

# ZEROSTART<sup>®</sup>

COLD WEATHER STARTING PRODUCTS

2012

## Application Guide & Product Catalog



**AGRICULTURAL**



**AUTOMOTIVE**



**HEAVY DUTY**



**INDUSTRIAL**

# PHILLIPS & TEMRO

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*industries*<sup>®</sup>

For over 80 years, Phillips & Temro Industries has supplied quality diesel engine solutions to original equipment manufacturers, and aftermarket distributors worldwide. Both ISO9000/TS16949 quality management and ISO14001 environmental certified, we are committed to continuous improvement and customer satisfaction. With manufacturing facilities in the United States, Canada, and the UK, we provide global distribution of cold weather starting, comfort and convenience, emissions control, exhaust silencing and engine cooling products. Our dedication to philosophies of lean manufacturing allow us to exceed our customer's requirements for value, service, and delivery.



**COOLING  
TECHNOLOGY**



**TRUFLO**



**HEATING  
TECHNOLOGY**



**SILENCING/EMISSION  
TECHNOLOGY**



**HYBRID/EV  
TECHNOLOGY**



## Avoid Common Engine Heater Installation Mistakes:

**DO NOT USE AN ENGINE HEATER WHEN USING 100% ANTIFREEZE.** A 50/50 mixture is recommended. Using a mixture that is richer than 65% will cause the element to fail prematurely.

**DO NOT RUN YOUR ENGINE WHILE THE ENGINE HEATER IS PLUGGED IN.** This will create an air bubble around the element which will then cause the element to burn out prematurely.

**DO NOT PLUG IN YOUR ENGINE HEATER PRIOR TO INSTALLING TO "SEE IF IT WORKS".** Without being submerged in liquid, the heat generated has nowhere to go and could result in serious burns.

**HOW TO SAFELY TEST A HEATER.** Connect a multi-meter to the heater pins. A reading between 5 ohms and 100 ohms indicates that the heater is working correctly.

**DO NOT USE PETROLEUM BASED LUBRICANTS ON THE O-RING.** A petroleum based lubricant will significantly reduce the life of the O-ring. Use antifreeze instead.

**DO NOT OVER TIGHTEN THE HEATER.** The O-ring will form an adequate seal when the heater is torqued to the specifications in the instructions. Over tightening will strip the screw threads and reduce the quality of the seal.

**AFTER HEATER USE, DISCONNECT THE EXTENSION CORD FROM THE HEATER CORD BY FIRMLY GRASPING EACH PLUG AND PULLING IN OPPOSITE DIRECTIONS.** Only grasp the plugs. Do not grasp, pull, yank or snap the cords to disconnect power. Damage will result to the power cord connections which could result in permanent malfunction and even an electrical short.

# ZEROSTART®

## COLD WEATHER STARTING PRODUCTS

Due to our constant efforts to provide the most accurate and complete information possible, the information presented in this publication is subject to change. To be sure you have the most current information, visit our website [www.phillipsandtemro.com](http://www.phillipsandtemro.com)

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## 2012 Cold Weather Starting Products Application Guide & Product Catalog

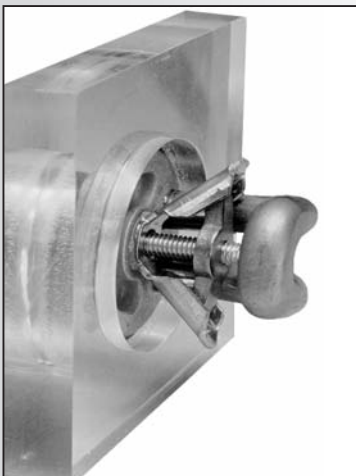
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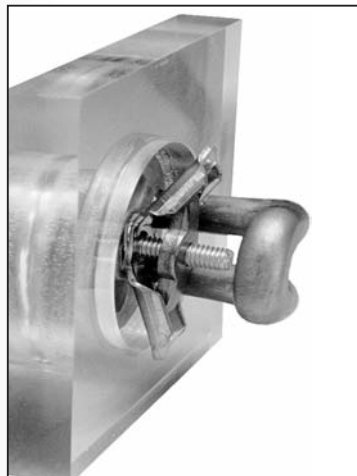
## FREEZE PLUG HEATERS

*The choice of professional installers*

- Ensure quick winter starts - reduce engine wear
- Highest rated, most efficient type of heater
- V-Loc™ locking system provides quick, trouble-free installation
- Plated stamped-steel & forged brass adapters with copper heating element for maximum life and efficiency.
- Direct OEM replacement in many applications
- Replaceable cordset



V-Loc™ in fully open position, prior to tightening locking bolt.



V-Loc™ clamp spreads outward as locking bolt is tightened.

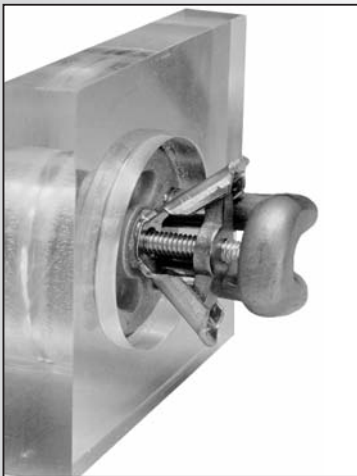


V-Loc™ in fully locked position. Heater is secured in engine block.

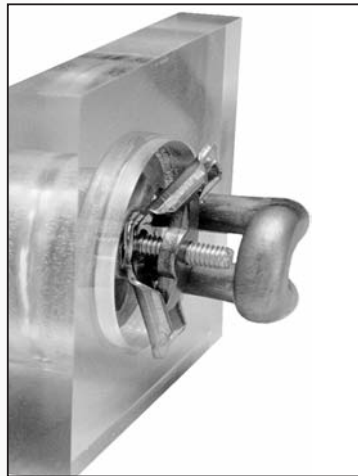
## CHAUFFE-MOTEURS

*Le choix des installateurs professionnels*

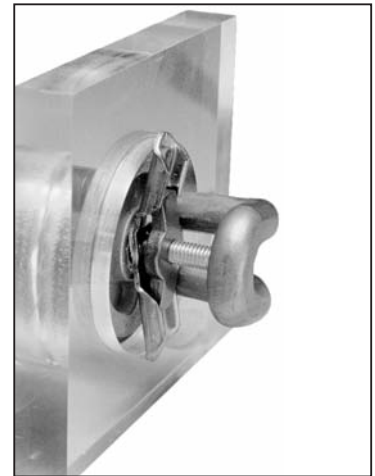
- Pour assurer des démarrages rapides en hiver et réduire l'usure du moteur
- Le réchauffeur le mieux coté et le plus efficace
- Le système de verrouillage V-Loc™ permet une installation simple et sans problème
- Adaptateurs en laiton forgé et en acier estampé plaqué avec élément chauffant en cuivre pour une durabilité et une efficacité maximales
- Remplacement direct d'équipement d'origine dans plusieurs applications
- Cordon amovible remplaçable



V-Loc™ en position ouverte avant de serrer le boulon d'arrêt.



La fixation V-Loc™ s'ouvre vers l'extérieur quand on serre le boulon d'arrêt.



V-Loc™ en position complètement verrouillé. Le réchauffeur est fixé au bloc-moteur.

# Automotive & light-duty Truck Applications

All automotive applications are CSA approved.

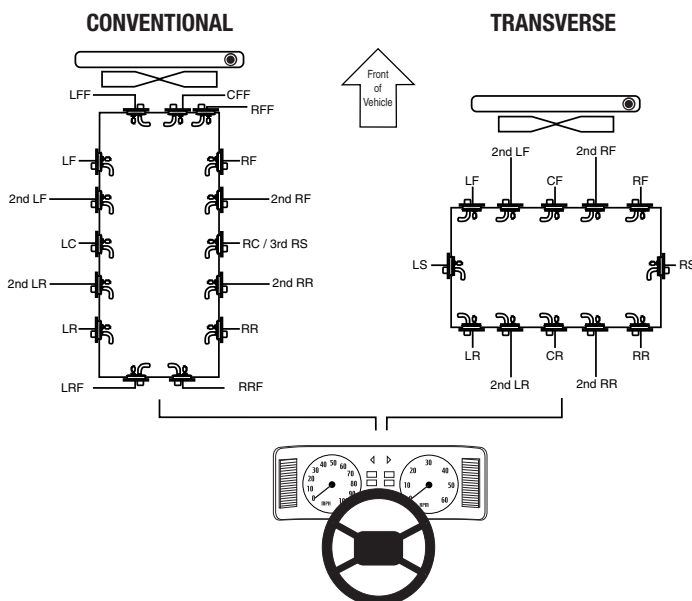


## Automotive/light-duty truck listings appear as follows:

┌── Year(s), type of engine, size/model of engine, possible additional information.

1956-62 V8 327 CID	3100039	3600006	1-1/2"	LC or RC	6 o'clock	1	3200003	1500W
<p><b>Immersion/Freeze Plug Heater part number</b> "NONE" indicates item not currently available.</p> <p><b>Replacement Cord Part Number</b> Also see page 75 for replacement cord information.</p> <p><b>Bore Diameter</b> Freeze Plug Heaters will list a size similar to the above heater (English or metric). Threaded type heaters will list "THD" after the size. Heaters with NPT threads will list "NPT" after the size. "Clampon" entry indicate that a frost plug or threaded type heater is not available for a particular engine; an external bolton heater may be used instead.</p> <p><b>Installation location</b> Use chart below to assure proper installation location.</p> <p><b>Point element</b> Use the clock position listed to determine the direction the element should point. "N/A" entry indicates a threaded heater with no element bend, or recommended heater has no requirements for element direction.</p> <p><b>Notes</b> If a number appears in this column, see page 26 for important information regarding application.</p> <p><b>Lower Radiator Hose Heater part number</b> If your vehicle can use a LRHH as a heating option, the part number will appear here. In some cases, a radiator hose heater is the only heating option.</p> <p><b>Circulation/Tank Wattage</b> If a Circulation or Tank type heater can be used, the recommended wattage of the heater will appear in this column.</p>								

Where a Freeze Plug style heater is specified, use the chart below to determine the proper mounting location.  
Unless otherwise noted, freeze plugs are numbered from front.



- CFF.....Center Front Face
- CF.....Center Front
- CR.....Center Rear
- F.....Front
- FF.....Front Face of Block
- LC.....Left Center
- LF.....Left Front
- 2nd LF.....2nd from Left, Front
- LFF.....Front Face, Left Cylinder
- LLC.....Left Side, Lower Center
- LR.....Left Rear
- 2nd LR.....2nd from Left, Rear
- LS.....Left Side
- R.....Rear
- RC.....Right Center
- Rear.....Rear Face or Side
- RF.....Right Front
- 2nd RF.....2nd from Right Front
- RFF.....Front Face, Right Cylinder Head
- RR.....Right Rear
- RS.....Right Side
- 3rd RS.....3rd from Firewall (FW) Right Side
- 2nd RR.....2nd Core Hole from the Right Rear

### Automotive Applications:

Diagram shown from driver's seat view.

# Applications automobiles et camions légers

Toutes les applications automobiles sont approuvées par la CSA.



Les listes pour automobiles et camions légers sont présentées comme suit :

— Année(s), type de moteur, puissance/modèle du moteur, renseignements supplémentaires possibles.

1956-62 V8 327 cc	3100039	3600006	38,1 mm (1,5 po)	CG ou CD	6 h	1	3200003	1500 W
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**Numéro de pièce du thermoplongeur/chauffe-moteur**  
« AUCUN » signifie que l'article n'est pas offert actuellement.

**Numéro de pièce du cordon de recharge**  
Consultez également la page 75 pour de l'information sur le cordon de recharge.

**Diamètre de l'alésage**  
Pour les chauffe-moteurs, une taille semblable à celle du réchauffeur ci-dessus sera indiquée (unités anglaises ou métriques). Pour les réchauffeurs filetés, « FIL » sera indiqué après la taille. Pour les réchauffeurs à filetage NPT, « NPT » sera indiqué après la taille. La mention « Boulonné » indique qu'il n'y a pas de chauffe-moteur ou de réchauffeur fileté pour ce moteur; un réchauffeur externe boulonné pourrait être utilisé.

**Site d'installation**  
Utilisez le graphique ci-dessous pour vous assurer du site d'installation approprié.

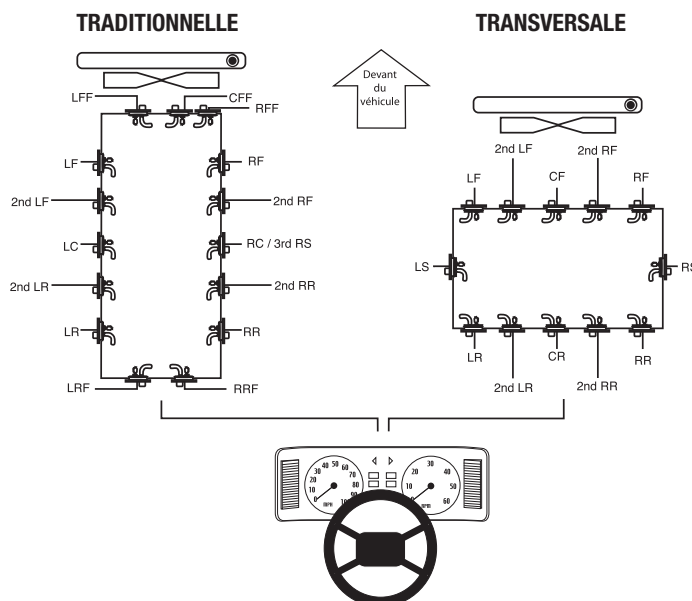
**Orientation de l'élément**  
Utilisez la position horaire inscrite pour établir la direction dans laquelle l'élément doit être orienté. « S.O. » indique un réchauffeur fileté sans courbure de l'élément ou un réchauffeur recommandé sans exigences relatives à l'orientation.

**Remarques**  
Si un numéro apparaît dans cette colonne, consultez la page 26 pour des renseignements importants concernant l'utilisation.

**Numéro de pièce du réchauffeur de durite de radiateur inférieure**  
Si votre véhicule peut utiliser un réchauffeur de durite de radiateur inférieure, le numéro de pièce apparaîtra ici. Dans certains cas, un réchauffeur de durite de radiateur est le seul type de chauffage possible.

**Puissance du réchauffeur de circuit/chauffe-réservoir**  
Si un réchauffeur à circulation ou un chauffe-réservoir peut être utilisé, la puissance recommandée du réchauffeur apparaîtra dans cette colonne.

Si un chauffe-moteur est indiqué, utilisez le graphique ci-dessous pour déterminer l'emplacement approprié pour le montage.  
À moins d'indication contraire, les chauffe-moteurs sont numérotés sur le devant.



- CFF .....Face avant au centre
- CF .....Avant au centre
- CR .....Arrière au centre
- F .....Avant
- FF .....Face avant du bloc
- LC .....Centre gauche
- LF .....Gauche avant
- 2nd LF .....2e de la gauche, avant
- LFF .....Face avant, cylindre gauche
- LLC .....Côté gauche, centre inférieur
- LR .....Gauche arrière
- 2nd LR .....2e de la gauche arrière
- LS .....Côté gauche
- R .....Arrière
- RC .....Centre droit
- Rear .....Arrière
- RF .....Droite avant
- 2nd RF .....2e de la droite avant
- RFF .....Face avant, culasse droite
- RR .....Droite arrière
- RS .....Côté droit
- 3rd RS .....3e de la cloison pare-feu (CD) côté droit
- 2nd RR .....2e bouchon de la droite arrière

### Applications automobiles :

Le schéma est montré du point de vue du siège du conducteur.

MAKE, MODEL, YEAR & ENGINE	FREEZE PLUG HEATER (UNLESS OTHERWISE NOTED)						LOWER HOSE HEATER	CIRCULATION HEATER
	HEATER PART No.	REPL. CORD PART No.	BORE DIAMETER	INSTALLATION LOCATION	POINT ELEMENT†	NOTES*	PART No.	WATTAGE
<b>ACURA</b>								
<b>4 Cylinder</b>								
1996-2000 L4 - 1.6L	3100006	3600005	28 MM THD	LR	N/A		N/A	N/A
1987-89 L4 - 1.6L	3400001	3600002	CLAMP-ON	N/A	N/A		N/A	N/A
2002-2005 L4 - 1.7L	3100006	3600005	28 MM THD	LR	N/A		N/A	N/A
1990-2001 L4 - 1.7, 1.8L	3100006	3600005	28 MM THD	RF	N/A		N/A	N/A
2002-2006 L4 - 2.0L [RSX]	3100006	3600005	28 MM THD	RR	N/A		N/A	N/A
2006-2011 L4 - 2.0L [CSX]	3100006	3600005	28 MM THD	RR	N/A		N/A	N/A
1995-97 L4 - 2.2L [ CL Coupe ]	3100006	3600005	28 MM THD	LR	N/A		N/A	N/A
1998-99 L4 - 2.3L [ CL Coupe ]	3100006	3600005	28 MM THD	LR	N/A		N/A	N/A
2004-2012 L4 - 2.4L [ TSX ]	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
<b>5 Cylinder</b>								
1992-98 L5 - 2.5L	3100006	3600005	28 MM THD	RF	N/A		N/A	N/A
<b>6 Cylinder</b>								
1987-90 V6 - 2.5, 2.7L	see dealer		N/A	N/A	N/A		N/A	N/A
1991-99 V6 - 3.2L	3100006	3600005	28 MM THD	LC	N/A		N/A	N/A
1993-2005 V6 - 3.0, 3.2L [NSX]	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
1997-99 V6 - 3.0L [CL coupe]	3100006	3600005	28 MM THD	LF	N/A		N/A	N/A
1999-2007 V6 - 3.2 [ TL, CL coupe]]	3100006	3600005	28 MM THD	LF	N/A		N/A	N/A
2007-2010 V6 - 3.5L [ TL Type S]	3100006	3600005	28 MM THD	LF	N/A		N/A	N/A
1996-2004 V6 - 3.5 [RL]	3100006	3600005	28 MM THD	LF	N/A		N/A	N/A
2005-2012 V6 - 3.5L [RL]	3100006	3600005	28 MM THD	LF	N/A		N/A	N/A
2009-2012 V6 - 3.7L [TL]	3100006	3600005	28 MM THD	LF	N/A		N/A	N/A
<b>LIGHT TRUCK</b>								
2007-20010L4 - 2.3L [RDX]	3100006	3600005	28 MM THD		N/A		N/A	N/A
1998-00 V6 - 3.5L	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
2001-2006 V6 - 3.5L [MDX]	3100006	3600005	28 MM THD	LF	N/A		N/A	N/A
2007-2012 V6 - 3.7L [MDX]	3100006	3600005	28 MM THD	LF	N/A		N/A	N/A
<b>AMC - EXCEPT JEEP AND EAGLE</b>								
<b>4 Cylinder</b>								
1984 L4 - 2.5L	3100065	3600006	1-3/4"	LR	6 o'clock		320-0003	750W
1980-83 L4 - 2.5L (Pontiac engine)	3100054	3600006	1-5/8"	LR	12 o'clock		320-0003	750W
<b>6 Cylinder</b>								
1964-87 L6 - 199, 232, 258 cu. in. (4.2L)	3100072	3600006	2"	LR	12 o'clock		320-0003	750W
<b>8 Cylinder</b>								
1956-62 V8 - 327 cu. in.	3100039	3600006	1-1/2"	LC or RC	6 o'clock		320-0003	1500W
1966-80 V8 - 290, 304, 343, 360, 390, 401 cu. in.	3100039	3600006	1-1/2"	LR	5 o'clock		320-0003	1500W
<b>AUDI</b>								
<b>4 Cylinder</b>								
1973-88 L4 - 1471cc	3100034	3600016	36.5 MM	2ND RS	6 o'clock	2	N/A	N/A
1986-90 L4 - 1.8, 2.0L	3100034	3600016	36.5 MM	RC	6 o'clock	2	N/A	N/A
1997-2005 L4 - 1.8L (TURBO)	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
2005-2012 L4 - 2.0L (TURBO FSI & TSI)	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
2010-2012 L4 - 2.0L DIESEL	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
<b>5 Cylinder</b>								
1980-86 L5 - 2.0L, 2.1L & 2.2L (Except TURBO)	3100034	3600016	36.5 MM	RC	6 o'clock	2	N/A	N/A
1987-95 L5 - 2.2, 2.3L	3100035	3600016	36.5 MM	RF or 2ND RF	3 o'clock	2	N/A	N/A
2012 L5 - 2.5L (TURBO)	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
<b>6 Cylinder</b>								
1992-95 V6 - 2.8L	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
1996-2001 V6 - 2.8L	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
2000-2004 V6 - 2.7L (TURBO)	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
2002-2005 V6 - 3.0L	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
2009-2012 V6 - 3.0L Supercharged	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
2010-2012 V6 - 3.0L DIESEL	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
2004-2009 V6 - 3.2L (Transverse)	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
2005-2011 V6 - 3.2L (Conventional)	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
2006-2010 V6 - 3.6L	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
<b>8 Cylinder</b>								
2012 V8 - 4.0 Supercharged	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
1992-2012 V8 - 3.6, 3.7, 4.2L	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
<b>10 Cylinder</b>								
2006-2011 V10 - 5.2L	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
<b>12 Cylinder</b>								
2006-2009 W12 - 6.0L	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
2011-2013 W12 - 6.3L	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
<b>BMW</b>								
<b>4 Cylinder</b>								
1969-90 L4 - SOHC	3100030	3600006	36 MM	RC	6 o'clock		N/A	750W

† Please confirm element orientation - improper position may result in heater or engine damage.

\* Description of footnotes - see page 26. Circulation Heaters - see page 71-73. Lower Radiator Hose Heaters - see page 85.



MAKE, MODEL, YEAR & ENGINE	FREEZE PLUG HEATER (UNLESS OTHERWISE NOTED)						LOWER HOSE HEATER	CIRCULATION HEATER
	HEATER PART No.	REPL. CORD PART No.	BORE DIAMETER	INSTALLATION LOCATION	POINT ELEMENT†	NOTES*	PART No.	WATTAGE
<b>BMW - continued</b>								
<b>6 Cylinder</b>								
1978-83 L6 - ALL (Except 528E)	3100030	3600006	36 MM	LF	3 o'clock		N/A	750W
1982-91 L6 - 2.5, 2.7, 3.5L	3100063	3600006	44 MM	2ND RF	4 o'clock		N/A	N/A
1992-99 24-Valve L6- 2.0, 2.5, 2.8, 3.0, 3.2L	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
1998-2005 24-Valve L6 - 2.8, 3.0, 3.2, 3.4L (Aluminum Block)	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
2006-2012 L6 - 3.0L	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
2007-2010 L6 - 3.0L (N54) Twin Turbo	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
2010-2012 L6 - 3.0L (N55) Turbo	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
2010-2012 L6 - 3.0L Diesel	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
<b>8 Cylinder</b>								
1993-2009 V8 - 3.0, 4.0, 4.4, 4.6, 4.8, 5.0L	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
2008-2012 V8 - 4.0L (S65B40)	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
2009-2012 V8 - 4.4L Turbo	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
<b>10 Cylinder</b>								
2006-2009 V10 - 5.0L (S65B50)	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
<b>12 Cylinder</b>								
1988-2003 V12 - 5.0, 5.4L	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
2004-2008 V12 - 6.0L	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
2010-2012 V12 - 6.0L Turbo	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
<b>BUICK</b>								
<b>4 Cylinder</b>								
1982-86 L4 - 1.8L	3100014	3600006	34 MM	LF	12 o'clock		N/A	N/A
1983-89 L4 - 1.8, 2.0L OHC (Brazil engine)	3100015	3600006	34 MM	2ND LF	3 o'clock	2	N/A	N/A
1983-84 L4 - 2.0L	3100014	3600006	34 MM	LF	12 o'clock		N/A	N/A
1985-86 L4 - 2.0L	3100062	3600006	42 MM	LF	4 o'clock		N/A	N/A
1987-96 L4 - 2.0L, 2.2L (Transverse)	3100081	3600006	42 MM	LF	9 o'clock		N/A	N/A
2012 L4 - 2.0L Turbo	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
1987-93 L4 - 2.3L QUAD IV	3100093	3600006	3/4" NPT	N/A	N/A	3	N/A	N/A
1994-95 L4 - 2.3L QUAD IV GEN II	3100001	3600006	1/2" NPT	In water pump	N/A		N/A	N/A
1996-99 L4 - 2.4L (Twin Cam)	3100001	3600006	1/2" NPT	In water pump	N/A		N/A	N/A
2011-2012 L4 - 2.4L Ecotec	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
1980-92 L4 - 2.5L	3100076	3600006	1-5/8"	LF	12 o'clock		320-0003	750W
<b>6 Cylinder</b>								
1980-86 V6 - 2.8L (Transverse) Except VIN W	3100014	3600006	34 MM	RS	3 o'clock	7	320-0003	N/A
1987-89 V6 - 2.8L (Transverse) VIN W	3100015	3600006	34 MM	CR	3 o'clock	2	N/A	N/A
1982-88 V6 - 3.0L (Transverse)	3100041	3600006	1-1/2"	LF	12 o'clock	1	320-0003	1000W
2010-2011 V6 - 3.0L (Transverse)	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
1989-2004 V6 - 3.1L (Transverse)	3100015	3600006	34 MM	CR	3 o'clock	2	N/A	N/A
2005-2007 V6 - 3.1L (Transverse)	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
2002-2003 V6 - 3.4L (Transverse)	3100015	3600006	34 MM	CR	3 o'clock	2	N/A	N/A
1978-79 V6 - 196 cu. in.	3100039	3600006	1-1/2"	RR	12 o'clock	1	320-0003	1000W
2005-2012 V6 - 3.6L (Transverse)	3100110	3600082	Cartridge	LR	N/A	15	N/A	N/A
1988-2004 V6 - 3300, 3800 (Transverse)	3100041	3600006	1-1/2"	RF or LF	12 o'clock	15	320-0003	N/A
2005-2009 V6 - 3800 (Transverse)	3100109	3600082	28 MM THD	CR	N/A	15	N/A	N/A
1975-88 V6 - 3.8L (231 cu. in.) (Conventional)	3100039	3600006	1-1/2"	RR	12 o'clock	1	320-0003	1000W
1984-88 V6 - 3.8L (231 cu. in.) (Transverse)	3100041	3600006	1-1/2"	RF or LF	3 o'clock		320-0003	750W
2009-2012 V6 - 3.9L (Transverse)	3100109	3600082	28 MM THD	CR	N/A	15	N/A	N/A
1980-85 V6 - 4.1L (252 cu. in.)	3100039	3600006	1-1/2"	RR	12 o'clock		320-0003	750W
1982-85 V6 - 4.3L (265 cu. in.) DIESEL (Conv)	3100039	3600006	1-1/2"	LF or RF	12 o'clock	1	320-0003	1000W
1982-85 V6 - 4.3L (263 cu. in.) DIESEL (Transverse)	3100039	3600006	1-1/2"	RR or RF	12 o'clock		N/A	1000W
1968-76 L6 - 250 cu. in.	3100054	3600006	1-5/8"	LR	12 o'clock		320-0003	1000W
<b>8 Cylinder</b>								
1975-76 V8 - 260 cu. in.	3100039	3600006	1-1/2"	RF	6 o'clock		320-0003	1000W
1981-82 V8 - 4.4L (267 cu. in.)	3100057	3600006	1-5/8"	LR	9 o'clock		320-0003	1000W
1977-82 V8 - 4.3 L (265 cu. in.) 4.9L (301 cu. in.)	3100070	3600006	1-15/16"	LC	11 o'clock		320-0003	1000W
2006-2012 V8 - 4.6L (North Star)	see dealer	3600082	N/A	N/A	N/A		N/A	N/A
1977-95 V8 - 5.0L (305 cu. in.) (Chevrolet engine)	3100057	3600006	1-5/8"	LR	9 o'clock		320-0003	1500W
1981-91 V8 - 5.0L (307 cu. in.) (Oldsmobile engine)	3100039	3600006	1-1/2"	LF or RF	12 o'clock		320-0003	1500W
2008-2009 V8 - 5.3L (Transverse)	3100109	3600082	28 MM THD	RF	N/A	15	N/A	N/A
1968-81 V8 - 5.7L (350 cu. in.) (Buick engine)	3100039	3600006	1-1/2"	LF or RR	12 o'clock	1	320-0003	1500W
1980-85 V8 - 5.7L (350 cu. in.) DIESEL	3100039	3600006	1-1/2"	LF or RF	12 o'clock		N/A	1500W
1991-96 V8 - 5.0L (305 cu. in.), 5.7L (350 cu. in.) (Chevrolet engine)	3100057	3600006	1-5/8"	LR	9 o'clock	12	320-0003	1500W
1975-77 V8 - 400 cu. in.	3100070	3600006	49 MM	LF	12 o'clock		320-0003	1500W
1977-79 V8 - 403 cu. in.	3100039	3600006	1-1/2"	RF	12 o'clock		320-0003	1500W
1967-71 V8 - 430, 455 cu. in.	3100039	3600006	1-1/2"	RC	12 o'clock		320-0003	1500W

† Please confirm element orientation - improper position may result in heater or engine damage.

\* Description of footnotes - see page 26. Circulation Heaters - see page 71-73. Lower Radiator Hose Heaters - see page 85.

MAKE, MODEL, YEAR & ENGINE	FREEZE PLUG HEATER (UNLESS OTHERWISE NOTED)						LOWER HOSE HEATER	CIRCULATION HEATER
	HEATER PART No.	REPL. CORD PART No.	BORE DIAMETER	INSTALLATION LOCATION	POINT ELEMENT†	NOTES*	PART No.	WATTAGE
<b>BUICK - continued</b>								
<b>LIGHT DUTY TRUCKS</b>								
<b>6 Cylinder</b>								
2002-2004 V6 - 3.4L	3100015	3600006	34 MM	CR	3 o'clock	2	N/A	N/A
2005-2006 V6 - 3.4L	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
2004 V6 - 3.5L	3100005	3600005	28 MM THD	CR	N/A		N/A	N/A
2004 V6 - 3.6L ( Transverse)	3100106	3600100	Cartridge	LR	N/A	15	N/A	N/A
2005-2012 V6 - 3.6L ( Transverse)	3100110	3600082	Cartridge	LR	N/A		N/A	N/A
2001-2003 V6 - 3800 (Transverse)	3100041	3600006	1-1/2"	RF or LF	12 o'clock		320-0003	N/A
2003-2004 L6 - 4.2L ( Conventional)	3100005	3600100	28 MM THD	LF	N/A		N/A	N/A
2005-2007 L6 - 4.2L ( Conventional)	3100109	3600082	28 MM THD	LF	N/A	15	N/A	N/A
<b>8 Cylinder</b>								
2003-2004 V8 - 5.3L ( Conventional)	3100005	3600100	28 MM THD	LR	N/A		N/A	N/A
2005-2007 V8 - 5.3L ( Conventional)	3100109	3600082	28 MM THD	LR	N/A	15	N/A	N/A
<b>CADILLAC</b>								
<b>4 Cylinder</b>								
1982-84 L4 - 1.8, 2.0L	3100014	3600006	34 MM	LF	12 o'clock		N/A	N/A
1985-88 L4 - 2.0L	3100062	3600006	42 MM	LF	4 o'clock		N/A	N/A
<b>6 Cylinder</b>								
1985-86 V6 - 2.8L (Transverse)	3100014	3600006	34 MM	RS	3 o'clock	7	320-0003	N/A
2005-2007 V6 2.8L (Conventional)	3100110	3600082	Cartridge	RR	N/A	15	N/A	N/A
1997-2001 V6 - 3.0L	3100006	3600005	28 MM	N/A	N/A		N/A	N/A
2010-2012 V6 - 3.0L	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
2002-2004 V6 - 3.2L	3100006	3600100	28 MM	LR	N/A		N/A	N/A
2005-2006 V6 - 3.2L	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
1986-88 V6 - 2.8L (Transverse) VIN W	3100015	3600006	34 MM	CR	3 o'clock	2	N/A	N/A
2004 V6 - 3.6L ( Conventional )	3100106	3600100	Cartridge	RR	N/A		N/A	N/A
2005-2012 V6 - 3.6L ( Conventional )	3100110	3600082	Cartridge	RR	N/A	15	N/A	N/A
1981-82 V6 - 4.1L (252 cu. in.)	3100039	3600006	1-1/2"	RR	12 o'clock	1	N/A	1000W
1984-85 V6 - 4.3L (262 cu. in.) DIESEL	3100039	3600006	1-1/2"	RF or RR	12 o'clock		N/A	1000W
<b>8 Cylinder</b>								
1982-94 V8 - 4.1, 4.5, 4.9L (Transverse)	see dealer	N/A	CLAMP-ON	N/A	N/A		320-0003	N/A
1993-2012 V8 - 4.6L (Transverse) [Northstar]	see dealer	N/A	CLAMP-ON	N/A	N/A		N/A	N/A
2005-2009 V8 - 4.4L (Conventional) [Northstar SC]	3100109	3600082	28 MM THD	RC	N/A	15	N/A	N/A
2004 V8 - 4.6L ( Conventional ) [Northstar]	3100005	3600100	28 MM THD	RC	N/A		N/A	N/A
2005-2010 V8 - 4.6L ( Conventional ) [Northstar]	3100109	3600082	28 MM THD	RC	N/A	15	N/A	N/A
1986-92 V8 - 5.0L (307 cu. in.)	3100039	3600006	1-1/2"	LF or RF	12 o'clock		320-0003	1500W
1990-96 V8 - 5.0, 5.7L (Chevrolet engine)	3100057	3600006	1-5/8"	LR	9 o'clock		320-0003	N/A
1976-81 V8 - 5.7L (350 cu. in.)	3100039	3600006	1-1/2"	LC or RC	12 o'clock		320-0003	1500W
1978-85 V8 - 5.7L (350 cu. in.) DIESEL	3100039	3600006	1-1/2"	LF or RF	12 o'clock		N/A	750W
2004 V8 - 5.7L [ CTS-V ]	3100005	3600100	28 MM THD	LF	N/A		N/A	N/A
2005-2007 V8 - 5.7L [ CTS-V ]	3100109	3600082	28 MM THD	LF	N/A	15	N/A	N/A
1980-84 V8 - 6.0L (368 cu. in.)	3100065	3600006	1-3/4"	RC	12 o'clock		N/A	750W
2009-2012 V8 - 6.2L (LSA) [CTS-V]	3100109	3600082	28 MM THD	LF	N/A	15	N/A	N/A
1977-79 V8 - 425 cu. in.	3100065	3600006	1-3/4"	RC	11 o'clock		320-0003	750W
1968-76 V8 - 472, 500 cu. in.	3100065	3600006	1-3/4"	LF or RC	12 o'clock		320-0003	750W
<b>LIGHT DUTY TRUCKS</b>								
<b>6 Cylinder</b>								
2010-2012 V6 - 2.8L Turbo	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
2010-2012 V6 - 3.0L	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
2004 V6 - 3.6L ( Conventional )	3100106	3600100	Cartridge	RR	N/A		N/A	N/A
2005-2009 V6 - 3.6L ( Conventional )	3100110	3600082	Cartridge	RR	N/A	15	N/A	N/A
<b>8 Cylinder</b>								
2004 V8 - 4.6L ( Conventional ) [Northstar]	3100005	3600100	28 MM THD	RC	N/A		N/A	N/A
2005-2009 V8 - 4.6L ( Conventional ) [Northstar]	3100109	3600082	28 MM THD	RC	N/A	15	N/A	N/A
2001-2004 V8 - 5.3, 6.0L	3100005	3600100	28 MM THD	LR	N/A		N/A	N/A
2005-2006 V8 - 5.3, 6.0L	3100109	3600082	28 MM THD	LR	N/A	15	N/A	N/A
2009-2012 V8 - 6.0L Hybrid	3100109	3600082	28 MM THD	LF	N/A		N/A	N/A
2007-2012 V8 - 6.2L	3100109	3600082	28 MM THD	LF	N/A		N/A	N/A
<b>CHEVROLET (Also see Geo)</b>								
<b>AUTOMOTIVE</b>								
<b>3 Cylinder</b>								
1986-88 L3 - 1.0L	3400002	3600002	CLAMP-ON	N/A	N/A		320-0001	N/A
1998-00 L3 - 1.0L	3400002	3600002	CLAMP-ON	N/A	N/A		320-0001	N/A
<b>4 Cylinder</b>								
1998-99 L4 - 1.3L (Suzuki engine)	3400004	3600020	CLAMP-ON	N/A	N/A		N/A	N/A
1976-87 L4 - 1.4, 1.6L (Conventional)	3100014	3600006	34 MM	RF	6 o'clock		N/A	N/A
2011-2012 L4 - 1.4L	see dealer	N/A	Oil Pan Heater	N/A	N/A		N/A	N/A

† Please confirm element orientation - improper position may result in heater or engine damage.

\* Description of footnotes - see page 26. Circulation Heaters - see page 71-73. Lower Radiator Hose Heaters - see page 85.

MAKE, MODEL, YEAR & ENGINE	FREEZE PLUG HEATER (UNLESS OTHERWISE NOTED)						LOWER HOSE HEATER	CIRCULATION HEATER
	HEATER PART No.	REPL. CORD PART No.	BORE DIAMETER	INSTALLATION LOCATION	POINT ELEMENT†	NOTES*	PART No.	WATTAGE
<b>CHEVROLET - continued</b>								
1985-88 L4 - 1.5L (Transverse) Spectrum	3100018	3600006	35 MM	CR	12 o'clock		N/A	N/A
2004-2010 L4 - 1.6L [ Aveo ]	see dealer	N/A	Oil Pan Heater	N/A	N/A		N/A	N/A
1985-88 L4 - 1.6L (Transverse) Nova	3100049	3600006	40 MM	CF	6 or 12 o'clock		N/A	N/A
1982-84 L4 - 1.8L (Transverse)	3100014	3600006	34 MM	LF	12 o'clock		N/A	N/A
1982-87 L4 - 1.8L DIESEL	3100018	3600006	35 MM	RR	12 o'clock		N/A	N/A
1998-2002 L4 - 1.8L (Toyota Eng.) (Prizm)	3100129	3600083	cartridge	LR	N/A		N/A	N/A
2011-2012 L4 - 1.8L	see dealer	N/A	Oil Pan Heater	N/A	N/A		N/A	N/A
1983-84 L4 - 2.0L (122 cu. in.) (Transverse)	see dealer	N/A	34 MM	LF	12 o'clock		N/A	N/A
1985-86 L4 - 2.0L (122 cu. in.) (Transverse)	3100062	3600006	42 MM	LF	4 o'clock		N/A	N/A
2004-2009 L4 - 2.0L (Transverse) [Optra]	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
1987-2002 L4 - 2.0L, 2.2L (Transverse)	3100081	3600006	42 MM	LF	9 o'clock		N/A	N/A
2005-2008 L4 - 2.0L (Ecotec Supercharged) (Transverse)	3400020	3600082	CLAMP-ON	RR	N/A	15	N/A	N/A
2009-2010 L4 - 2.0L (Ecotec Turbo) (Transverse)	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
2002-2004 L4 2.2L (Ecotec) (Transverse)	3400019	3600100	CLAMP-ON	RR	N/A		N/A	N/A
2005-2010 L4 2.2L (Ecotec) (Transverse)	3400020	3600082	CLAMP-ON	RR	N/A	15	N/A	N/A
1990-93 L4 - 2.3L QUAD IV	3100093	3600023	3/4" NPT	N/A	N/A	3	N/A	N/A
1994-95 L4 - 2.3L QUAD IV GEN II	3100001	3600002	1/2" NPT	N/A	N/A		N/A	N/A
1996-2002 L4 - 2.4L (Twin Cam)	3100001	3600002	1/2" NPT	N/A	N/A		N/A	N/A
2006-2012 L4 2.4L (Ecotec) (Transverse)	3400020	3600082	CLAMP-ON	RR	N/A	15	N/A	N/A
1980-92 L4 - 2.5L (Transverse)	3100076	3600006	1-5/8"	LF	12 o'clock		320-0003	750W
1977-86 L4 - 2.5L (Conventional)	3100076	3600006	1-5/8"	LR	6 or 12 o'clock		320-0003	750W
1962-70 L4 - 153 cu. in.	3100054	3600006	1-5/8"	LF	12 o'clock		320-0003	750W
<b>6 Cylinder</b>								
2004-2006 L6 - 2.5L (Transverse) [Epica]	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
1980-88 V6 - 2.8L (Transverse) Except VIN W	3100014	3600006	34 MM	RS	3 o'clock	7	320-0003	N/A
1985-89 V6 - 2.8L (Transverse) VIN W	3100015	3600006	34 MM	CR or CF	3 o'clock	2	N/A	N/A
1982-89 V6 - 2.8L (Conventional)	3100014	3600006	34 MM	RFF IN BLOCK	3 o'clock		320-0003	750W
1990-96 V6 - 3.1, 3.4L (Conventional)	3100015	3600006	34 MM	RC	3 o'clock	2	N/A	N/A
1990-2003 V6 - 3.1L (Transverse)	3100015	3600006	34 MM	CR	3 o'clock	2	N/A	N/A
1992-97 V6 - 3.4L DOHC (Transverse)	3100015	3600006	34 MM	CR	3 o'clock	2, 5	N/A	N/A
2000-2004 V6 - 3.4L (Transverse)	3100015	3600006	34 MM	CR	3 o'clock	2, 5	N/A	N/A
2005-2009 V6 - 3.4L (Transverse) [Equinox]	3100109	3600082	28 MM THD	CR	N/A	15	N/A	N/A
2004 V6 - 3.5L (Transverse)	3100005	3600100	28 MM THD	CR	N/A		N/A	N/A
2005-2012 V6 - 3.5L (Transverse)	3100109	3600082	28 MM THD	CR	N/A	15	N/A	N/A
2008-2012 V6 - 3.6L (Transverse)	3100110	3600082	Cartridge	LR	N/A	15	N/A	N/A
2010-2012 V6 - 3.6L (Conventional)	3100110	3600082	Cartridge	RR	N/A	15	N/A	N/A
1980-84 V6 - 3.8L (229 cu. in.)	3100057	3600006	1-5/8"	LR	6 o'clock		320-0003	1000W
1978-88 V6 - 3.8L (231 cu. in.)	3100039	3600006	1-1/2"	RR	12 o'clock	1	320-0003	1000W
1998-2004 V6 - 3.8L (Transverse)	3100041	3600006	1-1/2"	RF or LF	12 o'clock		320-0003	N/A
2005-2011 V6 - 3.8L (Transverse)	3100109	3600082	28 MM THD	CR	N/A	15	N/A	N/A
1986-88 V6 - 3.8L (231 cu. in.) (Transverse)	3100041	3600006	1-1/2"	LF	3 o'clock		320-0003	N/A
1995-2002 V6 - 3.8L [Camaro]	3100041	3600006	1-1/2"	RR			N/A	N/A
2006-2011 V6 - 3.9L (Transverse)	3100109	3600082	28 MM THD	CR	N/A	15	N/A	N/A
1982-85 V6 - 4.3L (263 cu. in.) DIESEL (Conv)	3100039	3600006	1-1/2"	LR or RF	12 o'clock		N/A	1000W
1983-85 V6 - 4.3L (263 cu. in.) DIESEL (Transverse)	3100039	3600006	1-1/2"	RF or RR	12 o'clock		N/A	1000W
1985-88 V6 - 4.3L (263 cu. in.)	3100057	3600006	1-5/8"	LR	6 o'clock		320-0003	1000W
1955-73 L6 - ALL	3100054	3600006	1-5/8"	LF	12 o'clock		320-0004	1000W
1978-79 V6 - 200 cu. in.	3100057	3600006	1-5/8"	LR	9 o'clock		N/A	1000W
1974-79 L6 - 250 cu. in.	3100054	3600006	1-5/8"	LR	12 o'clock		320-0003	1000W
<b>8 Cylinder</b>								
1994-96 V8 - 4.3L	3100057	3600006	1-5/8"	LR	9 o'clock		N/A	N/A
1958-97 V8 - 5.0, 5.7L, 262, 267, 283, 305, 307, 327, 350, 400 (265 HP)	3100057	3600006	1-5/8"	LR	9 o'clock		320-0004	1500W
1986-90 V8 - 5.0L, 307 cu. in. VIN Y	3100039	3600006	1-1/2"	LF or RF	12 o'clock	9, 12	320-0003	N/A
2006-2010 V8 - 5.3L (Transverse)	3100109	3600082	28 MM THD	RF	N/A	15	N/A	N/A
1980-85 V8 - 5.7L (350 cu. in.) DIESEL	3100039	3600006	1-1/2"	LF or RF	12 o'clock		N/A	750W
1998-2002 V8 - 5.7L (350 cu. in.) [Camaro]	3100005	3600100	28 MM THD	LR	N/A		N/A	N/A
1996-2004 V8 - 5.7L (350 cu. in.) [Corvette, inc Z06]	3100005	3600005	28 MM THD	LR	N/A		N/A	N/A
2005-2007 V8 - 6.0L LS2 [C6 Corvette]	3100109	3600082	28 MM THD	LF	N/A	15	N/A	N/A
2008-2012 V8 - 6.2L LS3 [C6 Corvette, Camaro]	3100109	3600082	28 MM THD	LF	N/A	15	N/A	N/A
2008-2012 V8 - 6.2L LS9 [C6 Corvette ZR1, Camaro ZL1]	3100109	3600082	28 MM THD	LF	N/A	15	N/A	N/A
2006-2011 V8 - 7.0L LS7 [C6 Corvette Z06]	3100109	3600082	28 MM THD	LF	N/A	15	N/A	N/A
1966-71 V8 - 396 cu. in.	3100065	3600006	1-3/4"	RC or RF	12 o'clock		320-0004	1500W
1970-77 V8 - 400 (300 HP), 402 cu. in.	3100065	3600006	1-3/4"	LF	3 o'clock		320-0003	1500W
1969 V8 - 427 cu. in.	3100065	3600006	1-3/4"	LF or RC	12 o'clock		320-0003	1500W
1970-77 V8 - 454 cu. in.	3100065	3600006	1-3/4"	RC	6 o'clock		320-0003	1500W

† Please confirm element orientation - improper position may result in heater or engine damage.

\* Description of footnotes - see page 26. Circulation Heaters - see page 71-73. Lower Radiator Hose Heaters - see page 85.

MAKE, MODEL, YEAR & ENGINE	FREEZE PLUG HEATER (UNLESS OTHERWISE NOTED)						LOWER HOSE HEATER	CIRCULATION HEATER
	HEATER PART No.	REPL. CORD PART No.	BORE DIAMETER	INSTALLATION LOCATION	POINT ELEMENT†	NOTES*	PART No.	WATTAGE
<b>CHEVROLET &amp; GMC (ALSO SEE GEO)</b>								
<b>LIGHT DUTY TRUCKS - Includes vans/MPV</b>								
<b>4 Cylinder</b>								
1988-95 L4 - 1.6 (Suzuki engine)	3400003	3600002	CLAMP-ON	N/A	N/A		310-0001	N/A
1977-82 L4 - 1.8L	3100018	3600006	35 MM	LF	12 o'clock		320-0002	N/A
1982-86 L4 - 1.9L (119 cu. in.)	3100018	3600006	35 MM	LF	12 o'clock		320-0002	N/A
1983-85 L4 - 2.0L (122 cu. in.)	3100014	3600006	34 MM	LF	12 o'clock		320-0002	750W
2009-2010 L4 - 2.0L (Ecotec Turbo) (Transverse)	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
1994-2003 L4 - 2.2L	3100081	3600006	42 MM	LR	9 o'clock		N/A	N/A
1981-85 L4 - 2.2L DIESEL	3100068	3600006	1-3/4"	ANY LS	6 o'clock		N/A	750W
2006-2012 L4 - 2.4L (Ecotec) (Transverse)	3400020	3600082	CLAMP-ON	RR	N/A	15	N/A	
1985-94 L4 - 2.5L (151 cu. in.)	3100076	3600006	1-5/8"	LR	6 or 12 o'clock		320-0003	750W
1962-64 L4 - 153 cu. in.	3100054	3600006	1-5/8"	LF	12 o'clock		320-0003	750W
2004 L4 - 2.8L (Conventional)	3100005	3600100	28 MM THD	LC	N/A		N/A	N/A
2005-2006 L4 - 2.8L (Conventional)	3100109	3600082	28 MM THD	LC	N/A	15	N/A	N/A
2007-2012 L4 - 2.9L (Conventional)	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
<b>5 Cylinder</b>								
2004 L5 - 3.5L (Conventional)	3100005	3600100	28 MM THD	LC	N/A		N/A	N/A
2005-2006 L5 - 3.5L (Conventional)	3100109	3600082	28 MM THD	LC	N/A	15	N/A	N/A
2007-2012 L5 - 3.7L (Conventional)	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
<b>6 Cylinder</b>								
1984-95 Forward/Tiltmaster (W7H, W7T)	3100089	3600006	1" NPT	RS (2 required)	N/A		N/A	N/A
1987-95 Forward/Tiltmaster (W4, W5, W6, W7)	3100089	3600006	1" NPT	LS	N/A		N/A	N/A
1982-93 V6 - 2.8L (173 cu. in.)	3100014	3600006	34 MM	RFF IN BLOCK	3 o'clock	6	320-0003	750W
2010-2012 V6 - 3.0L	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
1990-96 V6 - 3.1L (Transverse)	3100015	3600006	34 MM	CR	3 o'clock	2	N/A	N/A
1990-2004 V6 - 3.4L (Transverse)	3100015	3600006	34 MM	CR	3 o'clock	2	N/A	N/A
2005-2009 V6 - 3.4L (Transverse)[Equinox]	3100109	3600082	28 MM THD	LC	N/A	15	N/A	N/A
1980-85 V6 - 3.8L (229 cu. in.) [El Camino]	3100057	3600006	1-5/8"	LR	9 o'clock		320-0003	1000W
1993-96 V6 - 3.8L (231 cu. in.) (Transverse)	3100041	3600006	1-1/2"	LF	3 o'clock		320-0003	N/A
1978-88 V6 - 3.8L (231 cu. in.) [El Camino]	3100039	3600006	1-1/2"	RR	12 o'clock	1	320-0003	1000W
2002-2004 L6 - 4.2L	3100005	3600100	28 MM THD	LF	N/A	1	N/A	N/A
2005-2007 L6 - 4.2L	3100109	3600082	28 MM THD	LF	N/A	15	N/A	N/A
1985-2005 V6 - 4.3L (263 cu. in.)	3100054	3600006	1-5/8"	LR	12 o'clock		320-0003	1000W
2006-2012 V6 - 4.3L	3100115	N/A	1-5/8"	LR	12 o'clock	15	320-0003	1000W
1974-89 L6 - 250, 292 cu. in.	3100054	3600006	1-5/8"	LR	12 o'clock		320-0003	1000W
1981-85 L6 - 4.1L (250 cu. in.)	3100054	3600006	1-5/8"	LR	12 o'clock		320-0003	1000W
1960-73 L6 - 194, 230, 248, 250, 261, 292 cu. in.	3100054	3600006	1-5/8"	LF	12 o'clock		320-0004	1000W
1960-74 V6 - 305, 351, 401, 478 cu. in.	3100065	3600006	1-3/4"	LF or RF	12 o'clock		N/A	1500W
<b>8 Cylinder</b>								
1955-72 V8 - 265,283,305,307,327,350,400 (265 HP)	3100057	3600006	1-5/8"	LR	9 o'clock		320-0004	1500W
1958-65 V8 - 348, 409 cu. in.	3100065	3600006	1-3/4"	LR	12 o'clock		320-0004	1500W
1972-89 V8 - 366, 396, 402, 427 cu. in.	3100065	3600006	1-3/4"	RC	12 o'clock		320-0004	1500W
1978-84 V8 - 5.7L (350 cu. in.) DIESEL	3100039	3600006	1-1/2"	LF or RF	12 o'clock		N/A	1500W
1981-00 V8 - 6.2, 6.5L DIESEL (600W heater)	3100057	3600006	1-5/8"	LC	6 or 12 o'clock		N/A	1500W
1981-00 V8 - 6.2, 6.5L DIESEL (1000W heater)	3100059	3600006	1-5/8"	LC	6 or 12 o'clock		N/A	1500W
2001-2006 V8 - 6.6L DIESEL (Duramax)	3100130	N/A	40MM	RF	12 o'clock	15	N/A	N/A
2007-2012 V8 - 6.6L DIESEL (Duramax)	3100130	3600006	40MM	RF	12 o'clock	15	N/A	N/A
1966-89 V8 - 7.4L (454 cu. in.)	3100065	3600006	1-3/4"	RC	6 o'clock		320-0004	1500W
1990-2004 V8 - 6.0, 5.7, 7.4L (366, 350, 454 cu. in.)	3100057	3600006	1-5/8"	LC or RC	6 o'clock		N/A	1500W
1973-2002 V8 - 5.0, 5.7, 6.6L (305, 350, 400 cu. in.)	3100057	3600006	1-5/8"	LR	9 o'clock	10	320-0003	1500W
1999-2004 V8 - 4.8, 5.3, 6.0, 8.1L (Gen 3)	3100005	3600100	28 MM THD	LR	N/A		N/A	N/A
2005-2012 V8 - 4.8, 5.3, 6.0, 6.2, 8.1L (Gen 3 & 4)	3100109	3600082	28 MM THD	LR or LF	N/A	15	N/A	N/A
1965-85 V8 - DH 637	3100065	3600006	1-3/4"	LF or RC	12 o'clock		320-0004	1500W
<b>CHRYSLER</b>								
<b>AUTOMOTIVE</b>								
<b>4 Cylinder</b>								
1979-84 L4 - 1.4L	3100016	3600006	35 MM	2ND LR	12 o'clock		N/A	N/A
1985-96 L4 - 1.5L [G15B] (Transverse)	3100024	3600006	35 MM	LR or 2ND LR	9 o'clock		N/A	N/A
1971-73 L4 - 1.5L (Conventional)	3100055	3600006	1-5/8"	2ND LS	12 o'clock		N/A	N/A
1978-90 L4 - 1.6L (Transverse) [Colt/Champ]	3100016	3600006	35 MM	2ND LR	12 o'clock		N/A	N/A
1989-90 L4 - 1.6L [4G61] DOHC TURBO	3100024	3600006	35 MM	2ND RR	4 o'clock		320-0003	N/A
1971-83 L4 - 1.6L (Conventional)	3100016	3600006	35 MM	LC	12 o'clock		N/A	N/A
1978-83 L4 - 1.7L [Omni/Horizon]	3100034	3600016	36.5 MM	RR	6 o'clock	2	N/A	N/A
1989-96 L4 - 1.8L (4G93)	3100020	3600006	35 MM	RF	3 o'clock		N/A	N/A
2006-2011 L4 - 1.8L (Transverse) [Calibre]	3100111	3600083	cartridge	LF	N/A		N/A	N/A
1974-82 L4 - 2.0L (Conventional)	3100049	3600006	40 MM	RF	6 o'clock		N/A	N/A
1984-93 L4 - 2.0L [4G63] (Transverse)	3100024	3600006	35 MM	LR	3 o'clock		N/A	N/A

† Please confirm element orientation - improper position may result in heater or engine damage.

\* Description of footnotes - see page 26. Circulation Heaters - see page 71-73. Lower Radiator Hose Heaters - see page 85.

MAKE, MODEL, YEAR & ENGINE	FREEZE PLUG HEATER (UNLESS OTHERWISE NOTED)						LOWER HOSE HEATER	CIRCULATION HEATER
	HEATER PART No.	REPL. CORD PART No.	BORE DIAMETER	INSTALLATION LOCATION	POINT ELEMENT*	NOTES*	PART No.	WATTAGE
<b>CHRYSLER - continued</b>								
1994-2005 L4 - 2.0L (Transverse) [Neon/Stratus]	3100024	3600006	35 MM	LR	3 o'clock		N/A	N/A
2006-2012 L4 - 2.0L (Transverse) [Calibre]	3100111	3600083	cartridge	LF	N/A		N/A	
1992-2006 L4 - 2.4L [4G64] (Transverse)	3100075	3600004	35 MM	LR	3 o'clock	13	N/A	N/A
2003-2007 L4 - 2.4L TURBO	3100075	3600004	35 MM	LR	3 o'clock	13	N/A	N/A
2008-2009 L4 - 2.4L TURBO	3100111	3600083	cartridge	LF	N/A		N/A	N/A
2006-2012 L4 - 2.4L (Transverse) [Calibre, Sebring]	3100111	3600083	cartridge	LF	N/A		N/A	N/A
1981-97 L4 - 2.2L, 2.5L Including TURBO (600W)	3100055	3600006	1-5/8"	CR	6 or 12 o'clock		N/A	N/A
1981-97 L4 - 2.2L, 2.5L Including TURBO (400W)	3100053	3600006	1-5/8"	CR	6 or 12 o'clock		N/A	N/A
1981-89 L4 - 2.6L (Transverse)	3100049	3600006	40 MM	RR	9 o'clock		N/A	750W
1978-85 L4 - 2.6L (Conventional)	3100049	3600006	40 MM	RR	9 o'clock		320-0003	750W
1985-89 L4 - 2.6L (Conventional) TURBO	see dealer	N/A	N/A	N/A	N/A		320-0002	N/A
<b>6 Cylinder</b>								
1995-00 V6 - 2.5L [6G73] (Transverse)	3100055	3600006	1-5/8"	CR	3 o'clock		N/A	N/A
2002-2009 V6 - 2.7L (Transverse)	see dealer	N/A	cartridge	LR	N/A		N/A	N/A
1987-98 V6 - 3.0L [6G72] (Transverse)	3100055	3600006	1-5/8"	LR	12 o'clock		N/A	N/A
2001-2005 V6 - 3.0L	3100055	3600006	1-5/8"	RR	12 o'clock		N/A	N/A
1988-92 V6 - 3.0L [Monaco]	3100031	3600006	36 MM	RRF IN HEAD	9 o'clock		N/A	N/A
2004-2008 V6 - 3.2L (Conventional) [Crossfire, SRT6]	3100105	N/A	38 MM THD	Lower Hose Fitting	N/A		N/A	N/A
1990-98 V6 - 3.3L (Transverse)	3100055	3600006	1-5/8"	LR	12-1 o'clock		N/A	N/A
1993-97 V6 - 3.3L (Conventional)	3100055	3600006	1-5/8"	RR	12-1 o'clock		N/A	N/A
1993-97 V6 - 3.5L (Conventional)	3100055	3600006	1-5/8"	RR	12 o'clock		N/A	N/A
1998-2011 V6 - 2.7, 3.2, 3.5L (Conventional)	see dealer	N/A	cartridge	RR	N/A		N/A	N/A
2011-2012 V6 - 3.6L Pentastar (Conventional)	see dealer	N/A	cartridge	RR	N/A		N/A	N/A
2011-2012 V6 - 3.6L Pentastar (Transverse)	see dealer	N/A	cartridge	LR	N/A		N/A	N/A
1961-83 L6 - 170, 198, 225 cu. in. (Slant)	3100055	3600006	1-5/8"	LF	12 o'clock		320-0003	1000W
<b>8 Cylinder</b>								
1966-69 V8 - 273, 318, 340 cu. in.	3100055	3600006	1-5/8"	LC or RC	12 o'clock		320-0003	1500W
1966-69 V8 - 383, 400, 413, 426, 440 cu. in.	3100055	3600006	1-5/8"	LC or RC	12 o'clock		320-0004	1500W
1970-89 V8 - 318, 340, 360, 383, 400, 440 cu. in.	3100055	3600006	1-5/8"	LC or RC	12 o'clock		320-0004	1500W
2004-2012 V8 - 5.7L HEMI	see dealer	N/A	cartridge	LR	N/A		N/A	N/A
2005-2010 V8 - 6.1L HEMI	see dealer	N/A	cartridge	LR	N/A		N/A	N/A
2011-2012 V8 - 6.4L HEMI	see dealer	N/A	cartridge	LR	N/A		N/A	N/A
<b>10 Cylinder</b>								
1996-2010 V10 - 8.0, 8.2, 8.3, 8.4L	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
<b>DODGE LIGHT &amp; MEDIUM DUTY TRUCKS &amp; VANS</b>								
<b>4 Cylinder</b>								
1992-96 L4 - 1.8L (4G93) [Vista/Summit]	3100020	3600006	35 MM	RF	3 o'clock		N/A	N/A
1979-82 L4 - 2.0L	3100049	3600006	40 MM	RF	6 o'clock		N/A	N/A
1983-89 L4 - 2.0L (4G63B) (122 cu. in.)	3100024	3600006	35 MM	RR	3 o'clock		N/A	N/A
1984-91 L4 - 2.0L [Vista]	3100024	3600006	35 MM	2ND LR	9 o'clock		N/A	N/A
1982-87 L4 - 2.2L (Transverse)	3100055	3600006	1-5/8"	CR	6 o'clock		N/A	750W
1982-87 L4 - 2.2L (Transverse)	3100053	3600006	1-5/8"	CR	6 o'clock		N/A	750W
1987-97 L4 - 2.2L, 2.5L (Conventional)	3100055	3600006	1-5/8"	RC	6 o'clock		N/A	N/A
1983-85 L4 - 2.3L [4D55] (140 cu. in.) DIESEL	see dealer	3600006	40 MM	LR	9 o'clock		N/A	N/A
1987-90 L4 - 2.4L [G64B] (Conventional)	3100024	3600006	35 MM	RR	3 o'clock		N/A	N/A
1992-96 L4 - 2.4L [4G64] [Vista]	3100024	3600006	35 MM	LR/2ND LR	3 o'clock	13	N/A	N/A
1986-95 L4 - 2.5L (Transverse)	3100055	3600006	1-5/8"	CR	6 o'clock		N/A	N/A
1986-95 L4 - 2.5L (Transverse)	3100053	3600006	1-5/8"	CR	6 o'clock		N/A	N/A
1986-90 L4 - 2.6L (Transverse)	3100049	3600006	40 MM	RR	9 o'clock		320-0002	N/A
1979-90 L4 - 2.6L (G54B) (Conventional)	see dealer	3600006	40 MM	RF	6 o'clock		320-0002	N/A
<b>5 Cylinder</b>								
2004-2006 L5 - 2.7L DIESEL	3100105	360-0084	38 MM THD	LF	N/A		N/A	N/A
<b>6 Cylinder</b>								
1987-2007 V6 - 3.0, 3.3L, 3.8L (Transverse)	3100055	3600006	1-5/8"	LR	12 o'clock		N/A	N/A
1987-96 V6 - 3.0L [6G72] (Transverse)	3100055	3600006	1-5/8"	RR	9 o'clock	1	N/A	N/A
2007-2011 V6 - 3.0L DIESEL	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
2011-2012 V6 - 3.6L Pentastar (Conventional)	see dealer	N/A	cartridge	RR	N/A		N/A	N/A
2011-2012 V6 - 3.6L Pentastar (Transverse)	see dealer	N/A	cartridge	LR	N/A		N/A	N/A
2002-2008 V6 - 3.7L	3100104	3600006	35 MM	2nd RR	N/A		N/A	N/A
1987-2003 V6 - 3.9L (239 cu. in.)	3100055	3600006	1-5/8"	RR	6 o'clock		N/A	100W
2007-2010 V6 - 4.0L	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
1960-88 L6 - 170, 198, 225 cu. in.	3100055	3600006	1-5/8"	LF	12 o'clock		320-0003	100W
1989-2001 L6 - 5.9L Cummins DIESEL	3500030	3600008	58 MM	RC	6 o'clock		N/A	N/A
2002-2006 L6 - 5.9L Cummins DIESEL	3500022	3600008	3/4 NPT	Rear of oil cooler	N/A		N/A	N/A
2007-2012 L6 - 6.7L Cummins DIESEL	3500022	3600008	3/4 NPT	Rear of oil cooler	N/A		N/A	N/A
<b>8 Cylinder</b>								
2000-2012 V8 - 4.7L	3100104		35 MM	RR	N/A		N/A	N/A
1962-96 V8 - ALL [Except Dakota]	3100055	3600006	1-5/8"	LC or RC	12 o'clock		320-0004	1500W

† Please confirm element orientation - improper position may result in heater or engine damage.

\* Description of footnotes - see page 26. Circulation Heaters - see page 71-73. Lower Radiator Hose Heaters - see page 85.

MAKE, MODEL, YEAR & ENGINE	FREEZE PLUG HEATER (UNLESS OTHERWISE NOTED)						LOWER HOSE HEATER	CIRCULATION HEATER
	HEATER PART No.	REPL. CORD PART No.	BORE DIAMETER	INSTALLATION LOCATION	POINT ELEMENT†	NOTES*	PART No.	WATTAGE
<b>DODGE - continued</b>								
1991-99 V8 - 5.2L [Dakota]	3100055	3600006	1-5/8"	RR	6 o'clock		N/A	1500W
1996-2001 V8 - 5.2L [Ram] & [Durango]	3100055	3600006	1-5/8"	RR	6 o'clock		N/A	1500W
2003-2012 V8 - 5.7L HEMI	see dealer	N/A	cartridge	LR	N/A		N/A	N/A
1993-2002 V8 - 5.9L	3100055	3600006	1-5/8"	RR	6 o'clock		N/A	1500W
<b>10 Cylinder</b>								
1994-2008 V10 - 8.0L	3100091	3600006	1-5/8"	RR	11 o'clock		N/A	1500W
Note: Some Chrysler corp. engines have an .060 oversized frost plug hole. You may have to obtain an oversized o-ring 6027513 from a Chrysler dealer or from Temro 16874-32.								
<b>DAEWOO</b>								
<b>4 Cylinder</b>								
1999-2002 L4 - 1.6L [Lanos]	3100015	3600006	34 MM	LF	3 o'clock		N/A	N/A
1999-2002 L4 - 2.0L [Nubira]	3100015	3600006	34 MM	LF	3 o'clock		N/A	N/A
1999-2002 L4 - 2.2L [Leganza]	3100015	3600006	34 MM	LF	3 o'clock		N/A	N/A
<b>EAGLE</b>								
<b>4 Cylinder</b>								
1989-96 L4 - 1.5L (G15G) (Transverse)	3100024	3600006	35 MM	2ND LR	9 o'clock		N/A	N/A
1989-90 L4 - 1.6L (4G61) DOHC ENG	3100024	3600006	35 MM	2ND RR	4 o'clock		N/A	N/A
1992-96 L4 - 1.8L (4G93)	3100020	3600006	35 MM	RF	3 o'clock		320-0003	N/A
1990-96 L4 - 1.8L (4G37) [Talon]	3100024	3600006	35 MM	RF	12 o'clock		N/A	N/A
1989-98 L4 - 2.0L (4G63) TURBO [Talon]	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
1995-97 L4 - 2.0L [Talon] (Chrysler engine)	3100024	3600006	35 MM	LR	3 o'clock		N/A	N/A
1988-89 L4 - 2.2L	3100003	3600001	1" NPT	RF	6 o'clock		N/A	N/A
1992-96 L4 - 2.4L (4G64) (Transverse) [Summit]	3100024	3600006	35 MM	LR/2ND LR	3 o'clock	13	N/A	N/A
1992-96 L4 - 2.4L (4G64) (Transverse)	3100024	3600006	35 MM	RF	3 o'clock		N/A	N/A
1988-89 L4 - 2.5L (150 cu. in.)	3100065	3600006	1-3/4"	LF	12 o'clock		N/A	N/A
<b>6 Cylinder</b>								
1988-93 V6 - 3.0L	3100031	3600006	36 MM	RRF IN HEAD	9 o'clock		N/A	N/A
1993-97 V6 - 3.3L (Conventional)	3100055	3600006	1-5/8"	LF	12-1 o'clock		N/A	N/A
1993-97 V6 - 3.5L (Conventional)	3100055	3600006	1-5/8"	RR	12 o'clock		N/A	N/A
<b>FIAT</b>								
2011-2012 L4 - 1.4L	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
2012 L4 - 1.4L (TURBO)	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
<b>FORD/MERCURY AUTOMOTIVE</b>								
<b>4 Cylinder</b>								
1988-97 L4 - 1.3L	3100016	3600006	35 MM	2ND LR	12 o'clock		320-0001	N/A
1971-81 L4 - 1.3, 1.6L	3100057	3600006	1-5/8"	LF	12 o'clock		N/A	N/A
1971-73 L4 - 1.6L OHV	3100054	3600006	1-5/8"	LF	12 o'clock		N/A	N/A
1978-80 L4 - 1.6L (Transverse) [Fiesta]	3100053	3600006	1-5/8"	LF	9 o'clock		N/A	N/A
1981-85 L4 - 1.6L [Escort]	3100053	3600006	1-5/8"	LF	9 o'clock		N/A	N/A
1988-96 L4 - 1.6L [Tracer]	3100016	3600006	35 MM	2ND RF	12 o'clock		N/A	N/A
2010-2012 L4 - 1.6L	see dealer	N/A	35 MM	RR	N/A		N/A	N/A
1991-96 L4 - 1.8L DOHC	3100021	3600006	35 MM	2ND RF	9 o'clock		N/A	N/A
1986-90 L4 - 1.9L (Transverse)	3100053	3600006	1-5/8"	LF	9 o'clock		N/A	N/A
1991-2004 L4 - 1.9L CVH, 2.0L SPI (Transverse)	3100102	3600006	35 MM	LR	9 o'clock		N/A	N/A
1971-75 L4 - 2.0L OHV/OHC	3100039	3600006	1-1/2"	RF	12 o'clock		N/A	N/A
1972-75 L4 - 2.0L OHV	3100039	3600006	1-1/2"	RF	12 o'clock		N/A	N/A
1984-88 L4 - 2.0L DIESEL	3100016	3600006	35 MM	2ND LF	12 o'clock		N/A	N/A
1993-97 L4 - 2.0L (Mazda engine)	3100023	3600006	35 MM	RR	8 o'clock		N/A	N/A
1995-2004 L4 - 2.0L (Zetec engine, inc SVT)**	3100018	3600006	35 MM	RR	3 o'clock		N/A	N/A
2004-2010 L4 - 2.0L (Duratec) (Transverse)	3100002	3600001	3/4" NPT	LR	N/A		N/A	N/A
2011-2012 L4 - 2.0L (Focus)	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
2011-2012 L4 2.0L EcoBoost	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
1989-92 L4 - 2.2L	3100016	3600006	35 MM	2ND RF	12 o'clock		N/A	N/A
1989-92 L4 - 2.2L TURBO	3100017	3600006	35 MM	2ND RF	12 o'clock		N/A	N/A
1974-95 L4 - 2.3L OHC (Conventional)	3100039	3600006	1-1/2"	RR or RF	6 or 12 o'clock		320-0002	N/A
2004-2007 L4 - 2.3L (Duratec) (Transverse)	3100002	3600001	3/4" NPT	LR	N/A		N/A	N/A
2008-2012 L4 - 2.5L (Duratec) (Transverse)	3100002	3600001	3/4" NPT	LR	N/A		N/A	N/A
1983-95 L4 - 2.3, 2.5L HSC (Transverse)	3100065	3600006	1-3/4"	LR & RR	6 o'clock		N/A	N/A
<b>6 Cylinder</b>								
1993-97 V6 - 2.5L	3100028	3600006	35 MM	REAR	8 o'clock		N/A	N/A
1995-2012 V6 - 2.5L, 3.0L 24-Valve (Duratec engine)***	3100002	3600001	3/4" NPT	RF	N/A		N/A	N/A
2000-2005 V6 - 3.0L 24V (Conventional Duratec engine)***	3100002	3600001	3/4" NPT	RR	N/A		N/A	N/A
1972-82 V6 - 2.6, 2.8L	3100036	3600003	1-1/2"	LFF or RFF	4 or 9 o'clock		N/A	N/A
1987-90 V6 - 2.9L [Scorpio]	3100042	3600006	1-1/2"	LFF	10 o'clock		N/A	N/A
1986-2006 V6 - 3.0L 12-VALVE (Transverse)	3100039	3600006	1-1/2"	LF	6 o'clock		N/A	N/A
[Except Villager and SHO]								
1989-94 V6 - 3.0, 3.2L [SHO]	see dealer	N/A	N/A	N/A	N/A		N/A	N/A

† Please confirm element orientation - improper position may result in heater or engine damage.

\* Description of footnotes - see page 26. Circulation Heaters - see page 71-73. Lower Radiator Hose Heaters - see page 85.

\*\* Mystique, Contour & Escort ZX2, Ford Focus \*\*\* Mystique, Contour, Taurus, Sable, Probe

MAKE, MODEL, YEAR & ENGINE	FREEZE PLUG HEATER (UNLESS OTHERWISE NOTED)						LOWER HOSE HEATER	CIRCULATION HEATER
	HEATER PART No.	REPL. CORD PART No.	BORE DIAMETER	INSTALLATION LOCATION	POINT ELEMENT†	NOTES*	PART No.	WATTAGE
<b>FORD/MERCURY - continued</b>								
2007-2012 V6 - 3.5L (Transverse)	3100002	3600001	3/4" NPT	RR	N/A		N/A	
2009-2012 V6 - 3.5L GDI EcoBoost	3100002	3600001	3/4" NPT	RR	N/A		N/A	
2009-2012 V6 - 3.7L (Transverse)	3100002	3600001	3/4" NPT	RR	N/A		N/A	
2010-2012 V6 - 3.7L (Conventional)	see dealer	N/A	cartridge	N/A	N/A		N/A	N/A
1988-96 V6 - 3.8L (Transverse)	3100040	3600006	1-1/2"	LF	12 o'clock		320-0003	750W
1982-2004 V6 - 3.8L (Conventional)	3100040	3600006	1-1/2"	LR or RR	12 o'clock		320-0003	750W
2005-2009 V6 - 4.0L (conventional)	3100040	3600006	38MM	RR	7 o'clock		N/A	N/A
1964-83 L6 - 170, 200, 250 cu. in.	3100065	3600006	1-3/4"	RC or RF	6 or 12 o'clock		320-0003	750W
1966-72 L6 - 240 cu. in.	3100054	3600006	1-5/8"	2ND RF	12 o'clock		N/A	750W
<b>8 Cylinder</b>								
1963-65 V8 - 221, 260, 289 cu. in.	3100039	3600006	1-1/2"	LR	12 o'clock		320-0003	1000W
1980-82 V8 - 255 cu. in. (4.2L)	3100039	3600006	1-1/2"	RR	6 o'clock	1	320-0003	1000W
1996-98 V8 - 3.4L [SHO]	3100002	3600001	3/4" NPT	NOT ACCESSIBLE	N/A	5	N/A	N/A
2000-2005 V8 - 3.9L (conventional)	3100107	3600005	30 MM	LR	N/A		N/A	N/A
1992-2010 V8 - 4.6L (Conventional)	3100040	3600006	1-1/2"	LR	9 o'clock		320-0003	1000W
1999-00 V8 - 4.6L (Conventional) [Mustang]	3100040	3600006	1-1/2"	RR	9 o'clock		N/A	N/A
2001-2009 V8 - 4.6L (Conventional) [Mustang]	3100040	3600006	1-1/2"	LR	9 o'clock		N/A	N/A
1995-2004 V8 - 4.6L 32V [Mustang]	3100040	3600006	1-1/2"	LR	9 o'clock		N/A	N/A
2003-2004 V8 - 4.6L 32V [Mercurian]	3100040	3600006	1-1/2"	LR	9 o'clock		N/A	N/A
1995-2002 V8 - 4.6L (Transverse)	3100040	3600006	1-1/2"	LF	9 o'clock		N/A	N/A
2011-2012 V8 - 5.0L	3100002	3600001	3/4" NPT	LF	N/A		N/A	N/A
2006-2011 V8 - 5.4L (Conventional) [Mustang]	3100040	3600006	1-1/2"	LR	9 o'clock		N/A	N/A
1966-96 V8 - 289, 302 cu. in. (5.0L)	3100039	3600006	1-1/2"	LR or RR	6 o'clock	1	320-0003	1000W
1974-88 V8 - 351W, 351C, 351 cu. in. (5.8L)	3100039	3600006	1-1/2"	RR	12 o'clock		320-0003	1500W
1974-85 V8 - 351M, 400 cu. in.	3100039	3600006	1-1/2"	LR	9 o'clock		320-0003	750W
1968-78 V8 - 429, 460 cu. in.	3100039	3600006	1-1/2"	LF or RF	12 o'clock		320-0004	750W
1968-73 V8 - 351, 400, 429, 460 cu. in.	3100039	3600006	1-1/2"	LF or RF	12 o'clock		320-0003	750W
1963-71 V8 - 352, 390, 410, 427, 428 cu. in.	3100065	360-0006	1-3/4"	RF	6 or 12 o'clock		320-0003	750W
<b>LIGHT &amp; MEDIUM DUTY TRUCKS &amp; VANS - INCLUDES AEROSTAR, EXPLORER &amp; WINSTAR</b>								
<b>4 Cylinder</b>								
1972-82 L4 - 1.8L	3100071	3600006	50 MM	LC	12 o'clock		N/A	N/A
1983-88 L4 - 2.0L	3100039	3600006	1-1/2"	RR	6 o'clock	1	N/A	N/A
1979-82 L4 - 1.8, 2.0L [Courier]	3100016	3600006	35 MM	LF	12 o'clock		N/A	N/A
2002-2003 L4 - 2.0L (Zetec engine)*	3100018	3600006	35 MM	RR	3 o'clock		N/A	N/A
2010-2011 L4 - 2.0L [Transit]	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
1981-85 L4 - 2.2L DIESEL	3100010	3600005	30 MM	RR	6 o'clock		N/A	N/A
1977-94 L4 - 2.3L	3100039	3600006	1-1/2"	RR	6 o'clock		N/A	N/A
1985-88 L4 - 2.3L Mitsubishi Diesel TURBO	see dealer	3600006	40 MM	LR	9 o'clock		N/A	N/A
1995-97 L4 - 2.3L	3100084	3600006	1.5"	LR	3 o'clock		N/A	N/A
2001-2007 L4 - 2.3L (Conventional)	3100002	3600001	3/4" NPT	RR	N/A		N/A	N/A
2004-2012 L4 - 2.3L (Transverse)	3100002	3600001	3/4" NPT	LR	N/A		N/A	N/A
1998-00 L4 2.5L	3100084	3600006	1.5"	LR	3 o'clock		N/A	N/A
<b>6 Cylinder</b>								
1983-86 V6 - 2.8L	3100036	3600003	1-1/2"	RFF IN HEAD	10 o'clock		N/A	N/A
1986-92 V6 - 2.9L	3100042	3600006	1-1/2"	LFF IN HEAD	10 o'clock		320-0003	N/A
1993-99 V6 - 3.0L (Transverse) [Villager]	3100009	3600004	30 MM	LF	6 o'clock		N/A	N/A
1986-2003 V6 - 3.0L 12-Valve	3100039	3600006	1-1/2"	ANY	6 o'clock		N/A	N/A
2001-2011 V6 - 3.0L 24-Valve (Duratec engine)**	3100002	3600001	3/4" NPT	RF	N/A		N/A	N/A
1999-00 V6 - 3.3 (Transverse) [Villager]	3100009	3600004	30 MM	LF	6 o'clock		N/A	N/A
2011-2012 V6 - 3.5L (Conventional) [EcoBoost]	see dealer	N/A	Cartridge	N/A	N/A		N/A	N/A
2011-2012 V6 - 3.7L (Conventional)	see dealer	N/A	Cartridge	N/A	N/A		N/A	N/A
1992-97 V6 - 3.8L CONV	3100039	3600006	1-1/2"	LR or RR	12 o'clock		N/A	N/A
1995-2003 V6 - 3.8L (Transverse)	3100040	3600006	1-1/2"	LF	6 o'clock		N/A	N/A
2004-2010 V6 - 3.9L (Transverse)	3100040	3600006	1-1/2"	LF	6 o'clock		N/A	N/A
1990-2010 V6 - 4.0L	3100039	3600006	1-1/2"	RF	6 o'clock		N/A	N/A
1996-2003 V6 - 4.2L (Conventional)	3100040	3600006	1-1/2"	LR	12 o'clock		N/A	N/A
2004-2008 V6 - 4.2L (Transverse)	3100040	3600006	1-1/2"	LF	6 o'clock		N/A	N/A
1964-74 L6 - 170, 200, 250 cu. in.	3100065	3600006	1-3/4"	RF	12 o'clock		320-0002	750W
1965-97 L6 - 3.9, 4.9L (240, 300 cu. in.)	3100054	3600006	1-5/8"	2ND RF	12 o'clock	9	320-0004	750W
1986-88 L6 - 6.6, 7.8L DIESEL								
<b>(See Heavy Duty Application Guide)</b>								
<b>8 Cylinder</b>								
1960-74 V8 - 292, 428 cu. in.	3100065	3600006	1-3/4"	LF or RF	12 o'clock		320-0004	1500W
1966-99 V8 - 5.0L (302 cu. in.), 289 cu. in.	3100039	3600006	1-1/2"	RR	6 o'clock		320-0004	1500W
1996-2010 V8 - 4.6L, 5.4L	3100040	3600006	1-1/2"	LR	12 o'clock		320-0004	1500W
2011 V8 - 5.0L	3100002	3600001	3/4" NPT	LR	N/A		N/A	N/A
1966-97 V8 - 5.8L (351 cu. in.), 400 cu. in.	3100039	3600006	1-1/2"	LR or RR	12 o'clock		320-0004	1500W
1966-97 V8 - 7.5L (460 cu. in.), 429 cu. in.	3100039	3600006	1-1/2"	LF or RF	12 o'clock		320-0005	1500W

† Please confirm element orientation - improper position may result in heater or engine damage.

\* Description of footnotes - see page 26. Circulation Heaters - see page 71-73. Lower Radiator Hose Heaters - see page 85.

MAKE, MODEL, YEAR & ENGINE	FREEZE PLUG HEATER (UNLESS OTHERWISE NOTED)						LOWER HOSE HEATER	CIRCULATION HEATER
	HEATER PART No.	REPL. CORD PART No.	BORE DIAMETER	INSTALLATION LOCATION	POINT ELEMENT†	NOTES*	PART No.	WATTAGE
<b>FORD/MERCURY - continued</b>								
1960-80 V8 - 330, 352, 361, 389, 391 cu. in.	3100065	3600006	1-3/4"	RF or 2ND RF	12 o'clock		320-0005	1500W
1960-79 V8 - 360, 390 cu. in.	3100065	3600006	1-3/4"	LR or 2ND RF	12 o'clock		320-0005	1500W
1979-86 V8 - 370 cu. in.	3100039	3600006	1-1/2"	LR or RR	12 o'clock		320-0003	1500W
1960-81 V8 - 401, 475, 477, 534 cu. in.	3100065	3600006	1-3/4"	LR or 2ND RF	12 o'clock		N/A	1500W
2003-2006 V8 - 6.0L DIESEL (V7365)	3500069	3600008	27MM	RR	N/A		N/A	N/A
2011-2012 V8 - 6.2L	3100002	3600001	3/4" NPT	LR	N/A		N/A	N/A
2007-2010 V8 - 6.4L DIESEL	3500069	3600008	27MM	RR	N/A		N/A	N/A
2011-2012 V8 - 6.7L DIESEL	3500069	3600008	27MM	LR	N/A		N/A	N/A
1983-94 V8 - 6.9, 7.3L DIESEL	3100043	3600010	1-1/2"	RR	11 o'clock		N/A	1500W
1995-2002 V8 - 7.3L (T444E)	3500043	3600008	3/4 NPT	oil filter	N/A		N/A	N/A
<b>10 Cylinder</b>								
1998-2010 V10 - 6.8L	3100040	3600006	1-1/2"	LR or RR	12 o'clock		320-0004	1500W
<b>GEO</b>								
<b>3 Cylinder</b>								
1989-97 L3 - 1.0L [Metro]	3400002	3600002	CLAMP-ON	N/A	N/A		N/A	N/A
<b>4 Cylinder</b>								
1989-99 L4 - 1.3L (Suzuki engine)	3400004	3600020	CLAMP-ON	N/A	N/A		N/A	N/A
1989 L4 - 1.5L	3100018	3600006	35 MM	CR	12 o'clock		N/A	N/A
1988-97 L4 - 1.6L (Suzuki engine) [Tracker]	3400003	3600002	CLAMP-ON	N/A	N/A		320-0001	N/A
1990-97 L4 - 1.6, 1.8L (Trans) (Isuzu engine) [Storm]	3100018	3600006	35 MM	2ND RR	12 o'clock		N/A	N/A
1985-97 L4 - 1.6, 1.8L (Trans) (Toyota engine) [Prizm]	3100049	3600006	40 MM	CF	12 o'clock		N/A	N/A
<b>GMC - SEE CHEVROLET LIGHT &amp; MEDIUM TRUCKS</b>								
<b>HINO - SEE HEAVY DUTY APPLICATION GUIDE</b>								
<b>HONDA</b>								
<b>AUTOMOTIVE</b>								
<b>4 Cylinder</b>								
2002-2004 L4 - 1.0L	3100006	3600005	28 MM THD					
1973-83 L4 - 1.2, 1.3L	3400005	3600002	CLAMP-ON	N/A	N/A		N/A	N/A
1984-92 L4 - 1.3, 1.5L	3400001	3600002	CLAMP-ON	N/A	N/A		N/A	N/A
2003-2011 - 1.3L	3100006	3600005	28 MM THD					
1996-00 L4 - 1.6L (Transverse) 16-Valve	3100006	3600005	28 MM THD	LR	N/A		N/A	N/A
1999-00 L4 - 1.6L DOHC [Civic SiR]	3100006	3600005	28 MM THD	RF	N/A		N/A	N/A
1988-95 L4 - 1.5L, 1.6L (Transverse) 16-Valve only	3100006	3600005	28 MM THD	RF	N/A		N/A	N/A
1976-83 L4 - 1.5, 1.6L	3400006	3600002	CLAMP-ON	N/A	N/A		N/A	N/A
2006-2012 L4 - 1.5L [Fit]	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
2011-2012 L4 - 1.5L [CRZ]	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
2001-2005 L4 - 1.7L (Transverse)	3100006	3600005	28 MM THD	LR	N/A		N/A	N/A
2006-2011 L4 - 1.8L (Transverse)	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
2012 L4 - 1.8L (Transverse)	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
1979-87 L4 - 1.6L, 1.8L, 2.0L (Transverse)	3100023	3600006	35 MM	RS	9 o'clock		N/A	N/A
1988-89 L4 - 2.0L (Transverse) [Accord]	3100023	3600006	35 MM	RS	9 o'clock		N/A	N/A
2002-2005 - L4 2.0L (Transverse) [Civic SiR]	3100006	3600005	28 MM THD	RR	N/A		N/A	N/A
2006-2011 L4 2.0L (Transverse) [Civic SiR]	3100006	3600005	28 MM THD	RR	N/A		N/A	N/A
1988-91 L4 - 2.0L, 2.1L (Transverse) [Prelude]	see dealer	N/A	CLAMP-ON	N/A	N/A		N/A	N/A
2000-2009 L4 - 2.0, 2.2L (conventional) [S2000]	3100006	3600005	28 MM THD	N/A	N/A		N/A	N/A
1990-97 L4 - 2.2L (Transverse) [Accord]	3100006	3600005	28 MM THD	LR	N/A		N/A	N/A
1992-2001 L4 - 2.2L, 2.3L (Transverse) [Prelude]	3100006	3600005	28 MM THD	RR	N/A	5	N/A	N/A
1998-2002 L4 - 2.3L [Accord]	3100006	3600005	28 MM THD	LR	N/A		N/A	N/A
2003-2012 - 2.4L L4 [Accord]	3100006	3600005	28 MM THD	RR	N/A		N/A	N/A
2012 L4 - 2.4L (Transverse) [Civic SiR]	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
<b>6 Cylinder</b>								
1998-2007 V6 - 3.0L [Accord]	3100006	3600005	28 MM THD	LF	N/A		N/A	N/A
2008-2012 V6 - 3.5L [Accord]	3100006	3600005	28 MM THD	LF	N/A		N/A	N/A
1995-97 V6 - 2.7L [Accord]	see dealer	N/A	N/A	CR	N/A		N/A	N/A
1995-97 V6 - 2.7L [Accord]	see dealer	N/A	N/A	CR	N/A		N/A	N/A
<b>LIGHT TRUCK</b>								
<b>4 Cylinder</b>								
1997-2001 L4 - 2.0L CRV	3100006	3600005	28 MM THD	RF	N/A		N/A	N/A
1995-98 -2.2L L4 ODYSSEY (Transverse)	3100006	3600005	28 MM THD	LR	N/A		N/A	N/A
2002-2012 - 2.4L L4 [CRV]	3100006	3600005	28 MM THD	RR	N/A		N/A	N/A
<b>6 Cylinder</b>								
1994-99 V6 - 3.2L [Passport]	3100005	3600005	28 MM THD	LR	N/A		N/A	N/A
1999-2012 V6 - 3.5L [Odyssey, Pilot, Ridgeline]	3100006	3600005	28 MM THD	LF	N/A		N/A	N/A
<b>HUMMER</b>								
<b>5 Cylinder</b>								
2005-2006 L5 - 3.5L [H3]	3100109	3600082	28 MM THD	LC	N/A	15	N/A	N/A
2007-2009 L5 - 3.7L [H3]	3100109	3600082	28 MM THD	LC	N/A	15	N/A	N/A

† Please confirm element orientation - improper position may result in heater or engine damage.

\* Description of footnotes - see page 26. Circulation Heaters - see page 71-73. Lower Radiator Hose Heaters - see page 85.



MAKE, MODEL, YEAR & ENGINE	FREEZE PLUG HEATER (UNLESS OTHERWISE NOTED)						LOWER HOSE HEATER	CIRCULATION HEATER
	HEATER PART No.	REPL. CORD PART No.	BORE DIAMETER	INSTALLATION LOCATION	POINT ELEMENT†	NOTES*	PART No.	WATTAGE
<b>HUMMER - continued</b>								
<b>8 Cylinder</b>								
2007-2009 V8 - 5.3L	3100109	3600082	28 MM THD	LR	N/A	15	N/A	N/A
2003-2004 V8 - 6.0L [H2]	3100005	3600005	28 MM THD	LR	N/A		N/A	N/A
2005-2009 V8 - 6.0L [H2]	3100109	3600082	28 MM THD	LR	N/A	15	N/A	N/A
<b>HYUNDAI</b>								
<b>4 Cylinder</b>								
1995-97 L4 - 1.5L [Accent]	3100098	3600006	35 MM	2ND LR	9 o'clock		N/A	N/A
1998-99 L4 - 1.5L [Accent]	3100098	3600006	35 MM	CR	4 o'clock		N/A	N/A
2000-2005 L4 - 1.5L [Accent]	3100098	3600006	35 MM	RF	9 o'clock		N/A	N/A
2006-2011 L4 - 1.6L [Accent]	3100114	3600006	35MM	LF	12 o'clock		N/A	N/A
2012 L4 - 1.6L [Accent, Velostar]	See Dealer	N/A	Cartridge	RF	N/A		N/A	N/A
1983-87 L4 - 1.4, 1.6L (Conventional)	3100098	3600006	35 MM	LC	12 o'clock		N/A	N/A
1986-95 L4 - 1.5L (Mitsubishi engine) [Excel]	3100098	3600006	35 MM	2ND LR	7 or 9 o'clock		N/A	N/A
1993-95 L4 - 1.5, 1.5L (Alpha engine) TURBO	3100098	3600006	35 MM	2ND LR	7 - 8 o'clock		N/A	N/A
1985-86 L4 - 1.6L	3100098	3600006	35 MM	LC	7 - 11 o'clock		N/A	N/A
2001-2005 L4 - 1.6L [Accent]	3100098	3600006	35 MM	2nd RR			N/A	N/A
1992-99 L4 - 1.6, 1.8L (Transverse)	3100098	3600006	35 MM	2ND RR	3 o'clock		N/A	N/A
2012 L4 - 1.8L [Elantra]	See Dealer	N/A	Cartridge	RF	N/A		N/A	N/A
1986-88 L4 - 2.0L (Conventional)	3100098	3600006	35 MM	2ND LF	9 o'clock		N/A	N/A
2009-2012 L4 - 2.0L Turbo (Conventional)	3100111	3600083	cartridge	RR	N/A		N/A	N/A
2011-2012 L4 - 2.0L Turbo (Transverse) (Theta 2)	See Dealer	N/A	Cartridge	RF	N/A		N/A	N/A
1989-2005 L4 - 2.0, 2.4L (Transverse)	3100098	3600006	35 MM	2ND RR	9 o'clock		N/A	N/A
1999 L4 - 2.4L (Transverse)	3100098	3600006	35 MM	LR	N/A		N/A	N/A
2006-2010 L4 - 2.4L (Transverse)	3100111	3600083	cartridge	LF	N/A		N/A	N/A
2010-2011 L4 - 2.4L (Transverse) (Theta 2)	See Dealer	N/A	Cartridge	LF	N/A		N/A	N/A
<b>6 Cylinder</b>								
1989-98 V6 - 3.0L	3100055	3600006	1-5/8"	RF	12 o'clock		N/A	N/A
1999-2001 V6 - 2.5L	3100098	3600006	35 MM	LR	6 o'clock		N/A	N/A
2002-2005 V6 - 2.7L [Sonata, Tiburon]	3100098	3600006	35 MM	LR	6 o'clock		N/A	N/A
2001 V6 - 3.0L [XG300]	3100055	3600006	1-5/8"	LR	12 o'clock		N/A	N/A
2006-2011 V6 - 3.3L	3100113	3600083	25 MM THD	CR	N/A		N/A	N/A
2002-2005 V6 - 3.5L [XG350]	3100055	3600006	1-5/8"	LR	12 o'clock		N/A	N/A
2009-2011 V6 - 3.8L	See Dealer	N/A	Cartridge	RR	N/A		N/A	N/A
<b>8 Cylinder</b>								
2009-2011 V8 - 4.6L	See Dealer	N/A	Cartridge	RR	N/A		N/A	N/A
<b>LIGHT TRUCK</b>								
<b>4 Cylinder</b>								
2011-2012 L4 - 2.0L (Transverse)	See Dealer	N/A	Cartridge	LF	N/A		N/A	N/A
2011-2012 L4 - 2.4L (Transverse)	See Dealer	N/A	Cartridge	LF	N/A		N/A	N/A
<b>6 Cylinder</b>								
2001-2005 V6 - 2.7L	3100098	3600006	35 MM	LR	6 o'clock		N/A	N/A
2004-2005 V6 - 3.5L	3100055	3600006	1-5/8"	LR	12 o'clock		N/A	N/A
2006-2008 V6 - 3.8L	3100113	3600083	25 MM THD	CR	N/A		N/A	N/A
20010-2012 V6 - 3.5L (Transverse)	See Dealer	N/A	Cartridge	RR	N/A		N/A	N/A
2009-2012 V6 - 3.8L	See Dealer	N/A	Cartridge	RR	N/A		N/A	N/A
<b>INFINITI</b>								
<b>4 Cylinder</b>								
1991-2002 L4 - 2.0L	3100007	3600005	30 MM THD	LR	N/A		320-0003	N/A
<b>6 Cylinder</b>								
1992-97 V6 - 3.0L	3100009	3600004	30 MM	LF or LR	6 o'clock		N/A	N/A
1996-2001 V6 - 3.0L (VQ30DE)	3100007	3600005	30 MM THD	RF	N/A		N/A	N/A
2002-2012 V6 - 3.5L (VQ35DE) (Transverse)	3100007	3600005	30 MM	RF	N/A		N/A	N/A
2003-2012 V6 - 3.5L (VQ35DE, VQ35HR) (Conventional)	3100007	3600005	30 MM	LR	N/A	16	N/A	N/A
2007-2012 V6 - 3.7L (VQ37VHR) (conventional)	3100007	3600005	30 MM	LR	N/A	16	N/A	N/A
<b>8 Cylinder</b>								
1990-96 V8 - 4.5L	3100007	3600005	30 MM THD	REAR	N/A		N/A	N/A
1997-00 V8 - 4.1L	3100007	3600005	30 MM THD	REAR	N/A		N/A	N/A
2001-2009 V8 - 4.5L	3100007	3600005	30 MM THD	REAR	N/A		N/A	N/A
2011-2012 V8 - 5.6L	3100007	3600005	30 MM THD	RF	N/A		N/A	N/A
<b>LIGHT TRUCK</b>								
<b>6 Cylinder</b>								
1998-2000 V6 - 3.3L (VQ33)	3100009	3600004	30 MM	LR	6 o'clock		N/A	N/A
2001-2004 V6 - 3.5L	3100007	3600005	30 MM THD	LF	N/A		N/A	N/A
2005-2008 V6 - 4.0L (VQ40DE)	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
<b>8 Cylinder</b>								
2004 V8 - 4.5L	3100007	3600005	30 MM THD	REAR	N/A		N/A	N/A
2004-2011 V8 - 5.6L (VK56DE)	3100007	3600005	30 MM THD	RF	N/A		N/A	N/A

† Please confirm element orientation - improper position may result in heater or engine damage.

\* Description of footnotes - see page 26. Circulation Heaters - see page 71-73. Lower Radiator Hose Heaters - see page 85.

MAKE, MODEL, YEAR & ENGINE	FREEZE PLUG HEATER (UNLESS OTHERWISE NOTED)						LOWER HOSE HEATER	CIRCULATION HEATER
	HEATER PART No.	REPL. CORD PART No.	BORE DIAMETER	INSTALLATION LOCATION	POINT ELEMENT†	NOTES*	PART No.	WATTAGE
<b>INTERNATIONAL BY NAVISTAR - LIGHT &amp; MEDIUM DUTY TRUCKS (ALSO SEE HEAVY DUTY APPLICATION GUIDE)</b>								
<b>4 Cylinder</b>								
ALL L4 - 152, 196 cu. in.	3100054	3600006	1-5/8"	RC or RF	12 o'clock		320-0005	750W
<b>6 Cylinder</b>								
ALL L6 - 225 cu. in.	3100054	3600006	1-5/8"	LF	12 o'clock		N/A	N/A
ALL L6 - 220, 240, 241, 264 , 265 (Black Diamond)	3100054	3600006	1-5/8"	LF	12 o'clock		320-0005	750W
ALL L6 - 3.2L [SD-33] (Nissan DIESEL)	3100023	3600006	35 MM	2ND or 4TH LS	12 o'clock		N/A	N/A
<b>8 Cylinder</b>								
ALL V8 - 401, 461, 462, 478, 549, 550	3100038	3600006	1-1/2"	ANY LS or RS	12 o'clock		N/A	750W
ALL V8 - 401 cu. in. (AMC)	3100039	3600006	1-1/2"	RR	5 o'clock		N/A	750W
ALL V8 - 404, 446, 485, 537 cu. in., 9.0L	3100044	3600006	1-1/2"	ANY LS or RS	12 o'clock		N/A	1000W
ALL V8 to 93 - 6.9, 7.3L DIESEL	3100043	3600010	1-1/2"	RR	11 o'clock		N/A	1000W
94-2002 V8 - 7.3L (T444E)	3500043	3600008	3/4 NPT	oil cooler	N/A		N/A	N/A
ALL V8 - 266, 304, 345, 392, 400 cu. in.	3100054	3600006	1-5/8"	LF or RF	12 o'clock		N/A	750W
<b>ISUZU</b>								
<b>AUTOMOTIVE - 4 Cylinder</b>								
1992-93 L4 - 1.6, 1.8L	3100018	3600006	35 MM	2ND RR	12 o'clock		N/A	N/A
1985-89 L4 - 1.5L (Transverse)	3100018	3600006	35 MM	CR	12 o'clock		N/A	N/A
1981-88 L4 - 1.8L, 1.9L	3100018	3600006	35 MM	LF	12 o'clock		320-0002	N/A
1981-85 L4 - 1.8L DIESEL	3100018	3600006	35 MM	RR	12 o'clock		N/A	N/A
<b>LIGHT &amp; MEDIUM TRUCKS</b>								
<b>4 Cylinder</b>								
1998-2002 L4 - 2.2L	3100081	3600006	42 MM	LR	9 o'clock		N/A	N/A
1985-95 L4 - 2.3L	3100019	3600006	35 MM	RF	3 o'clock		N/A	N/A
1982-89 L4 - 1.8L, 1.9L	3100018	3600006	35 MM	LF	12 o'clock		320-0002	750W
1982-86 L4 - 2.2L DIESEL	3100068	3600006	1-3/4"	LF	6 o'clock		N/A	750W
1988-95 L4 - 2.6L	3100098	3600006	35 MM	RF	6 o'clock		N/A	N/A
2007-2008 L4 - 2.9L ( Conventional)	see dealer	N/A	N/A	N/A	N/A	15	N/A	N/A
ALL L4 - 4BD1 engine	3100089	3600006	1" NPT	LR	N/A		320-0002	750W
<b>5 Cylinder</b>								
2007-2008 L5 - 3.7L ( Conventional)	see dealer	N/A	N/A	N/A	N/A	15	N/A	N/A
<b>6 Cylinder</b>								
1989-93 V6 - 2.8, 3.1L	3100014	3600006	34 MM	RFF IN BLOCK	3 o'clock	6	320-0002	750W
1992-2003 V6 - 3.2L	3100005	3600005	28 MM THD	LR	N/A		N/A	N/A
1998-99 V6 - 3.5L	3100005	3600005	28 MM THD	LR	N/A		N/A	N/A
2003-2005 L6 - 4.2L	3100005	3600005	28 MM THD	LF	N/A		N/A	N/A
2006-2007 L6 - 4.2L	see dealer	N/A	N/A	N/A	N/A	15	N/A	N/A
ALL L6 - 5.8L, 6.5L (6BD1,6BG1 engine)	3100089	3600006	1" NPT	LR	N/A		N/A	1500W
ALL L6 - 6SA1 Engine	3100089	3600006	1" NPT	RS	2 Required		N/A	1500W
<b>8 Cylinder</b>								
2003-2005 V8 - 5.3L	3100005	3600100	28 MM THD	LR	N/A		N/A	N/A
2006-2007 V8 - 5.3L	3100109	3600082	28 MM THD	LR	N/A	15	N/A	N/A
<b>JAGUAR</b>								
<b>6 Cylinder</b>								
1952-88 L6 - 2.5, 3.4, 3.6, 3.8, 4.2L	3100003	3600001	1" NPT	N/A	N/A		N/A	N/A
2000-2007 V6 - 3.0L	3100002	3600001	3/4" NPT	RR	N/A		N/A	N/A
2002-2008 V6 - 2.5, 3.0L (Transverse)	3100002	3600001	3/4" NPT	RF	N/A		N/A	N/A
<b>8 Cylinder</b>								
1998-2009 V8 - 4.0, 4.2L	see dealer	N/A	30 MM THD	LR	N/A		N/A	N/A
2010-2012 V8 - 5.0L	see dealer	N/A	30 MM THD	LR	N/A		N/A	N/A
<b>12 Cylinder</b>								
1971-97 V12 - 5.3, 6.0L	3100003	3600001	1" NPT	N/A	N/A		N/A	N/A
<b>JEEP</b>								
<b>4 Cylinder</b>								
1984-87 L4 - 2.1L DIESEL	3100003	3600001	1" NPT	RF	N/A		N/A	N/A
2002-2004 L4 2.4L	3100024	3600006	35 MM	RR/2ND RR	3 o'clock		N/A	N/A
2007-2012 L4 - 2.4L [Compass, Patriot]	3100111	3600083	Cartridge	LF	N/A		N/A	N/A
1980-83 L4 - 2.5L (Pontiac engine)	3100054	3600006	1-5/8"	LR	12 o'clock		N/A	750W
1984-2002 L4 - 2.5L	3100065	3600006	1-3/4"	LR	11 o'clock		N/A	750W
<b>6 Cylinder</b>								
1984-87 V6 - 2.8L (Chevrolet engine)	3100014	3600006	34 MM	RFF IN BLOCK	3 o'clock		3200003	750W
2007-2009 V6 - 3.0L DIESEL	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
1963-71 L6 - 230 cu. in. (OHC)	3100057	360-0006	1-5/8"	ANY LS	6 o'clock		N/A	750W
2002-2012 V6 - 3.7L	3100104	3600006	35mm	2nd RR	N/A		N/A	N/A
1965-71 L6 - 225 cu. in.	3100039	3600006	1-1/2"	LR	2 o'clock		N/A	N/A
2011-2012 V6 - 3.6L Pentastar	see dealer	N/A	N/A	RR	N/A		N/A	N/A
2007-2010 V6 - 3.8L	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
1987-2006 L6 - 4.0L	3100072	3600006	2"	LF	12 o'clock		3200003	N/A
1968-90 L6 - 4.2L	3100072	3600006	2"	LR	12 o'clock		3200003	N/A

† Please confirm element orientation - improper position may result in heater or engine damage.

\* Description of footnotes - see page 26. Circulation Heaters - see page 71-73. Lower Radiator Hose Heaters - see page 85.

MAKE, MODEL, YEAR & ENGINE	FREEZE PLUG HEATER (UNLESS OTHERWISE NOTED)						LOWER HOSE HEATER	CIRCULATION HEATER
	HEATER PART No.	REPL. CORD PART No.	BORE DIAMETER	INSTALLATION LOCATION	POINT ELEMENT†	NOTES*	PART No.	WATTAGE
<b>JEEP - continued</b>								
<b>8 Cylinder</b>								
1968-71 V8 - 350 cu. in. (Buick engine)	3100039	3600006	1-1/2"	LF or RR	12 o'clock		N/A	750W
1972-91 V8 - 304, 360, 401 cu. in.	3100039	3600006	1-1/2"	LR	5 o'clock		3200003	750W
1999-2007 V8 4.7L	3100104	3600006	35mm	RR	N/A		N/A	N/A
1993-98 V8 - 5.2L	3100055	3600006	1-5/8"	RR	6 o'clock		N/A	750W
2005-2012 V8 - 5.7L HEMI	see dealer	N/A	cartridge	LR	N/A		N/A	N/A
1998 V8 - 5.9L	3100055	3600006	1-5/8"	RR	6 o'clock		N/A	1500W
2006-2010 V8 - 6.1L HEMI	see dealer	N/A	cartridge	LR	N/A		N/A	N/A
<b>KIA</b>								
<b>4 Cylinder</b>								
2001-2002 L4 1.5L [Rio]	See Dealer	3600006	35MM	N/A	N/A		N/A	N/A
2003-2004 L4 1.6L [Rio]	See Dealer	3600006	35MM	N/A	N/A		N/A	N/A
2006-2010 L4 1.6L [Rio]	3100114	3600006	35MM	LF	12 o'clock		N/A	N/A
2009-2011 L4 1.6L [Soul]	See Dealer	N/A	Cartridge	RR	N/A		N/A	N/A
2012 L4 1.6L GDI [Rio, Soul]	See Dealer	N/A	Cartridge	RR	N/A		N/A	N/A
1998-2003 L4 - 1.8L [Sephia, Spectra]	3100016	3600006	35 MM	RF	12 o'clock		N/A	N/A
1995-2003 L4 - 2.0L [Sportage]	3100016	3600006	35 MM	2nd LF	12 o'clock		N/A	N/A
2004-2006 L4 - 2.0L [Spectra, Sportage]	3100098	3600006	35 MM	2nd RR	9 o'clock		N/A	N/A
2009-2012 L4 2.0L [Forte]	3100111	3600083	cartridge	LF	N/A		N/A	N/A
2012 L4 - 2.0L Turbo	See Dealer	N/A	Cartridge	RR	N/A		N/A	N/A
2002-2006 L4 - 2.4L (Transverse)	3100098	3600006	35 MM	LR	6 o'clock		N/A	N/A
2006-2012 L4 - 2.4L (Transverse) [Optima, Magentis, Forte]	3100111	3600083	cartridge	LF	N/A		N/A	N/A
2011-2012 L4 - 2.4L GDI	See Dealer	N/A	Cartridge	RR	N/A		N/A	N/A
<b>6 Cylinder</b>								
2001 V6 - 2.5L [Magentis]	3100098	3600006	35 MM	LR	6 o'clock		N/A	N/A
2002-2005 V6 - 2.7L [Magentis, Sportage]	3100098	3600006	35 MM	LR	6 o'clock		N/A	N/A
2007-2009 V6 - 3.3L [Sorento]	3100113	3600083	25 MM THD	RR	N/A		N/A	N/A
2002-2005 V6 - 3.5L [Sedona]	3100055	3600006	1-5/8"	LR	12 o'clock		N/A	N/A
2004-2006 V6 - 3.5L [Amanti]	3100055	3600006	1-5/8"	LR	12 o'clock		N/A	N/A
2003-2005 V6 - 3.5L [Sorento]	3100055	3600006	1 5/8"	RR	12 o'clock		N/A	N/A
2010-2012 V6 - 3.5L [Sorento, Sedona]	See Dealer	N/A	Cartridge	LR	N/A		N/A	N/A
2006-2009 V6 - 3.8L [Sedona]	3100113	3600083	25 MM THD	CR	N/A		N/A	N/A
2007-2009 V6 - 3.8L [Amanti]	3100113	3600083	25 MM THD	CR	N/A		N/A	N/A
2009-2012 V6 - 3.8L [Borrego]	See Dealer	N/A	Cartridge	RR	N/A		N/A	N/A
2010-2010 V6 - 3.8L [Sedona]	3100111	3600083	cartridge	LR	N/A		N/A	N/A
<b>8 Cylinder</b>								
2009-2011 V8 - 4.6L [Borrego]	3100113	3600083	25 MM THD	LR	N/A		N/A	N/A
<b>LADA</b>								
1978-93 L4 - 1.5L	3100050	3600006	40 MM	LF	9 o'clock		N/A	N/A
1981-93 L4 - 1.6L	3100050	3600006	40 MM	LS	9 o'clock		N/A	N/A
1987-93 L4 - 1.3, 1.5L (Transverse)	3100032	3600006	36 MM	LF	3 o'clock		N/A	N/A
<b>LEXUS</b>								
<b>4 Cylinder</b>								
2012 L4 - 1.8L	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
2011-2012 L4 - 2.4L	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
<b>6 Cylinder</b>								
2001-2005 L6 - 3.0L	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
1989-91 V6 - 2.5L	3100019	3600006	35 MM	CF	6 o'clock		N/A	N/A
2006-2012 V6 - 2.5L (4GR-FSE)(Conventional)	see dealer	N/A	N/A	LR	N/A		N/A	N/A
1992-94 V6 - 3.0L (3VZ-FE)	3100021	3600006	35 MM	LF	3 o'clock		N/A	N/A
1994-2003 V6 - 3.0L (1MV-FE)	3100029	3600006	35 MM	RF	3 o'clock		N/A	N/A
1992-96 L6 - 3.0L (Conventional)	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
2004-2006 V6 - 3.3L (3MZ-FE)	3100029	3600006	35 MM	RF	3 o'clock		N/A	N/A
2007-2012 V6 - 3.5L (2GR-FE)(Transverse)	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
2006-2012 V6 - 3.5L (2GR-FSE)(Conventional)	see dealer	N/A	N/A	LR	N/A		N/A	N/A
<b>8 Cylinder</b>								
1989-2001 V8 - 4.0L	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
2002-2007 V8 - 4.3L (3UZ-FE)	3100029	3600006	35 MM	RF	ANY		N/A	N/A
2007-2012 V8 - 4.6L (1URFS, 1UR-FSE, 2UR-FSXE)	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
2008-2012 V8 - 5.0L (2UR-FSE)	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
2008-2012 V8 - 5.0L (2UR-GSE) [IS-F]	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
<b>LIGHT TRUCKS</b>								
<b>6 Cylinder</b>								
1999-2003 V6 - 3.0L	3100029	3600006	35 MM	RF	3 o'clock		N/A	N/A
2004-2006 V6 - 3.3L (3MZ-FE)	3100029	3600006	35 MM	RF	3 o'clock		N/A	N/A
2007-2012 V6 - 3.5L (2GR-FE)(Transverse)	see dealer	N/A	N/A	LF	N/A		N/A	N/A

† Please confirm element orientation - improper position may result in heater or engine damage.

\* Description of footnotes - see page 26. Circulation Heaters - see page 71-73. Lower Radiator Hose Heaters - see page 85.

MAKE, MODEL, YEAR & ENGINE	FREEZE PLUG HEATER (UNLESS OTHERWISE NOTED)						LOWER HOSE HEATER	CIRCULATION HEATER
	HEATER PART No.	REPL. CORD PART No.	BORE DIAMETER	INSTALLATION LOCATION	POINT ELEMENT†	NOTES*	PART No.	WATTAGE
<b>LEXUS - continued</b>								
<b>8 Cylinder</b>								
2010-2012 V8 - 4.6L	see dealer	N/A	35 MM	RF	N/A		N/A	N/A
1998-2009 V8 4.7L (2UZ-FE)	see dealer	N/A	35 MM	RF	N/A		N/A	N/A
2008-2012 V8 - 5.7L (2UR-FE)	3100129	3600083	Cartridge	LR	N/A		N/A	N/A
<b>10 Cylinder</b>								
2010-2012 V10 4.8L	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
<b>MAZDA</b>								
<b>AUTOMOTIVE</b>								
<b>Rotary</b>								
1971-96 R2 - ALL	see dealer	3600002	CLAMP-ON	N/A	N/A		N/A	N/A
2004-2011 R2 [RX8]	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
<b>4 Cylinder</b>								
1971-80 L4 - 1.2L (Conventional)	3400008	3600001	CLAMP-ON	N/A	N/A		N/A	N/A
1975-80 L4 - 1.3L, 1.4L, 1.5L (Conventional)	3100016	3600006	35 MM	LF	6 o'clock		N/A	N/A
1981-82 L4 - 1.5L	3400009	3600002	CLAMP-ON	N/A	N/A		N/A	N/A
1981-85 L4 - 1.5L (Transverse)	3100019	3600006	35 MM	LF	3 o'clock		N/A	N/A
1995-98 L4 - 1.5L	3100023	3600006	35 MM	2ND RF	6 or 12 o'clock		N/A	N/A
1986-89 L4 - 1.6L (Transverse) (Except TURBO)	3100016	3600006	35 MM	2ND RF	12 o'clock		N/A	N/A
1988-89 L4 - 1.6L (Transverse) DOHC TURBO	3100017	3600006	35 MM	2ND RF	12 o'clock		N/A	N/A
1990-98 L4 - 1.6L (Transverse)	3100023	3600006	35 MM	2ND RF	9 o'clock		N/A	N/A
1989-95 L4 - 1.6L DOHC (Conventional)	3100016	3600006	35 MM	2ND LF	12 o'clock		N/A	N/A
1970-80 L4 - 1.6L, 1.8L (Conventional)	3100071	3600006	50 MM	LC	12 o'clock		N/A	N/A
1999 L4 1.6L L4 DOHC (Transverse)	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
2010-2012 L4 1.6L (Transverse) [Mazda 2]	see dealer	N/A	35MM	LR	N/A		N/A	N/A
1990-98 L4 - 1.8L SOHC	3100021	3600006	35 MM	2ND RF	6 o'clock		N/A	N/A
1995-99 L4 - 1.8L DOHC	3100016	3600006	35 MM	2ND RF	12 o'clock		N/A	N/A
1999-00 L4 1.8L DOHC (Transverse)	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
1985-87 L4 - 2.0L DIESEL	3100016	360 0006	35 MM	2ND RF	12 o'clock		N/A	N/A
1983-92 L4 - 2.0L [626] (Transverse)	3100016	360 0006	35 MM	2ND RF	9 o'clock		N/A	N/A
1979-82 L4 - 2.0L (Conventional)	3100071	360 0006	50 MM	LC	12 o'clock		N/A	N/A
1993-98 L4 - 2.0L	3100023	360 0006	35 MM	RR	8 o'clock		N/A	N/A
1998-2003 L4 - 2.0L DOHC [626, Ptotege]	see dealer	N/A	35MM	RR	N/A		N/A	N/A
2003-2004 L4 - 2.0L DOHC Turbo	see dealer	N/A	35MM	RR	N/A		N/A	N/A
2004-2011 L4 - 2.0L [Mazda 3]	3100002	360 0001	3/4" NPT	LR	N/A		N/A	N/A
2012 L4 - 2.0L Skyactiv [Mazda 3]	3100002	360 0001	3/4" NPT	LR	N/A		N/A	N/A
2006-2007 L4 - 2.0L [Mazda MX5]	3100002	360 0001	3/4" NPT	RR	N/A		N/A	N/A
1988-92 L4 - 2.2L [626] (Transverse)	3100016	360 0006	35 MM	2ND RF	12 o'clock		N/A	N/A
1988-92 L4 - 2.2L TURBO	3100017	360 0006	35 MM	2ND RF	12 o'clock		N/A	N/A
2003-2009 L4 - 2.3L [Mazda 3, Mazda 5, Mazda 6]	3100002	360 0001	3/4" NPT	LR	N/A		N/A	N/A
2006-2012 L4 - 2.3L Turbo	3100002	360 0001	3/4" NPT	LR	N/A		N/A	N/A
2009-2012 L4 2.5L [Mazda 3, Mazda 6]	3100002	360 0001	3/4" NPT	LR	N/A		N/A	N/A
<b>6 Cylinder</b>								
1992-99 V6 - 1.8L, 2.5L (Transverse)	3100028	360 0006	35 MM	REAR	8 o'clock		N/A	N/A
1995-2002 V6 - 2.5L, 2.3L (Miller cycle engine)	3100028	360 0006	35 MM	REAR	1 o'clock		N/A	N/A
1988-97 V6 - 3.0L	3100016	360 0006	35 MM	RF	6 o'clock		N/A	N/A
2003-2008 V6 - 3.0L [Mazda 6]	3100002	360 0001	3/4" NPT	RF	N/A		N/A	N/A
2009-2012 V6 - 3.7L [Mazda 6]	3100002	360 0001	3/4" NPT	RR	N/A		N/A	N/A
<b>LIGHT &amp; MEDIUM DUTY TRUCKS</b>								
<b>4 Cylinder</b>								
1971-77 L4 - 1.6L	3100071	360 0006	50 MM	LC	6 o'clock		N/A	N/A
1977-84 L4 - 1.8L, 2.0L	3100071	360 0006	50 MM	LC	12 o'clock		N/A	N/A
1985-93 L4 - 2.0L, 2.2L GAS	3100016	360 0006	35 MM	2ND LF	12 o'clock		N/A	N/A
2001-2003 L4 - 2.0L [Tribute] (Ford engine)	3100018	360 0006	35 MM	RR	3 o'clock		N/A	N/A
2012 L4 - 2.0L Skyactiv [CX-5]	3100002	360 0001	3/4" NPT	LR	N/A		N/A	N/A
1982-87 L4 - 2.2L DIESEL	3100023	360 0006	35 MM	2ND RF	3 or 9 o'clock		N/A	N/A
2001-2011 L4 - 2.3L [B2300]	3100002	360 0001	3/4" NPT	RR	N/A		N/A	N/A
1994 L4 - 2.3L [B2300] (Ford engine)	3100039	360 0006	1-1/2"	RR	12 o'clock		N/A	N/A
1995-97 L4 - 2.3L [B2300] (Ford engine)	3100084	360 0006	1-1/2"	LR	3 o'clock		N/A	N/A
2004-2008 L4 - 2.3L [Tribute]	3100002	360 0001	3/4" NPT	LR	N/A		N/A	N/A
2006-2010 L4 - 2.3L Turbo [CX-7]	3100002	360 0001	3/4" NPT	LR	N/A		N/A	N/A
1998-00 L4 - 2.5L (Ford engine)	3100084	360 0006	1.5 IN	LR	3 o'clock		N/A	N/A
2009-2012 L4 - 2.5L [Tribute]	3100002	360 0001	3/4" NPT	LR	N/A		N/A	N/A
1989-95 L4 - 2.6L [B2600] & MPV (Mazda engine)	3100075	360 0006	35 MM	2ND LF	9 o'clock		N/A	N/A
1987-88 L4 - 2.6L [B2600] (Mitsubishi engine)	3100049	360 0006	40 MM	RF	6 o'clock		N/A	N/A
<b>6 Cylinder</b>								
2000-2001 V6 - 2.5L [MPV](Ford engine)	3100002	360 0001	3/4" NPT	RF	N/A		N/A	N/A
1989-93 V6 - 3.0L	3100016	360 0006	35 MM	RF	6 o'clock		N/A	N/A

† Please confirm element orientation - improper position may result in heater or engine damage.

\* Description of footnotes - see page 26. Circulation Heaters - see page 71-73. Lower Radiator Hose Heaters - see page 85.

MAKE, MODEL, YEAR & ENGINE	FREEZE PLUG HEATER (UNLESS OTHERWISE NOTED)						LOWER HOSE HEATER	CIRCULATION HEATER
	HEATER PART No.	REPL. CORD PART No.	BORE DIAMETER	INSTALLATION LOCATION	POINT ELEMENT†	NOTES*	PART No.	WATTAGE
<b>MAZDA - continued</b>								
2001-2012 V6 - 3.0L [Tribute] (Ford engine)	3100002	360 0001	3/4" NPT	RF	N/A		N/A	N/A
2002-2011 V6 - 3.0L [MPV] (Ford engine)	3100002	360 0001	3/4" NPT	RF	N/A		N/A	N/A
1994-2011 V6 - 3.0L [B3000] (Ford engine)	3100039	360 0006	1-1/2"	RR	12 o'clock		N/A	N/A
2007-2008 V6 - 3.5L [CX-9]	3100002	360 0001	3/4" NPT	RR	N/A		N/A	N/A
2008-2012 V6 - 3.7L (Transverse)	3100002	360 0001	3/4" NPT	RR	N/A		N/A	N/A
1991-2011 V6 - 4.0L [B4000] (Ford engine)	3100039	360 0006	1-1/2"	RF	6 o'clock		N/A	N/A
<b>MERCEDES-BENZ</b>								
<b>4 Cylinder</b>								
ALL 230	3100105	N/A	38 MM THD	SEE INSTRUCTIONS	N/A		N/A	1000W
ALL DIESEL-Except 190D (1984 & newer)	3100105	N/A	38 MM THD	SEE INSTRUCTIONS	N/A		N/A	N/A
1994-2004 L4 - 1.8L, 2.0L, 2.3L (M111)	3100105	N/A	38 MM THD	SEE INSTRUCTIONS	N/A		N/A	N/A
2001-2007 L4 - 1.8L (M271)	8604967	N/A	3/4" NPT	RF	N/A		N/A	N/A
2012 L4 - 1.8L TURBO	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
2006-2012 L4 - 2.0L [B Class]	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
<b>5 Cylinder</b>								
ALL DIESEL	3100105	N/A	38 MM THD	SEE INSTRUCTIONS	N/A		N/A	N/A
<b>6 Cylinder</b>								
1998-2005 V6 - 2.6L, 3.2L, 3.7L (M112)	3100105	N/A	38 MM THD	Lower hose casting	N/A		N/A	N/A
2004-2011 V6 - 2.5L, 3.0L, 3.5L (M272)	3100105	N/A	38 MM THD	Lower hose casting	N/A		N/A	N/A
2012 V6 - 3.5L (M276)	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
2007-2012 V6 - 3.2L DIESEL	3100105	N/A	38 MM THD	Lower hose casting	N/A		N/A	N/A
<b>8 Cylinder</b>								
ALL V8 1971-2000	3100105	N/A	38 MM THD	SEE INSTRUCTIONS	N/A		N/A	N/A
2001-2007 V8 - 4.3L, 5.0L, 5.4L (M113)	3100105	N/A	38 MM THD	Lower hose casting	N/A		N/A	N/A
2006-2009 V8 - 4.7L, 5.0L (M273)	3100105	N/A	38 MM THD	Lower hose casting	N/A		N/A	N/A
2011-2012 V8 - 4.7L Turbo	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
2004-2009 V8 - 5.4L (M155) [SLR McLaren]	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
2011-2012 V8 5.5L Turbo	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
2006-2012 V8 - 6.2L AMG (M156)	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
<b>12 Cylinder</b>								
2001-2005 V12 - 5.8L (M137)	3100105	N/A	38 MM THD	Lower hose casting	N/A		N/A	N/A
2002-2012 V12 - 5.5L, 6.0L Turbo (M275/285)	3100105	N/A	38 MM THD	Lower hose casting	N/A		N/A	N/A
1989-2008 V12 - 7.3L AMG (M120)	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
<b>MINI</b>								
<b>4 Cylinder</b>								
2003-2006 L4 1.6L	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
2007-2012 L4 - 1.6L	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
<b>MITSUBISHI</b>								
<b>AUTOMOTIVE</b>								
<b>4 Cylinder</b>								
1985-93 L4 - 1.5L [Precis]	3100024	3600006	35 MM	2ND LR	9 o'clock		N/A	N/A
1987-2001 L4 - 1.5L (G15B) [Mirage]	3100024	3600006	35 MM	2ND LR	9 o'clock		N/A	N/A
1989-92 L4 - 1.6L (4G61)	3100024	3600006	35 MM	2ND RR	4 o'clock		N/A	N/A
1993-99 L4 - 1.8L (4G93) [Expo/Mirage]	3100024	3600006	35 MM	RF	3 o'clock		N/A	N/A
1989-94 L4 - 1.8L (4G37) [Eclipse]	3100024	3600006	35 MM	RF	12 o'clock		3200003	N/A
1989-96 L4 - 2.0L (4G63) [Eclipse]	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
1989-93 L4 - 2.0L (4G63) [Galant]	3100024	3600006	35 MM	LR	3 o'clock		N/A	N/A
1995-99 L4 - 2.0L (420A) [Eclipse non-turbo]	3100024	3600006	35 MM	2ND LR	9 o'clock		N/A	N/A
2004-2006 L4 - 2.0L [Lancer]	3100075	3600006	35 MM	2ND LF	3 o'clock		N/A	N/A
2004-2006 L4 - 2.0L [Lancer Evo VIII]	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
2007-2010 L4 - 2.0L [Lancer]	3100111	3600083	Cartridge	LF	N/A		N/A	N/A
2008-2010 L4 - 2.0L Turbo [Lancer Evo]	3100111	3600083	Cartridge	LF	N/A		N/A	N/A
1982-96 L4 - 2.4L (4G64) [Expo/Expo LRV]	3100024	3600006	35 MM	LR/2ND LR	3 o'clock		N/A	N/A
1992 L4 - 2.4L (4G64) [Galant DOHC]	3100024	3600006	35 MM	RF	3 o'clock		N/A	N/A
1994-98 L4 - 2.4L (4G64) [Galant SOHC]	3100024	3600006	35 MM	RF	3 o'clock		N/A	N/A
1999-2008 L4 - 2.4L (4G64) [Galant, 00 Eclipse]	3100020	3600006	35 MM	2ND LF	4 o'clock		N/A	N/A
1996-99 L4 - 2.4L (4G64) [Eclipse Spyder]	3100024	3600006	35 MM	RF	3 o'clock		N/A	N/A
2004-2007 L4 - 2.4L (JT41/45 4 MIVEC)[Galant, Lancer]	3100075	3600006	35 MM	LF	3 o'clock		N/A	N/A
2008-2012 L4 - 2.4L [Lancer GTS]	3100111	3600083	Cartridge	LF	N/A		N/A	N/A
<b>6 Cylinder</b>								
1995-96 V6 - 2.5L (6G73) [Galant]	3100055	3600006	1-5/8"	CR	3 o'clock		N/A	N/A
1988-96 V6 - 3.0L (6G72) [Except 3000GT]	3100055	3600006	1-5/8"	RF	9 o'clock		N/A	N/A
1991-96 V6 - 3.0L (6G72) [3000GT]	see dealer	N/A	N/A	N/A	N/A		3200003	N/A
1999-2003 V6 - 3.0L (6G72) [Galant, 00 Eclipse]	3100055	3600006	1-5/8"	LR	9 o'clock		N/A	N/A
1997-2007 V6 - 3.5L (6G74) [Diamante]	3100055	3600006	1-5/8"	LR	6 o'clock		N/A	N/A
2004-2012 V6 - 3.8L [Galant]	3100055	3600006	1-5/8"	LR	12 o'clock		N/A	N/A

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\* Description of footnotes - see page 26. Circulation Heaters - see page 71-73. Lower Radiator Hose Heaters - see page 85.

MAKE, MODEL, YEAR & ENGINE	FREEZE PLUG HEATER (UNLESS OTHERWISE NOTED)						LOWER HOSE HEATER	CIRCULATION HEATER
	HEATER PART No.	REPL. CORD PART No.	BORE DIAMETER	INSTALLATION LOCATION	POINT ELEMENT†	NOTES*	PART No.	WATTAGE
<b>MITSUBISHI - continued</b>								
<b>LIGHT &amp; MEDIUM DUTY TRUCKS</b>								
<b>4 Cylinder</b>								
1983-89 L4 - 2.0L (G63B)	3100024	3600006	35 MM	RR	3 o'clock		N/A	N/A
1983-86 L4 - 2.3L (4D55) DIESEL	see dealer	3600006	40 MM	LR	9 o'clock		N/A	N/A
1987-90 L4 - 2.4L (G64B)	3100024	3600006	35 MM	RR	3 o'clock		N/A	N/A
1990-96 L4 - 2.4L (4G64)	3100024	3600006	35 MM	RR	3 o'clock		N/A	N/A
2003-2007 L4 - 2.4L (4G64) [Outlander]	3100024	3600006	35 MM	2nd LF	3 o'clock		N/A	N/A
2008-2012 L4 - 2.4L [Outlander]	3100111	3600083	Cartridge	LF	N/A		N/A	N/A
1997-2009 L4 - 2.4L (4G64) [Montero Sport]	3100024	3600006	35 MM	LF	3 o'clock		N/A	N/A
1983-89 L4 - 2.6L (G54B)	see dealer	3600006	40 MM	RF	6 o'clock		N/A	N/A
<b>6 Cylinder</b>								
1990-2005 V6 - 3.0L (6G72) [Truck,Montero]	3100055	3600006	1-5/8"	RR	9 o'clock		N/A	N/A
2007-2008 V6 - 3.0L (6B31) [Outlander]	see dealer	3600006	40 MM	RF	6 o'clock		N/A	N/A
1997-2005 V6 - 3.0L (6G72) [Montero Sport]	3100055	3600006	1-5/8"	RC	6 o'clock		N/A	N/A
2008-2012 V6 - 3.5L [Outlander]	3100007	3600005	30MM	CR	N/A		N/A	N/A
1999-2002 V6 - 3.5L (6G74) [Montero Sport]	3100055	3600006	1-5/8"	RC	6 o'clock			
1995-2002 V6 - 3.5L (6G74) [Montero]	3100055	3600006	1-5/8"	RR	12 o'clock		N/A	N/A
2003-2011 V6 - 3.8L	3100055	3600006	1-5/8"	RR	12 o'clock		N/A	N/A
<b>NISSAN</b>								
<b>AUTOMOTIVE</b>								
<b>4 Cylinder</b>								
1966-80 L4 - 1.0, 1.2, 1.3, 1.4, 1.6L OHV (Conv)	3100016	3600006	35 MM	LF	12 o'clock		N/A	N/A
1972-82 L4 - 1.2, 1.4, 1.5L OHC (Conventional)	3100016	3600006	35 MM	LF	12 o'clock		N/A	N/A
1968-73 L4 - 1.3, 1.6L OHC (Conventional)	3100048	3600006	40 MM	LF or RR	12 o'clock		3200002	N/A
1976-81 L4 - 1.4L (A14), 1.5L (A15) (Transverse)	3100016	3600006	35 MM	LR	12 o'clock		N/A	N/A
1982-88 L4 - 1.5L (E15), 1.6L (E16) (Transverse)	3100074	3600004	30 MM	RR	8 o'clock		N/A	N/A
1989-90 L4 - 1.6L (GA16i) (Transverse)	3100074	3600004	30 MM	RF	9 o'clock		N/A	N/A
1991-92 L4 - 1.6L (E16) (Transverse)	3100074	3600004	30 MM	RR	8 o'clock		N/A	N/A
1991-99 L4 - 1.6L (GA16DE) (Transverse)	3100074	3600004	30 MM	RF	9 o'clock		N/A	N/A
1987-89 L4 - 1.6L (CA16DE), 1.8L (CA18DE) (Trans)	3100074	3600004	30 MM	LF	4 o'clock		N/A	N/A
2011-2012 L4 - 1.6L (MR16DDT) (Transverse)	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
1983-87 L4 - 1.7L (CD17) (Transverse) DIESEL	3100074	3600004	30 MM	RR	8 o'clock		N/A	N/A
1984-88 L4 - 1.8L (CA18ET) (Conventional) TURBO	3100074	3600004	30 MM	RC	3 o'clock	1	3200002	N/A
1973-80 L4 - 1.8L (L18), 2.0L (L20) (Conventional)	3100048	3600006	40 MM	3RD RS	12 o'clock		N/A	N/A
2002-2006 L4 - 1.8L (QG18DE)	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
2007-2012 L4 - 1.8L (MR20DE)	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
1986-88 L4 - 2.0L (CA20) (Conventional)	3100074	3600004	30 MM	LR	6 o'clock		3200002	N/A
1982-89 L4 - 2.0L (CA20,CA20E) (Transverse)	3100074	3600004	30 MM	LF	7 o'clock		N/A	N/A
1991-99 L4 - 2.0L (GA20DE) (Transverse)	3100007	3600005	30 MM THD	RR	N/A		3200003	N/A
1980-85 L4 - 2.0L (Z20), 2.2L (Z22) (Conventional)	3100048	3600006	40 MM	LF	12 o'clock		N/A	N/A
2007-2012 L4 - 2.0L (MR18DE)	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
2002-2007 L4 - 2.5L (QR25DE) (Transverse)	3100007	3600005	30 MM THD	RF	N/A		N/A	N/A
1989-2001 L4 - 2.4L (KA24E) (Transverse)	3100049	3600006	40 MM	LF	12 o'clock		3200003	N/A
1989-98 L4 - 2.4L (KA24E, KA24DE) (Conventional)	3100049	3600006	40 MM	LR	12 o'clock		3200003	N/A
<b>6 Cylinder</b>								
1974-80 L6 - 2.6L (L26)	3100016	3600006	35 MM	RF	12 o'clock		N/A	N/A
1970-85 L6 - 2.4L, 2.8L(L24, L28 E, ET)	3100016	3600006	35 MM	3RD RS	12 o'clock		N/A	N/A
1981-84 L6 - 2.8L(LD28) DIESEL	3100016	3600006	35 MM	LR	12 o'clock		N/A	750W
1986-93 V6 - 3.0L (VG30E, ET, DE) (Conventional)	3100009	3600004	30 MM	LR	6 o'clock		N/A	N/A
1986-94 V6 - 3.0L (VG30E, DE) (Transverse)	3100009	3600004	30 MM	LF	6 o'clock		N/A	N/A
1995-2001 V6 - 3.0L (VQ30DE) (Transverse)	3100007	3600005	30 MM THD	RF	N/A		N/A	N/A
2002-2012 V6 - 3.5L (VQ35DE)(Transverse)	3100007	3600005	30 MM THD	RF	N/A		N/A	N/A
2004-2009 V6 - 3.5L (VQ35DE, VQ35HR) (Conventional)	3100007	3600005	30 MM THD	LR	N/A	16	N/A	N/A
2010-2012 V6 - 3.7L (Conventional)	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
2010-2012 V6 - 3.8L Turbo (VR38DETT)	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
<b>LIGHT &amp; MEDIUM DUTY TRUCKS</b>								
<b>4 Cylinder</b>								
1970-73 L4 - 1.6L OHC ENG	3100048	3600006	40 MM	LF or RR	12 o'clock		3200002	750W
1974-80 L4 - 1.8L (L18), 2.0L (L20)	3100048	3600006	40 MM	3RD RS	12 o'clock		N/A	750W
1981-89 L4 - 2.0L (Z20), 2.2L (Z22), 2.4L (Z24)	3100048	3600006	40 MM	LF	12 o'clock		N/A	750W
1990-98 L4 - 2.4L (KA24E)	3100049	3600006	40 MM	LR	12 o'clock		3200003	750W
1981-88 L4 - 2.2, 2.5L(SD25) DIESEL	3100016	3600006	35 MM	LF	6 o'clock		N/A	750W
2005-2007 L4 - 2.5L (QR25DE) (Conventional)	3100007	3600005	30 MM THD	LF	N/A		N/A	N/A
<b>6 Cylinder</b>								
1984-95 V6 - 3.0L (VG30E, VG30i)	3100009	3600004	30 MM	LR	6 o'clock		N/A	N/A
1993-98 V6 - 3.0L (VG30E) (Transverse) [Quest]	3100009	3600004	30 MM	LF	6 o'clock		N/A	N/A
1999-00 V6 - 3.3L (VG33) (Transverse) [Quest]	3100009	3600004	30 MM	LF	6 o'clock		N/A	N/A
1998-2004 V6 - 3.3L (VG33) (Conventional)	3100009	3600004	30 MM	LR	6 o'clock		N/A	N/A

† Please confirm element orientation - improper position may result in heater or engine damage.

\* Description of footnotes - see page 26. Circulation Heaters - see page 71-73. Lower Radiator Hose Heaters - see page 85.

MAKE, MODEL, YEAR & ENGINE	FREEZE PLUG HEATER (UNLESS OTHERWISE NOTED)						LOWER HOSE HEATER	CIRCULATION HEATER
	HEATER PART No.	REPL. CORD PART No.	BORE DIAMETER	INSTALLATION LOCATION	POINT ELEMENT†	NOTES*	PART No.	WATTAGE
<b>NISSAN - continued</b>								
2001-2012 V6 - 3.5L (VQ35DE) (Conventional)	3100007	3600005	30MM THD	LF	N/A		N/A	N/A
2005-2012 V6 - 4.0L (VQ40DE)(Conventional)	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
<b>8 Cylinder</b>								
2004-2012 V8 - 5.6L (VK56DE)	3100007	3600005	30MM THD	RF	N/A		N/A	N/A
<b>OLDSMOBILE</b>								
<b>AUTOMOTIVE</b>								
<b>4 Cylinder</b>								
1982-89 L4 - 1.8L, 2.0L OHC (Brazil engine)	3100015	3600006	34 MM	2ND LF	1 or 3 o'clock		N/A	N/A
1982-84 L4 - 1.8L, 2.0L	3100014	3600006	34 MM	LF	12 o'clock		N/A	N/A
1985-86 L4 - 2.0L	3100062	3600006	42 MM	LF	4 o'clock		N/A	N/A
1987-92 L4 - 2.2L	3100081	3600006	42 MM	LF	9 o'clock		N/A	N/A
1993-96 L4 - 2.0L, 2.2L (Transverse)	3100081	3600006	42 MM	LF	9 o'clock		N/A	N/A
2002-2004 L4 2.2L (Ecotec) (Transverse)	3400019	3600083	CLAMP-ON	RR	N/A		N/A	N/A
1987-93 L4 - 2.3L QUAD IV	3100093	3600023	3/4" NPT	N/A	N/A	3	N/A	N/A
1994-95 L4 - 2.3L QUAD IV GEN II	3100001	3600002	1/2" NPT	N/A	N/A		N/A	N/A
1996-2001 L4 - 2.4L (Twin Cam)	3100001	3600002	3/4" NPT	N/A	N/A		N/A	N/A
1980-92 L4 - 2.5L (Transverse)	3100076	3600006	1-5/8"	LF	12 o'clock		3200003	N/A
1978-81 L4 - 2.5L (Conventional)	3100076	3600006	1-5/8"	LR	12 o'clock		3200003	N/A
<b>6 Cylinder</b>								
1980-86 V6 - 2.8L (Transverse)	3100014	3600006	34 MM	RS	3 o'clock	7	3200003	750W
1987-89 V6 - 2.8L (Transverse) (VIN W)	3100015	3600006	34 MM	CR	3 o'clock	2	N/A	N/A
1982-88 V6 - 3.0L (Transverse)	3100041	3600006	1-1/2"	LF	12 o'clock		N/A	750W
1989-99 V6 - 3.1L (Transverse)	3100015	3600006	34 MM	CR	3 o'clock	2	N/A	N/A
1992-97 V6 - 3.4L (Transverse)	3100015	3600006	34 MM	CR	3 o'clock	2, 5	N/A	N/A
1999-2004 V6 - 3.4L (Transverse)	3100015	3600006	34 MM	CR	3 o'clock	2, 5	N/A	N/A
1999-2002 V6 - 3.5L DOHC (Transverse)	see dealer	N/A	CLAMP-ON	N/A	N/A		N/A	N/A
1989-98 V6 - 3300, 3800 (Transverse)	3100041	3600006	1-1/2"	RF or LF	12 o'clock		N/A	N/A
1975-88 V6 - 3.8L (231 cu. in.) (Conventional)	3100039	3600006	1-1/2"	RR	12 o'clock	1	3200003	750W
1984-88 V6 - 3.8L (231 cu. in.) (Transverse)	3100041	3600006	1-1/2"	LF	3 o'clock		3200003	750W
1981-84 V6 - 4.1L (252 cu. in.) (Conventional)	3100039	3600006	1-1/2"	RR	12 o'clock	1	3200003	750W
1983-85 V6 - 4.3L DIESEL (Transverse)	3100039	3600006	1-1/2"	RF or RR	12 o'clock		N/A	750W
1982-85 V6 - 4.3L DIESEL (Conventional)	3100039	3600006	1-1/2"	LF or RF	12 o'clock		N/A	750W
1991-96 V6 - 4.3L	3100057	3600006	1-5/8"	LR	6 o'clock		N/A	750W
1968-76 L6 - 250 cu. in.	3100054	3600006	1-5/8"	LF or LR	6 or 12 o'clock		3200003	750W
<b>8 Cylinder</b>								
1979-85 V8 - 260 cu. in. DIESEL	3100039	3600006	1-1/2"	LR	12 o'clock		3200003	1500W
1975-82 V8 - 260 cu. in. GAS	3100039	3600006	1-1/2"	RF	6 o'clock		3200003	1500W
1997-2003 V8 - 4.0L [Aurora]	see dealer	N/A	CLAMP-ON	N/A	N/A		N/A	N/A
1980-81 V8 - 4.3L (265 cu. in.)	3100070	3600006	1-15/16"	LC	11 o'clock	1	3200003	1500W
1981-82 V8 - 4.4L (267 cu. in.)	3100057	3600006	1-5/8"	LR	9 o'clock		3200003	1500W
1980-90 V8 - 5.0L (307 cu. in.)	3100039	3600006	1-1/2"	LF or RF	12 o'clock		3200003	1500W
1979 V8 - 301 cu. in.	3100070	3600006	1-15/16"	LC	6 or 12 o'clock		3200003	1500W
1977-92 V8 - 305, 350 cu. in. (Chevrolet engine)	3100057	3600006	1-5/8"	LR	9 o'clock		3200003	1500W
1964-67 V8 - 330 cu. in.	3100039	3600006	1-1/2"	LF or RF	12 o'clock		3200004	1500W
1968-81 V8 - 350, 455 [Except Delmont] (Olds eng)	3100039	3600006	1-1/2"	LF or RF	12 o'clock		3200003	1500W
ALL V8 - 350 [Delmont]	3100039	3600006	1-1/2"	RC	12 o'clock		3200003	1500W
1967-76 V8 - 400 cu. in.	3100039	3600006	1-1/2"	LF or RC	12 o'clock		3200003	1500W
1975 V8 - 400 cu. in. [Vista Cruiser]	3100070	3600006	1-15/16"	LF	6 o'clock		3200003	1500W
1977-79 V8 - 403 cu. in.	3100039	3600006	1-1/2"	RF	12 o'clock		3200003	1500W
1978-85 V8 - 350 cu. in. DIESEL	3100039	3600006	1-1/2"	LF or RF	12 o'clock		N/A	1500W
<b>LIGHT &amp; MEDIUM DUTY TRUCKS</b>								
2004 L6 - 4.2L	3100005	3600100	28MM THD	LF	N/A		N/A	N/A
1991-96 V6 - 4.3L [Bravada]	3100054	3600006	1-5/8"	LR	12 o'clock		N/A	N/A
<b>PONTIAC</b>								
<b>3 Cylinder</b>								
1985-99 L3 - 1.0L	3400002	3600002	CLAMP-ON	N/A	N/A		3200001	N/A
<b>4 Cylinder</b>								
1987-99 L4 - 1.3L (Suzuki engine)	3400004	3600020	CLAMP-ON	N/A	N/A		3200001	N/A
1985-87 L4 - 1.5L (Transverse)	3100018	3600006	35 MM	CR	12 o'clock		N/A	N/A
1981-88 L4 - 1.6L OHV (Conventional)	3100014	3600006	34 MM	RF	6 o'clock		N/A	N/A
2004-2009 L4 - 1.6L [Wave]	3100008	3600003	36 MM	LF	N/A		N/A	N/A
1988-98 L4 (Suzuki engine) [Sunrunner]	3400003	3600002	CLAMP-ON	N/A	N/A		3200001	N/A
1988-93 L4 - 1.6L (Transverse) [Lemans]	3100015	3600006	34 MM	LF	3 o'clock		3200002	N/A
1982-84 L4 - 1.8L, 2.0L, OHV	3100014	3600006	34 MM	LF	12 o'clock		N/A	N/A
1982-87 L4 - 1.8L DIESEL	3100018	3600006	35 MM	RR	12 o'clock		N/A	N/A
1982-94 L4 - 1.8L, 2.0L OHC (Brazil engine)	3100015	3600006	34 MM	2ND LF	3 o'clock		N/A	N/A
2002-2009 L4 - 1.8L (1ZZFE) (Transverse)[Vibe]	3100129	3600083	Cartridge	LR	N/A		N/A	N/A

† Please confirm element orientation - improper position may result in heater or engine damage.

\* Description of footnotes - see page 26. Circulation Heaters - see page 71-73. Lower Radiator Hose Heaters - see page 85.

MAKE, MODEL, YEAR & ENGINE	FREEZE PLUG HEATER (UNLESS OTHERWISE NOTED)						LOWER HOSE HEATER	CIRCULATION HEATER
	HEATER PART No.	REPL. CORD PART No.	BORE DIAMETER	INSTALLATION LOCATION	POINT ELEMENT†	NOTES*	PART No.	WATTAGE
<b>PONTIAC - continued</b>								
2007-2009 L4 - 2.0L (Ecotec Turbo) (Conventional)	see dealer	3600082	CLAMP-ON	N/A	N/A		N/A	
1995-2001 L4 - 2.2L	3100081	3600006	42 MM	LF	9 o'clock		N/A	N/A
2002-2004 L4 - 2.2L (Ecotec) (Transverse)	3400019	3600100	CLAMP-ON	RR	N/A		N/A	N/A
2005-2009 L4 - 2.2L (Ecotec) (Transverse)	3400020	3600082	CLAMP-ON	RR	N/A	15	N/A	N/A
1985-86 L4 - 2.0L	3100062	3600006	42 MM	LF	4 o'clock		N/A	N/A
1987-93 L4 - 2.3L QUAD IV	3100093	3600003	3/4" NPT	N/A	N/A	3	N/A	N/A
1994-95 L4 - 2.3L QUAD IV GEN II	3100001	3600002	1/2" NPT		N/A		N/A	N/A
2006-2009 L4 - 2.4L (Ecotec) (Transverse)	3400020	3600082	CLAMP-ON	RR	N/A	15	N/A	N/A
2006-2009 L4 - 2.4L (Ecotec) (Conventional)	3400020	3600082	CLAMP-ON	RF	N/A	15	N/A	
1996-2001 L4 - 2.4L (Twin Cam)	3100001	3600002	1/2" NPT		N/A		N/A	N/A
2009 L4 - 2.4L (Toyota Engine) [Vibe]	3100129	3600083	cartridge	LR	N/A		N/A	N/A
1977-87 L4 - 2.5L (Conventional)	3100076	3600006	1-5/8"	LR	6 or 12 o'clock		3200003	750W
1980-94 L4 - 2.5L (Transverse)	3100076	3600006	1-5/8"	LF	12 o'clock		3200003	750W
<b>6 Cylinder</b>								
1980-86 V6 - 2.8L (Transverse)	3100014	3600006	34 MM	RS	3 o'clock	7	3200003	N/A
1985-89 V6 - 2.8L (Transverse) (VIN W)	3100015	3600006	34 MM	CR	3 o'clock	2	N/A	N/A
1982-89 V6 - 2.8L (Conventional)	3100014	3600006	34 MM	RFF IN BLOCK	3 o'clock		3200003	750W
1985-88 V6 - 3.0L (Transverse)	3100041	3600006	1-1/2"	LF	12 o'clock		3200003	750W
1990-97 V6 - 3.1, 3.4L (Conventional)	3100015	3600006	34 MM	LC or RC	3 o'clock	2	N/A	N/A
1988-2002 V6 - 3.1L (Transverse)	3100015	3600006	34 MM	CR	3 o'clock	2	N/A	N/A
1992-97 V6 - 3.4L (Transverse)	3100015	3600006	34 MM	CR	3 o'clock	2, 5	N/A	N/A
1999-2004 V6 - 3.4 (Transverse)	3100015	3600006	34 MM	CR	3 o'clock	2, 5	N/A	N/A
2005-2009 V6 - 3.4 (Transverse) [Torrent]	3100109	3600082	28 MM THD	CR	N/A	15	N/A	N/A
2005-200 V6 - 3.5L (Transverse)	3100109	3600082	28 MM THD	CR	N/A	15	N/A	N/A
2007-2009 V6 - 3.6L (Transverse)	3100110	3600082	Cartridge	LR	N/A	15	N/A	N/A
2008-2009 V6 - 3.6L (Conventional)	3100110	3600082	Cartridge	LR	N/A	15	N/A	N/A
2005-2009 V6 - 3.9L (Transverse)	3100109	3600082	28 MM THD	CR	N/A	15	N/A	N/A
1988-2004 V6 - 3300, 3800 (Transverse)	3100041	3600006	1-1/2"	RF or LF	12 o'clock		3200003	N/A
2005-2009 V6 - 3800 (Transverse)	3100109	3600082	28 MM THD	CR	N/A	15	N/A	N/A
1996-2002 V6 - 3.8L Firebird	3100041	3600006	1-1/2"	RF	12 o'clock		N/A	N/A
1976-88 V6 - 3.8L (231 cu. in.) (Conventional)	3100039	3600006	1-1/2"	RR	12 o'clock	1	3200003	1000W
1987-89 V6 - 3.8L (231 cu. in.) (Transverse)	3100041	3600006	1-1/2"	LF	3 o'clock		3200003	1000W
1980-81 V6 - 3.8L (229 cu. in.)	3100057	3600006	1-1/2"	LR	6 o'clock		3200003	1000W
1982-83 V6 - 4.1L (252 cu. in.)	3100039	3600006	1-1/2"	RR	12 o'clock	1	3200003	1000W
1985-87 V6 - 4.3L	3100057	3600006	1-5/8"	LR	6 o'clock		3200003	1000W
1982-85 V6 - 4.3L DIESEL	3100039	3600006	1-1/2"	LF or LR	12 o'clock		N/A	1000W
1955-73 L6 - 194, 230, 250 cu. in.	3100054	3600006	1-5/8"	LF	12 o'clock		3200003	1000W
1974-78 L6 - 250 cu. in.	3100054	3600006	1-5/8"	LR	12 o'clock	8	3200003	1000W
<b>8 Cylinder</b>								
1975-76 V8 - 260 cu. in.	3100039	3600006	1-1/2"	RF	6 o'clock		3200003	1500W
1980-81 V8 - 4.3L (265 cu. in.)	3100070	3600006	1-15/16"	LC	11 o'clock	1	3200003	1500W
1978-82 V8 - 4.4L (267 cu. in.)	3100057	3600006	1-5/8"	LR	9 o'clock		3200004	1500W
1977-81 V8 - 301 cu. in.	3100070	3600006	1-15/16"	LR	6 or 12 o'clock		3200003	1500W
1958-94 V8 - 283,305,307,327,350,400 (Red) cu. in.	3100057	3600006	1-5/8"	LR	9 o'clock		3200003	1500W
1973-79 V8 - 350, 400, 455 (Blue) cu. in.	3100070	3600006	1-15/16"	LC or LR	12 o'clock		3200003	1500W
2005-2007 V8 - 5.3L (Transverse)	3100109	3600082	28 MM THD	RF	N/A	15	N/A	N/A
1998-2002 V8 - 5.7L Gen 3	3100005	3600100	28 MM THD	LR	N/A		N/A	1500W
2004 V8 - 5.7L Gen 3	3100005	3600100	28 MM THD	LR	N/A		N/A	1500W
1980-85 V8 - 5.7L (350 cu. in.) DIESEL	3100039	3600006	1-1/2"	LF or RF	12 o'clock		N/A	1500W
2005-2006 V8 - 6.0L LS2	3100109	3600082	28MM THD	LF	N/A	15	N/A	N/A
2008-2009 V8 - 6.0L	3100109	3600082	28MM THD	LF	N/A	15	N/A	N/A
2009 V8 - 6.2L	3100109	3600082	28MM THD	LF	N/A	15	N/A	N/A
1962-70 V8 - 396, 409, 427 cu. in.	3100065	3600006	1-3/4"	RC or LF	3 or 12 o'clock		3200003	1500W
1977-89 V8 - 307,350, 403 cu. in. (Oldsmobile eng)	3100039	3600006	1-1/2"	RF	12 o'clock		3200003	1500W
1970-77 V8 - 454 cu. in.	3100065	3600006	1-3/4"	RC	6 o'clock		3200003	1500W
1971-81 V8 - 350 cu. in. (Buick engine)	3100039	3600006	1-1/2"	LF or RF	12 o'clock		N/A	1500W
<b>PORSCHE</b>								
<b>6 Cylinder</b>								
1998-2011 H6 - 2.5L, 2.7L, 3.0L, 3.2L, 3.6L, 3.8L, 4.0L	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
2012 V6 - 3.0L Hybrid	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
2004-2007 V6 - 3.2L [Cayenne]	3100010	3600005	30 MM	CFF	10 o'clock		N/A	N/A
2007-2010 V6 - 3.6L [Cayenne]	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
2011-2012 V6 - 3.6L [Panamera, Cayenne]	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
<b>8 Cylinder</b>								
2003-2006 V8 - 4.5L [Cayenne & Turbo]	see dealer	N/A	N/A	RFF	N/A		N/A	N/A
2007-2012 V8 - 4.8L [Cayenne & Panamera]	see dealer	N/A	N/A	N/A	N/A		N/A	N/A

† Please confirm element orientation - improper position may result in heater or engine damage.

\* Description of footnotes - see page 26. Circulation Heaters - see page 71-73. Lower Radiator Hose Heaters - see page 85.



MAKE, MODEL, YEAR & ENGINE	FREEZE PLUG HEATER (UNLESS OTHERWISE NOTED)						LOWER HOSE HEATER	CIRCULATION HEATER
	HEATER PART No.	REPL. CORD PART No.	BORE DIAMETER	INSTALLATION LOCATION	POINT ELEMENT†	NOTES*	PART No.	WATTAGE
<b>LAND ROVER</b>								
<b>4 Cylinder</b>								
1958-UP L4 - 120.8 cu. in. Gas/Diesel [Land Rover]	3100070		1-15/16"	LC	6 o'clock		3200002	N/A
2012 L4 2.0L TURBO	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
<b>6 Cylinder</b>								
1958-UP L6 - 161, 182.7 cu. in.	3100003	3600001	1" NPT	N/A	N/A		N/A	N/A
2002-2005 V6 - 2.5L	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
2007-2012 L6 - 3.2L	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
2004-2008 V6 - 4.0L	3100039	3600006	1-1/2"	RF	6 o'clock		N/A	N/A
<b>8 Cylinder</b>								
1987-2004 V8 - 3.9, 4.0, 4.2, 4.6L	3100039	3600006	1-1/2"	LC	12 o'clock		N/A	N/A
2003-2004 V8 - 4.4L (BMW Engine)	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
2005-2009 V8 - 4.2L, 4.4L (Jaguar Engine)	see dealer	N/A	30 MM THD	LR	N/A		N/A	N/A
2010-2012 V8 - 5.0L	see dealer	N/A	30 MM THD	LR	N/A		N/A	N/A
<b>SAAB</b>								
<b>4 Cylinder</b>								
1975-84 L4 - 2.0, 2.1L	3100056	3600006	1-5/8"	RR	3 o'clock		N/A	750W
1985-93 L4 - 2.0, 2.1L	see dealer	3600084	26 MM THD	N/A	N/A		N/A	N/A
2003-2012 L4 2.0L Turbo	see dealer	N/A	CLAMP-ON	N/A	N/A		N/A	N/A
2004-2005 H4 2.0L Turbo (Subaru Engine)	3100008	3600003	36 MM THD	Left Front Bottom	N/A		N/A	N/A
1990-2005 L4 - 2.3L (B234)	3100033	3600006	36 MM	LF	9 o'clock		N/A	N/A
2004-2005 H4 2.5L (Subaru Engine)	3100008	3600003	36 MM THD	Left Front Bottom	N/A		N/A	N/A
<b>6 Cylinder</b>								
1994-95 V6 - 2.5L	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
2006-2012 V6 - 2.8L Turbo	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
1999-2003 V6 - 3.0L	3100006	3600005	LF	N/A	N/A		N/A	N/A
2005-2007 L6 - 4.2L (Conventional)	3100109	3600082	28 MM THD	LF	N/A	15	N/A	N/A
<b>8 Cylinder</b>								
2005-2007 V8 - 5.3L (Conventional)	3100109	3600082	28 MM THD	LR	N/A	15	N/A	N/A
<b>SATURN</b>								
<b>4 Cylinder</b>								
1991-2001 L4 - 1.9L	see dealer	N/A	CLAMP-ON	N/A	N/A		N/A	N/A
2004 L4 - 2.0L (Ecotec) (Transverse)	3400019	3600100	CLAMP-ON	RR	N/A		N/A	N/A
2005-2006 L4 - 2.0L (Ecotec) (Transverse)	3400020	3600082	CLAMP_ON	RR	N/A	15	N/A	N/A
2007-2009 L4 - 2.0L (Ecotec Turbo) (Conventional)	see dealer	3600082	CLAMP-ON	N/A	N/A		N/A	N/A
2000-2004 L4 - 2.2L (Ecotec) (Transverse)	3400019	3600100	CLAMP-ON	RR	N/A		N/A	N/A
2005-2006 L4 - 2.2L (Ecotec) (Transverse)	3400020	3600082	CLAMP_ON	RR	N/A	15	N/A	N/A
2006-2009 L4 - 2.4L (Ecotec) (Transverse)	3400020	3600082	CLAMP_ON	RR	N/A	15	N/A	N/A
2006-2009 L4 - 2.4L (Ecotec) (Conventional)	3400020	3600082	CLAMP_ON	RF	N/A	15	N/A	N/A
<b>6 Cylinder</b>								
2000-2004 V6 - 3.0L	3100006	3600005	28MM THD	LF	N/A		N/A	N/A
2005-2006 V6 - 3.0L	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
2007-2009 V6 - 3.5L (Transverse)	3100109	3600082	28 MM THD	LR	N/A	15	N/A	N/A
2007-2009 V6 - 3.6L (Transverse)	3100110	3600082	cartridge	LR	N/A	15	N/A	N/A
<b>LIGHT &amp; MEDIUM DUTY TRUCKS &amp; VANS</b>								
<b>4 Cylinder</b>								
2002-2004 L4 - 2.2L	3400019	3600100	CLAMP-ON	RR	N/A		N/A	N/A
2005-2007 L4 - 2.2L	3400020	3600082	CLAMP_ON	RR	N/A	15	N/A	N/A
<b>6 Cylinder</b>								
2002-2004 V6 - 3.0L	3100006	3600005	28MM THD	LF	N/A		N/A	N/A
2005-2007 V6 - 3.0L	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
2004-2007 V6 - 3.5L [Honda Engine]	3100006	3600005	28MM THD	LF	N/A		N/A	N/A
2005-2009 V6 - 3.5L	3100109	3600082	28 MM THD	LR	N/A	15	N/A	N/A
2007-2009 V6 - 3.6L (Transverse)	3100110	3600082	cartridge	LR	N/A	15	N/A	N/A
<b>SCION</b>								
<b>4 Cylinder</b>								
2004-2009 L4 - 1.5L (1NZ-FE)	3100129	3600083	cartridge	LR	N/A		N/A	N/A
2012 H4 - 2.0L	see dealer	N/A	36MM THD	Left Front Bottom	N/A		N/A	N/A
2004-2011 L4 2.4L	3100129	3600083	cartridge	LR	N/A		N/A	N/A
2011-2012 L4 - 2.5L (2AR-FE)	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
<b>SMART</b>								
<b>3 Cylinder</b>								
2005-2007 L3 DIESEL [ForTwo]	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
2008-2012 L3 GASOLINE [ForTwo]	see dealer	N/A	N/A	N/A	N/A		N/A	N/A

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\* Description of footnotes - see page 26. Circulation Heaters - see page 71-73. Lower Radiator Hose Heaters - see page 85.

MAKE, MODEL, YEAR & ENGINE	FREEZE PLUG HEATER (UNLESS OTHERWISE NOTED)						LOWER HOSE HEATER	CIRCULATION HEATER
	HEATER PART No.	REPL. CORD PART No.	BORE DIAMETER	INSTALLATION LOCATION	POINT ELEMENT†	NOTES*	PART No.	WATTAGE
<b>SUBARU</b>								
ALL H4 & H6 - 1980-2012	3100008	3600003	36 MM THD	Left Front Bottom	N/A		N/A	N/A
2012 H4 - 2.0L	see dealer	N/A	36MM THD	Left Front Bottom	N/A		N/A	N/A
2008-2012 H6 - 3.6L	see dealer	N/A	36 MM THD	N/A	N/A		N/A	N/A
<b>SUZUKI</b>								
<b>3 Cylinder</b>								
1985-00 L3 - 1.0L	3400002	3600002	CLAMP-ON	N/A	N/A		3200001	N/A
<b>4 Cylinder</b>								
1985-99 L4 - 1.3L	3400004	3600020	CLAMP-ON	N/A	N/A		3200001	N/A
1989-2001 L4 - 1.6L	3400003	3600002	CLAMP-ON	N/A	N/A		3200001	N/A
2005-2006 L4 - 1.6L [Swift]	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
2011-2012 L4 1.6L [Swift]	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
1998-2003 L4 - 1.8L	see dealer	N/A	30 MM	LR	N/A		N/A	N/A
1999-2003 L4 - 2.0L	see dealer	N/A	30 MM	LR	N/A		N/A	N/A
2003-2004 L4 - 2.0L [Aerio]	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
2004-2005 L4 - 2.0L [Reno]	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
2007-2012 L4 - 2.0L [SX4]	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
2005-2007 L4 - 2.3L [Aerio]	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
2009-2012 L4 - 2.4L (J24B) [Vitara, Kizashi]	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
<b>6 Cylinder</b>								
2004-2006 L6 - 2.5L	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
1999-2003 V6 - 2.5L	see dealer	N/A	CLAMP-ON	LF	N/A		N/A	N/A
2004 L6 - 2.5L	see dealer	N/A	CLAMP-ON					
2001-2007 V6 - 2.7L	see dealer	N/A	CLAMP-ON	LF	N/A		N/A	N/A
2008-2009 V6 - 3.2L	3100110	3600082	cartridge	LR	N/A	15	N/A	N/A
2007-2010 V6 - 3.6L [XL7]	3100110	3600082	cartridge	LR	N/A	15	N/A	N/A
2011-2012 V6 - 4.0L [Equator]	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
<b>TOYOTA</b>								
<b>AUTOMOTIVE</b>								
<b>4 Cylinder</b>								
1967-80 L4 - 1.1L (K), 1.2L (3K, 3KC)	3100016	3600006	35 MM	LF	6 o'clock		N/A	N/A
1981-85 L4 - 1.3L (4K, 4KE)	3100021	3600006	35 MM	LF	6 o'clock		N/A	N/A
1980-87 L4 - 1.5L (3A, 1AC, 3AC)	3100049	3600006	40 MM	LC	12 o'clock		N/A	N/A
1988-90 L4 - 1.5L (3E)	3100021	3600006	35 MM	LF	10-12 o'clock		N/A	N/A
1990-94 L4 - 1.5L (3EE)	3100019	3600006	35 MM	LF	12 o'clock		N/A	N/A
1992-99 L4 - 1.5L (5EFE)	3100011	3600004	30 MM	2ND RF	3 o'clock		N/A	N/A
2000-2012 L4 - 1.5L (1NZ-FE)	3100129	3600083	cartridge	LR	N/A		N/A	N/A
2004-2009 L4 - 1.5L (1NZ-FXE) [Prius]	see dealer	N/A	cartridge	LR	N/A		N/A	N/A
1983-86 L4 - 1.6L (4AC) (Conventional)	3100049	3600006	40 MM	2ND LF	12 o'clock		N/A	N/A
1985-97 L4 - 1.6L (4AF, 4AFE) (Transverse)	3100049	3600006	40 MM	CF	12 o'clock		N/A	N/A
1984-87 L4 - 1.6L (4AC) (Transverse)	3100049	3600006	40 MM	2ND LF	12 o'clock		N/A	N/A
1985-88 L4 - 1.6L (4AGE) (Conventional)	3100021	3600006	35 MM	RC	9 or 12 o'clock		N/A	N/A
1985-89 L4 - 1.6L (4AGE) (Mid engine)	3100021	3600006	35 MM	RF	12 o'clock		N/A	N/A
1988-91 L4 - 1.6L (4AGE) (Transverse)	3100021	3600006	35 MM	LR	9 or 12 o'clock		N/A	N/A
1971-82 L4 - 1.6L (2TC), 1.8L (3TC)	3100075	3600004	35 MM	LF	9 o'clock		N/A	N/A
1970-78 L4 - 1.8L (8R, 8RC)	3100048	3600006	40 MM	LC	12 o'clock		N/A	N/A
1966-80 L4 - 1.8L (3R, 3RB, 3RC)	3100071	3600006	50 MM	LF	12 o'clock		N/A	N/A
1993-97 L4 - 1.8L (7AFE) (Transverse)	3100049	3600006	40 MM	CF	12 o'clock		N/A	N/A
1998-2012 L4 - 1.8L (1ZZFE) (Transverse)	3100129	3600083	cartridge	LR	N/A		N/A	N/A
2010-2012 L4 - 1.8L (2ZR-FXE) [Prius]	see dealer	N/A	cartridge	LR	N/A		N/A	N/A
94-2002 V8 - 7.3L (T444E)	3100129	3600083	cartridge	LR	N/A		N/A	N/A
1972-74 L4 - 2.0L (18RC)	3100049	3600006	40 MM	RR	12 o'clock		N/A	N/A
1987-91 L4 - 2.0L (3SFE)	3100098	3600006	35 MM	2ND RR	9 o'clock		N/A	N/A
1986-89 L4 - 2.0L (3SGE)	3100019	3600006	35 MM	2ND RR	9 or 12 o'clock		N/A	N/A
1983-86 L4 - 2.0L (2SE, 2SGE)	3100049	3600006	40 MM	2ND LF	12 o'clock		N/A	N/A
1975-80 L4 - 2.2L (20R)	3100049	3600006	40 MM	RF	6 o'clock		N/A	N/A
1991-93 L4 - 2.2L (5SFE) MR2	3100021	3600006	35 MM	2ND LR	9 o'clock		N/A	N/A
1990-95 L4 - 2.2L (5SFE) [Celica]	3100049	3600006	40 MM	2ND LF	12 o'clock		N/A	N/A
1990-2001 L4 - 2.2L (5SFE) (Transverse)	3100049	3600006	40 MM	2ND LF	12 o'clock		N/A	N/A
1990-93 L4 - 2.2L (5SFE) (Mid engine)	3100049	3600006	40 MM	2ND LR	12 o'clock		N/A	N/A
1981-85 L4 - 2.4L (22R, 22RE)	3100049	3600006	40 MM	RF	10 o'clock		N/A	N/A
2002-2008 L4 - 2.4L (2AZ-FE)	3100129	3600083	cartridge	LR	N/A		N/A	N/A
2009-2012 L4 - 2.5L (2AR-FE)	see dealer	N/A	cartridge	LR	N/A		N/A	N/A
<b>6 Cylinder</b>								
1989-91 V6 - 2.5L (2VZFE)	3100019	3600006	35 MM	CF	6 o'clock		N/A	N/A
1992-96 V6 - 3.0L (3VZFE)	3100021	3600006	35 MM	LF	3 o'clock		N/A	N/A
1994-2006 V6 - 3.0L (1MZ-FE)	3100029	3600006	35 MM	RF	3 o'clock		N/A	N/A
1966-71 L6 - 2.2L (2M)	3100048	3600006	40 MM	LF	12 o'clock		N/A	750W
1971-79 L6 - 2.6L (4M)	3100049	3600006	40 MM	RR	5 o'clock		3200002	750W

† Please confirm element orientation - improper position may result in heater or engine damage.

\* Description of footnotes - see page 26. Circulation Heaters - see page 71-73. Lower Radiator Hose Heaters - see page 85.

MAKE, MODEL, YEAR & ENGINE	FREEZE PLUG HEATER (UNLESS OTHERWISE NOTED)						LOWER HOSE HEATER	CIRCULATION HEATER
	HEATER PART No.	REPL. CORD PART No.	BORE DIAMETER	INSTALLATION LOCATION	POINT ELEMENT†	NOTES*	PART No.	WATTAGE
<b>TOYOTA - continued</b>								
1979-88 L6 - 2.6L (4ME), 2.8L (5ME, 5MGE)	3100049	3600006	40 MM	RF	10 o'clock		N/A	750W
1986-95 L6 - 2.8L (5MGE)	3100049	3600006	40 MM	LF	10-12 o'clock		N/A	N/A
1986-95 L6 - 3.0L (7MGE)	3100049	3600006	40 MM	LF	10-12 o'clock		N/A	N/A
2004-2006 V6 - 3.3L	3100029	3600006	35 MM	RF	3 o'clock		N/A	N/A
2005-2012 V6 - 3.5L (2GR-FE)	see dealer	N/A	Cartridge	LF	N/A		N/A	N/A
<b>LIGHT &amp; MEDIUM DUTY TRUCKS &amp; VANS</b>								
<b>4 Cylinder</b>								
1981-87 L4 - 1.8L (L), 2.2L (2L,2LT) DIESEL	3100024	3600006	35 MM	LR	12 o'clock	1	N/A	750W
1996-00 L4 - 2.0L (3SFE) [RAV4]	3100098	3600006	35 MM	2ND RR	9 o'clock		N/A	N/A
2001-2005 L4 - 2.0L [RAV4]	3100129	3600083	cartridge	LR	N/A		N/A	N/A
1984-89 L4 - 2.0L (3YE), 2.2L (4YE)	3100019	3600006	35 MM	LR	9-12 o'clock		N/A	N/A
1972-74 L4 - 2.0L (18RC)	3100049	3600006	40 MM	RR	12 o'clock		N/A	750W
1975-80 L4 - 2.2L (20R)	3100049	3600006	40 MM	RF	6 o'clock		N/A	750W
1981-98 L4 - 2.4L (22R, 22RE, 22RTE)	3100049	3600006	40 MM	RF	10 o'clock		N/A	750W
1991-97 L4 - 2.4L (2TZ-FE) [Previa]	3100022	3600006	35 MM	BOTTOM RF	9 o'clock		N/A	N/A
2001-2012 L4 - 2.4L	3100129	3600083	cartridge	LR	N/A		N/A	N/A
1994-2012 L4 - 2.7L	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
2009-2012 L4 - 2.7L (1AR-FE) (Transverse)	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
1981-87 L4 - 3.4L (3B) DIESEL	3100021	3600006	35 MM	LR	11-12 o'clock		N/A	750W
<b>6 Cylinder</b>								
1988-98 V6 - 3.0L (3VZE)	3100098	3600006	35 MM	LF or 2ND LF	3 o'clock		N/A	N/A
1998-2003 V6 - 3.0L (1MZF-FE)	3100029	3600006	35 MM	RF	3 o'clock		N/A	N/A
2004-2006 V6 - 3.3L (2MZF)	3100029	3600006	35 MM	RF	3 o'clock		N/A	N/A
1997-2003 V6 - 3.4L (5VZ-FE)	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
2003-2012 V6 - 4.0L (1GR-FE)	3100129	3600083	cartridge	LR	N/A		N/A	N/A
1985-87 L6 - 3.9L (2H) DIESEL	3100021	3600006	35 MM	RR	3 or 5 o'clock			750W
<b>8 Cylinder</b>								
2010-2012 V8 - 4.6L	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
1998-2009 V8 - 4.7L (2UZ-FE)	see dealer	N/A	35 MM	2ND RF	N/A		N/A	N/A
2007-2012 V8 - 5.7L (3UR-FE)	3100129	3600083	cartridge	LR	N/A		N/A	N/A
<b>VOLKSWAGEN</b>								
<b>4 Cylinder</b>								
1962-76 L4 - ALL Air Cooled, except 411, 412	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
1971-76 L4 - 411, 412	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
1974-94 L4 - 1.5L, 1.6L &, 1.7L Gas/Diesel (Conv)	3100034	3600016	36.5 MM	2ND RF	6 o'clock	2	3200001	N/A
1974-94 L4 - 1.5L, 1.6L, & 1.7L Gas/Diesel (Trans)	3100034	3600016	36.5 MM	CR or RR	6 o'clock	2	3200001	N/A
1987-95 L4 - 1.8L (Conventional)	3100034	3600016	36.5 MM	RF	12 o'clock	2	N/A	N/A
1983-97 L4 - 1.8L (Transverse)	3100034	3600016	36.5 MM	CR or RR	12 o'clock	2	N/A	N/A
1998-2005 L4 - 1.8L (TURBO)	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
1993-97 L4 - 1.9L TURBO DIESEL	3100034	3600016	36.5 MM	LR or CR	6 o'clock	2	N/A	N/A
1998-99 L4 - 1.9L TURBO DIESEL (Direct Injection)	3100034	3600016	36.5 MM	LR	N/A	2	N/A	N/A
2000-2005 L4 - 1.9L TURBO DIESEL (Direct Injection)	see dealer	N/A	N/A	N/A	N/A		3305002	750 Watt
1991-99 L4 - 2.0L (Transverse)	3100034	3600016	36.5 MM	CR or RR	6 o'clock	2	N/A	N/A
1998-2005 L4 - 2.0L [Beetle]	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
2000-2012 L4 - 2.0L	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
2004-2006 L4 - 2.0L DIESEL (Direct Injection)	see dealer	N/A	N/A	N/A	N/A		N/A	750 Watt
2009-2012 L4 - 2.0L DIESEL	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
2006-2012 L4 - 2.0L TURBO FSI & TSI	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
<b>5 Cylinder</b>								
1987-95 L5 - 2.2L, 2.3L	3100035	3600016	36.5 MM	RF or 2ND RF	3 o'clock		N/A	N/A
2005-2012 L5 - 2.5L	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
<b>6 Cylinder</b>								
1993-2002 VR6 - 2.8L (Transverse)	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
2003-2004 VR6 24V - 2.8L (Transverse)	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
2004 VR6 24V - 3.2L (Transverse)	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
2008 VR6 24V - 3.2L (Transverse)	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
1998-2004 V6 - 2.8L (Conventional)	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
2006-2012 VR6 - 3.6L (Transverse)	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
<b>8 Cylinder</b>								
2003-2004 W8 - 4.0L	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
2004-2006 V8 - 4.2L	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
12 Cylinder								
2004-2006 W12 - 6.0L	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
<b>LIGHT &amp; MEDIUM DUTY TRUCKS &amp; VANS</b>								
<b>4 Cylinder</b>								
2009-2012 L4 - 2.0L TURBO TSI	see dealer	N/A	N/A	N/A	N/A		N/A	N/A

† Please confirm element orientation - improper position may result in heater or engine damage.

\* Description of footnotes - see page 26. Circulation Heaters - see page 71-73. Lower Radiator Hose Heaters - see page 85.

MAKE, MODEL, YEAR & ENGINE	FREEZE PLUG HEATER (UNLESS OTHERWISE NOTED)						LOWER HOSE HEATER	CIRCULATION HEATER
	HEATER PART No.	REPL. CORD PART No.	BORE DIAMETER	INSTALLATION LOCATION	POINT ELEMENT†	NOTES*	PART No.	WATTAGE
<b>VOLKSWAGEN - continued</b>								
<b>5 Cylinder</b>								
1992-95 L5 - 2.5L	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
<b>6 Cylinder</b>								
2002-2003 VR6 24V - 2.8L (Transverse)	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
2010-2012 V6 - 3.0L DIESEL	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
2003-2007 VR6 - 3.2L (Conventional)	3100010		30 MM	CFF	10 o'clock		N/A	N/A
2007-2012 VR6 - 3.6L (Conventional)	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
2009 V6 - 3.8L (Transverse)	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
2009 V6 - 4.0L (Transverse)	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
<b>8 Cylinder</b>								
2003-2010 V8 - 4.2L	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
<b>10 Cylinder</b>								
2004-2008 V10 - 5.0L DIESEL	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
<b>VOLVO</b>								
<b>4 Cylinder</b>								
2000-2003 L4 - 1.9L	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
1985-91 L4 - 2.3L (B230)*	3100047	3600006	40 MM	RF	9 o'clock	14	3200002	750W
1991-96 L4 - 2.3L (B230)	3100052	3600006	40 MM	RF	9 o'clock	14	N/A	N/A
1989-90 L4 - 2.3L (B234)	3100052	3600006	40 MM	RF	9 o'clock		N/A	N/A
1962-79 L4 - 1.8L, 2.0L	3100064	3600006	1-3/4"	RR	3 o'clock		3200002	750W
1976-84 L4 - 2.1L, 2.3L (B21,B23)	3100064	3600006	1-3/4"	RR	9 o'clock		3200002	750W
<b>5 Cylinder</b>								
1993-2006 L5 - 2.3L (Transverse)	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
1993-2011 L5 - 2.4L (Transverse)	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
2003-2011 L5 - 2.5L (Transverse)	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
<b>6 Cylinder</b>								
1976-90 V6 - 2.7L, 2.8L	3100031	3600006	36 MM	RRF IN HEAD	9 o'clock		3200002	750W
1980-86 L6 - 2.4L DIESEL	3100034	3600016	36.5 MM	RC	6 o'clock		N/A	750W
1969-79 L6 - 3.0L	3100064	3600006	1-3/4"	RR	9 o'clock		N/A	750W
1992-98 L6 - 3.0L	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
1999-2006 L6 - 2.9L (Transverse, inc Turbo)	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
2010-2011 L6 - 3.0L Turbo (Transverse)	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
2007-2011 L6 - 3.2L (Transverse)	see dealer	N/A	N/A	N/A	N/A		N/A	N/A
<b>8 Cylinder</b>								
2006-2011 V8 - 4.4L (Transverse)	3100002	3600001	3/4" NPT	LR	N/A		N/A	N/A

## Automotive Footnotes

† Please confirm element orientation. Improper position may result in heater or engine damage.

- Remove and replace starter.
- Pull or pry out core plug.
- Replacement heater only. May require lower coolant return line (steel tube) - purchase from GM.
- Remove and replace alternator.
- Installation by certified mechanic recommended.
- On some models, the air pump has to be loosened.
- Remove right front wheel and splash guard.
- Lower radiator hose heater: 1-3/4" dia. prior to 1970, 1-1/2" dia. later.
- Lower radiator hose heater: 1970 & earlier—use 1-3/4" model; 1971-93—use 1-1/2" model.
- Install in hose rise closest to water pump.
- Lower radiator hose heater: 1977-82—use 1-1/4" model; 1983-85—use 1-1/2" model.
- Lower radiator hose heater to 1993 only.
- If LR is a 40mm core hole, install heater in 2nd LR.
- Confirm with dealer on core hole type. Stepped core hole (1985-91). Normal style core hole (1991-96).
- Kit contains a thermostatically controlled cord required for compatibility with the OBD 11 system in these vehicles.
- May require mounting Elbow P/N 14075-AM700, Gasket P/N 11065-AM700 and Bolts P/N A1005H8, available from Nissan Infinity.

# Agricultural, Heavy Duty & Industrial App.

All Agricultural, Heavy Duty & Industrial Applications are CSA Approved (except where noted).



**Agricultural, Heavy Duty, and Industrial listings appear as follows:**

Manufacturer

**MACK**

**E6 (672 CID 6 cyl.)**

(Engines with smooth bore freeze plug. Example: EM6300, E6350, EM6237)

Part No.	Watt	Voit	Diameter	Type
8608748	1500	120	1-3/4"	Freeze Plug
8609772	150	<b>240</b>	1-3/4"	Freeze Plug

Engine diagram (if available)

**Installation Information:**  
 Replaces 1-3/4" freeze plug on side of engine.  
 Available Service Parts: O-ring and clamping device kit (3500003)


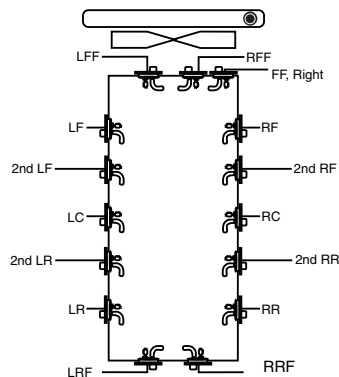
Product photo (if applicable)

Installation Information. See chart below for mounting location information.

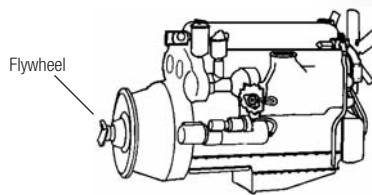
Part Number, Heater Wattage, Heater Voltage, Bore Diameter (if applicable), Heater Type. "Plate" indicates mounting plate installation.

Additional engine information, selection criteria

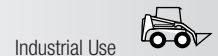
Engine Model and/or size, plus any descriptions

Heater installation locations are as viewed from flywheel end of engine.



Typical applications for engine:



CF.....Center Front  
 CR.....Center Rear  
 F.....Front  
 FF.....Front face of block  
 LC.....Left Center  
 LF.....Left Front  
 2nd LF.....2nd from left, front  
 LFF.....Front face, left cylinder  
 LLC.....Left side, lower center  
 LR.....Left Rear

2nd LR.....2nd from left, Rear  
 LS.....Left side  
 R.....Rear  
 RC.....Right center  
 Rear.....Rear face or side  
 RF.....Right front  
 2nd RF.....2nd from right front  
 2nd RR.....2nd Core plug from the right rear  
 RFF.....Front face, right cylinder head  
 RR.....Right Rear  
 RS.....Right side

## ALLIS CHALMERS

### 170 Diesel

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100013	600	120	1-1/4"	Freeze Plug	3600022

**Installation Information:**

Install in Left, 2nd from Rear. Point element UP/DOWN.

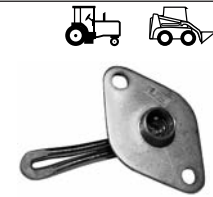


### 180, 185, 200, 7000, 7010, 7020 (649, 649T, 2800, 2900 engines)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500014	1000	120	Plate	Immersion	3600024

**Installation Information:**

Install in Right Rear (RR). Point element forward.



### 7030, 7040, 7045, 7050, 7060, 7080, 7580 (D21, 210, 220, 3500 & 3700, 670T & 670I engines)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500013	1500	120	1" NPT	Immersion	3600008

**Installation Information:**

Install in Right Rear (RR).



### W, WC, WD, WF, WR, WD-45

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3200003	600	120	1-1/2"	LRHH	3600047

**Installation Information:**

Lower Radiator Hose Heater (see page 84). Circulation heater is acceptable alternative (see pages 71-73).



### XP-170, XP190

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3200004	600	120	1-3/4"	LRHH	3600047

**Installation Information:**

Lower Radiator Hose Heater (see page 84). Circulation heater is acceptable alternative (see pages 71-73).



### XP180, XP210, XP220

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3200005	600	120	2"	LRHH	3600047

**Installation Information:**

Lower Radiator Hose Heater (see page 84). Circulation heater is acceptable alternative (see pages 71-73).



## BELARUS

### 500, 800, 900 Series

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100093	400	120	3/4" NPT	Immersion	3600003

**Installation Information:**

Install in Right Front (RF). Use 1" x 3/4" bushing.



## BOLENS

### TS1910, TS3420 (2 cyl.)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100067	400	120	1-3/4"	Freeze Plug	3600006

**Installation Information:**

Install in Left Side (LS). Point element DOWN.



### G2102, 2104, 2702, 2704

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100067	400	120	1-3/4"	Freeze Plug	3600006

**Installation Information:**

Install in Left Center (LC). Point element UP.



Lower Radiator Hose Heater information - page 85 • Circulation Heater information - pages 71-73

## BOLENS - continued

### TX1502, TX1504, TX1704

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100067	400	120	1-3/4"	Freeze Plug	3600006

**Installation Information:**

Install in Right Side (RS). Point element UP.



### 5117H (Mitsubishi L3A)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100049	400	120	40mm	Freeze Plug	3600006

**Installation Information:**

Install in Left Rear (LR). Point element 9 o'clock.



## DAVID BROWN

### All 900, 995, 1200, 1212

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100066	400	120	1-3/4"	Freeze Plug	3600006

**Installation Information:**

Install in Left Center (LC). Point element 12 o'clock.



## CASE IH/JI CASE

### 4 & 6 cyl: 336, 401, 451, 504 CID, 1470TK, W2A (504 CID)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500024	1000	120	2"	Freeze Plug	3600008

**Installation Information:**

Install in Right Rear (RR). Point element DOWN.

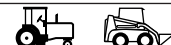


### 390 (4 cyl. 3.9L), 590 (6 cyl. 5.9L)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500030	750	120	58mm	Freeze Plug	3600008
8601666	750	240	58mm	Freeze Plug	8608377

**Installation Information:**

Installs in Right Side (RS). Point element DOWN. Circulation heater is acceptable alternative (see pages 71-73).



### All 430, 730, 830 (188D, 251G, 267D, 284D, 310D)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500026	400	120	3/8" NPT	Immersion	N/A

**Installation Information:**

Install in Left Side (LS). Circulation heater (see pages 71-73) or #3200005 Lower Radiator Hose Heater are acceptable alternatives.



### 6 cyl: 675 (675TWW, TV140)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100112	750	120	1-1/2"	Freeze Plug	3600023

**Installation Information:**

2nd core hole from rear right side.

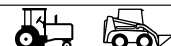


### 830 (6 cyl.)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
8601860	1000	120	58mm	Freeze Plug	3600008
8601852	1000	240	58mm	Freeze Plug	8608377

**Installation Information:**

Install in Right Rear (RR). Point element 4 o'clock. Circulation heater is acceptable alternative (see pages 71-73)



### 930 (6 cyl. 377G, 401D)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500026	400	120	3/8" NPT	Immersion	N/A

**Installation Information:**

Install in Left Side (LS). Two heaters are required. Circulation heater is acceptable alternative (see pages 71-73).



Lower Radiator Hose Heater information - page 85 • Circulation Heater information - pages 71-73

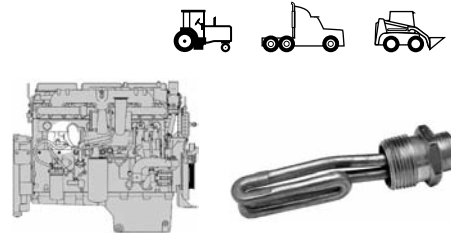
## CATERPILLAR

### C10, C12

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500013	1500	120	1" NPT	Immersion	3600008
3500031	1500	<b>240</b>	1" NPT	Immersion	8608377

#### Installation Information:

Replaces 1" NPT plug in rear of oil cooler. Engine may also accept the following oil pan heaters: 8609683, 8609659, 8609713 (requires 1" x 1/2" bushing to reduce port size. See threaded immersion heater page for specifications.



### 2004-2006 C11 ACERT, C13 ACERT, 2004-2006 C11, C13

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500075	1500	120	1-5/16" STOR	Immersion	3600008
3500074	1500	<b>240</b>	1-5/16" STOR	Immersion	8608377

#### Installation Information:

Replaces 1-5/16" threaded plug in rear of oil cooler. Engine may also accept the following oil pan heaters: 3500079, 3500078 (replaces 1-5/16" threaded plug).

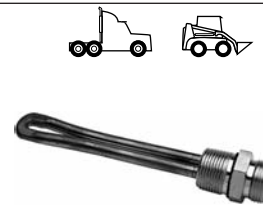


### 2004-2006 C9 ACERT, C15 ACERT, C16 ACERT

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500077	1500	120	1-3/16" THD	Immersion	3600008
3500076	1500	<b>240</b>	1-3/16" THD	Immersion	8608377

#### Installation Information:

Replaces 1-3/16" threaded plug in rear of oil cooler bonnet. Engine may also accept the following oil pan heaters: 3500079, 3500078 (replaces 1-5/16" threaded plug).

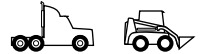
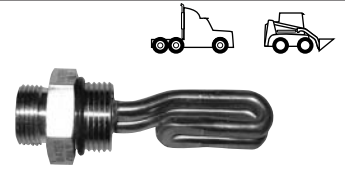


### 2007 & NEWER CAT C13 ACERT & C15 ACERT

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500111	1500	120	1-3/16" #14 STOR	Immersion	3600008

#### Installation Information:

Replaces 1-3/16" plug located in the rear of the oil cooler, on right hand side of engine.

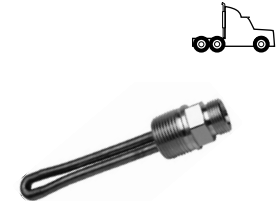


### C9, C15, C16

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
8600090	1000	120	1" NPT	Immersion	3600008
8600120	1000	<b>240</b>	1" NPT	Immersion	8608377
8605556	1500	120	1" NPT	Immersion	3600008
8600260	1500	<b>240</b>	1" NPT	Immersion	8608377

#### Installation Information:

Install in oil cooler rear bonnet.

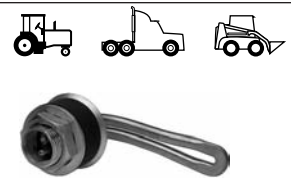


### 1100 Series, 3100 Series

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
8601518	1000	120	1-3/4"	Freeze Plug	3600008
8601577	1500	120	1-3/4"	Freeze Plug	8608377

#### Installation Information:

Replaces freeze plug. Available Service Parts: Hex Nut (8602999), Element Gasket (8603650).



### 1404 (163 CID)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100088	400	120	2.125"	Freeze Plug	3600006

#### Installation Information:

Install in Left Center (LC) or Left Rear (LR). Point element 12 o'clock.



### 1670 (350 CID), G/D 333 (525/638 CID), 1693, 1674 (638 CID)

Use Circulation heater (see pages 71-73)





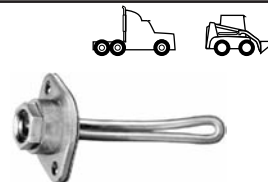
## CATERPILLAR - continued

### 1693 & D343 (893 CID)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
8601909	1500	120	Plate	Immersion	3600008

**Installation Information:**

Replaces water jacket access plate on side of engine. Available Service Parts: Hex Nut (8602999), Element Gasket (8603650).



### 1693T & 1693TA (893 CID)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
8601976	1500	120	Plate	Immersion	3600008

**Installation Information:**

Replaces water jacket access plate on side of engine. Available Service Parts: Hex Nut (8602999), Element Gasket (8603650).



### 3003 (3 cyl.)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100016	400	120	35mm	Freeze Plug	3600006

**Installation Information:** Install in Left Front (LF). Point element 6 o'clock.



### 3013 (3 cyl.), 3024, 3014 (4 cyl.)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100049	400	120	40mm	Freeze Plug	3600006

**Installation Information:** Install in Left Front (LF). Point element 6 o'clock.



### 3034 (4 cyl.)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100101	400	120	50mm	Freeze Plug	3600006

**Installation Information:** Install in back of head. Point element 4 o'clock.



### 3046 (5 Litre)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100078	400	120	35mm	Freeze Plug	3600006

**Installation Information:** Install 2nd Left Rear (LR). Point element 6 o'clock.



### 2004-2006 3054C, 3054E, C4.4

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500084	750	120	1-1/4"	Freeze Plug	3600008

**Installation Information:** Install Right Rear, Point element 3 o'clock.



### 3054, 3056

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100045	600	120	1-1/2"	Freeze Plug	3600007

**Installation Information:** Install in 1-1/2" core hole on Right Side of engine, between #1 and #2 cylinders, behind exhaust manifold.



### 3064, 3066

Use Circulation heater (see pages 71-73)



### 2004-2007 C7 ACERT, 3114 (4.4L), 3116 (6.6L), 3126 (7.2L), 3126B (7.2L),

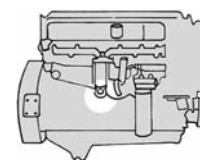
All years for previous engines prior to 2004 C7(7.2L),

CFE (Caterpillar/Freightliner Engine)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500015	1000	120	44mm	Freeze Plug	3600048
3500016	1000	240	44mm	Freeze Plug	N/A
3500081	1500	120	44mm	Freeze Plug	3600048

**Installation Information:**

Replaces core plug on center of Right Side. Heater kit includes special high temperature cordset. Engine may also accept oil pan heater 3500006 (3116 only). See threaded immersion heater page for specifications.



## CATERPILLAR - continued

### 3150, 3160 (636 C.I.D.)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
8602816	600	120	44mm	Freeze Plug	3600008

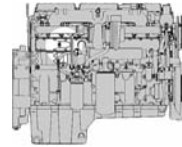


#### Installation Information:

**3150:** Replaces rear freeze plug on right side of engine (requires one heater) **3160:** Replaces center freeze plug on side of engine (requires two heaters)  
Available Service Parts: Hex nut (8602999), Element gasket (8603650)

### 3176 (10.2L)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
8601267	1500	120	3/4" NPT	Immersion	3600008



**Installation Instructions:** Replaces 3/4" pipe plug on Right Rear Side of engine. Special high temperature cordset included in kit. Engine may also accept Oil Pan Heaters 8609683, 8609659, or 8609713 (requires 1" x 1/2" bushing to reduce port size). See threaded immersion heater page for specifications.

### 3196

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500013	1500	120	1" NPT	Immersion	3600008
3500031	1500	240	1" NPT	Immersion	8608377



#### Installation Information:

Replaces 1" NPT plug in rear of oil cooler. Engine may also accept the following oil pan heaters: 8609683, 8609659, 8609713 (requires 1" x 1/2" bushing to reduce port size. See page 64 for oil pan heater specifications).

### 3204, 3208 (636 CID)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
8602816	600	120	44mm	Freeze Plug	3600008

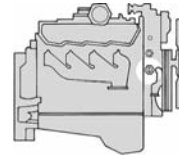


#### Installation Information:

**3204:** Replaces Rear freeze plug on Right Side of engine (requires one heater). **3208:** Replaces center freeze plug on side of engine (requires two heaters).  
Available Service Parts: Hex Nut (8602999), Element Gasket (8603650).

### 3208 (636 CID) Swivel style heater

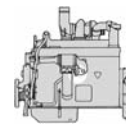
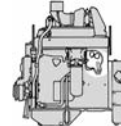
Part No.	Watt	Volt	Diameter	Type	Repl. Cord
8602549	1000	120	3/4" NPT	Immersion	3600008
8602514	1000	240	3/4" NPT	Immersion	8608377
8602611	1500	120	3/4" NPT	Immersion	3600008
8602573	1500	240	3/4" NPT	Immersion	8608377



**Installation Information:** Replaces 3/4" pipe plug on Front of engine.

### 3304 (with oil cooler), 3306 (638 CID)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500043	1000	120	3/4" NPT	Immersion	3600008
8600988	1000	240	3/4" NPT	Immersion	8608377
8601011	1500	120	3/4" NPT	Immersion	3600008
8601054	1500	240	3/4" NPT	Immersion	8608377



3304

3306

**Installation Information:** Replaces 3/4" pipe plug at Rear of oil cooler on Left Side of engine.

### 2006 & newer, C6.6

Part No.	Watt	Volt	Diameter	Repl. Cord
3500087	1000	120	1-1/4"	3600008

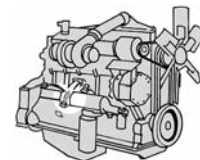


**Installation Information:** Install in right rear.

### 3406 (Except 1998 models), 3406 (with BrakeSaver-through 1993 models), 3406E

Not for use with 1998 3406E or 15.8L 600 hp engine.

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
8600090	1000	120	1" NPT	Immersion	3600008
8600120	1000	240	1" NPT	Immersion	8608377
8605556	1500	120	1" NPT	Immersion	3600008
8600260	1500	240	1" NPT	Immersion	8608377



Not available in Canada.

**Installation Information:** Without BrakeSaver: Replaces 1" pipe plug in oil cooler rear bonnet (pictured).  
With BrakeSaver: Install in front bonnet. **Note: 8605580 not for use with BrakeSaver. Note: 8605580 not available in Canada.**

## CATERPILLAR - continued

### 3406 (With BrakeSaver-1994 & newer)

Not for use with 1998 3406E or 15.8L 600hp models.

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500013	1500	120	1" NPT	Immersion	3600008

*Installation Information:* Replaces 1" pipe plug in oil cooler, front bonnet.



### 3406E, 3456, 15.8L (600 hp) (1998 models only)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500033	1500	120	1" NPT	Immersion	
3500034	1500	120	1" NPT	HTR-Only	N/A

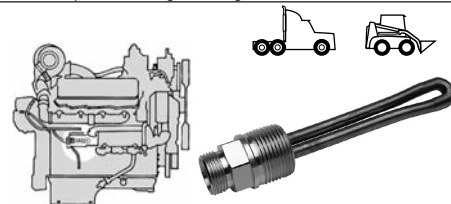
*Installation Information:* Installs in oil cooler rear bonnet. Not interchangeable with 8605556 for this application due to unique 1998 engine design.



### 3408 (1099 CID)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
8600090	1000	120	1" NPT	Immersion	3600008
8600120	1000	240	1" NPT	Immersion	8608377
8605556	1500	120	1" NPT	Immersion	3600008
8600260	1500	240	1" NPT	Immersion	8608377

*Installation Information:* Replaces 1" pipe plug behind oil cooler on Right cylinder bank.



### 3412 (12 cyl.)

Use Circulation heater (see pages 71-73)



## CHEVROLET

### Forward & Tiltmaster, all gasoline engines

See Chevrolet Automotive/Light Truck gasoline applications - page 10.



## CONTINENTAL (Teledyne)

### F162, F163, Y112 (1981 & newer) 4 cyl.

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100053	400	120	1-5/8"	Freeze Plug	3600006

*Installation Information:*

Install in any Left Side (LS). Point element UP. Note: Heater for cup-type core hole only.



### TM27, TMD27 4 cyl.

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100060	400	120	1-5/8"	Freeze Plug	3600006

*Installation Information:* Install in any Right Side (RS). Point element UP.



### F227, F245 (1979 & newer)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100053	400	120	1-5/8"	Freeze Plug	3600006

*Installation Information:* Install in any Left Side (LS). Point element UP.



### F227, F245 (1979 & newer - alternate wattage)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100057	600	120	1-5/8"	Freeze Plug	3600006

*Installation Information:* Install in any Left Side (LS). Point element UP.



## CUMMINS

### 2007 & Newer, ISX, QSX (Beginning July 2007)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500107	1500	120	26mm	Immersion	3600008

*Installation Information:* Install in Right Side (RS).



## CUMMINS - continued

### Signature 600, ISX, APEX

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500108	1500	240	Plate	Immersion	8608377

**Installation Information:** Remove flat 2 - bolt cover on right side of block, near rear of water inlet casting. Install with element pointing toward front of engine. Re-use gasket from cover. NOTE: gasket not supplied.



### Signature 600, ISX, QSX (15L - 915 CID)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500038	1500	120	Plate	Immersion	3600008

**Installation Information:** Install in Right Side (RS). **Reuse gasket from plate that was removed.** Gasket not included.



### N Series (855 CID-14 litre NT315, N14-330, N14-330E, N14-460, N14-460, etc.)

#### Big Cam IV, New Big Cam IV, 88NT, 444

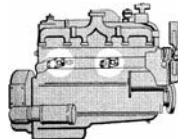
(Engines without heater hose connection to rear plate or Full Flow Cooling)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
8601003	1000	120	Plate	Immersion	3600008
8601046	1500	120	Plate	Immersion	3600008
8601062	1500	240	Plate	Immersion	8608377

**Installation Information:**

Due to oil cooler provisions on 855 CID series engines, special applications which accommodate full flow cooling designs are necessary. Where there is interference, the heater required will depend upon the oil cooler and exhaust configuration. The various installation options are shown here. Also see alternate installation below. Engine may accept oil pan heaters 8609683, 8609659, or 8609713 (requires 1" x 1/2" reducer bushing to reduce port size). See page 66 for oil pan heater specifications.

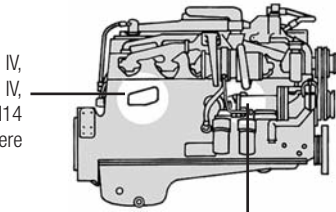
Engines without FULL FLOW COOLING - replaces Front or Rear water jacket access plate.



Replaces water jacket access plate



BIG CAM III, IV, New BIG CAM IV, 88NT & N14 install here



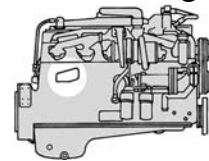
BIG CAM IV with heater hose connection to rear plate & pre-88NT engines install here

### N Series, Big cam IV, New Big Cam IV, 88NT (alternate installation)

(Engines with one heater hose connection (1/2" NPT) to Rear plate.

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
8601526	1500	120	Plate	Immersion	3600008

**Installation Information:** Replaces Rear access plate. Heater includes 1/2" NPT port for hose connection. Available Service Parts: Hex Nut (8602999), Element Gasket (8603650), Plate Gasket (8603359)

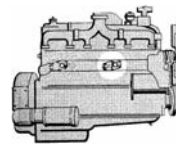


### New Big Cam IV

(Forward plate installations with reverse bolt pattern - without single-pass oil cooler 1986-1988)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
8600627	1500	120	Plate	Immersion	3600008
8600651	1500	240	Plate	Immersion	8608377

**Installation Information:** Replaces forward side plate. Available Service Parts: Hex Nut (8602999), Plate Gasket (8603715).



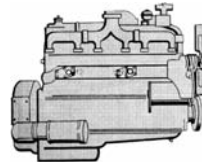
### 855 CID (alternate installation)

(Rear plug location without aftercooler water connection.

Recommended as alternate location for cab-over vehicles only)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500036	1500	120	1-1/2" NPT	Immersion	3600008

**Installation Information:** Replaces 1-1/2" pipe plug on Rear face of engine, right side (above flywheel housing).



### 855 CID (alternate installation)

(1996 & newer engines with O-ring seal)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500023	1500	120	1-5/8" STOR	Immersion	3600008

**Installation Information:**

Replaces 1-5/8" plug on Rear face of engine, right side (above flywheel housing).



## CUMMINS - continued

### 855 CID (engines with full flow cooling, high-mount oil cooler)

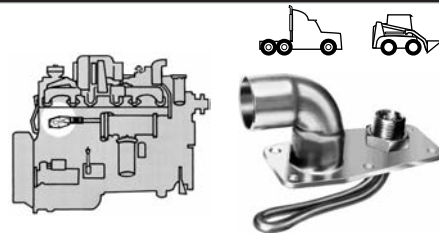
(Uses hose and two clamps for water tube connection to casting.)

Most engines manufactured from August 1975 to June 1982)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
8601100	1500	120	Plate	Immersion	3600008

**Installation Information:** Replaces water jacket access plate on side of engine.

Available Service Parts: Hex Nut (8602999), Element Gasket (8603650), Plate Gasket (8603359)



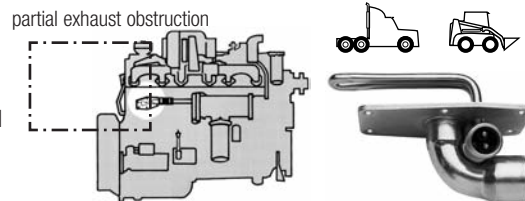
### 855 CID (engines with full flow cooling, high-mount oil cooler-obstruction)

(Connected to Rear port which is partially blocked by exhaust)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
8608741	1500	120	Plate	Immersion	3600008

**Installation Information:** Replaces water jacket access plate on side of engine.

Available Service Parts: Plate Gasket (8603359)



### 855 CID (engines with full flow cooling, high-mount oil cooler - O-ring)

(Uses O-ring for water tube connection. Engines only produced prior to 1975)

Use Circulation heater (see pages 71-73)

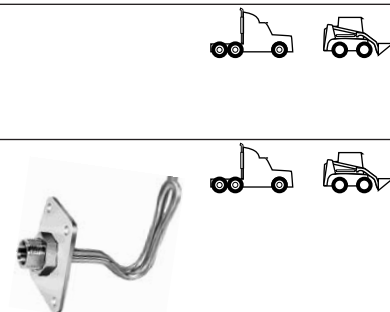
### 855 CID (replacement element for existing 8602379 heater)

(Does NOT include casting. Cordset is included)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
8602301	1500	120	Plate	Immersion	3600008

**Installation Information:** Replaces heating element in casting.

Available Service Parts: Hex Nut (8602999), Plate (8603138), Gasket (8603383)



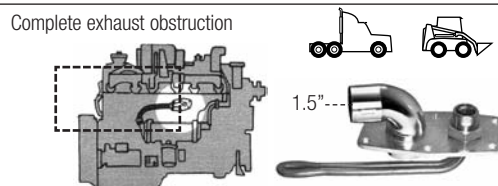
### 855 CID (engines with full flow cooling, low-mount oil cooler)

(Connected to Front port, Rear port blocked by exhaust)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
8608709	1500	120	Plate	Immersion	3600008

**Installation Information:** Replaces water jacket access plate on side of engine.

Available Service Parts: Hex Nut (8602999), Element Gasket (8603650), Plate Gasket (8603359)



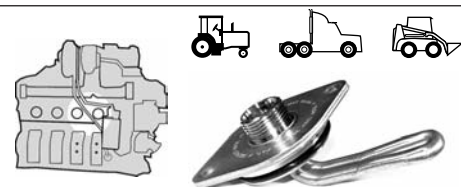
### 2005-2006 ISB 02 200 HP

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500096	750	120	58mm	Freeze Plug	3600008

**Installation Information:**

Replace freeze plug opening on Right front side of engine.

Must have threaded bolt holes in block for attaching mounting plate.



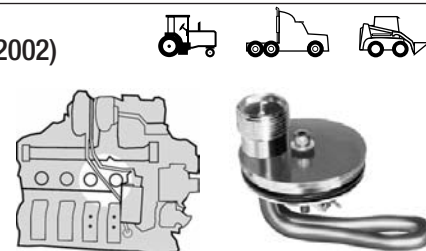
### 1987-2002 B Series: 4B3.9 & 4BT3.9 (3.9L 239 CID 4 cyl.) (Through model year 2002) 6B5.9 & 6BT5.9 (5.9L 359 CID 6 cyl.)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500030	750	120	58mm	Freeze Plug	3600008
8601666	750	240	58mm	Freeze Plug	8608377

**Installation Information:**

Replaces freeze plug on Right side on engine.

Available Service Parts: O-ring and clamp device (3500002)

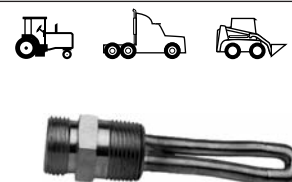


### 2007 ISB 6.7L & QSB (6.7L & 4.5L)

ISB, QSB Series (3.9L & 5.9L 4/6 cyl.), (Encore)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500022	750	120	3/4" NPT	Immersion	3600008
3500110	750	240	3/4" NPT	Immersion	8608377

**Installation Information:** Installs in 3/4" NPT port to Rear of oil cooler.



Lower Radiator Hose Heater information - page 85 • Circulation Heater information - pages 71-73

## CUMMINS - continued

### B 3.3T (313L)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100046	400	120	40mm	Freeze Plug	3600006

**Installation Information:** Installs in Left Rear (LR).

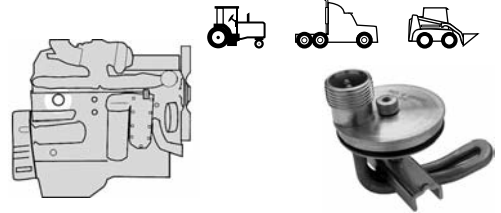


### C Series: 6C8.3 & 6CT8.3 (8.3L 505 CID), 6CTA8.3

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
8601860	1000	120	58mm	Freeze Plug	3600008
8601852	1000	240	58mm	Freeze Plug	8608377

**Installation Information:**

Replaces freeze plug on Right rear side of engine.  
Available Service Parts: O-ring and clamp device (3500002)

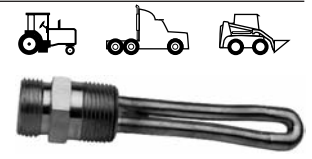


### ISC, QSC Series (8.3L 505 CID), ISL Series (8.9L 543 CID)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500032	1000	120	3/4" NPT	Immersion	3600008

**Installation Information:**

Installs in upper 3/4" NPT port, to front of oil cooler.

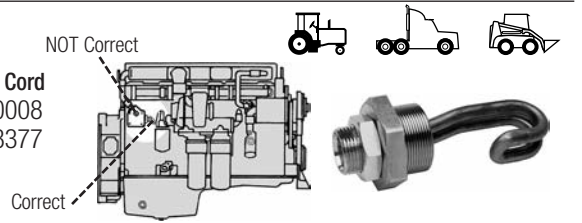


### L10 (10L 611 CID 6 cyl.), M11, ISM Series, QSM11

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
8600015	1500	120	38mm thd	Immersion	3600008
8600031	1500	240	38mm thd	Immersion	8608377

**Installation Information:**

Install in heater casting on Right rear side of engine. Available Service Parts: Hex Nut (8602999), Element Gasket (8603650)

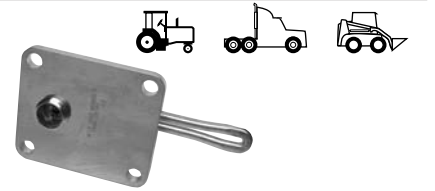


### M11 (11L) (2000 and newer)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500042	1500	120	Plate	Immersion	3600008
3500109	1500	240	plate	immersion	8608377

**Installation Information:**

Install on Right rear side of engine.

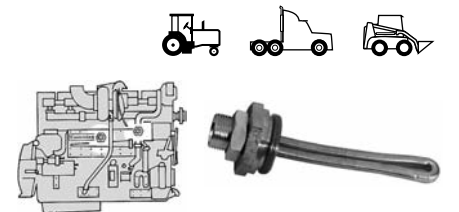


### K Series (KT19, KT450, KT1150, KTA525 - 1150 CID 6 cyl.), QSK Series

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500017	1500	120	1-3/4"-18 thd	Immersion	3600008

**Installation Information:**

Replaces large hex plug at either upper front or center thread position on oil cooler cover. Point element 6 o'clock or 12 o'clock position. Available Service Parts: Hex Nut (8602999), Element Gasket (8603650)



### V903, VT903, VT350, Formula VT300 (903 CID)

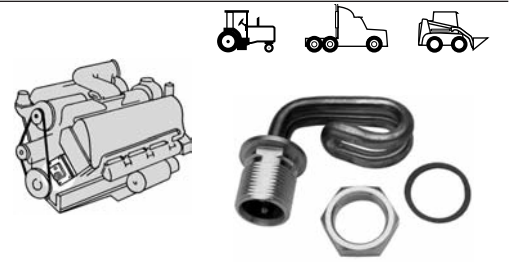
### V6-195, 200, 215, 280 (588 CID)

### V8-235, 265, 300, 370 785 CID), 350 & 430 (950 CID) (Replacement element only)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
8607605	1500	120		Immersion	3600008

**Installation Information:**

Replacement element only. Circulation heater is acceptable alternative (see pages 71-73).

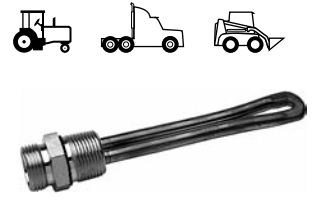


### V903, VT903, VT350, Formula VT300 (903 CID) (Alternate installation)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
8601267	1500	120	3/4" NPT	Immersion	3600008
8601054	1500	240	3/4" NPT	Immersion	8608377

**Installation Information:**

Replaces 3/4" pipe plug at bottom rear of oil cooler.  
Check engine to be sure 3/4" pipe plug is available on engine before proceeding.

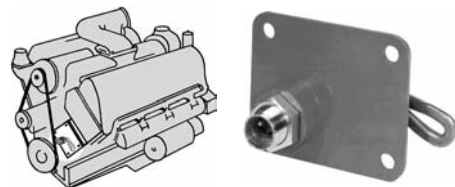


**CUMMINS - continued**

**V6-140 (352 CID), V6-155 (378 CID)**  
 (Engines without alternator mounted over water jacket access plate)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
8601763	1000	120	Plate	Immersion	3600008
8601801	1000	<b>240</b>	Plate	Immersion	8608377
8601844	1500	120	Plate	Immersion	3600008

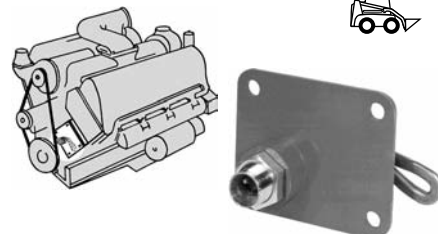
**Installation Information:** Replaces water jacket access plate on front left cylinder bank.  
 Available Service Parts: Hex Nut (8602999), Element Gasket (8603650)



**170 & 185 (470 CID), 210 (504 CID), VT225, V555, VT555 (555 CID)**  
 (Engines without alternator mounted over water jacket access plate)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
8601763	1000	120	Plate	Immersion	3600008
8601801	1000	<b>240</b>	Plate	Immersion	8608377
8601844	1500	120	Plate	Immersion	3600008

**Installation Information:**  
 Replaces water jacket access plate on front left cylinder bank. Available Service Parts: Hex Nut (8602999), Element Gasket (8603650)



**C & J 160, 175 & 190 (464 CID)**  
 Use Circulation heater (see pages 71-73)

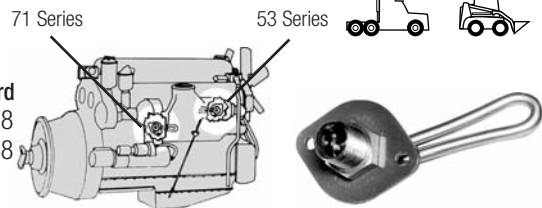


**DETROIT DIESEL**

**3-53, 4-53, 3-71, 4-71**  
 (Engines without water cooled compressor)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
8600295	750	120	Plate	Immersion	3600008
8600368	1000	120	Plate	Immersion	3600008

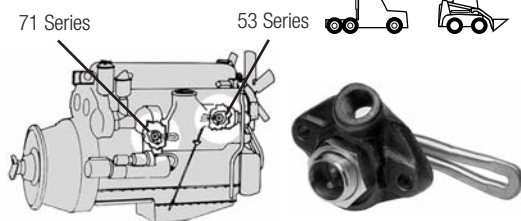
**Installation Information:** Replaces water jacket access plate on side of engine.  
**Note: Do not use 1000 watt heater on 3-53, 4-53, or 3-71 engines.**  
 Available Service Parts: Hex Nut (8602999), Element Gasket (8603650)



**3-53, 4-53, 3-71, 4-71**  
 (Engines with water cooled compressor)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
8601291	750	120	Plate	Immersion	3600008
8601305	1000	120	Plate	Immersion	3600008

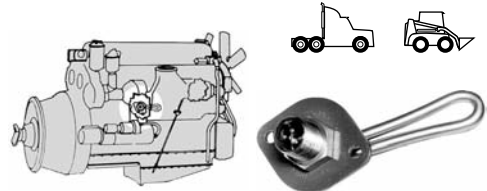
**Installation Information:** Replaces water jacket access plate on side of engine.  
**Note: Do not use 1000 watt heater on 3-53, 4-53, or 3-71 engines.**  
 Available Service Parts: Hex Nut (8602999), Element Gasket (8603650)



**6-71**  
 (Engines without water cooled compressor)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
8600368	1000	120	Plate	Immersion	3600008
8600422	1500	120	Plate	Immersion	3600008

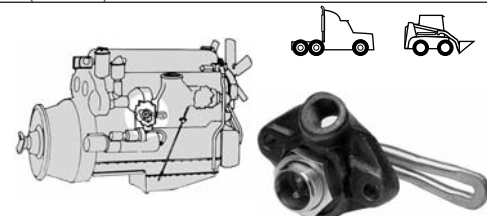
**Installation Information:**  
 Replaces water jacket access plate on side of engine. Available Service Parts: Hex Nut (8602999), Element Gasket (8603650)



**6-71**  
 (Engines with water cooled compressor)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
8601305	1000	120	Plate	Immersion	3600008
8601372	1500	120	Plate	Immersion	3600008

**Installation Information:**  
 Replaces water jacket access plate on side of engine. Available Service Parts: Hex Nut (8602999), Element Gasket (8603650)



## DETROIT DIESEL - continued

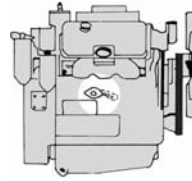
### 6V-53

(Vehicles with or without automatic transmission)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500021	1000	120	Plate	Immersion	3600008

#### Installation Information:

Replaces water jacket access plate on side of engine.  
Available Service Parts: Hex Nut (8602999), Element Gasket (8603650)

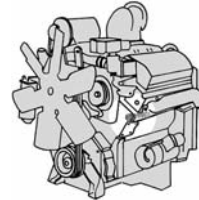


### 6V-71, 8V-71 (Vehicles without power steering and/or air conditioning)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
8600090	1000	120	1" NPT	Immersion	3600008
8600120	1000	240	1" NPT	Immersion	8608377
8605556	1500	120	1" NPT	Immersion	3600008
8600260	1500	240	1" NPT	Immersion	8608377

#### Installation Information:

Replaces 1" pipe plug on front face of Left cylinder bank.



### 8.2 Litre (501 CID)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500043	1000	120	3/4" NPT	Immersion	3600008
8600996	1000	240	3/4" NPT	Immersion	8608377

*Installation Information:* Replaces 3/4" pipe plug on Right front side of engine.



### 8V-53

Use 1500 or 2250 Watt Circulation heater (see pages 71-73)



### D638 (3.8L 6 cyl.)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
8604967	600	120	3/4" NPT	Immersion	N/A

#### Installation Information:

Install in Right Side (RS) of engine.



### Series 30

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100045	600	120	1-1/2"	Freeze Plug	3600007

#### Installation Information:

Install in Right Side (RS). Point element UP.



### Series 40 (466 CID) (Engines manufactured prior to September 1993)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
8608512	1250	120	1-1/4"	Freeze Plug	3600008
8608539	1250	240	1-1/4"	Freeze Plug	8608377

*Installation Information:* Replaces 3rd or 4th freeze plug on Left side of engine.

Available Service Parts: O-ring and clamp device (3500004)



### Series 40 (6.7L 408 CID, 7.6L 466 CID, 8.7L 530 CID)

(Engines manufactured after August 1993)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500044	1250	120	1-1/4"	Freeze Plug	3600008
8608911	1250	240	1-1/4"	Freeze Plug	8608377

#### Installation Information:

Replaces 1-1/4" plug in boss on Left side of engine.





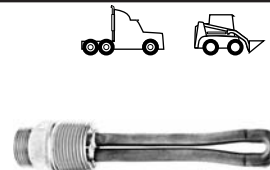
## DETROIT DIESEL - continued

### Series 50 (Except low-mount turbo)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
8600090	1000	120	1" NPT	Immersion	3600008
8605556	1500	120	1" NPT	Immersion	3600008

**Installation Information:** Replaces 1" NPT plug in oil cooler casting.

Engine may also accept oil pan heater 8603243. See threaded immersion heater page for specifications.



### Series 50

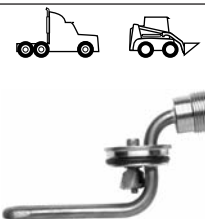
(Including low-mount turbo)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500007	1000	120	1-1/2"	Freeze Plug	3600008

**Installation Information:**

Install in core plug behind oil cooler. Engine may also accept oil pan heater 8603243.

See threaded immersion heater page for specifications.

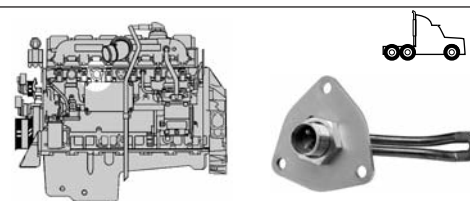


### Series 55

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500008	1500	120	Plate	Immersion	3600008
3500009	1500	240	Plate	Immersion	8608377

**Installation Information:**

Replaces water jacket access plate on Left side of engine.



### 2008 & Newer (DD13, DD15, DD16)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500095	1500	120	27mm	Immersion	3600008

**Installation Information:**

Right side. M27 port in the oil module below intake.

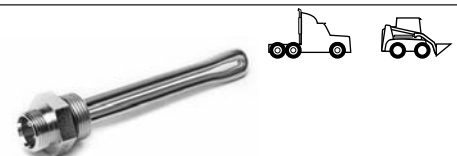


### 2007 & Newer Series 60

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500077	1500	120	1-3/16" STOR	Immersion	3600008

**Installation Information:**

Upper hex port of oil cooler. Right side of engine.



### Series 60 (11.1L 677 CID, 12.7L 775 CID)

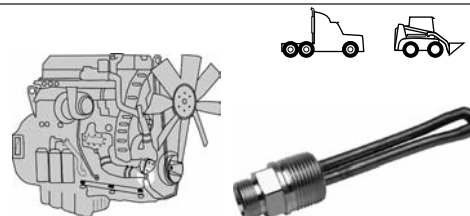
Part No.	Watt	Volt	Diameter	Type	Repl. Cord
8605556	1500	120	1" NPT	Immersion	3600008
8600260	1500	240	1" NPT	Immersion	8608377

**Installation Information:**

Pre 1991 engines - Replaces 1" NPT plug in water pump outlet casting on Right front side of engine.

1991 & Newer replaces 1" pipe plug near top front of oil cooler.

May also accept oil pan heater 8603243. See threaded immersion heater page for specifications.



### Silver Series (6V-92, 8V-92),

#### 6V-71, 8V-71, 12V-71, 16V-71, 6V-92, 8V-92, 12V-92, 16V-92

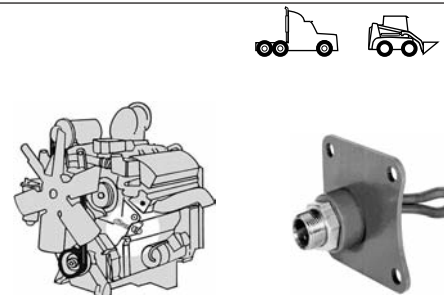
(Engines without air conditioner compressor mounted next to water jacket access plate)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
8601631	1000	120	Plate	Immersion	3600008
8601704	1500	120	Plate	Immersion	3600008

**Installation Information:**

Replaces water jacket access plate on Left front cylinder bank. Available Service

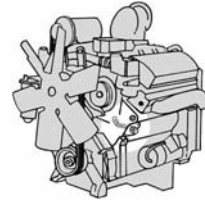
Parts: Hex Nut (8602999), Element Gasket (8603650), Plate Gasket (8606854).



## DETROIT DIESEL - continued

### 6V-71, 8V-71, 12V-71, 16V-71, 6V-92, 8V-92, 12V-92, 16V-92

(Engines with air conditioner compressor mounted next to water jacket access plate, except for GMC General with 92 Series engine)



Part No.	Watt	Volt	Diameter	Type	Repl. Cord
8601658	1000	120	Plate	Immersion	3600008
8601712	1500	120	Plate	Immersion	3600008

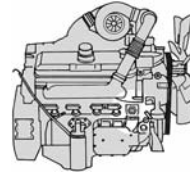
**Installation Information:**

Replaces water jacket access plate on Left front cylinder bank.  
Available Service Parts: Hex Nut (8602999), Plate Gasket (8606854)

### Silver Series (6V-92, 8V-92),

### 12V-71, 16V-71, 12V-92, 16V-92, GMC General (with 92 Series engine)

(Alternate installation)



Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500043	1000	120	3/4" NPT	Immersion	3600008
8602514	1000	240	3/4" NPT	Immersion	8608377
8602611	1500	120	3/4" NPT	Immersion	3600008
8602573	1500	240	3/4" NPT	Immersion	8608377

**Installation Information:**

Replaces 3/4" pipe plug in oil cooler elbow on right side of engine. Check engine carefully - 3/4" pipe plug not available on all engines.

## DEUTZ

### F3L912, F3L913 (3 cyl)

(Oil pan heater only)



Part No.	Watt	Volt	Diameter	Type	Repl. Cord
8603146	150	120	48mm thd	Immersion	3600024

**Installation Information:** Replaces 48mm plug in oil pan. Check engine carefully - 48mm plug not available on all oil pans. Available Service Parts: Hex Nut (8602999), Element Gasket (8603650)



### BF4L913 (4 cyl.)

(Oil pan heater only)



Part No.	Watt	Volt	Diameter	Type	Repl. Cord
8603170	325	120	48mm thd	Immersion	3600024

**Installation Information:** Replaces 48mm plug in oil pan. Check engine carefully - 48mm plug not available on all oil pans. Available Service Parts: Hex Nut (8602999), Element Gasket (8603650)



### F6L913, BF6L913 (6 cyl.)

(Oil pan heater only)



Part No.	Watt	Volt	Diameter	Type	Repl. Cord
8603170	325	120	48mm thd	Immersion	3600024

**Installation Information:**

**Dual kit - purchase two heaters and cordsets.** Replaces 48mm plugs in oil pan. Check engine carefully - 48mm plugs not available on all oil pans.  
Available Service Parts: Hex Nut (8602999), Element Gasket (8603650)



### 1012, 1013, 2013



Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500019	750	120	Plate	Immersion	3600020

**Installation Information:**

Install in oil cooler housing. Check engine - heater port not available on all engines.



## FAHR

1012, 1013, 2013



Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500055	750	120	Plate	Immersion	3600008



**Installation Information:**

Install in oil cooler housing. Check engine - heater port not available on all engines. available on all oil pans. Available Service Parts: Hex Nut (8602999), Element Gasket (8603650)

## FIAT

8060, 8061, 8065 (5.5L 335 CID)



Part No.	Watt	Volt	Diameter	Type	Repl. Cord
8600333	1000	120	42mm thd	Immersion	3600008



**Installation Information:**

Install in 42mm threaded opening on Right rear of engine. Available Service Parts: Hex Nut (8602999), Element Gasket (8603650)

8360, 8361 (8.1L 494 CID)



Part No.	Watt	Volt	Diameter	Type	Repl. Cord
8600090	1000	120	1" NPT	Immersion	3600008
8600120	1000	240	1" NPT	Immersion	8608377



**Installation Information:**

Replaces 1" pipe plug in coolant elbow casting on Front left side.

## FORD

KSG411 (67 CID 4 cyl.), KSG416 (98 CID 4 cyl.)  
(Engines with distributor)



Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100053	400	120	1-5/8"	Freeze Plug	3600006



**Installation Information:**

Install in Left Side (LS). Point element UP/DOWN.

VSG411 (67 CID 4 cyl.), VSG413 (79 CID 4 cyl.)  
(Engines without distributor)



Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100085	400	120	1-5/8"	Freeze Plug	3600006



**Installation Information:**

Install in back of head. Point element 3 o'clock.

091PV (91 CID 4 cyl.), GSG417 (104 CID 4 cyl.)



Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100036	400	120	1-1/2"	Freeze Plug	3600003



**Installation Information:**

Install in Right front face of cylinder head. Point element UP or DOWN.

134, 172, 192 CID (Engines used in tractors)  
NAA, NAB, 500, 600, 700; 800, 900, 901, 1800 G/D;  
2000, 2100, 4000 G/D, 4110D, 4120, 4121



Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100087	600	120	2.06"	Freeze Plug	3600006



**Installation Information:**

Install in any Left Side (LS). Point element UP or DOWN.

## FORD - continued

**2000, 3000, 4000, 5000, 6000** (3, 4, 6 cyl.)  
(Engines manufactured up to 1967)



Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3200004	600	120	1-3/4"	LRHH	3600047



**Installation Information:**

Lower radiator hose heater (see page 64).  
Circulation heater is acceptable alternative (see pages 71-73).

**3000, 4000, 5000, 8000, 9000 Series**  
(Engines manufactured 1968-1970)



Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100065	600	120	1-3/4"	Freeze Plug	3600006



**Installation Information:**

Install in 4th & 5th Right Side (RS). Two heaters required. Point element DOWN. Circulation heater or LRHH are acceptable alternative (see pages 71-73, 84).

**3000, 4000, 5000, 7000, 8000, 9000 Series**  
(Engines manufactured in 1971 and later)



Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100112	750	120	1-1/2"	Freeze Plug	3600023



**Installation Information:**

Install in 4th and 5th Right Side (RS). Two heaters are required. Point element DOWN. Circulation heater or LRHH are acceptable alternatives (see pages 71-73, 84).

**LSG423** (140 CID 4 cyl.)



Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100039	600	120	1-1/2"	Freeze Plug	3600006



**Installation Information:**

Install in Right rear. Point element UP/DOWN.

**LRG423** (140 CID 4 cyl.), **LRG425** (152 CID 4 cyl.)



Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100084	400	120	1-1/2"	Freeze Plug	3600006



**Installation Information:**

Install in Left Rear (LR). Point element 3 o'clock.

**DSD & ESD442** (254 CID 4 cyl.)



Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100061	600	120	1-5/8"	Freeze Plug	3600036



**Installation Information:**

Install in Left Center (LC). Point element UP.

**LSG633** (200 CID 6 cyl.)



Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100065	600	120	1-3/4"	Freeze Plug	3600006



**Installation Information:**

Install in Right Front (RF) or Right Center (RC). Point element UP or DOWN.

## FORD - continued

### CSG649 (300 CID 6 cyl.)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100054	600	120	1-5/8"	Freeze Plug	3600006

**Installation Information:**

Install 2nd Right Side. Point element UP.



### SSD655 (335 CID 6 cyl.)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
8600333	1000	120	42mm thd	Immersion	3600008

**Installation Information:**

Install in Right Rear (RR). Point element UP/DOWN.



### DSD & ESD659 (362 CID 6 cyl.), 660 (363 CID 6 cyl.), 680 (380 CID 6 cyl.)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100061	600	120	1-5/8"	Freeze Plug	3600036

**Installation Information:**

Install 2nd and 3rd Left side. Point element UP or DOWN.  
Two heaters are recommended.



### BSD666 (401 CID 6 cyl.)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100112	750	120	1-1/2"	Freeze Plug	3600023

**Installation Information:**

Install in 4th and 5th Right side. Point element DOWN.  
Two heaters are recommended.



### WSG858 (351W V-8), 255 (V-8), 302 (V-8)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100039	600	120	1-1/2"	Freeze Plug	3600006

**Installation Information:**

Install in Left Rear (LR) or Right Rear (RR). Point element DOWN.

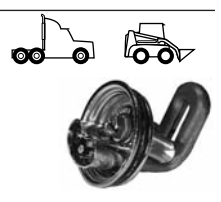


### LSG861 (370 CID V-8), LSG870 (429 CID V-8), LSG875 (460 CID V-8)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100039	600	120	1-1/2"	Freeze Plug	3600006

**Installation Information:**

Install in Right Side (RS) or Left Side (LS). Point element UP.

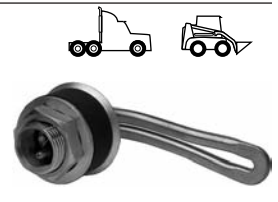


### 401 CID (V-8), 477 CID (V-8), 534 CID (V-8)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
8601518	1000	120	1-3/4"	Freeze Plug	3600008

**Installation Information:**

Install in any 1-3/4" freeze plug.

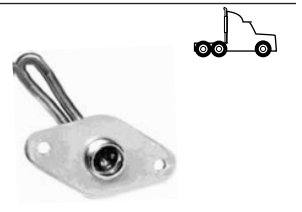


### 6.6L (401 CID), 7.8L (474 CID)

(Engines manufactured in August 1989 and later featuring plate type heater)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500048	1000	120	Plate	Immersion	3600008
8606331	1250	120	Plate	Immersion	8608377

**Installation Information:** Replaces 2nd freeze plug from rear - right side. (Diameter of element in plate 1.5")



## FORD - continued

### 6.6L (401 CID), 7.8L (474 CID)

(Engines manufactured prior to August 1989 featuring freeze plug type heater)



Part No.	Watt	Volt	Diameter	Type	Repl. Cord
2207044	1000	120	1-1/2"	Freeze Plug	3600008
8601984	1500	120	1-1/2"	Freeze Plug	3600008
8601968	1500	<b>240</b>	1-1/2"	Freeze Plug	8608377



#### Installation Information:

Replaces 2nd freeze plug from rear - right side.

### 1060 (5.9L 359 CID 6 cyl. - Cummins B Series)



Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500030	750	120	58mm	Freeze Plug	3600008
8601666	750	<b>240</b>	58mm	Freeze Plug	8608377



#### Installation Information:

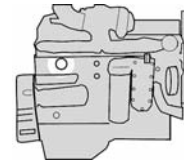
Replaces freeze plug on Right side of engine.

Available Service Parts: (O-ring & clamp device kit (3500002).

### 1460 (8.3L 505 6 cyl. - Cummins C Series)



Part No.	Watt	Volt	Diameter	Type	Repl. Cord
8601860	1000	120	58mm	Freeze Plug	3600008
8601852	1000	<b>240</b>	58mm	Freeze Plug	8608377



#### Installation Information:

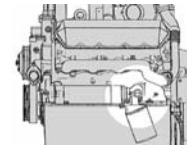
Replaces freeze plug on Right rear side of engine.

Available Service Parts: O-ring & clamp device kit (3500002)

### 7.3L (445 CID V-8 - Navistar T444E engine)



Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500043	1000	120	3/4" NPT	Immersion	3600008
8600996	1000	<b>240</b>	3/4" NPT	Immersion	8608377
8602611	1500	120	3/4" NPT	Immersion	3600008



#### Installation Information:

Replaces 3/4" NPT threaded plug in oil cooler.

### 6.9L (421 CID V-8), 7.3L (445 CID V-8)

(Except Navistar T444E engine)



Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100043	1000	120	1-1/2"	Freeze Plug	3600010



#### Installation Information:

Replaces freeze plug on Right rear of engine. Point element 11 o'clock.

## HERCULES

### G1600 (2.7L 163 CID)



Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100088	400	120	2.135"	Freeze Plug	3600006



#### Installation Information:

Install in Left Center (LC) or Left Rear (LR). Point element UP or DOWN.

## HERCULES - continued

**G/D3400 & 3400T** (339 CID)  
(Engines manufactured up to 1982)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100039	600	120	1-1/2"	Freeze Plug	3600006

*Installation Information:* Replaces freeze plug on Right side of engine.



**G/D2300, DT3.7** (226 CID), **5.8L** (339 CID), **G/D3400** (1983+ engines), **GT & DT 5.6**

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100027	600	120	35mm	Freeze Plug	3600006

*Installation Information:* Replace freeze plug on Right side of engine.



**G/D4800** (7.8L 478 CID)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500025	1000	120	2"	Freeze Plug	3600024

*Installation Information:* Replaces freeze plug on Right side - near rear.



## HINO

**W04C, W06E, H06C-T, H07C-B** (3.8L, 5.7L, 6.0L, 6.4L, 6.7L)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500043	1000	120	3/4" NPT	Immersion	3600008
8600988	1000	240	3/4" NPT	Immersion	8608377

*Installation Information:* Replaces 3/4" plug in water transfer casting/oil cooler cover.



**J Series: J05C** (5.3L 4 cyl.), **J08C** (8.0L 6 cyl)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500018	1000	120	50mm	Freeze Plug	3600008

*Installation Information:*

Replace core plug on Right front side of engine.



## INTERNATIONAL / NAVISTAR

**Cub Lo-Boy**

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3200004	600	120	1-3/4"	LRHH	3600047

*Installation Information:*

Lower radiator hose heater (see page 84).

Circulation heater is acceptable alternative (see pages 71-73).



**460, 560, 660, 706, TD62, TD92** (All models)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100061	600	120	1-5/8"	Freeze Plug	3600036

*Installation Information:*

Install in 3rd Right Side (RS). Point element DOWN, if no interference w/throttle rod. Use 12 o'clock for other installations.

Circulation heater or LRHH are acceptable alternatives (see pages 71-73, 84).



**806, 1206, 1256** (1963-67), **856, C152, C175, C200, C221, C263, C282, C291, C301, D166, D188, D236, D282, D301, D361, D407, DT407**

(Can be used on gas or diesel engines)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100061	600	120	1-5/8"	Freeze Plug	3600036

*Installation Information:* Install in 1st, 2nd, or 5th freeze plug on Right side. Point element DOWN.

Circulation heater or LRHH are acceptable alternatives (see pages 71-73, 84).



**Lower Radiator Hose Heater information - page 85 • Circulation Heater information - pages 71-73**

## INTERNATIONAL / NAVISTAR - continued

### 504 (153G), 606 (221G)

(Engines manufactured in 1964 and later)  
(Can be used on gas or diesel engines)



Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100054	600	120	1-5/8"	Freeze Plug	3600006



**Installation Information:** Install in Right Center (RS). Point element DOWN.  
Circulation heater is acceptable alternative (see pages 71-73).

### 966, 1066, 1086, 1466



Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100013	600	120	1-1/4"	Freeze Plug	3600022



**Installation Information:** Installs in 3rd and 4th Left Side (LS). Two heaters required.  
Circulation heater is acceptable alternative (see pages 71-73).

### 966, 1066, 1086, 1466

(Alternate installation)



Part No.	Watt	Volt	Diameter	Type	Repl. Cord
8608512	1250	120	1-1/4"	Freeze Plug	3600008



**Installation Information:** Install in Left side.

### MV, 404, 446, 485 engines



Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100044	600	120	1-1/2"	Freeze Plug	3600006



**Installation Information:**  
Install in any Left Side (LS) or Right Side (RS). Point element between cylinders.  
Circulation heater is acceptable alternative (see pages 71-73).

### All with Neuss engine (179, 206, 239, 246, 268, 310, 358 CID)



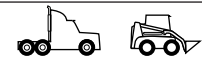
Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500012	1000	120	1-1/4"	Freeze Plug	3600024



**Installation Information:** Install in Left Side (LS).  
Circulation heater is acceptable alternative (see pages 71-73).

### 6.9L (421 CID), 7.3L (445 CID)

(Not for use with T444E engine)



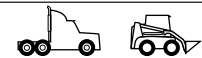
Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100043	1000	120	1-1/2"	Freeze Plug	3600010



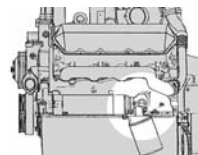
**Installation Information:**  
Replaces freeze plug on Right rear of engine. Point element 11 o'clock.  
Available Service Parts: O-ring and clamp device (3500005)

### T444E (7.3L V-8)

(Engines manufactured in 1994 and later)



Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500043	1000	120	3/4" NPT	Immersion	3600008
8600996	1000	240	3/4" NPT	Immersion	8608377



**Installation Information:**  
Replaces 3/4" threaded plug in oil cooler.



## INTERNATIONAL / NAVISTAR - continued

### D150, D170, D190 (461 CID)



Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100038	600	120	1-1/2"	Freeze Plug	3600006



**Installation Information:**

Replaces any freeze plug. Point element UP.

### D312, D414, DT414, D436, DT436, DTA466

(Engines manufactured prior to 1994)



Part No.	Watt	Volt	Diameter	Type	Repl. Cord
8608512	1250	120	1-1/4"	Freeze Plug	3600008
8608539	1250	240	1-1/4"	Freeze Plug	8608377



**Installation Information:**

Replaces 3rd or 4th freeze plug on Left side of engine.

### 2001-2003 DT466 High Torque, DT466, DT466E, HT 530, DT530



Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500054	1250	120	1-1/4"	Immersion	3600008



**Installation Information:**

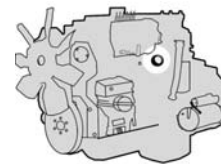
Left side, protruding boss above engine oil dipstick. Element direction 12 o'clock

### 2004-2006 DT466 & DT570

### 1994-2000 DT408, DT466, DT466E, 530, 570



Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500044	1250	120	1-1/4"	Freeze Plug	3600008
8608911	1250	240	1-1/4"	Freeze Plug	8608377



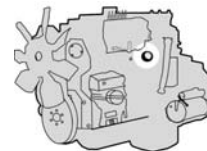
**Installation Information:**

Replaces 1-1/4" freeze plug in boss on Left side of engine.

### 2007 & Newer MaxxForce DT, MaxxForce 9 & 10



Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500098	1250	120	1-1/4"	Freeze Plug	3600008



**Installation Information:**

Replaces 1-1/4" freeze plug in boss on Left side of engine.

### D550 (549 CID), 9L (551 CID)



Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100044	600	120	1-1/2"	Freeze Plug	3600006



**Installation Information:**

Replace any freeze plug. Point element between cylinders.

### DT360, DTA360



Part No.	Watt	Volt	Diameter	Type	Repl. Cord
8608601	1000	120	1-1/4"	Freeze Plug	3600008



**Installation Information:**

Replace 3rd or 4th freeze plug on Left side of engine.

## INTERNATIONAL / NAVISTAR - continued

### V800 (798 CID)



Part No.	Watt	Volt	Diameter	Type	Repl. Cord
8605556	1500	120	1" NPT	Immersion	3600008
8600260	1500	240	1" NPT	Immersion	8608377



**Installation Information:**

Replace 1" pipe plug in oil cooler bonnet.

### 2007 & Newer, MaxxForce 5 & 7 VT365, VT275



Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500069	1000	120	27mm THD	Immersion	3600008



**Installation Information:** Right rear.

### 817 (817 CID)



Part No.	Watt	Volt	Diameter	Type	Repl. Cord
8600759	1500	120	1-1/2" NPT	Immersion	3600008



**Installation Information:**

Replace 1-1/2" pipe plug on side of engine.

### 400, 500, 600, 700, 900

(Engines built in 1986 and later)

See UD Truck listings - page 62



### MaxxForce 11 & 13



Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500095	1500	120	27mm THD	Immersion	3600008



**Installation Information:**

Lower right front.

## ISUZU

### 4BD1 (3.9L 4 cyl.), 6BD1 (5.8L 6 cyl.), 6BG1 (6.5L 6 cyl.), 6HE1 (7.1L 6 cyl.), 6HK1 (7.8L), 6SA1 (8.4L 6 cyl.) Heavy Duty Applications



Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100089	600	120	1" NPT	Immersion	3600006



**Installation Information:**

Installs in Left rear 1" threaded opening, except for 6SA1, which installs in Right side 1" threaded opening. Two heaters recommended for 6SA1.

### 4BD1 (3.9L 4 cyl.), 6BD1 (5.8L 6 cyl.), 6BG1 (6.5L 6 cyl.), 6HK1 (7.1L 6 cyl.), 6SA1 (8.4L 6 cyl.) QD-100 (3.9L), QD-145 (5.8L), 4BG1, 4BG1T, 4BG1TC Industrial Applications



Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100065	600	120	45mm	Freeze Plug	3600006



**Installation Information:** Replaces 45mm freeze plug in the back of head. Install element 1 o'clock.

### 2 Cylinder: QD-27 (2AB1), QT-15 (2KC1), 2AA1



Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100067	400	120	45mm	Freeze Plug	3600006



**Installation Information:**

All except QT-15: Install Left Side (LS). Point element UP.

QT-15: Install in back of head. Point element 10 o'clock.

Lower Radiator Hose Heater information - page 85 • Circulation Heater information - pages 71-73

## ISUZU - continued

### 3 Cylinder: QD-40 (3AB1 108 CID)



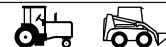
Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100068	400	120	45mm	Freeze Plug	3600006



**Installation Information:**

Install in Left Side (LS). Point element 6 o'clock.

### 3 Cylinder: QT-23 (3KC-1 87 CID), QT-35 (3KR-1-60 87 CID), 3AA



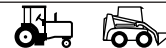
Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100067	400	120	45mm	Freeze Plug	3600006



**Installation Information:**

All except 3AA: Install in back of head. Point element 10 o'clock.  
3AA: Install in Left Side (LS). Point element 6 o'clock.

### QT-23 (3KC-1)



Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100026	400	120	35mm	Freeze Plug	3600006



**Installation Information:**

Install in Left Front (LF). Point element 9 o'clock.

### 3LD1 & 3LD2 (3 cyl.), 4LE1 & 4LE2 (4 cyl.)



Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100094	400	120	35mm	Freeze Plug	3600005



**Installation Information:**

Install in any Left side. Point element 9 o'clock.

### 3LB1 (3 cyl.), 4LC1 (4 cyl.)



Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100098	400	120	35mm	Freeze Plug	3600006



**Installation Information:**

Install in any Left side. Point element 9 o'clock.

### QD-60, C240, C201, C223 (144, 137 CID)



Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100068	400	120	45mm	Freeze Plug	3600006



**Installation Information:**

Install in Left Side (LS). Position element 6 o'clock.

### QD-90, 4BB1 (219 CID 4 cyl.)



Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100065	600	120	45mm	Freeze Plug	3600006



**Installation Information:**

Install in back of head. Point element 1 o'clock.

### 4FB1 (111 CID 4 cyl.)



Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100018	400	120	35mm	Freeze Plug	3600006



**Installation Information:** Install in Right Rear (RR). Point element UP.

### 4JB1, 4JG (4 cyl.)



Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100069	400	120	45mm	Freeze Plug	3600006



**Installation Information:**

Install in Left Rear (LR). Point element 6 o'clock.

## ISUZU - continued

**QD-130** (6BB1 329 CID 6 cyl.)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100065	600	120	45mm	Freeze Plug	3600006



**Installation Information:** Install in back of head. Point element 1 o'clock.

**6SA1, 6SA1-T, 6SD1, QD-170 & QD-170T** (8.4L 6 cyl.)

Use circulation heater (see pages 71-73)



**E-120** (733 CID 6 cyl.), **6RB-1** (839 CID 6 cyl.)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
8602220	1250	120	45mm	Freeze Plug	3600008



**Installation Information:** Replace 45mm plug on Rear face or back - right side. Point element DOWN.

## IVECO

**Z100** (F5L-912 Deutz air cooled engine)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3400014	500	120	6" x 6" (15.2cm <sup>2</sup> )	Clamp-on	3600001



**Installation Information:**

Clamp-on type heater. Engine may also use 22mm threaded oil pan heater - see page 84.

**Z110, Z120, Z220, Z340** (335 CID)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
8600333	1000	120	m42 x 1.5	Immersion	3600008



**Installation Information:** Install in 42mm threaded opening on Right rear of engine. Available Service Parts: Hex Nut (8602999), Plate Gasket (8603650)

## JOHN DEERE

**All 50, 60, 70, 730 Series A, B, D, G**

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100093	400	120	3/4" NPT	Immersion	3600003



**Installation Information:** Install in bottom of water jacket. Circulation heater is acceptable alternative (see pages 71-73).

**3029**

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100093	400	120	3/4" NPT	Immersion	3600003



**Installation Information:** Replaces 3/4" pipe plug on rear face of engine.

**All 4230, 4430, 4630, 6030, 7020, 7520**

(Tractors manufactured prior to 1976 without large hex plug)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
8602050	1000	120	2"	Freeze Plug	3600024



**Installation Information:** Install in Left Side (LS). Point element UP. Circulation heater is acceptable alternative (see pages 71-73).

**6404, 6466, 6619**

(Engines featuring smooth bore core hole - engines manufactured prior to 1976)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
8602050	1000	120	2"	Freeze Plug	3600024



**Installation Information:** Replace 2" diameter core hole on Left side of engine.

**2010 (All)**

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3200003	600	120	1-1/2"	LRHH	3600047



**Installation Information:**

Lower radiator hose heater (see page 84). Circulation heater is acceptable alternative (see pages 71-73).

**Lower Radiator Hose Heater information - page 85 • Circulation Heater information - pages 71-73**

**JOHN DEERE - continued**

**1020, 2020, 3010, 3020, 4000, 4010, 4020 (All)**

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3200004	600	120	1-3/4"	LRHH	3600047



**Installation Information:**

Lower radiator hose heater (see page 84). Circulation heater is acceptable alternative (see pages 71-73).

**All tractors** (manufactured 1977 and later featuring large hex plug on side of engine)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500029	1000	120	1-5/8" thd	Immersion	3600008



**Installation Information:** Install in Left Side (LS). Point element UP. Circulation heater is acceptable alternative (see pages 71-73).

**Power Tech: 4045, 6068**

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500020	1000	120	1-5/8" thd	Immersion	3600008



**Installation Information:** Replace 1-5/8" threaded plug on Right side of engine.

**6105, 6125**

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500013	1500	120	1" NPT	Immersion	3600008



**Installation Information:** Installs in oil cooler housing.

**Series 250 PowerTech: 4024 PowerTech (2.4L, 4 Cyl.) & 5030 PowerTech (3.0L, 5 Cyl.)**

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500089	600	120	1.25"	Freeze Plug	N/A



**Installation Information:**

Replace 1.25" diameter core hole on Left side of engine, near the starter.

**Series 300 (3164, 3179, 4039, 4045, 4219, 4239, 4276, 6059, 6068, 6329, 6359, 6414)**

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
8603596	1000	120	3/4" NPT	Immersion	3600024



**Installation Information:** Replace 3/4" pipe plug on rear face of engine. Some engines (manufactured in 1987 and later) may require a 1" x 3/4" reducer bushing.

**Series 300: 3164, 4039, 4045, 4219, 4239, 4276, 6329, 6359, 6414, 6059, 6068**  
**Series 400: 6076, 6081, 6101, 6414, 6466, 6619**

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500029	1000	120	1-5/8" thd	Immersion	3600008



**Installation Information:** Replaces 1-5/8" threaded plug on Left side of engine.

**Series 300 (3029, etc.)**

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500045	1000	120	1" NPT	Immersion	3600008



**Installation Information:** Install in Left rear face of block.

**Series 350 PowerTech Plus iT4 (Interim Tier 4): 4045 PowerTech Plus iT4 (4.5L, 4 Cyl.) & 6068 PowerTech Plus iT4 (6.8L, 6 Cyl.)**

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500069	1000	120	27mm	Immersion	3600008



**Installation Information:** Right Rear

## KOMATSU

### SA6D125 (624 CID)



Part No.	Watt	Volt	Diameter	Type	Repl. Cord
8600880	1500	120	1-3/4" THD	Immersion	3600008
8600813	1000	120	1-3/4" THD	Immersion	3600008



**Installation Information:** Replaces threaded core plug on Right side of engine.

### S4D106-1



Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100003	400	120	1" NPT	Freeze Plug	3600001



**Installation Information:** Install in left center.

### S6D-95L & SA6D-95L (298 CID)



Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100082	600	120	40mm	Freeze Plug	3600006
3100010	600	120	30mm	Freeze Plug	3600005



**Installation Information:** 3100082: Install in Left Rear (LR). Point element UP. 3100010: Insert at 3 o'clock and rotate to 4 o'clock.

### 4D95 (2.9L 164 CID)



Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100046	400	120	40mm	Freeze Plug	3600006



**Installation Information:** Replace 40mm core plug on Left rear of engine. Note: May not fit all engines due to block thickness. Maximum 5/18" (15.8mm) thickness.

### S6D140, SA6D140

(Example: WA500 loader)



Part No.	Watt	Volt	Diameter	Type	Repl. Cord
8605602	1500	120	1-3/8"	Immersion	3600008
8600880	1500	120	1-3/4" THD	Immersion	3600008



(8600880)

(8605602)

**Installation Information:**

8605602: Replace 3rd core plug on right side of engine. 2001 and newer used 8600880: Replaces threaded core plug on right side of engine.

### S6D170, SA6D170

(Example: WA600 loader)



Part No.	Watt	Volt	Diameter	Type	Repl. Cord
8602301	1500	120	Plate	Immersion	3600008



**Installation Information:** Install in rectangular water jacket access plate (6-bolt) located on the Right side of engine - rear. Requires removal of engine side plate and hole to be drilled for heater installation.

## KUBOTA

### M Series (3 & 4 cyl.)



Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100093	400	120	3/4" NPT	Immersion	3600003



**Installation Information:** Install in front.

### B Series

(Except 2 cylinder)



Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100093	400	120	3/4" NPT	Immersion	3600003



**Installation Information:** Install in Right Front (RF). Use 1" x 3/4" pipe bushing.

### L Series



Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100093	400	120	3/4" NPT	Immersion	3600003



**Installation Information:**

Install in Right Front (RF). Use 1" x 3/4" pipe bushing.

Lower Radiator Hose Heater information - page 85 • Circulation Heater information - pages 71-73

## KUBOTA - continued

### Z400, Z482, D722

(Super Mini/New Super Mini 2 cyl.)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100099	400	120	30mm	Freeze Plug	3600004

*Installation Information:* Install in back of head.



### Z600 & ZH600

(Super Mini/New Super Mini 2 cyl.)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100093	400	120	3/4" NPT	Immersion	3600003

*Installation Information:* Install Right Front (RF). Use 1" x 3/4" pipe bushing.



### D600, D640, WG600, D662, D722, DG750, DF750, WG750

(Super Mini/New Super Mini 3 cyl.)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100099	400	120	30mm	Freeze Plug	3600004

*Installation Information:* Install in back of head.



### V800

(Super Mini/New Super Mini 4 cyl.)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100099	400	120	30mm	Freeze Plug	3600004

*Installation Information:* Install in back of head.



### D905, DH905, D1005, DH1005, D1105, V1205, VH1205, V1305, VH1305, V1505

(Super 5 Series)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100003	400	120	1" NPT	Immersion	3600001

*Installation Information:* Install in Left Front (LF).



### D3000B, D3200B

(3 cylinder)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100003	400	120	1" NPT	Immersion	3600001

*Installation Information:* Install in front.



### D1102, D1302, D1402, D1403, D1703, S2800

(3 cylinder)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100025	400	120	35mm	Freeze Plug	3600006

*Installation Information:* Install in back of head. Point element 2 o'clock.



### D650, D750, D850, DH850, D950

(3 cylinder)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100093	400	120	3/4" NPT	Immersion	3600003

*Installation Information:* Install in Right Front (RF). Use 1" x 3/4" pipe bushing.



### V4000B, V4300B

(3 cylinder)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100003	400	120	1" NPT	Immersion	3600001

*Installation Information:* Install in front.



Lower Radiator Hose Heater information - page 85 • Circulation Heater information - pages 71-73

## KUBOTA - continued

### V1100, VH1100, V1200

(4 cylinder)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100093	400	120	3/4" NPT	Immersion	3600003

**Installation Instructions:** Install in Right Front (RF). Use 1" x 3/4" pipe bushing.



### V1702, V1703, V1902, V1903, V2003, V2003T, V2203

(4 cylinder)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100025	400	120	35mm	Freeze Plug	3600006

**Installation Information:** Install in back of head. Point element 2 o'clock.



### V3300

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100093	400	120	3/4" NPT	Immersion	3600003

**Installation Information:** Install in Right Front (RF). Use 1" x 3/4" pipe bushing.



### S2800 (6 cyl.), F2803 (5 cyl.)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100025	400	120	35mm	Freeze Plug	3600006

**Installation Information:** Install in back of head.



## LISTER-PETTER

### LPW Series (1994 & newer 56 CID 2 cyl., 85 CID 3 cyl., 113 CID 4 cyl.)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100077	400	120	1-1/4"	Freeze Plug	3600004

**Installation Information:**  
Install between cylinders. Point element UP or DOWN.



## LOMBARDINI

### LDW602, LDW702 (2 cyl.), LDW903, LDW1003 (3 cyl.), FOCS Series 1204, LDW1404, LDW1204T (4 cyl.)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3200002	375	120	1-1/4"	LRHH	3600047

**Installation Information:** Lower radiator hose heater (see page 84).



### CHD Series: LDW1503, LDW1603 (3 cyl.), LDW2004, LDW2204, LDW2004T (4 cyl.)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100096	400	120	30mm	Freeze Plug	3600004

**Installation Information:** Install in Left Side (LS). Point element 3 or 9 o'clock.



## MACK

### 865 Series, 866 & 1000 Series, EM9-400 (998 CID), E9

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500043	1000	120	3/4" NPT	Immersion	3600008
8600988	1000	240	3/4" NPT	Immersion	8608377
8601011	1500	120	3/4" NPT	Immersion	3600008
8601054	1500	240	3/4" NPT	Immersion	8608377

**Installation Information:**

Installs in oil cooler casting. Two heaters are required. Engine may also accept oil pan heater 8609683, 8609659, 8609713 (requires 1" x 1/2" bushing to reduce port size). See threaded immersion heater page for specifications.





## MACK - continued

### Midliner: E3 (5.5L 335 CID, 6.2L), E5 (8.8L 537 CID)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
8600317	1000	120	Plate	Immersion	3600008
8600384	1500	120	Plate	Immersion	3600008
8600414	1500	<b>240</b>	Plate	Immersion	8608377



**Installation Information:** E3: Replace plug in rear face of block (MS200 serial numbers 1915 and higher).

E5: Install in oil cooler water feed pipe (MS300 serial numbers 60131 and higher). Available Service Parts: Hex Nut (8602999), Element Gasket (8603650)

### E6 (672 CID 6 cyl.)

(Engines with smooth bore freeze plug. Example: EM6300, E6350, EM6237)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
8609748	1500	120	1-3/4"	Freeze Plug	3600008
8609772	1500	<b>240</b>	1-3/4"	Freeze Plug	8608377



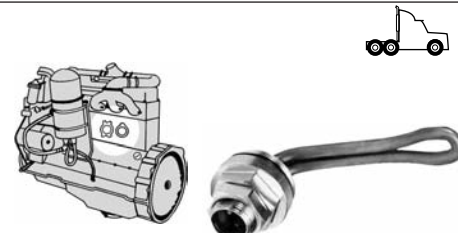
**Installation Information:**

Replaces 1-3/4" freeze plug on side of engine. Available Service Parts: O-ring and clamping device kit (3500003)

### E6, EM6 (threaded freeze plug models manufactured prior to August 1981)

#### END465 (1957 & later), 711, EN438, 504, 707, 673, 675, 676 Series

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
8600813	1000	120	1-3/4"	Immersion	3600008
8600880	1500	120	1-3/4"	Immersion	3600008
8600910	1500	<b>240</b>	1-3/4"	Immersion	8608377



**Installation Information:**

Replaces 1-3/4" threaded plug on side of engine. Available Service Parts: Hex Nut (8602999), Element Gasket (8603650)

### 2004-2006 ASET Engine Series (AI, AC + AMI) (12.0L)

#### E7 & EM7 (12.0L)

(Example: EM7-300, E7-350)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
8607206	1500	120	1-3/8"	Freeze Plug	3600008
8607184	1500	<b>240</b>	1-3/8"	Freeze Plug	8608377



**Installation Information:** Replace 1-3/8" core plug on Right side of block - front or rear face. Available Service Parts: O-Ring (3600059) 10 pack.

### END465 (1953-56), 672, 673, 711, EN438, 540, 707

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
8600759	1500	120	1-1/2" NPT	Immersion	3600008



**Installation Information:** Replace 1-1/2" pipe plug on side of engine.

### E-Tech (water pump mount)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500051	1500	120	1-3/8"	Immersion	3600008
3500052	1500	<b>240</b>	1-3/8"	Immersion	8608377
3500070	1500	120	1-3/8"	Immersion	3600008



**Installation Information :** Mount in water pump. Available Service Parts: O-Ring (3600059) 10 Pack. 3500070 includes 84" weatherproof cord and receptacle.

### MP7 (10.8L)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500099	1000	120	25mm	Immersion	3600085
3500100	1500	120	25mm	Immersion	3600085
3500101	1500	<b>240</b>	25mm	Immersion	3600086



**Installation Information :** Right rear

Lower Radiator Hose Heater information - page 85 • Circulation Heater information - pages 71-73

## MACK - continued

### MP8 (12.8L)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500102	1500	240	25mm	Immersion	3600086
3500115	1500	120	25mm	Immersion	3600085
3500104	1000	120	25mm	Immersion	3600085



*Installation Information:* Right front, in coolant pipe.

### MP10 (16.1L)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500105	1500	120	62mm	Immersion	3600085
3500106	1000	120	62mm	Immersion	3600085



*Installation Information:* Right front

## MASSEY FERGUSON

### All 445P, 333, 444, 555, 88

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100054	600	120	1-5/8"	Freeze Plug	3600006



*Installation Information:*

Install in Right Front (RF). Circulation heater is acceptable alternative (see pages 71-73).

### 1100

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3200005	600	120	2"	LRHH	3600047



*Installation Information:*

Lower radiator hose heater (see page 84). Circulation heater is acceptable alternative (see pages 71-73).

### All MF-35, 40, 50, 150, 203, 205, 235, 2135 & 2200 (AD3-152)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100013	600	120	1-1/4"	Freeze Plug	3600022



*Installation Information:* Install in Right Side (RS). Point element DOWN. Circulation heater is acceptable alternative (see pages 71-73).

### All MF-65, 165, 255, 302, 304, 365 & 3165 (AD4-203)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100093	400	120	3/4" NPT	Immersion	3600003



*Installation Information:* Install in Left Side (LS). Circulation heater is acceptable alternative (see pages 71-73).

### All MF-175, 180 & 265 (AD4-236)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100013	600	120	1-1/4"	Freeze Plug	3600022



*Installation Information:*

Install in Left, 2nd from rear. Point element UP/DOWN. Circulation heater is acceptable alternative (see pages 71-73).

### MF-90, 1080, 1085 & 285 (A4-300)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100093	400	120	3/4" NPT	Immersion	3600003



*Installation Information:* Replaces existing heater. Circulation heater is acceptable alternative (see pages 71-73).

### MF-1100, 1105, 1130 & 1135 (A6-354)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100013	600	120	1-1/4"	Freeze Plug	3600022



*Installation Information:* Install in Left, 2nd from rear. Point element UP. Circulation heater is acceptable alternative (see pages 71-73).

Lower Radiator Hose Heater information - page 85 • Circulation Heater information - pages 71-73

## MASSEY FERGUSON - continued

### MF-1150, 1155 (AV510, 540)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100003	400	120	1" NPT	Immersion	3600001

**Installation Information:**

Install one heater in each side (two heaters required). Circulation heater is acceptable alternative (see pages 71-73).



### MF-1140 & MF-1145 (1120, 1125 - 1240, 1250, 1260 Mfg. prior to mid '90's before serial # E50101

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100066	400	120	1-3/4"	Freeze Plug	3600006

**Installation Information:** Install in Left Front (LF). Point element 3 o'clock.



### MF-3120, MF-3140

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100045	600	120	1-1/2"	Freeze Plug	3600007

**Installation Information:** Install in Right Rear (RR) or Right Front (RF). Point element 12 o'clock. Circulation heater is acceptable alternative (see pages 71-73).



## MERCEDES

### MBE900 Series: OM904 & OM906

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500046	1000	120	60mm	Immersion	3600008

**Installation Information:** Installation in Right Rear (RR) core hole. Point element down, 6 o'clock.



### 2003 & Older MBE4000 Series / OM460

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500080	1500	120	Plate	Immersion	3600008

**Installation Information:** 3500080 - Replace plate on right side (center). Point element 9 o'clock. Do not install on left side.



### MBE-HDEP 15.2 L

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500095	1500	120	27mm THD	Immersion	3600008

**Installation Information:** Installation in Right Rear (RR) core hole. Point element down, 6 o'clock.



### 2004 & Newer MBE4000 Series/OM460

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500082	1500	120	Plate	Immersion	3600008
3500083	1500	<b>240</b>	Plate	Immersion	8608377

**Installation Information:**

Replaces plate on right side (center). Point element, 3 o'clock.



### 2009 & Older 2.7L Freightliner Sprinter Van

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100105	500	120	38mm THD	Freeze Plug	N/A

**Installation Information:** Right rear. May need to heat existing plug to remove.



## MINNEAPOLIS MOLINE

### JetStar 3 (gas & diesel 206 CID), U302 (gas 220 CID)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500026	400	120	3/8" NPT	Immersion	N/A

**Installation Information:** Replaces existing heater. Circulation heater is acceptable alternative (see pages 71-73).



## MINNEAPOLIS MOLINE - continued

### M602, 604, 670, G705, 706, 900, 1000

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100038	600	120	1-1/2"	Freeze Plug	3600006



**Installation Information:** Replaces existing heater. Circulation heater is acceptable alternative (see pages 71-73).

## mitsubishi

### L3A (3 cyl.)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100049	400	120	40mm	Freeze Plug	3600006



**Installation Information:** Install in Right Rear (RR). Point element 9 o'clock.

### K3A & K3B (3 cyl.)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100067	400	120	1-3/4"	Freeze Plug	3600006



**Installation Information:** Install in Right Side (RS). Point element UP.

### 4G32 & 4G33 (4 cyl.)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100016	400	120	35mm	Freeze Plug	3600006



**Installation Information:**

4G32: Install in Left Center (LC). Point element 9 o'clock.

4G33: Install in Left Center (LC). Point element UP.

### 4G52, 4G53, 4G54 (4 cyl. engines)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100071	400	120	50mm	Freeze Plug	3600006



**Installation Information:**

Install in Right Center (RS). Point element 3 o'clock.

### S4L2 (4 cyl.)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100078	400	120	35mm	Freeze Plug	3600006



**Installation Information:**

Install Right Rear (RR). Point element 11 o'clock.

### 4G63 (2.0L 4 cyl.), 4G64 (2.4L 4 cyl.)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100021	400	120	35mm	Freeze Plug	3600006



**Installation Information:**

Install in Left Front (LF). Point element 3 o'clock.

### S6E & S6E2 (6 cyl.)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100078	400	120	35mm	Freeze Plug	3600006



**Installation Information:**

Install in Left Rear (LR). Point element 3 o'clock.

### 6G72 (3.0L)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100055	600	120	1-5/8"	Freeze Plug	3600006



**Installation Information:**

Install in Right Rear (RR). Point element 9 o'clock.

## MITSUBISHI FUSO

4D31 (201 CID), 6D14 (400 CID), 6D31 (302 CID), 6D16 (460 CID)  
4M40 (2835cc SOHC), 4D36 (3567cc)



Part No.	Watt	Volt	Diameter	Type	Repl. Cord
8604967	600	120	3/4" NPT	Immersion	N/A



**Installation Information:** Replaces 3/4" threaded plug on Left rear side of engine.

## MWM MURPHY

D225 & D226 Series (2, 3, 4, 6 cylinder)



Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100071	400	120	50mm	Freeze Plug	3600006



**Installation Information:**

Replaces any freeze plug on Right side. Point element UP or DOWN.

## NISSAN

H20, SD22, SD4-47 (2.2L), SD-25, A12 (1.2L), A15 (1.5L) (4 cylinder engines)



Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100016	400	120	35mm	Freeze Plug	3600006



**Installation Information:**

H20: Install in Left Front (LF) or Left Rear (LR). Point element UP.

SD-22, SD4-47, SD-25: Install in Left Front (LF). Point element DOWN.

A15 install left front or left rear and point element 12 o'clock.

H20-2, H25 (4 cylinder engines)



Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100019	400	120	35mm	Freeze Plug	3600006



**Installation Information:** Install in Left Rear (LR). Point element 3 o'clock.

Z24 (4 cyl.)



Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100048	400	120	40mm	Freeze Plug	3600006



**Installation Information:** Install in Left Front (LF). Point element 12 o'clock.

TD42 (4 cyl.)



Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100090	600	120	35mm	Freeze Plug	3600006



**Installation Information:** Install in Right Center (RC). Remove 3-bolt plate.

SD-33 & SD6-72 (3.2L 6 cyl.)



Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100023	400	120	35mm	Freeze Plug	3600006
3100108	400	120	35mm	Freeze Plug - 12" Cord	3600036



**Installation Information:** Install in 2nd and 4th Left side. Two heaters are required. Point element 12 o'clock.

P Series (4.0L 6 cyl.)



Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100049	400	120	40mm	Freeze Plug	3600006



**Installation Information:** Install in Right Front (RF).

LD-28 (2.8L 6 cyl.)



Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100016	400	120	35mm	Freeze Plug	3600006



**Installation Information:** Install in 5th, Left side. Point element 12 o'clock.

Lower Radiator Hose Heater information - page 85 • Circulation Heater information - pages 71-73

## NISSAN - continued

FD6 (5.6L 6 cyl.)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100049	400	120	40mm	Freeze Plug	3600006



**Installation Information:**

Install in Right Front (RF). Point element 3 o'clock.

## OLIVER

All (except 1265, 1365, 1900)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500043	1000	120	3/4" NPT	Immersion	3600008



**Installation Information:**

Install in cast elbow at front of engine - between radiator and engine block.

## PACCAR

2007 PX-6 (6.7L)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500022	750	120	3/4" NPT	Immersion	3600008



**Installation Information:** Installs in 3/4" NPT port to rear of oil cooler.

2007 PX-8 (8.3L)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500032	1000	120	3/4" NPT	Immersion	3600008



**Installation Information:** Installs in upper 3/4" port to front of oil cooler.

## PERKINS

103.06 (KB 3 cyl.), 103.07 (KL 3 cyl.), 103.09 (KC 3 cyl.), 103.10 (KD 3 cyl.)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100016	400	120	35mm	Freeze Plug	3600006



**Installation Information:** Install in Left Front (LF). Point element 6 o'clock.

103.12 (KG 3 cyl.), 103.13 (KH 3 cyl.), 103.15 (KE/KJ 3 cyl.)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100049	400	120	40mm	Freeze Plug	3600006



**Installation Information:** Install in Left Front (LF). Point element 6 o'clock.

3-152 (C Series 3 cyl.), 900 Series (CN)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100013	600	120	1-1/4"	Freeze Plug	3600022



**Installation Information:** Install in Right Side (RS). Point element 6 o'clock.

104.19 (KF/KK 4 cyl.), 104.22 (KR 4 cyl.)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100049	400	120	40mm	Freeze Plug	3600006



**Installation Information:** Install in Left Front (LF). Point element 6 o'clock.

## PERKINS - continued

**4-108** (E Series 4 cyl.), **4-236** (LD 4 cyl.), **4-248** (LF 4 cyl.), **4-248-2** (LG 4 cyl.)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100013	600	120	1-1/4"	Freeze Plug	3600022

*Installation Information:* Install in Left, 2nd from rear. Point element UP or DOWN.



**4-236** (4 cyl.) (Engines with larger core hole)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100027	600	120	35mm	Freeze Plug	3600006

*Installation Information:* Install in Left side - 2nd from rear.



**4-135** (GB Series 4 cyl.)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100023	400	120	35mm	Freeze Plug	3600006
3100108	400	120	35mm	Freeze Plug - 12" Cord	3600036

*Installation Information:* Install in Right Side (RS). Point element UP or DOWN.



**4-154** (4 cyl.)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100010	400	120	30mm	Freeze Plug	3600005

*Installation Information:* Install in Left Side (LS). Point element UP or DOWN.



**200 Series: 204.25** (GD 4 cyl.), **204.30** (GE 4 cyl.)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100086	400	120	30mm	Freeze Plug	3600004

*Installation Information:* Install in Left Side (LS).



**400 Series** (4.41, T4.40), **4.0L**

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100045	600	120	1-1/2"	Freeze Plug	3600007

*Installation Information:* Right side, point element up.



**4-203** (J Series 4 cyl.)

(Engines with no starter obstructions)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100093	400	120	3/4" NPT	Freeze Plug	3600003

*Installation Information:* Install in Left Side (LS). Point element up or down.



**1004** (A Series 4 cyl.) (D Series 4 cyl.)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100045	600	120	1-1/2"	Freeze Plug	3600007

*Installation Information:* Install in Right Rear (RR) or Right Front (RF). Point element 12 o'clock.



**1104** (C Series 4 cyl.) (D Series)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500084	750	120	1-1/4"	Freeze Plug	3600008

*Installation Information:* Install in Right Rear (RR) or Right Front (RF). Point element 3 o'clock.



## PERKINS - continued

### 700 Series 704.30 (4A 4 cyl.), 704.30T (4C 4 cyl.), 704.26 (4C 4 cyl.)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100101	400	120	50mm	Freeze Plug	3600006

**Installation Information:**

Install in back of head. Point element 4 o'clock.



### N Series: 4-300 (4 cyl.), 4-318 (4 cyl.)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100093	400	120	3/4" NPT	Freeze Plug	3600003

**Installation Information:**

Install in Left Side (LS).



### T Series: 6-354 (6 cyl.), 6-354.4 (4 cyl.), 6-372 (4 cyl.)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100013	600	120	1-1/4"	Freeze Plug	3600022

**Installation Information:**

Install in Right Rear (RR). Point element 12 o'clock.



### 6-354 (alternate), NA-120 (6 cyl.)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500027	750	120	Plate	Immersion	3600008

**Installation Information:**

Install in back of head.



### 1006 (Y Series 6 cyl.)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100045	600	120	1-1/2"	Freeze Plug	3600007

**Installation Information:**

Install in Right Rear (RR), or Right Front (RF). Point element 12 o'clock.



### 540 (8 cyl.)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100003	400	120	1" NPT	Immersion	3600001

**Installation Information:**

Install one heater in each side.



### 640 (Z Series 8 cyl.)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
8605556	1500	120	1" NPT	Immersion	3600008

**Installation Information:**

Install in Left Rear.



### 2006 and Newer, 1106D

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500087	1000	120	1-1/4"	Immersion	3600008

**Installation Information:** Install in Right Rear.





## TOYOTA

5R (1.9L 4 cyl.), 2J (2.5L diesel)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100071	400	120	50mm	Freeze Plug	3600006



**Installation Information:**

Install in Left Front (LF) or Left rear (LR). Point element 12 o'clock.

4Y (2.2L 4 cyl.)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100019	400	120	35mm	Freeze Plug	3600006



**Installation Information:**

Install in Left Rear (LR). Point element 3 or 9 o'clock.

2F (4.2L 6 cyl.)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100071	400	120	50mm	Freeze Plug	3600006



**Installation Information:**

Install in Left Rear (LR). Point element 9 o'clock.

3F

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100101	400	120	50mm	Freeze Plug	3600006



**Installation Information:**

Install in Left Rear (LR). Point element at 45° angle.

## UD TRUCK

FD35T (3.5L 6 cyl.)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100012	600	120	30mm	Freeze Plug	3600004



**Installation Information:**

Replaces 30mm freeze plug on Right front of engine. Install element 3 o'clock.

FE6 & FE6T (6.9L 6 cyl.)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
8602441	1000	120	40mm	Freeze Plug	3600008



**Installation Information:**

Replaces 40mm freeze plug on Right side of engine - 2nd from rear. Install element 5 o'clock.

NE6 & NE6T (7.4L 6 cyl.)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
8602492	1500	120	50mm	Freeze Plug	3600008



**Installation Information:**

Replaces 50mm freeze plug on Left rear of engine.

FD46TA

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100103	400	120	40mm	Freeze Plug	3600006



**Installation Information:**

Install in Left Rear (LR) (above fuel pump).

## UD TRUCK

### TD42T



Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100090	600	120	35mm	Immersion	3600006



**Installation Information:**

Install in Right center of oil cooler. Remove 3-hole plate.

## VOLKSWAGEN

### 1588cc (049.6 & 068.5 4 cyl.)



Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100034	400	120	36.5mm	Freeze Plug	3600016



**Installation Information:**

Install in Right Center (RC). Point element 6 o'clock.

## VOLVO

### TD60 & TD61 (334 CID), TD70 & TD71 (409 CID), TD73(427 CID), TD100 & TD101, VE10 (586 CID), TD120, TD121, TD122, TD123 (732 CID)



Part No.	Watt	Volt	Diameter	Type	Repl. Cord
8600252	1000	120	44mm	Immersion	3600008
8600287	1500	120	44mm	Immersion	3600008
8600309	1500	<b>240</b>	44mm	Immersion	8608377



**Installation Information:**

Replaces 44mm threaded plug on Left front of engine. Point element at 4 or 5 o'clock.

### 2002 & Newer VED-12



Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500090	1000	120	Plate	Immersion	3600008
3500091	1500	120	Plate	Immersion	3600008



**Installation Information:**

Mount below turbocharger at the Right center of engine.

### VED-12( Engines manufactured prior to 2002)



Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500039	1000	120	Plate	Immersion	3600008
8607702	1500	120	Plate	Immersion	3600008



**Installation Information:** Mount below turbocharger at the Right center of engine.

### VE-D7



Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500041	1500	120	1-3/4"-18	Immersion	3600008



**Installation Information:** Replace plug on Left rear of engine. Reuse existing seal. Point element at 1 o'clock.

### D11 (10.8L)



Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500099	1000	120	25mm	Immersion	3600085
3500100	1500	120	25mm	Immersion	3600085
3500101	1500	<b>240</b>	25mm	Immersion	3600086



**Installation Information :** Right rear

(Contact Volvo dealer for Replacement O'Ring P/N 975664).

## VOLVO - continued

### D13 (12.8L)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500102	1500	240	25mm	Immersion	3600086
3500115	1500	120	25mm	Immersion	3600085
3500104	1000	120	25mm	Immersion	3600085

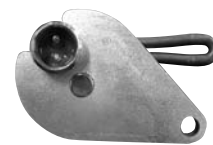
**Installation Information :** Right front, in coolant pipe.  
(Contact Volvo dealer for Replacement O'Ring P/N 975664).



### D16 (16.1L)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500105	1500	120	62mm	Immersion	3600085
3500106	1000	120	62mm	Immersion	3600085

**Installation Information :** Right front



## YANMAR

### 3T72HLE (3 cyl.)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100003	400	120	1" NPT	Immersion	3600001

**Installation Information:**  
Install in Left Front (LF).



### 3TN66, 3TN72 (3 cyl.)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500001	400	120	Plate	Immersion	3600003

**Installation Information:**  
Install in Right Rear (RR).



### 4TN82E & 4TNE98 (4 cyl.)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100003	400	120	1" NPT	Immersion	3600001

**Installation Information:**  
Install in Left Center (LC).



### YYDXL4.4 1 D4T

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100003	400	120	1" NPT	Freeze Plug	3600001

**Installation Information:**  
Install in Left Center (LC).



## ZETOR

### All - except 278 (4.5L) & 417 (6.8L)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100065	600	120	1-3/4"	Freeze Plug	3600006

**Installation Information:**  
Install in Left Rear (LR). Point element UP.



**NOTE:** See next page (p. 66) for Universal Coolant Heater and Oil Pan Heater applications.

# THREADED OIL PAN HEATERS (STAINLESS)

See page 76-77 for replacement cordset information

## Oil Heaters:

- Easy to spec: Not engine model specific!
- **10 watts of power per quart of oil**
- Keeps oil warm and free flowing for instant lubrication
- Stainless steel low watt density heating elements for long life in oil and hydraulic fluid applications
- Can be used in oil pans, transmissions, hydraulic systems, etc.



All 120V Immersion heaters CSA approved

For oil heater selection, measure space and determine threading at installation location.

### ACCESSORY: 8602824;

1/2" NPT Adapter Bushing. For use on steel pans only. 1/2" NPT oil pan heaters are supplied with weld or braze-in adapter.



Note: To prevent potential damage to heater and fluid, oil pan heaters should only be used to keep warm oil warm. Do not use with cold oil.

WATTAGE	VOLTAGE	THREAD SIZE	ELEMENT LENGTH	FOR USE IN	WITHOUT THERMOSTAT	WITH THERMOSTAT	ELEMENT CONSTRUCTION
150	120	M22 x 1.5	7" (17.8cm)	Water/Oil	3500047	—	Stainless Steel
150	120	M25 x 1.5	3-1/2" (8.9cm)	Water/Oil	3500071	—	Stainless Steel
150	120	1/2" NPT	5" (12.7cm)	Water/Oil	8609624	—	Stainless Steel
150	120	1/2" NPT	7-3/4" (19.5cm)	Water/Oil	2201712	—	Stainless Steel
150	120	M22 x 1.5	3-1/2" (8.9cm)	Water/Oil	8602859	8602794	Stainless Steel
150	120	1" NPT	5-5/8" (14.2cm)	Oil	2200635	—	Stainless Steel
150	120	1" NPT	6" (15.2cm)	Water/Oil	8609802	8609845	Stainless Steel
150	120	1" NPT	6-5/8" (16.6cm)	Oil	2204274**	—	Stainless Steel
150	240	1" NPT	6" (15.2cm)	Water/Oil	8609837	—	Stainless Steel
150	120	1-1/16" - 12 STOR	5" (12.7cm)	Water/Oil	3500006	—	Stainless Steel
150	120	1-5/16" 12 STOR	5" (12.7cm)	Water/Oil	3500085	—	Stainless Steel
150	240	1-5/16" 12 STOR	5" (12.7cm)	Water/Oil	3500086	—	Stainless Steel
150	120	M27 STOR	3-1/2" (8.9cm)	Water/Oil	3500094	—	Stainless Steel
300	120	1/2" NPT	5" (12.7cm)	Water/Oil	8609683	—	Stainless Steel
300	240	1/2" NPT	5" (12.7cm)	Water/Oil	8609659	—	Stainless Steel
300	120	3/4" NPT	11-1/8" (28.2cm)	Oil	2201968	—	Stainless Steel
300	120	M22 x 1.5	5-1/2" (13.9cm)	Water/Oil	8602913	8602905	Stainless Steel
300	120	3/4" NPT	5-1/2" (13.9cm)	Water/Oil	8603243	—	Stainless Steel
300	120	1" NPT	6" (15.2cm)	Oil	2202662	—	Stainless Steel
300	120	1" NPT	6" (15.2cm)	Water/Oil	8609861	8609853	Stainless Steel
300	120	1-5/16" STOR	5" (12.7cm)	Water/Oil	3500079	—	Stainless Steel
300	240	1-5/16" STOR	5" (12.7cm)	Water/Oil	3500078	—	Stainless Steel
300	120	M27 STOR	5-1/2" (13.9cm)	Water/Oil	3500093	—	Stainless Steel
450	120	1/2" NPT	7-1/2" (19cm)	Water/Oil	8609713	—	Stainless Steel
450	120	M27 STOR	7-1/4" (18.4cm)	Water/Oil	3500049	—	Stainless Steel
1000	120	1" NPT	9-1/2" (24cm)	Water/Oil	8609098	—	Stainless Steel

Note: Not all oil pans are equipped with ports. Inspect oil pan carefully before ordering to determine available ports. When no pre-threaded port exists, contact the engine manufacturer for proper installation procedure.

# THREADED COOLANT IMMERSION HEATERS (COPPER)

WATTAGE	VOLTAGE	THREAD SIZE	ELEMENT LENGTH	FOR USE IN	WITHOUT THERMOSTAT	WITH THERMOSTAT	ELEMENT CONSTRUCTION
400	120	3/8" NPT	2-3/4" (6.9cm)	Water	3500026	—	Copper
400	120	3/4" NPT	1" (2.5cm)	Water	3100093	—	Copper
400	120	1" NPT	1" (2.5cm)	Water	3100003	—	Copper
600	120	3/4" NPT	1-3/8" (3.4cm)	Water	8604967	—	Copper
750	120	3/4" NPT	2-7/8" (7.1cm)	Water	3500022	—	Copper
1000	120	3/4" NPT	4" (10.1cm)	Water	8602549 <sup>1</sup>	—	Copper
1000	240	3/4" NPT	4" (10.1cm)	Water	8602514 <sup>1</sup>	—	Copper
1000	240	3/4" NPT	4-1/2" (11.4cm)	Water	8600988	—	Copper
1000	120	1" NPT	4-1/4" (10.6cm)	Water	8600090	—	Copper
1000	240	1" NPT	4-1/4" (10.8cm)	Water	8600120	—	Copper
1000	120	3/4" NPT	3-3/8" (8.5cm)	Water	3500032	—	Copper
1000	120	3/4" NPT	3-7/8" (9.7 cm)	Water	3500043	—	Copper
1500	120	3/4" NPT	4-3/4" (12cm)	Water	8602611 <sup>1</sup>	—	Copper
1500	240	3/4" NPT	4-3/4" (12cm)	Water	8602573 <sup>1</sup>	—	Copper
1500	120	3/4" NPT	5-1/4" (13.3cm)	Water	8601011	—	Copper
1500	240	3/4" NPT	5-1/4" (13.3cm)	Water	8601054	—	Copper
1500	120	1" NPT	5" (12.7cm)	Water	8605556	—	Copper
1500	240	1" NPT	5" (12.7cm)	Water	8600260	—	Copper
1500	120	1" NPT	3-3/4" (9.5cm)	Water	3500013	—	Copper
1500	240	1" NPT	3-3/4" (9.5cm)	Water	3500031	—	Copper

\*\*Welding flange included. Designed for Caterpillar 3406 with BrakeSaver

<sup>1</sup>Element does not turn during installation.

# CAB & CARGO HEATERS

- Ideal as a secondary heat source in trucks, station wagons, sleeper cabs, etc.
- 2-speed reversible fan motors
- 14-gauge construction - (models 200 and 300)
- 20-gauge construction (models 100, 400, and 500)
- Installation kit included
- Custom fabrication available - contact Customer Service for more information

\* Outlet direction featured in photo.



**Model 100**  
(150 CFM Max)

PART NO.	VOLT	CAPACITY (BTU/HR)	AIRFLOW (CFM)	CURRENT (AMPS)	DIMENSIONS (H X W X D)	OUTLET DIAMETER	OUTLET DIRECTION	WT. (LBS)
7000101	12	17,500	150	3.9	7.5 x 8.6 x 7.7" (191 x 219 x 196mm)	5/8" (16mm)	Rear Top	10.0
7000102	12	17,500	150	3.9	7.5 x 8.6 x 7.7" (191 x 219 x 196mm)	3/4" (19mm)	Rear Top	10.0
7000103	24	17,500	150	2.0	7.5 x 8.6 x 7.7" (191 x 219 x 196mm)	5/8" (16mm)	Rear Top	10.0
7000104	24	17,500	150	2.0	7.5 x 8.6 x 7.7" (191 x 219 x 196mm)	3/4" (19mm)	Rear Top	10.0



**Model 200**  
(7000202, 7000205, 7000208)  
(250 CFM Max)

MODEL 200								
7000201	12	30,000	250	9.4	9.3 x 11.5 x 10.6" (237 x 292 x 270mm)	5/8" (16mm)	Rear left	26.5
7000202	12	30,000	250	9.4	9.3 x 11.5 x 10.6" (237 x 292 x 270mm)	5/8" (16mm)	Left *	26.5
7000203	12	30,000	250	9.4	9.3 x 11.5 x 10.6" (237 x 292 x 270mm)	5/8" (16mm)	Right	26.5
7000205	12	30,000	250	9.4	9.3 x 11.5 x 10.6" (237 x 292 x 270mm)	3/4" (19mm)	Left *	26.5
7000206	12	30,000	250	9.4	9.3 x 11.5 x 10.6" (237 x 292 x 270mm)	3/4" (19mm)	Right	26.5
7000207	24	30,000	250	4.7	9.3 x 11.5 x 10.6" (237 x 292 x 270mm)	5/8" (16mm)	Rear Left	26.5
7000208	24	30,000	250	4.7	9.3 x 11.5 x 10.6" (237 x 292 x 270mm)	5/8" (16mm)	Left *	26.5



**Model 300**  
(7000302, 7000305, 7000308, 7000311)  
(325 CFM Max)

MODEL 300								
7000301	12	40,000	325	8.9	7.7 x 17.4 x 9.4" (196 x 442 x 239mm)	5/8" (16mm)	Rear Left	28.3
7000302	12	40,000	325	8.9	7.7 x 17.4 x 9.4" (196 x 442 x 239mm)	5/8" (16mm)	Left *	28.3
7000303	12	40,000	325	8.9	7.7 x 17.4 x 9.4" (196 x 442 x 239mm)	5/8" (16mm)	Right	28.3
7000305	12	40,000	325	8.9	7.7 x 17.4 x 9.4" (196 x 442 x 239mm)	3/4" (19mm)	Left *	28.3
7000306	12	40,000	325	8.9	7.7 x 17.4 x 9.4" (196 x 442 x 239mm)	3/4" (19mm)	Right	28.3
7000308	24	40,000	325	4.5	7.7 x 17.4 x 9.4" (196 x 442 x 239mm)	5/8" (16mm)	Left *	28.3
7000309	24	40,000	325	4.5	7.7 x 17.4 x 9.4" (196 x 442 x 239mm)	5/8" (16mm)	Right	28.3
7000311	24	40,000	325	4.5	7.7 x 17.4 x 9.4" (196 x 442 x 239mm)	3/4" (19mm)	Left *	28.3



**Model 400**  
(130 CFM Max)

MODEL 400								
7000401	12	13,500	130	4.3	3.1 x 13.0 x 9.0" (79 x 331 x 229mm)	5/8" (16mm)	Bottom	10.4
7000403	24	13,500	130	2.2	3.1 x 13.0 x 9.0" (79 x 331 x 229mm)	5/8" (16mm)	Bottom	10.4



**Model 500**  
(7000502, 7000504, 7000506, 7000508)  
(150 CFM Max)

MODEL 500								
7000501	12	17,500	150	4.4	7.6 x 8.5 x 4.3" (193 x 216 x 109mm)	5/8" (16mm)	Bottom Rt.	7.4
7000502	12	17,500	150	4.4	7.6 x 8.5 x 4.3" (193 x 216 x 109mm)	5/8" (16mm)	Rear Right *	7.4
7000503	12	17,500	150	4.4	7.6 x 8.5 x 4.3" (193 x 216 x 109mm)	3/4" (19mm)	Bottom Rt.	7.4
7000504	12	17,500	150	4.4	7.6 x 8.5 x 4.3" (193 x 216 x 109mm)	3/4" (19mm)	Rear Right *	7.4
7000505	24	17,500	150	2.2	7.6 x 8.5 x 4.3" (193 x 216 x 109mm)	5/8" (16mm)	Bottom Rt.	7.4
7000506	24	17,500	150	2.2	7.6 x 8.5 x 4.3" (193 x 216 x 109mm)	5/8" (16mm)	Rear Right *	7.4
7000508	24	17,500	150	2.2	7.6 x 8.5 x 4.3" (193 x 216 x 109mm)	3/4" (19mm)	Rear Right *	7.4

# CAB & CARGO HEATERS

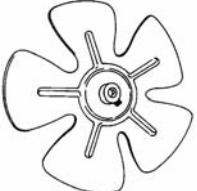
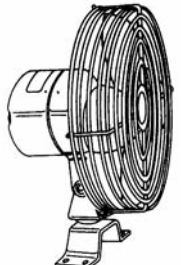
## Cab & Cargo Heater Replacement Parts

PART NO.	SAME AS:	FOR USE IN MODEL NO.S	DESCRIPTION
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### INSTALLATION KIT

7100001	—	—	Installation Kit (includes on/off switch, electrical terminals)
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### FAN BLADES & DEFROSTER FAN

7100002	—	100, 300, 400, 500	7" (17.6cm) Fan Blade	
7100003	—	200	8" (20.1cm) Fan Blade	
7100025	—	Model 7009001	6" (15.5cm) Fan Blade	
7602855	—		12 Volt - Defroster Fan - 2 Speed	
7602891	—		24 Volt - Defroster Fan - 2 Speed	
7670036	—		Replacement 2-Speed Switch	
7675755	—		Replacement Front Fan Guard	
7675771	—		Replacement Rear Fan Guard	

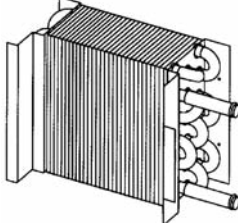
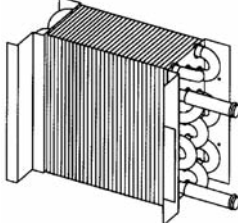
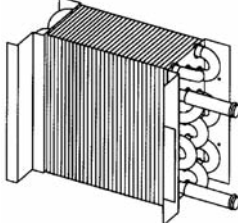
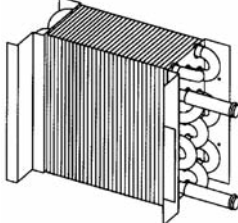
### MOTORS

7100004	—	100, 300, 400, 500, and 7009001	12-Volt Motor (short)	
7100005	—	200	12-Volt Motor (long)	
7100006	—	100, 300, 400, 500	24-Volt Motor (short)	
7100007	—	200	24-Volt Motor (long)	

Note: 12/24 Volt Motor SHORT — Shaft Size .3122" x 1.44"

Note: 12/24 Volt Motor LONG — Shaft Size .3122" x 1.88"

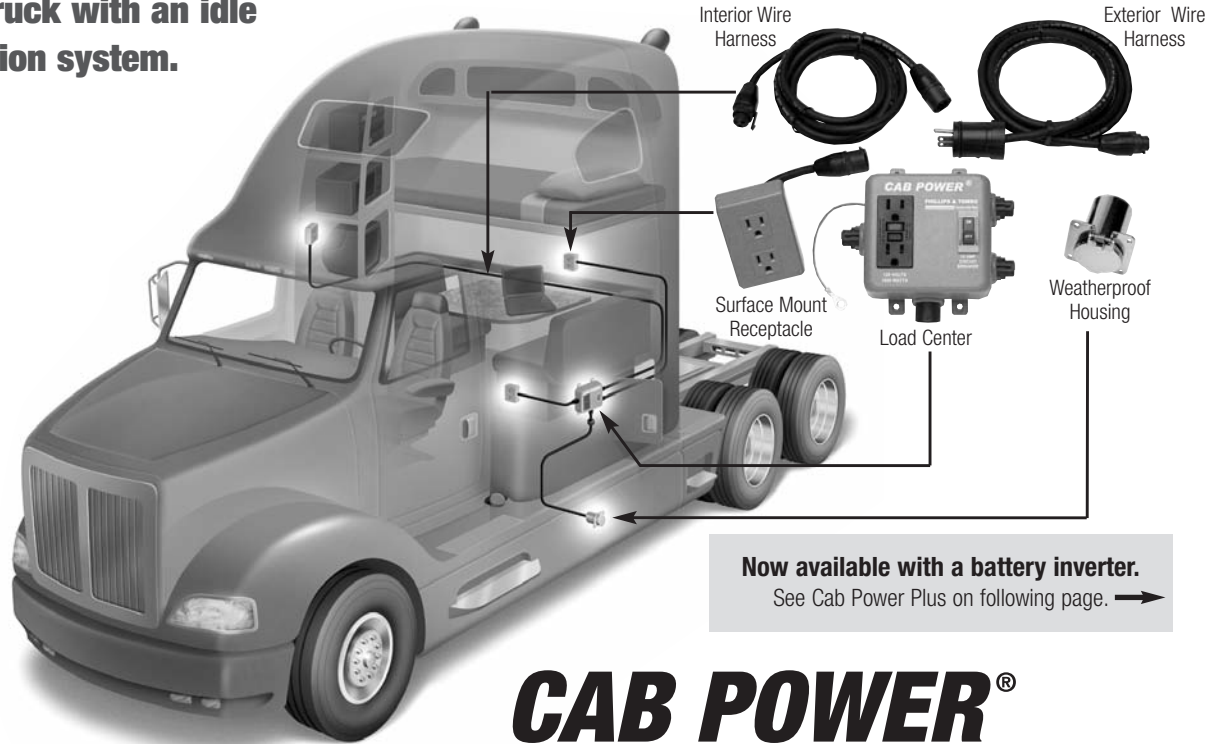
### HEAT EXCHANGERS

7100022	Model 100 Heat Exchanger (3/4" R top)	
7100023	Model 100 Heat Exchanger (5/8" R top)	
7100012	Model 200 Heat Exchanger (3/4" side)	
7100013	Model 200 Heat Exchanger (5/8" side)	
7100014	Model 200 Heat Exchanger (3/4" rear)	
7100015	Model 200 Heat Exchanger (5/8" rear)	
7100016	Model 300 Heat Exchanger (3/4" side)	
7100017	Model 300 Heat Exchanger (5/8" side)	
7100020	Model 400 Heat Exchanger (3/4" bottom)	
7100021	Model 400 Heat Exchanger (5/8" bottom)	
7100008	Model 500 Heat Exchanger (3/4" bottom)	
7100009	Model 500 Heat Exchanger (3/4" rear)	
7100010	Model 500 Heat Exchanger (5/8" bottom)	
7100011	Model 500 Heat Exchanger (5/8" rear)	

# Reduce Idling Increase Cab Comfort & Convenience

Ask for the **Cab Power®** brand when spec'ing your truck with an idle reduction system.

**PART #: 8500633 - BASIC KIT**



Now available with a battery inverter.  
See Cab Power Plus on following page. →

## **CAB POWER®** Long-haul Trucking Convenience Products

**THE CAB POWER® SYSTEM** is a series of pre-wired, modular components for cabs and sleepers of over-the-road trucks and service vehicles. The system allows for “living room” electrical convenience without the need to keep the truck engine idling by distributing power from APU's, inverters and land based electrical grids (Shore Power).

### **Features and Benefits:**

- Accommodates standard household appliances and office equipment.
- Eliminates engine idling for electrical power generation reducing air and noise pollution.
- Idling reduction results in fuel cost savings and less engine wear.
- Quick and simple installation (less than two hours).
- Adaptable, modular design features quick connect wires, and unique mounting system.
- Easy to customize to all truck makes. Harnesses can be routed to fit all interior cab configurations.
- System components are weatherproof, durable, and resistant to adverse over-the-road trucking conditions.
- Can be factory installed or added as an aftermarket enhancement..

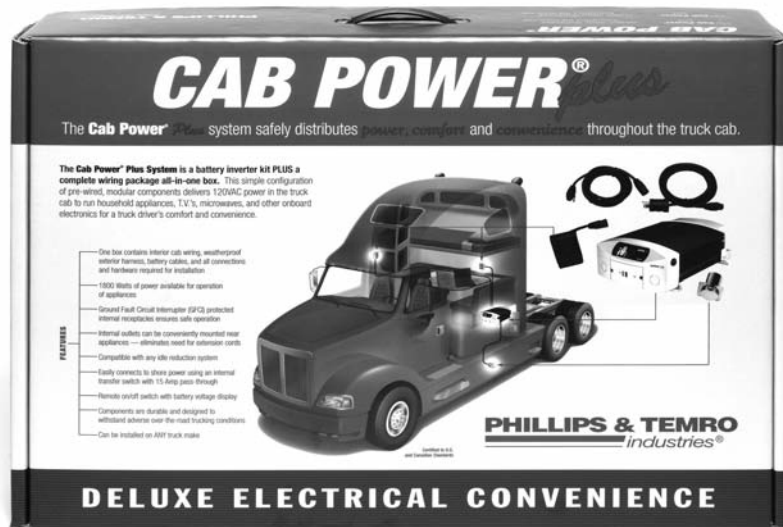
### **CAB POWER ACCESSORIES**

PART NO.	DESCRIPTION
8500634	Surface Mount Outlet/Receptacle
8500635	Flush Mount Outlet/Receptacle
8500637	Weatherproof Housing w/Cab Power Insignia
8500640	85" Exterior Wire Harness (to housing)
8500641	54" Interior Wire Harness (to outlet)
8500638	96" Interior Wire Harness (to outlet)
8500639	163" Interior Wire Harness (to outlet)
8606048	Mounting Bracket For Weatherproof Housing
8500642	Inverter Outlet Extension Cord, 54"
8500643	Inverter Outlet Extension Cord, 96"
8500644	Inverter Outlet Extension Cord, 163"
8500647	Inverter, Panel-Mount Connector Kit (AC-in + AC-out)

\* NOTE: Load center not available individually.

# CAB POWER® Plus KIT 8500652

## Cab Power Plus Kit with Battery Inverter



### 8500652: Cab Power Plus 1800W Inverter and Wiring Kit includes:

- 8500640 Cable - AC IN 85"
- 8500639 Cable - Interior Cab Power 163"
- 8500658 1800W Inverter - Cab Power Ready (with connectors)
- 8500634 Surface Mount Interior Outlet, Duplex GFCI
- 8500637 Weatherproof Housing w/Cab Power Insignia
- Installation instructions



**Complete 12 Volt DC to 120 Volt AC battery inverter kit & wiring all in one package.**

### Cab Power Plus 1800W Inverter, Wiring Components & Accessories

(Kit includes the parts below marked with an (\*) asterisk):

#### Includes:

- \* 8500640 Cable - AC IN 85"
- \* 8500639 Cable - Interior Cab Power 163"
- 8500638 Cable - Exterior Cab Power 96"
- 8500653 Negative Battery Cable 114"
- 8500654 Positive Battery Cable 90"
- 8500655 Positive Battery Cable 20"
- 8500656 Chassis Ground Cable 114"
- 8500657 Y-Splice Cable
- 8500659 Fuse Holder
- 8500660 200A Fuse
- \* 8500658 1800W Inverter - Cab Power Ready (with connectors)
- \* 8500634 Surface Mount Interior Outlet
- \* 8500637 Weatherproof Housing w/Cab Power Insignia
- Extension telephone cord
- Fastener kit
- Installations instructions

### 1800 Watt Inverter Specifications

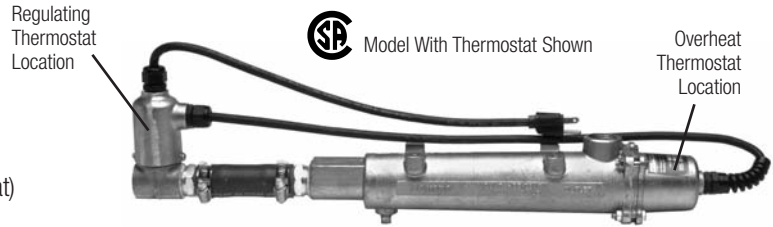
Maximum continuous power	1800W
Surge rating	3600W
Output current (continuous)	15A
Output voltage (at no load)	115V +/- 10V
Output frequency	60 Hz +/- 1Hz
Output waveform	Modified sine wave
Peak efficiency	88%
No load power draw	<6W
Power draw in standby mode	<2W
Input operating voltage range	11.0 - 15.5 VDC
Transfer time	40 milliseconds
Fuse reset	15A breaker
Operating temperature range	0°C - 40°C
Storage temperature range	-20°C - 60°C
AC receptacles	2
Dimensions (H x W x D)	4 x 8.25 x 15.5 inches (103x211x393 mm)
Weight (lbs)	11



## HIGH WATTAGE heavy duty engine pre-heater for use on industrial applications and big bore engines (14L+). *Our most powerful engine heater!*

### All Circulation Heaters feature:

- Low Watt-Density (replaceable) heating elements (60-105 w/inch<sup>2</sup>) for long life
- 205°F (96°C) overheat thermostat
- NRTL/C approval (complies with UL/CSA)
- Thermally isolated regulating thermostat (models with t-stat)
- Four-bolt flange for easy element replacement
- 14 gauge SJOW cord (16 in. length - 40.6cm) is abrasion, oil, and grease resistant
- Nylon check valve
- Premium grade tin-plated phosphor bronze blade connections
- 1 inch NPT inlet and outlet
- 1/4 inch NPT drain
- 3° tapered, permanent-mold aluminum housing
- High capacity circulation heater w/indicator light available on page 78



Mounting space requirements (including thermostat):  
27.5" (69.8cm) length x 3" (7.6cm) width x 6.5" (16.5cm) height.

REPLACEABLE THERMOSTATS	THERMOSTAT RANGES
3300094	Range A: 80°F ON - 100°F OFF (27°C ON - 38°C OFF)
3300095	Range B: 100°F ON - 120°F OFF (38°C ON - 49°C OFF)
3300096	Range C: 120°F ON - 140°F OFF (49°C ON - 60°C OFF)

### High-Capacity Circulation Heaters - Complete kits, Ready to install

- Furnished with cord & molded plug (4000w Model features detachable plug)

HIGH WATTAGE BASIC HEATER	HEATER WITH THERMOSTAT RANGE A	HEATER WITH THERMOSTAT RANGE B	HEATER WITH THERMOSTAT RANGE C	WATTS	VOLTS	AMPS	REPLACEMENT ELEMENT	PLUG CONFIGURATION
3300001	3300011	3300021	3300031	1500	120	12.5		(A)
3300002	3300012	3300022	3300032	2000	120	16.7		(C)
3300005	3300015	3300025	3300035	2250	120	18.8		(C)
—	—	—	—	2250	240	9.4		(B)
3300007	—	—	3300037	2500	240	10.4		(B)
—	3300018	—	—	3000	240	12.5		(B)
—	—	—	3300039	3500	240	14.6		(B)
—	—	3300030	—	4000	240	16.6	3300060	(D)

- (A) Furnished with standard 120V male plug.
- (B) Furnished with standard 240V male plug.
- (C) Furnished with high-current 120V male plug. 20 Amp electrical service required.
- (D) Plug not attached. High-current 240V detachable male plug is provided. 20 Amp electrical service required.

PLUG CONFIGURATIONS	(A)	(B)	(C)	(D)
	125 Volt 15 Amp	240 Volt 15 Amp	125 Volt 20 Amp	240 Volt 20 Amp
Standard Plug				
Weatherproof Plug				

### A Note About Extension Cord Selection and Usage:

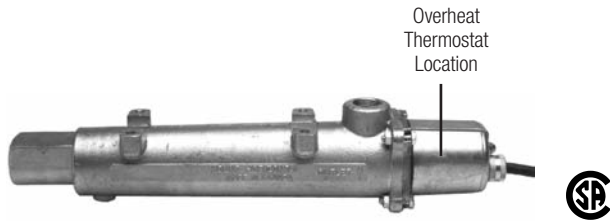
When using an extension cord with one or more heating devices, it is important that the TOTAL current draw of all devices not exceed the capacity of the extension cord or the AC circuit. Use only 3-wire GROUNDED extension cords. Ground Fault Interrupter (GFI) service is also recommended. See page 88 for more information on proper cord length and gauge.

**NOTE:** All circulation heaters on pages 71-73 are equipped with different male plugs depending on the wattage and voltage requirements of the heater. This diagram shows the plug configuration for the three wattage/voltage combinations that are used. Vehicles with heater hose connected to radiator cannot use circulation type heaters.

# CIRCULATION HEATERS

## BASIC HEATERS—for custom installations

Heaters not furnished with regulating thermostat. Power cord is unfinished (not supplied with plug).



Mounting space requirements:  
22.5 in. (57.1cm) length x 3 in. (7.6cm) width x 4.5 in. (11.4cm) height.

BASIC HEATER	WATTAGE	VOLTAGE	AMPS	REPLACEMENT ELEMENT
3300041	1500	120	12.5	3300051
3300042	2000	120	16.7	3300052
3300045	2250	120	18.8	3300055



Complete Unit Shown

### Optional Thermostat (for use with basic heater only)

PART NO.	OPERATING RANGE
3300061	80°F ON - 100°F OFF (27°C ON - 38°C OFF)
3300062	100°F ON - 120°F OFF (38°C ON - 49°C OFF)
3300063	120°F ON - 140°F OFF (49°C ON - 60°C OFF)



## Industrial Tank Heater - Series 41

- Thermostatically protected: opens at 190°F (88°C), closes at 151°F (66°C)
- Vertical installation only
- Heavy Duty 3-wire 5 ft. (1.52m) attached cord, 2000W heater has 22" attached cord.
- 5/8" inlet and outlet
- Dimensions: 2-3/4" x 8-1/2" (7cm x 21.6cm)
- Replaceable element and thermostat

### Series 41 Heaters & Replacement Parts

HEATER	WATTAGE	VOLTAGE	ELEMENT	THERMOSTAT
2204010	750	120	2204061	2204266
2204029	1000	120	2204088	2204266
2204037	1500	120	2204096	2204266
3300091	2000	120	3300093	2204266
*	1000	240	—	2204266
*	1500	240	2204126	2204266

\* Replacement element and thermostat only.



## CIRCULATION HEATERS Series 8000 Tank/Circulation Engine Heaters

### Light-duty, off road, industrial and agricultural applications.

- Cylindrical design of heater and universal mounting strap allow for convenient, new or retrofit applications.
- Integral check valve supports extensive range of plumbing configurations.
- New top-side location of power cord connection provides damage protection from road debris and chemicals.
- Rugged diecast aluminum construction is corrosion and impact resistant.
- New detachable power cord enhances ease of installation.
- Copper heating element provides excellent heat transfer.
- Temperature sensing thermostat provides overheat protection.

PART NO.	WATTS	VOLTAGE	HOSE CONNECTION DIAMETER
3308001	750	120	5/8"
3308002	1000	120	5/8"
3308003	1500	120	5/8"

NOTE: Use Series 41 Heater for 2000 Watt Applications.



Replacement Cord - Part No. 3309001 - 18"  
Part No. 3309002 - 60"

# CIRCULATION HEATERS

**INDUSTRIAL TANK/CIRCULATION ENGINE HEATER** offers dependable engine starts in all temperatures. By circulating warmed coolant through an engine, it assures a quick start, reduces time to reach operating speed and enhances immediate full-load acceptance. Primarily used in genset applications.

- Rugged diecast aluminum construction is corrosion and impact resistant
- Low watt density copper heating element provides optimum performance
- Temperature sensing thermostat provides overheat protection. Regulating thermostats included in three heat ranges
- Temperature and oil resistant, permanently connected 5 ft. (1.52m) power cord with strain relief is flame retardant
- Water resistant terminal end cap protects against harsh chemicals
- Unique mounting system protects against road vibration
- Lead-free heater utilizes recyclable aluminum, plastic and copper to help protect the environment



## Heavy-Duty Industrial Series Heaters

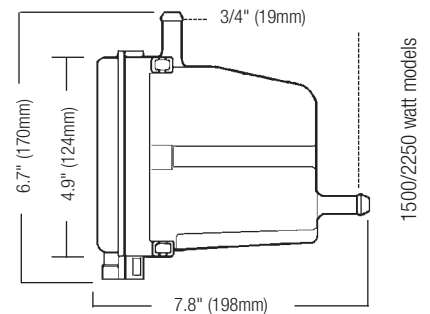
REGULATING THERMOSTAT RANGE						
ON/OFF 60°/80°F (10°/27°C)	ON/OFF 80°/100°F (27°/38°C)	ON/OFF 100°/120°F (38°/49°C)	MALE PLUG	VOLTS	AMPS	INLET/OUTLET SIZE
<i>Heavy Duty/Industrial Series, Small Body Tank - 750 Watt</i>						
3305028	3305032	3305036	Yes (A)	120	6.3	5/8"
—	3305034		No	240	3.1	5/8"
<i>Heavy Duty/Industrial Series, Small Body Tank - 1000 Watt</i>						
3305040	3305044	3305048	Yes (A)	120	8.3	5/8"
<i>Heavy Duty/Industrial Series, Large Body Tank - 1500 Watt</i>						
3305052	3305056	3305060	Yes (A)	120	12.5	3/4"
—	3305058	3305062	No	240	6.3	3/4"
<i>Heavy Duty/Industrial Series, Large Body Tank - 2250 Watt</i>						
3305064	3305068	3305072	No	120	18.8	3/4"
—	3305070	—	No	240	9.4	3/4"

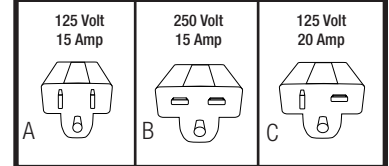
PART NUMBER	WATTAGE	MALE PLUG	VOLTS	AMPS	INLET/OUTLET SIZE	TANK SIZE
3305004	2250	Yes (C)	120	18.8*	3/4"	Large Body

NOTE: 3305004 does not include regulating thermostat

## Dimensions



## PLUG CONFIGURATIONS



For additional product information, refer to Circulation Data Sheet #LIT0311196.

The small size of some engine compartments, especially vehicles with transverse engines, may make circulation heater installation difficult even though it may be listed as a heating option. The following accessories are available for use with circulation heaters:



Part #3300085  
5/8" (15.8mm) x 3/4" (19mm)  
Metal "T" fitting

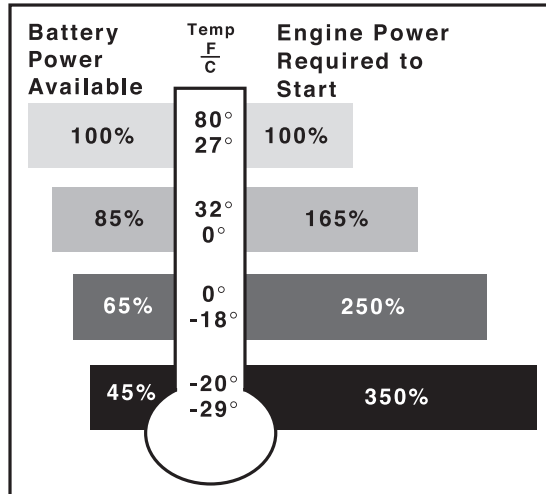


Part #3300086  
1/4" NPT (6mm)  
"A" Adapter to  
5/8" (15.8mm) hose



Part #3300090  
5/8" (15.8 mm) x 3/4" (19mm)  
Plastic "Y" fitting

# BATTERY HEATERS



At 20° below zero, your battery (with less than half the normal available power) must start an engine that requires 350% more starting power.

## Two types of battery heaters boost battery power as much as 75%

### Blanket Style Battery Heaters

- 120 Volt AC operation
- Blanket style heater warms battery core to 60° - 70° above ambient temperature for quick starts
- Thinsulate™ thermal insulation helps maintain battery temperature in warm or cold weather
- Complete with 30 inch (76cm) grounded cord
- All battery blanket heaters are 5 in. (12.7cm) tall, 1/2 in. (1.1cm) thick

PART NO.	LENGTH	WATTAGE	BATTERY SIZE
2800055	28" (71cm)	50	Series 26, 26R, 70
2800063	36" (91.5cm)	80	Series 24, 24F, 27, 27F, 74
2800071	72" (183 cm)	160	Truck batteries. Series-parallel systems.

™Thinsulate is a registered trademark of 3M corporation.



### Battery Box Heater

- 200 Watt - 120 Volt AC or 240 Volt AC model available
- Preset thermostat maintains 80°F (27°C) battery warmth for quick starts
- Complete with 8 ft. (2.4m) grounded cord
- Dimensions: 9" (22.8cm) Length x 6" (15.1cm) Width x 3/4" (1.8cm) Height

*Note: This product not available in Canada (CSA approved model not available)*



Part No. 8500320 (120V)  
Part No. 8500339 (240V)

**CAUTION: Battery heaters are not recommended for nickel cadmium batteries.**

## Freeze Plug Replacement Cordsets

If you cannot locate a replacement freeze plug cordset part number from the application section of this publication, try matching the old cordset to the photos below to identify the correct replacement cordset.



FIG	PART NO.	LENGTH	DESCRIPTION
A	3600001	5 ft. (1.52m)	Silicone cord w/right angle connector
A	3600002	5 ft. (1.52m)	Radiant heater replacement cord
C	3600003	5 ft. (1.52m)	Silicone cord with straight connector
H	3600004	5 ft. (1.52m)	Silicone cord with right angle connector (brass and aluminum heaters)
D	3600005	5 ft. (1.52m)	Silicone cord with straight connector
E	3600006	5 ft. (1.52m)	Silicone cord with 90° connector (steel heaters)
F	3600007	5 ft. (1.52m)	Reverse freeze plug cord
B	3600010	7.5 ft. (2.29m)	Silicone cord
G	3600016	6 ft. (1.83m)	Silicone cord with 90° connector
B	3600019	3 ft. (.9 m)	Replacement cord
E	3600021	94 in. (2.4m)	Silicone cord with 90° connector
E	3600036	1 ft. (30.3cm)	Replacement cordset with silicone connectors (steel heaters)
H	3600022	1 ft. (30.3cm)	Replacement cordset with silicone connector (brass and aluminum heaters)
A	3600023	1 ft. (30.3cm)	Replacement cordset with silicone connector (brass and aluminum heaters)
I	3600080	5 ft. (1.52m)	Pyroil Replacement Cordset with silicone connector (use with all Pyroil Freeze plug heaters)
J	3600082	5 ft. (1.52m)	GM Replacement Cordset with thermostat
J	3600083	5 ft. (1.52m)	GM Replacement Cordset with silicone connector, treaded nut (No t-stat)
J	3600100	5 ft. (1.52m)	GM Replacement Cordset with silicone connector (No t-stat)

**NOTE:** 3600082 must be used in all 2006 and newer GM passenger cars to avoid a Check Engine Light.

## Heavy-Duty Immersion Heater Replacement Cordsets

Most "860" & "350" series heaters will use the following standard replacement cordsets: Most 120 Volt heaters ship with cord #3600008. Most 240 Volt heaters ship with #8608377.



PART NO.	DESCRIPTION	VOLTAGE	LENGTH	GA.
3600008	Heavy duty replacement cord	120	6 ft. (1.8m)	16
8608377	Heavy duty replacement cord	<b>240</b>	6 ft. (1.8m)	16
3600048	Hi-temp silicone repl. cord	120	6 ft. (1.8m)	16
3600015	Heavy duty replacement cord	120	5 ft. (1.5m)	16
3600024	Heavy duty replacement cord	120	1 ft. (30.1cm)	16
3600085	Hi-temp replacement cord - Volvo	120	6 ft. (1.8m)	14
3600086	Hi-temp replacement cord - Volvo	<b>240</b>	6 ft. (1.8m)	14

## Accessories

Also see "Y-Cord" thermostat kits - page 77

### Part No. 3600012 - Plug Protector

- Prevents freeze up - keeps moisture out
- Keeps plug contacts clean for optimum power and safety



### Part No. 3600018

**Low-profile, 2 piece, Through-The-Grille Cordset**  
**Avoid ugly plugs hanging from the grille**

- Prevents plug from being visible
- Fits all vehicles
- 1500 Watt rating - 120 Volt AC
- Required for routing through narrow grille openings (1/3" x 1" [7, 62mm x 25, 4mm] minimum clearance)
- Cord length: 6 ft. (1.8m)



### Part No. 3600040

**3-Way Connector**

- Use multiple cold weather products with one common cord
- 14 gauge 3-wire grounded cord
- Cord length: 23 in. (59cm)

*Note: This product not available in Canada (CSA approved model not available)*

### Part No. 3600045 - Cord Holder



Narrow plug provides easy installation in tight grille areas

# CORDSETS & ACCESSORIES

## Weatherproof Receptacles



- One-piece molded cordset with labor-saving QuickConnect™ receptacles
- Molded connector end snaps into receptacle housing, screws into heater - forming a positive weatherproof seal at both ends
- Round and square weatherproof housings available
- Receptacle enhances vehicle appearance - eliminating messy cords
- Field-wired model allows for custom installations
- Most models CSA approved except 3600041
- Housing dimensions: 2.5" (6.2cm) x 2.5" (6.2cm), mounting hole required: 1-5/8" (4.1cm)



\*240V/15A

## Weatherproof Cordsets & Accessories

Also see page 79 for NEW indicator light weatherproof cordset system.

FIG	PART NO.	DESCRIPTION	VOLTAGE	CORD LENGTH	WIRE GAUGE	RECEPTACLE SPECIFICATIONS
A	3600046	Weatherproof Cordset with frost plug connector	120	6 ft. (1.8m)	18	—
B	8605688	Weatherproof Field-wired receptacle—chrome plated	120	—	—	4-hole square
C	8605505	Weatherproof Field-wired receptacle—zinc plated	120	—	—	3-hole round
D	8605645	Replacement rubber boot for WP receptacle	—	—	—	—
E	8605254	Replacement male plug for WP receptacle kit	120	—	—	—
F	8606005	WP Silicone Cordset & chrome plated receptacle	120	6 ft. (1.8m)	16	4-hole square
F	8606013	WP Silicone Cordset & chrome plated receptacle	120	10 ft. (3.1m)	16	4-hole square
G	8606048	Mounting bracket—chrome plated	—	—	—	2 & 4 hole square
H	8606080	Receptacle only—chrome plated	—	—	—	4-hole square
N	3600088	Receptacle only—black	—	—	—	4-hole square
I	3600028	Weatherproof Cordset with Receptacle	120	8 ft. (2.4m)	16	2-hole square
I	3600014	Weatherproof Cordset with Receptacle	120	12 ft. (3.6m)	16	2-hole square
J	8608652	Weatherproof Cordset with Silicone connector	120	7 ft. (2.2m)	14	—
J	8605122	Weatherproof Cordset with Silicone connector	240*	7 ft. (2.2m)	14	—
J	8608814	Weatherproof Cordset with Silicone connector	120	10 ft. (3.1m)	14	—
J	8608849	Weatherproof Cordset with Silicone connector	120	5.5 ft. (1.7m)	14	—
J	8608857	Weatherproof Cordset with Silicone connector	120	12 ft. (3.6m)	14	—
J	8608865	Weatherproof Cordset with Silicone connector	120	14 ft. (4.3m)	14	—
K	8602891	Weatherproof Cordset & zinc-plated receptacle	120	6 ft. (1.8m)	16	3-hole round
K	8602921	Weatherproof Cordset & zinc-plated receptacle	240*	6 ft. (1.8m)	16	3-hole round
K	8602948	Weatherproof Cordset & zinc-plated receptacle	120	10 ft. (3m)	16	3-hole round
L	3600041	3-way connector w/chrome plated receptacle ( <i>not CSA approved</i> )	120	5 ft. (1.5m)	14	4-hole square
	8608032	Square receptacle				2-hole w/gasket
	8605149	Square receptacle only				2-hole w/o gasket
	3600056	Round receptacle				3-hole w/gasket
C	8605513	Weatherproof field-wired receptacle - zinc plated	240*			3-hole round
M	8606056	Mounting bracket				3-hole round



Fig A



Fig B



Fig C



Fig D



Fig E



Fig F



Fig G



Fig H



Fig I



Fig J



Fig K



Fig L



Fig M



Fig N

*Now offering more thermostat models for increased application coverage.*

## Thermostatically Controlled Engine Immersion Heater Systems

- Saves money by reducing engine heater operating hours
- For new installations or replacement use
- For more economy use lower thermostat temperature settings



## Parallel Weatherproof “Y” Cord Assemblies (for use with weatherproof housing)

Use **PARALLEL** Y-cords with two heaters.

FIG	PART NO.	DESCRIPTION	VOLTS	LENGTH	GA.	CHARACTERISTICS
B	8607311	Weatherproof Y-Cord Parallel	120	7/9 ft.	14	Includes 4-hole receptacle
C	8607990	Weatherproof Y-Cord Parallel	120	7/7 ft.	14	Two 7' (2.1m) lengths
C	8608059	Weatherproof Y-Cord Parallel	120	7/10 ft.	14	One 7' (2.1m) One 10' (3m)
C	8608423	Weatherproof Y-Cord Parallel	120	14/14 ft.	14	Two 14' (4.3m) lengths
D	8608768	Weatherproof Y-Cord Parallel with AC outlet	120	1/7 ft.	14	One 12" (30cm) (AC) One 7'
D	8608792	Weatherproof Y-Cord Parallel with AC outlet	120	1/10 ft.	14	One 12" (30cm) (AC) One 10'

## Series Y-Cords & Thermostats - See page 80 for engine applications chart

Use **SERIES** Y-cords with one thermostat and one heater.

FIG	PART NO.	DESCRIPTION	VOLTS	LENGTH	GA.	CHARACTERISTICS
C	3600064	Series Weatherproof Y-Cord	120	6/6 ft. (1.8m)	16	Two 6 ft. (1.8m) lengths — Flat Wire
C	3600089	Series Weatherproof Y-Cord	120	8.5 ft. (2.6m) / 14 ft. (4.3m)	14	One 8.5 ft. (2.6m) & one 14 ft. (4.3m) lengths
F	3600065	Series Y-Cord (standard plug)	120	6/6 ft. (1.8m)	16	Two 6 ft. (1.8m) lengths
G	3600081	#8 STOR thermostat only				40°F ON/55°F OFF
A	3600057	1/2" NPT thermostat only				100°F ON/120°F OFF
A	3600058	1/2" NPT thermostat only				55°F ON/75°F OFF
A	3600066	3/4" NPT thermostat Only				40°F ON/55°F OFF
A	3600068	1/2" NPT thermostat Only				40°F ON/55°F OFF
A	3600073	M22 x 1.5 thermostat only				40°F ON/55°F OFF
E	8604037	Series Y-Cord with thermostat	240	6/6 ft. (1.8m)	16	100°F ON/120°F OFF
—	3600087	M27 thermostat only				40° ON/55°F OFF
—	3600054	Series Y-Cord with thermostat, weatherproof housing & dual indicator light	120	6 ft. (1.6m) / 6 ft. (1.6m)	16	100°F ON/120°F OFF



Fig A



Fig B



Fig C



Fig D



Fig E



Fig F



Fig G

## CORDSETS & ACCESSORIES

### THERMOSTAT APPLICATION CHART

ENGINE	PART NO.	DESCRIPTION
<b>CATERPILLAR</b>		
3406E	3600066	3/4" NPT
C9	3600081	#8 STOR
C11 & C13	3600081	#8 STOR
C15 & C16	3600081	#8 STOR
<b>CUMMINS</b>		
ISB	3600066	3/4" NPT
ISC	3600066	3/4" NPT
ISM	3600068	1/2" NPT
ISX	3600087	M27
<b>DETROIT DIESEL</b>		
Series-60	3600066	3/4" NPT
DD13, DD15, DD16	3600087	M27
<b>INTERNATIONAL</b>		
DT-466 (Non-EGR 1998-2005)	3600068	1/2" NPT
DT 5 & 7	3600087	M27
DT 11 & 13	3600087	M27
<b>MACK</b>		
E-Tech	3600068	1/2" NPT
<b>PACCAR</b>		
PX-6	3600066	3/4" NPT
PX-8	3600066	3/4" NPT



**ENGINE IMMERSION HEATER LED INDICATOR LIGHT SYSTEM **

**Specially designed wire harness with two-light system allows operators or fleet personnel to quickly determine both power availability and heater operation.**

- Indicator lights visible up to 150 ft. (50m)!
- 120 Volt - 15 Amp rating
- Minimum wattage required is 150W
- Chrome plated, four-hole mount square flanged weatherproof receptacle with gasket
- Mounting plate dimensions: 3.56" (90mm) (W) x 2.56" (65mm) (H)

Also see page 76 for standard weatherproof cordsets and accessories.



**Standard Kit**

(Includes weatherproof housing and cord)

PART NO.	CORD LENGTH
3600049	6 ft. (1830mm)
3600051	12 ft. (3660mm)

Upper LED light illuminating (red) indicates the presence of AC voltage, providing instant visual proof of connections

Lower LED light illuminating (red) indicates current flowing through heater (heater operating)



**Weatherproof Series Y-Cord for Thermostat Option**

PART NO.	CORD LENGTH
3600079	Weatherproof Series Y-Cord Only, 72"x72"
3600090	Weatherproof Series Y-Cord Only, 55"x110"
3600091	Weatherproof Series Y-Cord Only, 100"x168"
3600097	Weatherproof Series Y-Cord Only, 168"x168"

See page 79 for Indicator Light information

PART NO.	DESCRIPTION
3600098	Single Indicator Light (Harness Only) (7.8 ft / 2.4m)
3600099	Single Indicator Light (Harness) with Weatherproof Housing (7.8 ft / 2.4m)



**Indicator Light Kit**

PART NO.	DESCRIPTION
3600061	Dual Heater Sensing Indicator Light Kit 84" x 120", 120V, Parallel Y-Cord



**Indicator Replacement Parts**

PART NO.	DESCRIPTION
3600060	Chrome Replacement Indicator Light Plate, 120V
3600077	Black Replacement Indicator Light Plate
3600062	Indicator Light System Cord, 6 ft.
3600078	Indicator Light System Cord, 12 ft.
3600067	Replacement LED Light
8606080	Receptacle only, chrome plated (4-hole)

## INTEGRATED INDICATOR LIGHT

# DON'T GET LEFT OUT IN THE COLD

Eliminate no starts with an Integrated Indicator Light for your Engine Block Heater  
 Confirm engine block heater operation at a glance and ensure cold weather starts with Phillips & Temro's Integrated Indicator Light.



When the bright red LED light is on, it indicates that:

- Utility power is functional
- Your block heater is operating

3600098: Harness

3600099: Harness and Receptacle

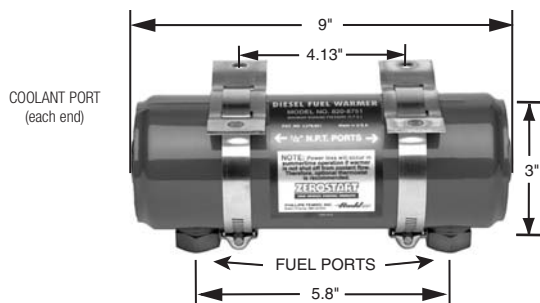
3600101: Receptacle and Indicator Light

## DIESEL FUEL HEATERS

Lower operating costs by using #2 fuel all year

- Transfers heat from engine coolant to the fuel just before the fuel filter for maximum efficiency
- Eliminates clogged fuel filters when temperatures are below 10°F (-12°C)
- Exclusive stainless steel construction with no internal welds prevents coolant from leaking into fuel
- Minimal pressure drop
- Can be used as a heat exchanger in some hydraulic applications
- Port size: 1/2 - 14 NPT (Heavy-Duty)

Heavy Duty Model  
 Part No. 8208751



### Specifications

Pressure Drop .....	less than 0.05 psi
Maximum operating pressure .....	75 psi
Maximum operating temperature .....	350°F (177°C)
Test pressure .....	100 psi
Weight (without bracket) .....	2 lbs. (907g)

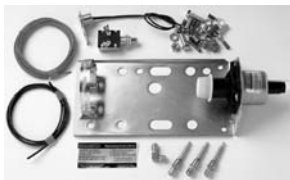
INLET FUEL TEMP. °F/°C	TEMPERATURE RISE OUTLET FUEL TEMP		
	FUEL FLOW RATE		
	2-1/2 GPM	1-1/2 GPM	1/2 GPM
-30/-34	+32/0	+38/3	+52/11
-10/-23	+39/4	+45/7	+55/13
+10/-12	+47/8	+53/12	+59/15
+30/-1	+60/16	+62/17	+67/19
+50/10	+71/22	+74/23	+77/25
+70/21	+85/29	+87/31	+88/31

Based on a 140°F (60°C) coolant temperature.

## DIESEL STARTING FLUID SYSTEMS

- Pre-heats combustion chamber in diesel engines for quick starts
- Measured/metered shot system limits the amount of starting fluid that can enter an engine—provides for optimum starting with less chance of waste or engine damage
- Convenient, one person operation
- Economical—about 16¢ per start
- High pressure replacement cylinders meet D.O.T. standards
- Available in 12 and 24 volt electrical and mechanically operated models
- Uses standard 1 inch cylinders

**NOTE: Diesel Starting Fluid Systems are NOT for use with engines equipped with glow plug or flame thrower systems, or engines equipped with intake air heater.**



### **E-Z Stock, E-Z Mount Electrical Kit (12 Volt) - Part No. 8203237**

One part number covers most class 7 and 8 vehicles. Kit includes: 3 atomizers (8202966, 8202974, 8202982), switch, valve fitting, 48" nylon tube, dash decal, 16 gauge wire, valve & mounting brackets, surface-mount thermostat. Starting fluid cylinder NOT included.

Note: To change to 24V system - you need to purchase 8204020 Bracket/Valve assembly. All other components are compatible.



### **E-Z Mount Electrical Kit (12/24 Volt) (See page 82 for applications)**

Replace existing systems, or custom design your own. Kit includes: Valve & mounting bracket, switch, valve fitting, dash decal, 48" nylon tubing. Atomizer not included - see page 82.



### **Mini E-Z Mount Electrical Kit (12 Volt) - Part No. 8200001**

Provides the benefits of our full-size measured shot system in a compact design—for use with 250-500 CID applications. Includes: Mini valve with mounting bracket, pushbutton switch, valve fitting, 48" nylon tubing, dash decal. See page 82 for applications. Atomizer not included - see page 82 for information.



### **Standard Electrical Kit (12/24 Volt) (See page 82 for applications)**

Direct replacement for some factory installed systems. Kit includes: Valve, switch, cylinder clamp, valve fitting, dash decal, 48" nylon tubing. Atomizer not included - see page 82.



### **Mechanical Kit (See page 82 for applications)**

A simple, economical way to add ether injection. Kit includes: Valve, cylinder clamp, 84" control cable, valve fitting, dash decal, 48" nylon tubing. Atomizer not included - see page 82.



### **Aerosol Starting Fluid Valve (12 Volt) Part No. 5801001**

Continuous flow system for replacement of industrial and agricultural applications. Uses standard 7.5 - 8.5 oz. spray can (not included). Leak-proof seal and easy one-hand installation of starting fluid can simplify use. Kit includes ether valve and elbow connection.

# DIESEL STARTING FLUID SYSTEMS

## GENERAL APPLICATIONS (SPECIFIC ENGINES LISTED BELOW)

Engine Size	Shot Size	EZ-MOUNT ELECTRICAL		STANDARD ELECTRICAL		MECHANICAL
		12V	24V	12V	24V	
Under 250 CID (4L)	1.5 cc	8204136	N/A	8204179	N/A	N/A
250-500 CID (4-8L)	3 cc	8203938	8203946	8200106	8200165	8200211
450-950 CID (8-15.5L)	6 cc	8203954	8203962	8200157	8200238	8200270
Over 900 CID (14-7L)	12 cc	8203970	8203989	N/A	8200602	8200432

## REPLACEMENT PARTS

Engine Size	Description	EZ-MOUNT ELECTRICAL		STANDARD ELECTRICAL		MECHANICAL
		12 V	24 V	12 V	24 V	
Under 250 CID	Valve Only	N/A	N/A	8204101	N/A	N/A
250-500 CID	Valve Only	8203997	N/A	8202427	N/A	8202397
450-950 CID	Valve Only	8204012	N/A	8202435	8202478	N/A
Over 900 CID	Valve Only	8204039	N/A	8202443	N/A	8202419
	Cylinder Clamp	N/A	N/A	8202575	8202575	N/A
	Switch	8202699	8202699	8202699	8202699	N/A
	84" Control Cable	N/A	N/A	N/A	N/A	8202559
	Wirestop	N/A	N/A	N/A	N/A	8202567
	Valve fitting	8202532	8202532	8202532	8202532	8202532
	48" Nylon tube	8202540	8202540	8202540	8202540	8202540
	Dash decal	8202583	8202583	8202583	8202583	8202583

Note: All starting fluid kits, except mini-ether kits, use starting fluid cylinder #8200327 (not included). All kits, except for #8203237 require atomizer. See page 80 for atomizer information.

## ENGINE SPECIFIC APPLICATIONS

### STARTING FLUID SYSTEMS APPLICATIONS

Make & Engine Model	E-Z Stock	E-Z Mount Electrical		Standard Electrical		Mechanical	Atomizer
	E-Z Mount	12 V	24 V	12 V	24 V		
<b>CATERPILLAR</b>							
1100, 3208, 3306, others over 500 cid <sup>1</sup>	8203237	8203954	8203962	8200157	8200238	8200270	8202982
3406, 3408, 1693, D3461	8203237	8203954	8203962	8200157	8200238	8200270	8202966 <sup>1</sup>
3406B turbo <sup>1</sup>	—	8203954	8203962	8200157	8200238	8200270	8203067 <sup>1</sup>
31761	8203237	8203954	8203962	8200157	8200238	8200270	8202982 <sup>1</sup>
<b>CUMMINS</b>							
855 CID series, all turbo over 400 cid	8203237	8203954	8203962	8200157	8200238	8200270	8202982
B Series - 4 cylinder	<sup>4</sup>	8204136	—	8204179	—	—	8202931
B Series - 6 cylinder	<sup>4</sup>	8203938	8203946	8200106	8200165	8200211	8202931
C Series	—	8203954	8203962	8200157	8200238	8200270	8202931
10 Litre, 11 Litre	8203237	8203954	8203962	8200157	8200238	8200270	8202982
<b>DETROIT DIESEL</b>							
3-53, 4-53, 3-71, 4-71	<sup>4</sup>	8203938	8203946	8200106	8200165	8200211	<sup>2,3</sup>
6-71, 6V-53, 8V-53, 6V-71, 6V-92	8203237	8203954	8203962	8200157	8200238	8200270	<sup>2,3</sup>
8V-71, 8V-92	—	8203970	8203989	8200548	8200602	8200432	<sup>2,3</sup>
8.2 Litre	—	8203954	8203962	8200157	8200238	8200270	8202958
Series 60 (677 & 774 CID)	—	8203954	8203962	8200157	8200238	8200270	8202966
<b>FORD</b>							
6.6L, 7.8L	8203237	8203938	8203946	8200106	8200165	8200211	8202974
<b>INTERNATIONAL</b>							
D150 (461 CID), D170, D190	8203237	8203954	8203962	8200157	8200238	8200270	<sup>2,3</sup>
D550 (549 CID), V800 (798 CID)	8203237	8203954	8203962	8200157	8200238	8200270	<sup>2,3</sup>
817 (817 CID), 9 Litre	8203237	8203954	8203962	8200157	8200238	8200270	<sup>2,3</sup>
D, DT31—DT312, DT360, DT436, DT466	<sup>4</sup>	8203938	8203946	8200106	8200165	8200211	8202974
<b>MACK</b>							
Midliner	—	8203938	8203946	8200106	8200165	8200211	8203016
ALL 6 Cylinder	—	8203954	8203962	8200157	8200238	8200270	8202990
864, 865 & 866 V-8 series	—	8203954	8203962	8200157	8200238	8200270	8202982
<b>MERCEDES TRUCK</b>							
ALL	—	8203938	8203946	8200106	8200165	8200211	8202958
<b>PERKINS</b>							
ALL	<sup>4</sup>	8203938	8203946	8200106	8200165	8200211	8202982

If your engine is not under "Specific Applications", then choose a kit based on the engine size.

<sup>1</sup>Air-to-air aftercooled engines (ATAAC) generally will use an 8202982 atomizer installed in pipe between discharge side of aftercooler and engine manifold.

<sup>2</sup>Use 8202966 if installed in blower box or manifold.

<sup>3</sup>Use 8202982 if installed in air intake horn.

<sup>4</sup>Mini ether system (#8200001) may be used for this application.

# DIESEL STARTING FLUID SYSTEMS

## Starting Fluid System Atomizers

- Designed for most engines with 1/8" or 1/4" NPT opening
- Provides proper direction and atomization of pressurized fluid
- Sintered bronze filter maintains purity of intake air
- Spray pattern clearly marked for easy installation



Dual Atomizer Kit  
(for use with "V" engines)  
#8203091

## Atomizer Applications

PART NO. ORIFICE/SIZE	APPLICATIONS	LOCATION		SPRAY PATTERN
8203067 .018	Caterpillar 3406B Turbo	Pre-tapped hole in aftercooler		
8202931 .011	Cummins B & C Series	Pre-tapped manifold		
8202966* .018 Blue	Cummins Non-Turbo & other manifolds over 2"	Center intake manifold		
	Detroit Diesel blower box	Center blower box		
8202990 .018	Mack in-line 6	Pre-tapped hole between cylinders #5 & #6		
8203016 .013	Mack Midliner	Air intake pipe or intake manifold		
Under 500 CID 8202974* .013 Yellow	Ford 6.6/7.8L, Cummins & Perkins in-line, all Turbocharged engines	Direct ether flow against flow of incoming air		
8200003 .018	Cummins 600 Swivel Style			
8200004 .013	Cummins 600 Swivel Style			
Over 450 CID 8202982* .018 Red	(Pressure side of turbo), DDA or IH Air Intake Horn			
8202958 .013	DDA 8.2 Litre	Pre-tapped hole in air cleaner adapter		
8203008 .018	Ford industrial diesel	Direct flow of starting fluid into air stream, not directly into cylinder.		

\*Included in kit 8203237 Note: All atomizers 1/8" NPT.

## Diesel Starting Fluid System Thermostats

- Locks out electrical valve operation at specified engine temperatures
- Surface mount installs without draining engine coolant
- Threaded 1/2" NPT installs directly in any 1/2" NPT opening in water jacket

Surface Mount



Threaded Style



PART NO.	TYPE	TEMP ON	TEMP OFF
8200386	Surface Mount	60°F (16°C)	85°F (29°C)
8202281	Threaded	45°F (7°C)	65°F (18°C)
8291837	Threaded	70°F (21°C)	100°F (38°C)

## DIESEL STARTING FLUID



8200327

8201277

### D.O.T. Approved Replacement Starting Fluid Cylinders

PART NO.	DESCRIPTION	SIZE	NOZZLE
8200327	18 oz. 1" neck (Used with most kits)	3" x 11"	1" - 20
8201277	21 oz. 1" neck (Fits Dieselmatic® kits)	4" x 8"	1" - 20
8203903	1" standard gaskets (cork gasket flat)	Pkg. of 50	

NOTE: All ZeroStart® Diesel Starting Fluid kits require cylinder #8200327.  
Gaskets are not included with cylinders.

**MINIMUM QUANTITY OF STARTING FLUID THAT CAN BE SHIPPED IS 1 COMPLETE CASE (12 CYLINDERS).  
STARTING FLUID CYLINDERS ARE NOT RETURNABLE.**

NOTE: A disposal fee will be charged for each cylinder included in a product return.

## LITTLE BUDDY® INTERIOR WARMER



### Part No. 2600900

- Ideal for use in passenger, light-duty, and recreational vehicles
- 900 Watts - 120 Volt AC
- Mounts on floor or under dash. Mounting bracket included
- Compact size: 7" (17.6 cm) (L) x 4.5" (11.3 cm) (W) x 2.75" (7 cm) (H)
- Cord length: 7.5 ft. (2.3 m)
- 3,000 BTU

### Part No. 3600055

Car Warmer Replacement Cord 

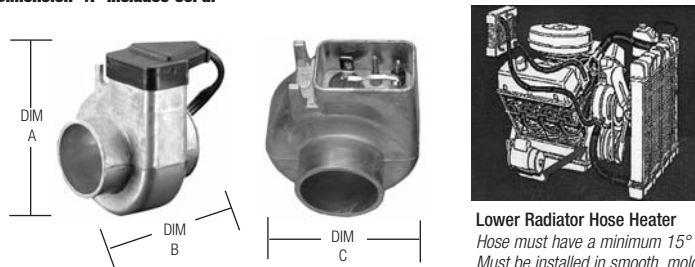
## LOWER RADIATOR HOSE HEATERS

### Efficient engine heating from die-cast aluminum design

- Installs in minutes in non-corrugated lower radiator hose
- Available in five hose sizes for best coverage
- Thermostatically protected (245°F/118°C maximum heater temperature)
- Replaceable cordset
- Consult application section for size/use information

PART NO.	FITS HOSE SIZE	WATT	VOLT	DIM A	DIM B	DIM C
3200001	1" (2.4cm)	375	120	3.5" (8.6cm)	3" (7.5cm)	2.5" (6.4cm)
3200002	1-1/4" (3.1cm)	375	120	3.5" (8.6cm)	3" (7.5cm)	2.5" (6.4cm)
3200003	1-1/2" (3.7cm)	600	120	4" (10cm)	3" (7.5cm)	3" (7.5cm)
3200004	1-3/4" (4.3cm)	600	120	4" (10cm)	3" (7.5cm)	3" (7.5cm)
3200005	2" (5cm)	600	120	4.25" (10.5cm)	3" (7.5cm)	3.25" (8cm)

**Note:** All dimensions reflect approximate installation space requirements, not exact product measurements. Dimension "A" includes cord.

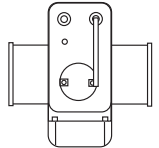


**Lower Radiator Hose Heater**  
Hose must have a minimum 15° rise  
Must be installed in smooth, molded hose  
Must have direct access to engine water jacket

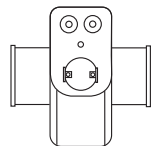


**Replacement Cordsets**  
120 Volt AC, 42" (112cm)

For heaters with this configuration.  
*Heater stamped with Model C*  
(example 150C) on bottom of unit.  
Part No. 3600009



For heaters with this configuration.  
*Heater stamped with Model D*  
(example 150D) on bottom of unit.  
Part No. 3600047



Tube type hose heater replacement cord  
Part No. 3600017

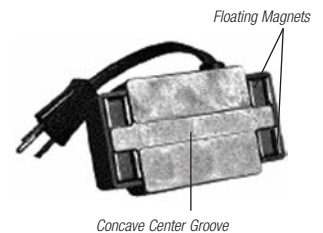
## MAGNETIC HEATERS

Magnetic utility heater provides heat when and where you need it.

### Super Heat Magnet®

- 200 Watt - 120 Volt AC
- Built-in thermostat maintains optimum temperature—will not exceed 250°F (121°C)
- Quick grip handle protects hands from heat
- Dimensions - Length: 4-3/8" (11cm), Width: 2-1/2" (6.3cm), Height: 3" (7.5cm) (including handle)

PART NO.	DESCRIPTION
3400017	UL/CSA Approved Model - 6 in. (15cm) cordset



## RADIANT HEATERS

### Bolt-on Radiant Heaters

- For applications with no core plug or core plug access
- Heating element conducts heat directly
- Universal mounting clamp included

PART NO.	DIMENSIONS	WATTS	VOLT	REPLACEMENT CORDSET
3400014	6" x 6" (15.2cm x 15.2cm)	500	120	3600002
3400011	4" x 4" (10.1cm x 10.1cm)	300	120	3600002
3400020	GM Ecotec 2.2L/2.4L	300	120	(2006 & Newer)



# SPECIALTY PRODUCTS



## Dump Body Vibrators

Vibra® Dump Truck Body Vibrators deliver fast, complete and clean discharge of sticky, compacted or frozen materials from dump truck bodies and dump trailers. Welded to the underside of the dump box, Vibra® Dump Truck Body Vibrators use vibrating thrust to dislodge materials from the dump body. (90-Day Warranty)

**VIBRA® 2000** Designed for use on single-drive axle vehicles with dump bodies 10 feet (3m) in length and shorter, and for use on drop-in hoppers (asphalt and cement contractors, landscapers and anyone using smaller dump truck/tipper bodies).

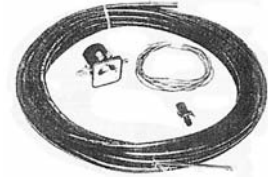
**VIBRA® 3000** Designed for use on tandem, tri-axle dump trucks and end-dump trailers with dump bodies ranging from 10 feet (3m) to 40 feet (12m) in length (bottom dump trailers, roll-off containers, hoppers and rubbish haulers).

**VIBRA® 3000-I** Designed for severe service applications with large, heavy, rigid dump boxes. Designed for use on tandem, tri-axle dump trucks and end-dump trailers with dump bodies ranging from 10 feet (3m) to 40 feet (12m) in length (bottom dump trailers, roll-off containers, hoppers, larger tipper/dump boxes and rubbish haulers), (formerly Vibra 4000). **LTL shipping required, no exceptions.**



### Electric Kit includes:

- 34 ft. cable
- Switch
- Magnetic Relay
- Primary Wire
- Connectors



\* 12 volt version shown.  
24 volt is a sealed solenoid.

PART NO.	SERIES	TYPE	POWER REQUIREMENTS	THRUST IMPACT FORCE	DIMENSIONS	OPERATING TEMPERATURE	INSTALLATION KIT	SHIPPING WEIGHT
8000581	V2000	Electric	12 volt 380 amp	2000 lbs (907 kg)	35" x 9" x 6-5/8" (890 x 230 x 168mm)	-30° to +140° F (-34° to +60° C)	Included (Underhood)	110 lbs. (50 kg)
8000905	V2000	Electric	12 volt 380 amp	2000 lbs (907 kg)	35" x 9" x 6-5/8" (890 x 230 x 168mm)	-30° to +140° F (-34° to +60° C)	Included <sup>1</sup> (Underhood)	103 lbs. (47 kg)
8000875	V3000	Electric	12 volt 380 amp	3000 lbs (1360 kg)	35" x 9" x 6-5/8" (890 x 230 x 168mm)	-30° to +140° F (-34° to +60° C)	Included <sup>3</sup> (Underhood)	104 lbs. (52 kg)
8000867	V3000	Electric	12 volt 380 amp	3000 lbs (1360 kg)	35" x 9" x 6-5/8" (890 x 230 x 168mm)	-30° to +140° F (-34° to +60° C)	Included <sup>1</sup> (Underhood)	100 lbs. (45 kg)
8001014	V3000	Electric	12 volt 380 amp	3000 lbs (1360 kg)	35" x 9" x 6-5/8" (890 x 230 x 168mm)	-30° to +140° F (-34° to +60° C)	Included <sup>2</sup> (Underhood)	108 lbs. (45 kg)
8000883	V3000	Electric	24 volt 380 amp	3000 lbs (1360 kg)	35" x 9" x 6-5/8" (890 x 230 x 168mm)	-30° to +140° F (-34° to +60° C)	Included (Underhood)	115 lbs. (52 kg)
8000840	V3000	Hydraulic	5.5 Gpm@ 1800 PSI	3000 lbs (1360 kg)	35" x 9" x 6-5/8" (890 x 230 x 168mm)	-30° to +140° F (-34° to +60° C)	Not Included	115 lbs. (52 kg)
8003301	V3000-I	Electric	12 volt 380 amp	3000 lbs (1360 kg)	35" x 9" x 6-5/8" (890 x 230 x 168mm)	-30° to +140° F (-34° to +60° C)	Included <sup>2</sup> (Underhood)	115 lbs. (52 kg)
8003302	V3000-I	Electric	12 volt 380 amp	3000 lbs (1360 kg)	35" x 9" x 6-5/8" (890 x 230 x 168mm)	-30° to +140° F (-34° to +60° C)	Included <sup>1</sup> (Underhood)	100 lbs. (45 kg)
8003303	V3000-I	Electric	12 volt 380 amp	3000 lbs (1360 kg)	35" x 9" x 6-5/8" (890 x 230 x 168mm)	-30° to +140° F (-34° to +60° C)	Included <sup>3</sup> (Underhood)	115 lbs. (52 kg)
8003304	V3000-I	Electric	24 volt 380 amp	3000 lbs (1360 kg)	35" x 9" x 6-5/8" (890 x 230 x 168mm)	-30° to +140° F (-34° to +60° C)	Included (Underhood)	115 lbs. (52 kg)

<sup>1</sup>Switch, solenoid wiring hardware only - power cable not included

<sup>2</sup>Includes standard installation kit with 44 ft. (13.4m) cable

<sup>3</sup>Includes standard installation kit with 34 ft. (10.3m) cable

Standard Installation Kits include 34 ft. (10m) #4 AWG cable

### Dump Body Vibrator Replacement Parts

MODEL NO.	SHAFT BEARING	COUPLING WITH RUBBER INSERT	STEEL HOOD COVER	END CAP (2)	INSERT ONLY (FOR COUPLING)	MOTOR	SOLENOID	SWITCH
8000581	8001081	8001154	8001367	8001006	8001200	8001030	8001251	8001316
8000905	8001081	8001154	8001367	8001006	8001200	8001030	8001251	8001316
8000875	8001081	8001154	8001367	8001006	8001200	8001030	8001251	8001316
8000867	8001081	8001154	8001367	8001006	8001200	8001030	8001251	8001316
8000883	8001081	8001154	8001367	8001006	8001200	8000964	8000948	8001316
8000840	8001081	8003305	8001367	8001006	8001200	8000859	8000948	8001315
8003301	8001170	8001154	8001367	8001006	8001200	8001030	8001251	8001316
8003302	8001170	8001154	8001367	8001006	8001200	8001030	8001251	8001316
8003303	8001170	8001154	8001367	8001006	8001200	8001030	8001251	8001316
8003304	8001170	8001154	8001367	8001006	8001200	8000964	8000948	8001316




### Dump Body Vibrator Accessories

MODEL NO.	DESCRIPTION
8000980	Aluminum mounting plate
8000956	Accessory Package - V3000



# ENGINE STARTABILITY CHART

90% of Maximum Temperature rise of engine will be reached in 5 hours of operation, but heater is designed for continuous overnight use.

TEMP °F/°C	Starting System	Engine Class			
		Small Diesels 150 to 350 CID (2.4 to 5.7 liters)	Medium Duty Diesels to approx. 550 CID (9.0 liters)	Heavy Duty Diesels to approx. 1150 CID (18.8 liters)	Large Duty Diesels Industrial/Off Highway
<b>40/4</b>  <b>0/-18</b>	<b>Coolant Heater</b>	400 to 750 Watt Immersion, 1000 Watt Circulation Heater	750 or 1000 Watt Immersion, 1500 Watt Circulation Heater	1500 Watt Immersion, 1500 Watt Circulation Heater,	2500 Watt Tank, 2250-2500 Watt Circulation Heater,
	<b>Oil Pan Heater</b>	150 Watt Immersion with thermostat	150 Watt Immersion or 300 Watt Clamp-on	300 Watt Immersion or 500 Watt Clamp-on	300 Watt Immersion
	<b>Additional Products</b>	Measured Shot Ether Kit, Battery Warmer	Measured Shot Ether Kit, Battery Warmer	Measured Shot Ether Kit, Battery Warmer	Measured Shot Ether Kit, Battery Warmer
<b>0/-18</b>  <b>-30/-34</b>	<b>Coolant Heater</b>	600 or 750 Watt Immersion, 1000 Watt Circulation Heater	1000 Watt Immersion, Circulation Heater,	1500 Watt Immersion, 2000 Watt Tank, 2000-2250 Watt Circulation Heater	2500 Watt Tank, 2250-3500 Watt Circulation Heater
	<b>Oil Pan Heater</b>	150 Watt Immersion with thermostat	150 Watt Immersion or 300 Watt Clamp-On	300 Watt Immersion or 500 Watt Clamp-On	450 Watt Immersion
	<b>Additional Products</b>	Measured Shot Ether Kit, Battery Heater	Measured Shot Ether Kit, Battery Heater	Measured Shot Ether Kit, Battery Heater	Measured Shot Ether Kit, Battery Heater
<b>-30/-34</b>  <b>-60/-51</b>	<b>Coolant Heater</b>	750 Watt Immersion, Circulation Heater	1500 Watt Immersion, 2000-2250 Watt Circulation Heater	2000 Watt Immersion, 2500-3500 Watt Circulation Heater	(2) 2500 Watt Circulation, (2) 2500-3500 Watt Circulation Heaters
	<b>Oil Pan Heater</b>	150 Watt Immersion with thermostat	300 Watt Immersion or 500 Watt Clamp-on	450 Watt Immersion	450 Watt Immersion
	<b>Additional Products</b>	Measured Shot Ether Kit, Battery Heater	Measured Shot Ether Kit, Battery Heater	Measured Shot Ether Kit, Battery Heater	Measured Shot Ether Kit, Battery Heater

# TECHNICAL INFORMATION

## Recommended Wire Gauges for Long-Length Power Supply Cords

LENGTH (FT)	CURRENT CARRYING CAPACITY (IN AMPERES)									
	4	6	8	10	12	14	16	18	20	25
15	18	18	16	16	16	16	14	14	12	12
25	18	18	16	16	14	14	12	12	12	10
50	18	18	16	16	14	14	12	12	12	10
100	16	16	14	14	14	14	12	12	10	10
150	16	14	12	12	12	12	10	10	10	8

Recommended Wire Gauge

## Current Used on Heaters of Various Wattages and Voltages

WATTS	AMPERES @ 120 VOLTS	AMPERES @ 240 VOLTS	COST PER HOUR*
75	0.63	0.31	.008
100	0.83	0.42	.010
150	1.25	0.63	.015
200	1.67	0.84	.020
300	2.50	1.25	.030
450	3.75	1.88	.045
500	4.17	2.08	.050
750	6.25	3.12	.075
850	7.08	3.54	.085
1000	8.33	4.16	.100
1500	12.50	6.25	.150
2000	16.67	8.34	.200
2500	20.83	10.42	.250

\* Based on 10¢ per KWH

This limited warranty is expressly limited to the Company's products that have been purchased by the original consumer purchaser or for purposes of resale or use in the ordinary course of the purchaser's business. The term original consumer purchaser is defined as a person who purchases Company products for personal, family, or household use.

The Company's products are warranted against defects in materials and workmanship for a period of one year from date of purchase by purchaser. Sales receipt or proof of purchase must accompany product when returned to location of purchase. The exclusive remedy for any product found to be defective under this limited warranty consists of the repair or replacement of the defective product. This limited warranty does not apply to defects which arise from normal wear and tear, accident, misuse, abuse, neglect, mishandling, misapplication, faulty installation, modification, improper or extraordinary use or use inconsistent with any instruction or recommendation issued by the Company.

The foregoing limited warranty is exclusive and in lieu of all other warranties, whether written or oral, express, implied or statutory.

**\* EXCLUDES DUMP BODY VIBRA — 90 DAY WARRANTY \***

**NO IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE SHALL APPLY. THE LIMITED WARRANTY CONTAINED HEREIN DOES NOT EXTEND TO INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OF THIS PRODUCT, OR ARISING OUT OF A BREACH OF THIS WARRANTY.**

To obtain performance of this limited warranty, the alleged defective product must be returned, together with reasonable proof of purchase, postage or freight prepaid, directly to:

**In U.S.A.**

Warranty Department  
Phillips & Temro Industries Inc.  
9700 West 74th Street  
Eden Prairie, MN 55344

**In CANADA**

Warranty Department  
Phillips & Temro Industries Ltd.  
100 Paquin Road  
Winnipeg, Manitoba R2J 3V4

The Company will return the repaired or replaced product, postage or freight prepaid. Final determination of defects shall be made in accordance with procedures established by the Company.

This limited warranty gives the original consumer purchaser specific rights. You may have other rights which vary from state to state or province to province depending upon the location of your residence. Some states do not allow the exclusion or limitation of incidental or consequential damages.

**Manufacturer's rights retained:**

The Company reserves the right to make changes in design, additions or improvements to any of its products at any time without incurring any obligation whatsoever to install or replace the same or improve upon products previously manufactured.

**NOTE:** Warranty credit will be issued at current years price.

# GARANTIE

Cette garantie limitée est expressément réservée aux produits de la Société qui ont été achetés par le consommateur-acheteur d'origine ou aux fins de revente ou d'utilisation dans le cours normal des affaires de l'acheteur. Le terme « consommateur-acheteur d'origine » se définit comme la personne ayant fait l'acquisition des produits de la Société à des fins personnelles, familiales ou domestiques.

Les produits de la Société sont garantis contre tout défaut matériel et vice de fabrication pendant une période d'un an à partir de la date d'achat par l'acheteur. Un reçu de caisse ou une preuve d'achat doit accompagner le produit lorsqu'il est retourné au lieu de l'achat. Le recours exclusif offert pour tout produit qui se révélera défectueux en vertu de cette garantie limitée consiste à réparer ou à remplacer le produit défectueux. Cette garantie limitée ne s'applique pas aux défauts découlant d'une usure normale, d'un accident, d'un mauvais emploi, d'un abus, d'une négligence, d'une mauvaise manutention, d'une mauvaise utilisation, d'une mauvaise installation, d'une modification, d'une utilisation inadéquate ou inhabituelle et d'une utilisation contraire aux instructions ou aux recommandations fournies par la Société.

La garantie limitée ci-dessus est exclusive et remplace toute autre garantie, qu'elle soit écrite ou orale, expresse, tacite ou statutaire.

**\* N'inclus pas le ' ' Dump Body Vibra ' ' 90 jours de garantie. \***

**AUCUNE GARANTIE IMPLICITE DE QUALITÉ MARCHANDE ET DE CONVENANCE PRÉCISE N'EST APPLICABLE. LA GARANTIE LIMITÉE CONTENUE AUX PRÉSENTES NE S'APPLIQUE PAS AUX DOMMAGES INDIRECTS CAUSÉS PAR L'UTILISATION DE CE PRODUIT OU SURVENANT EN RAISON D'UNE VIOLATION DE CETTE GARANTIE.**

Pour obtenir l'exécution de cette garantie limitée, le produit présumé défectueux doit être retourné accompagné d'une preuve d'achat raisonnable et l'affranchissement ou le fret payé d'avance, directement à :

## **Aux États-Unis**

Service de la garantie  
Phillips & Temro Industries inc.  
9700 West 74th Street  
Eden Prairie, MN 55344

## **Au Canada**

Service de la garantie  
Phillips & Temro Industries Itée  
100 Paquin Road  
Winnipeg (Manitoba) R2J 3V4

La Société retournera le produit réparé ou remplacé sans frais d'expédition. La décision définitive quant aux défauts sera prise conformément aux procédures établies par la Société.

Cette garantie limitée donne au consommateur-acheteur d'origine des droits particuliers. Vous pouvez bénéficier d'autres droits qui varient selon votre état ou votre province de résidence. Certains états n'autorisent pas l'exclusion ou la limitation des dommages indirects.

## **Droits retenus par le fabricant :**

La Société se réserve le droit de modifier ses produits, de faire des ajouts ou d'apporter des améliorations en tout temps et sans aucune obligation d'installer ou de remplacer lesdits produits ou les produits améliorés fabriqués ultérieurement.

**REMARQUE :** Garantie des crédits accordé correspondra au prix année en cours.





## Production Facilities

Winnipeg, Manitoba  
(Canada)



Winnipeg, Manitoba  
(Canada)



Eden Prairie, Minnesota  
(USA)



Prior Lake, Minnesota  
(USA)



Tipton, England  
(U.K.)



# PHILLIPS & TEMRO *industries*<sup>®</sup>



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COLD WEATHER STARTING PRODUCTS

## Application Guide & Product Catalog



This publication for use throughout North America. Unless otherwise noted, all products available in the United States & Canada.

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