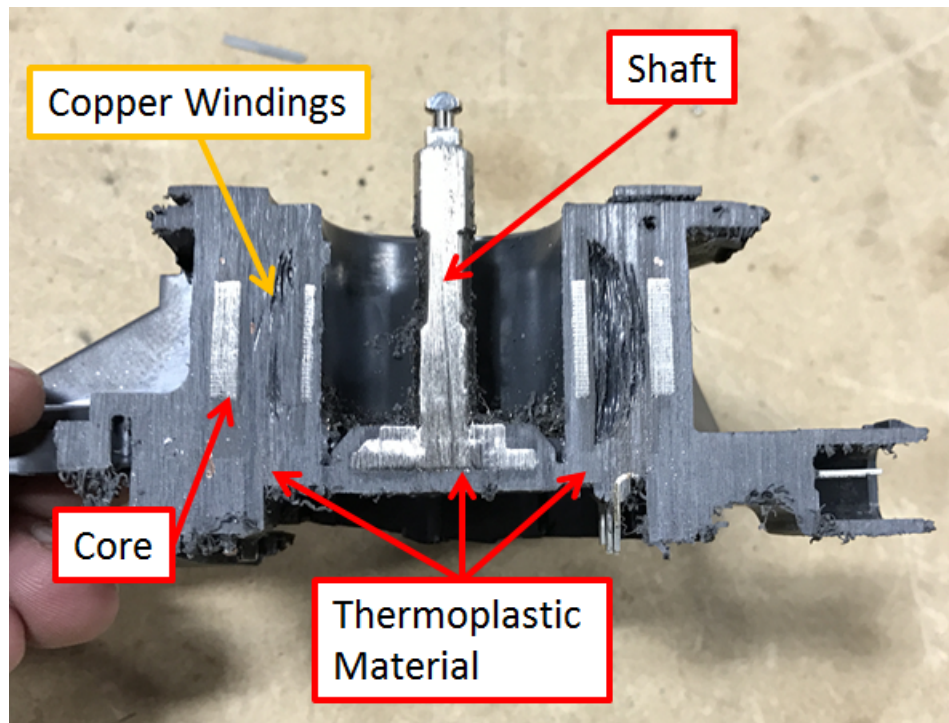
For example, thermoplastic material encapsulates and rigidly fixes the shaft into the same body of material that encapsulates the copper wire, as shown in the picture below:



IMG_2013.JPG

"c) the thermoplastic material joining the pole assembly to the shaft in the space between the pole assembly and the shaft, filling in the space between them such that the windings, core and shaft are rigidly fixed together."

The picture directly below shows the Pump from the reverse side, with the shaft extending outward to receive the rotor:



IMG_2036.JPG

The thermoplastic body substantially encapsulates the pole assembly and also contains a portion that surrounds and secures to the shaft. The pole assembly and shaft are separated by a visible distance that is filled with the thermoplastic material, as shown above. The thermoplastic material rigidly fixes the core, copper wire and shaft together.