



Application Guide & Product Catalog



AUTOMOTIVE



HEAVY DUTY



INDUSTRIAL



AGRICULTURE

THERMAL TECHNOLOGY SOLUTIONS & SYSTEMS

Phillips & Temro Industries is the leading supplier of thermal technology solutions and systems. For more than 90 years, Phillips & Temro Industries has supplied thermal solutions to original equipment manufacturers and aftermarket distributors worldwide. Having both ISO9001/TS16949 quality management and ISO14001 environmental certifications demonstrates the commitment to continuous improvement and customer satisfaction. With manufacturing facilities in the United States, Canada, United Kingdom and China, Phillips & Temro Industries provides global distribution of thermal technology solutions and systems for cold weather starting, comfort and convenience, emissions control, and engine cooling products. Dedication to philosophies of lean manufacturing allow us to exceed our customer's requirements for value, service and delivery.

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COMING SOON

FLIP CAP RECEPTACLE

Application

- Automotive engine block heaters

Features

- Bumper mounted receptacle for clean cord routing
- OEM styling receptacle blends into bumper
- Eliminates cord hanging from the grill



NEW PRODUCTS

LIT PLUG KIT

Application:

- Automotive Industry. Offered on popular aftermarket block and cartridge heater kits

Benefits:

- Light is visible from 50 feet making it possible to monitor from a distance
- Visual cue to indicate power to the block heater
- Harnesses may be purchased to upgrade existing block heater kits
- CSA approved



See page 93 for additional product details and page 6-36 for model specific applications.

ELECTRIC FUEL HEATING SOLUTIONS

- Provides heat to the filter core, prior to start of engine to prevent filter clogging
- 12V or 24V electric silicone pad wraps around spin-on fuel filter with velcro adjustment
- Used as a pre-heater, run 15-30 minutes prior to engine start
- Fits filter diameters 3.5"- 5.0"



See page 90-91 for additional product details and complete line of silicone pad heating solutions.

3400039	9"x3"	50W	12V
3400037	12"x4"	100W	12V
3400040	12"x4"	100W	24V

TOP SELLERS

COOLANT DAM® Part No. T-1000



Simple tool that holds coolant inside the engine when other components are removed for repair or replacement.

Features:

- Creates a vacuum, holding coolant inside the engine without hand pumping or running the engine
- Quickly converts the unit from vacuum to a pressure tester
- No need to drain the block for simple repairs
- Coolant Filling

Application:

- Changing Heater Hoses
- Changing Fan Sensors
- Changing Temperature Sensors
- Installing Shut-off Valves for Fuel Warmers & Separators
- Replacing Cab Heater Cores
- Replacing Heater Control Valves

See page 92-93 for complete product details.



BATTERY PAD HEATERS

- Maintains available cold cranking amps in cold weather by warming the batteries
- Efficient – direct heat transfer into the batteries
- Silicone material is resistant to battery acid
- Slim design to fit in truck battery box
- Canadian models are CSA approved
- Two sizes available to fit your specific needs

13" x 20.5"

USA 3400068

CAN 3400038

5.5" x 8.5"

USA 3400066

CAN 3400036

See page 90-91 for additional product information and a complete list of silicone pad heaters.



HEAT MAGNET® Part No. 3400017



- Built-in thermostat maintains optimum temperature (will not exceed 250°F (121°C))
- Quick grip handle protects hands from heat

See page 89 for additional information.



TOP SELLERS

INTERIOR CAR WARMER



Part No. 2600900

- Ideal for use in passenger, light-duty, and recreational vehicles
- Mounts on floor or under dash

See page 83 for additional product information.



BLANKET STYLE BATTERY HEATERS



Part No. 2800063

- Blanket style heater warms battery core to 60° to 70° above ambient temperature for quick starts
- Thinsulate™ thermal insulation helps maintain battery temperature in warm or cold weather

See page 91 for additional product information.



CIRCULATION TANK HEATER – SERIES 41



- Provides a quick start
- Convenient and easy installation
- Durable construction
- Provides overheat protection
- Easy and convenient to service

See page 87 for additional product information and the complete line of circulation tank heaters.



CARTRIDGE HEATERS

Fits Dodge, Jeep and Chrysler Applications



Part No. 3100128
Replacement Cord: 3600120



Part No. 3100131
Replacement Cord: 3600121

For additional product details, go to Makes/Models in Automotive/Light Duty Truck Applications pg 6-36.

TOP SELLERS

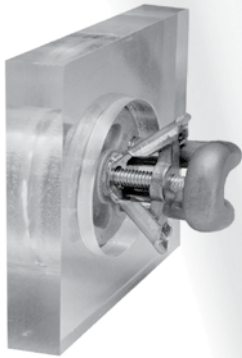
ENGINE BLOCK HEATERS

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
- Torque spec 20 lb. in. (2.3 NM)

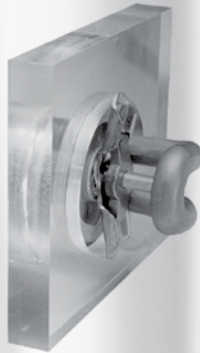


V-LOC™ in fully open position, prior to tightening the locking bolt.



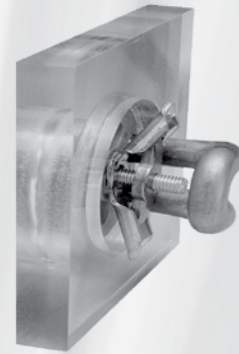
V-LOC™ en position ouverte avant de serrer le boulon d'arrêt.

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



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

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



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

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
- Torque spec 20 lb. in. (2.3 NM)

AUTOMOTIVE & LIGHT-DUTY TRUCK APPLICATIONS

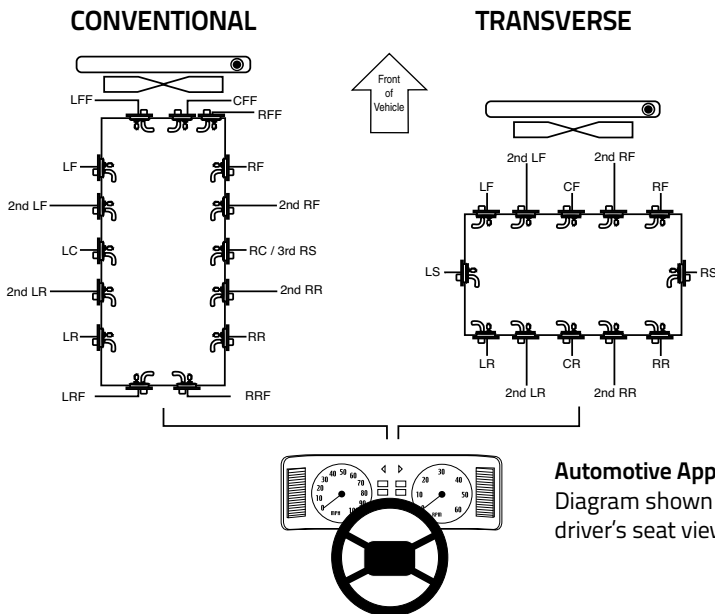


COLUMN DESCRIPTIONS

FREEZE PLUG HEATER (UNLESS OTHERWISE NOTED)								
MAKE, MODEL, YEAR, ENGINE	Heater Part No.		Repl. Cord Part No		Bore Diameter	Installation Location	Element Position	Foot Notes*
	Std Kit	Lit Kit	Std Cord	Lit Cord				
1956-1962 V8 327 CID	3100039	3100124	3600006	3600116	1-1/2"	LC or RC	6 o'clock	1
<p><i>Year(s), type of engine, size/model of engine, possible additional information.</i></p>								
<p>Heater Part No. Standard Plug Immersion/Freeze plug part number with standard cord</p> <p>Heater Part No. Lit Plug Immersion/Freeze plug part number with lit cord</p> <p>Replacement Cord Part No. Standard Standard cord replacement part number</p> <p>Replacement Cord Part No. Lit Lit cord replacement part number</p> <p>Bore Diameter 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. "Clamp-On" entry indicates an external bolt-on type heater is recommended. "Cartridge" entry indicates that a cartridge type heater is recommended.</p> <p>Installation location Use chart below to assure proper installation location.</p> <p>Point element 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>Notes If a number appears in this column, see page 36 for important information regarding application.</p>								

INSTALLATION LOCATION

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.



Automotive Applications:
Diagram shown from driver's seat view.

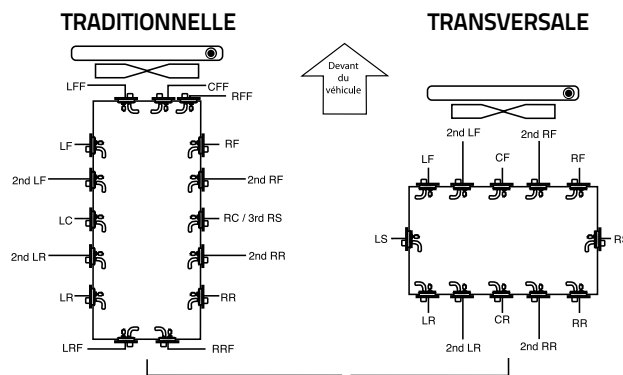
- CFF..... Center Front Face
- CF.....Center Front
- CR..... Center Rear
- F..... Front
- FF..... Front Face of Block
- LC..... Left Center
- LF..... Left Front
- 2ND LF..... 2ND from Left, Front
- LFF..... Front Face, Left Cylinder
- LLC..... Left Side, Lower Center
- LR..... Left Rear
- LRF..... Left Rear Face
- 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
- RRF..... Right Rear Face
- RS..... Right Side
- 3RD RS..... 3RD from Firewall (FW) Right Side
- 2ND RR..... 2ND Core Hole from the Right Rear

DES COLONNES

MARQUE, MODÈLE, ANÉE & MOTEUR	Chauffe moteur No. pièce		Cordon de rempl. No. pièce		Diamètre de l'alésage	Emplacement pour Installation	Orientation de l'élément	Notes*
	Standard	Lumineux	Standard	Lumineux				
<p>Année(s), type de moteur, puissance/modèle du moteur, renseignements supplémentaires possibles.</p>								
1956-1962 V8 327 CID	3100039	3100124	3600006	3600116	1-1/2"	LC or RC	06 heures	1
<p>No de pièce du chauffe-moteur – Cordon standard Numéro de pièce du chauffe-moteur/thermoplongeur avec cordon standard No de pièce du chauffe-moteur – Cordon lumineux Numéro de pièce du chauffe-moteur/thermoplongeur avec cordon lumineux</p>								
<p>No de pièce du cordon de rechange – Standard Numéro de pièce du cordon de rechange standard No de pièce du cordon de rechange - Lumineux Numéro de pièce du cordon de rechange lumineux</p>								
<p>Diamètre de l'alésage Les chauffe-moteurs à immersion montreront une taille similaire au chauffe-moteur ci-dessus (unité anglaise ou métrique). Les chauffe-moteurs de type fileté montreront THD suite à la grandeur affichée. Les chauffe-moteurs avec le filetage de la norme National Pipe Thread montreront NPT suite à la grandeur affichée. L'inscription "Clamp-On" recommande un chauffe-moteur à installation externe tandis que l'inscription "Cartridge" un chauffe-moteur à cartouche.</p>								
<p>Site d'installation Utilisez le graphique ci-dessous pour vous assurer du site d'installation approprié.</p>								
<p>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.</p>								
<p>Remarques Si un numéro apparaît dans cette colonne, consultez la page 36 pour des renseignements importants concernant l'utilisation.</p>								

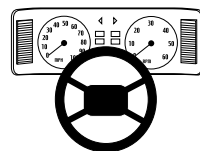
EMPLACEMENT POUR L'INSTALLATION

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.



Applications automobiles:

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



- 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
- LRF Gauche arrière avant
- 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
- RRF Droite arrière avant
- RS Côté droit
- 3RD RS 3e de la cloison pare-feu (CD) côté droit
- 2ND RR 2e bouchon de la droite arrière

FREEZE PLUG HEATER (UNLESS OTHERWISE NOTED)

MAKE, MODEL, YEAR, ENGINE	Heater Part No.		Repl. Cord Part No.		Bore Diameter	Installation Location	Element Position	Foot Notes*
	Std Kit	Lit Kit	Std Cord	Lit Cord				
ACURA								
AUTOMOTIVE								
4 Cylinder								
1996-2000 L4 – 1.6L	3100006	3100124	3600005	3600117	28 MM THD	LR	N/A	
1987-1989 L4 – 1.6L	3400001		3600002		Clamp-On	N/A	N/A	
2002-2005 L4 – 1.7L	3100006	3100124	3600005	3600117	28 MM THD	LR	N/A	
1990-2001 L4 – 1.7, 1.8L	3100006	3100124	3600005	3600117	28 MM THD	RF	N/A	
2002-2006 L4 – 2.0L (RSX)	3100006	3100124	3600005	3600117	28 MM THD	RR	N/A	
2006-2011 L4 – 2.0L (CSX)	3100006	3100124	3600005	3600117	28 MM THD	RR	N/A	
1995-1997 L4 – 2.2L (CL Coupe)	3100006	3100124	3600005	3600117	28 MM THD	LR	N/A	
1998-1999 L4 – 2.3L (CL Coupe)	3100006	3100124	3600005	3600117	28 MM THD	LR	N/A	
2004-2016 L4 – 2.4L (TSX)	See Dealer		N/A		N/A	N/A	N/A	
5 Cylinder								
1992-1998 L5 – 2.5L	3100006	3100124	3600005	3600117	28 MM THD	RF	N/A	
6 Cylinder								
1987-1990 V6 – 2.5, 2.7L	See Dealer				N/A	N/A	N/A	
1991-1999 V6 – 3.2L	3100006	3100124	3600005	3600117	28 MM THD	LC	N/A	
1993-2005 V6 – 3.0, 3.2L (NSX)	See Dealer		N/A		N/A	N/A	N/A	
1997-1999 V6 – 3.0L (CL coupe)	3100006	3100124	3600005	3600117	28 MM THD	LF	N/A	
1999-2007 V6 – 3.2 (TL, CL coupe)	3100006	3100124	3600005	3600117	28 MM THD	LF	N/A	
2007-2010 V6 – 3.5L (TL Type S)	3100006	3100124	3600005	3600117	28 MM THD	LF	N/A	
1996-2004 V6 – 3.5 (RL)	3100006	3100124	3600005	3600117	28 MM THD	LF	N/A	
2005-2012 V6 – 3.5L (RL)	3100006	3100124	3600005	3600117	28 MM THD	LF	N/A	
2009-2014 V6 – 3.7L (TL)	3100006	3100124	3600005	3600117	28 MM THD	LF	N/A	
LIGHT TRUCK								
2007-2010 L4 – 2.3L (RDX)	3100006	3100124	3600005	3600117	28 MM THD		N/A	
1998-2000 V6 – 3.5L	See Dealer		N/A		N/A	N/A	N/A	
2001-2006 V6 – 3.5L (MDX)	3100006	3100124	3600005	3600117	28 MM THD	LF	N/A	
2007-2013 V6 – 3.7L (MDX)	3100006	3100124	3600005	3600117	28 MM THD	LF	N/A	
AMC – EXCEPT JEEP AND EAGLE								
AUTOMOTIVE								
4 Cylinder								
1984 L4 – 2.5L	3100065		3600006		1-3/4"	LR	6 o'clock	
1980-1983 L4 – 2.5L (Pontiac engine)	3100054		3600006		1-5/8"	LR	12 o'clock	
6 Cylinder								
1964-1987 L6 – 4.2L, 199, 232, 258 cu. in.	3100072		3600006		2"	LR	12 o'clock	
8 Cylinder								
1956-1962 V8 – 327 cu. in.	3100039		3600006		1-1/2"	LC or RC	6 o'clock	
1966-1980 V8 – 290, 304, 343, 360, 390, 401 cu. in.	3100039		3600006		1-1/2"	LR	5 o'clock	
AUDI								
AUTOMOTIVE								
4 Cylinder								
1973-1988 L4 – 1471cc	3100034		3600016		36.5 MM	2ND RS	6 o'clock	2
1986-1990 L4 – 1.8, 2.0L	3100034		3600016		36.5 MM	RC	6 o'clock	2
1997-2005 L4 – 1.8L, Turbo	See Dealer		N/A		N/A	N/A	N/A	
2005-2016 L4 – 2.0L, Turbo FSI & TSI	See Dealer		N/A		N/A	N/A	N/A	
2010-2016 L4 – 2.0L, Diesel	See Dealer		N/A		N/A	N/A	N/A	
5 Cylinder								
1980-1986 L5 – 2.0L, 2.1L & 2.2L, Except, Turbo	3100034		3600016		36.5 MM	RC	6 o'clock	2
1987-1995 L5 – 2.2, 2.3L	3100035		3600016		36.5 MM	RF or 2ND RF	3 o'clock	2
2012-2014 L5 – 2.5L, Turbo	See Dealer		N/A		N/A	N/A	N/A	
6 Cylinder								
1992-1995 V6 – 2.8L	See Dealer		N/A		N/A	N/A	N/A	
1996-2001 V6 – 2.8L	See Dealer		N/A		N/A	N/A	N/A	

Point Element – Please confirm element orientation – improper position may result in heater or engine damage.

* Description of footnotes – see page 36.

FREEZE PLUG HEATER (UNLESS OTHERWISE NOTED)								
MAKE, MODEL, YEAR, ENGINE	Heater Part No.		Repl. Cord Part No.		Bore Diameter	Installation Location	Element Position	Foot Notes*
	Std Kit	Lit Kit	Std Cord	Lit Cord				
AUDI – Continued								
AUTOMOTIVE								
6 Cylinder								
2000-2004 V6 – 2.7L, Turbo	See Dealer		N/A		N/A	N/A	N/A	
2002-2005 V6 – 3.0L	See Dealer		N/A		N/A	N/A	N/A	
2009-2016 V6 – 3.0L, Supercharged	See Dealer		N/A		N/A	N/A	N/A	
2010-2016 V6 – 3.0L, Diesel	See Dealer		N/A		N/A	N/A	N/A	
2004-2009 V6 – 3.2L, Transverse	See Dealer		N/A		N/A	N/A	N/A	
2005-2011 V6 – 3.2L, Conventional	See Dealer		N/A		N/A	N/A	N/A	
2006-2010 V6 – 3.6L	See Dealer		N/A		N/A	N/A	N/A	
8 Cylinder								
2012-2016 V8 – 4.0, Supercharged	See Dealer		N/A		N/A	N/A	N/A	
1992-2016 V8 – 3.6, 3.7, 4.2L	See Dealer		N/A		N/A	N/A	N/A	
10 Cylinder								
2006-2016 V10 – 5.2L	See Dealer		N/A		N/A	N/A	N/A	
12 Cylinder								
2006-2009 W12 – 6.0L	See Dealer		N/A		N/A	N/A	N/A	
2011-2016 W12 – 6.3L	See Dealer		N/A		N/A	N/A	N/A	
BMW								
AUTOMOTIVE								
4 Cylinder								
1969-1990 L4 – SOHC	3100030		3600006		36 MM	RC	6 o'clock	
6 Cylinder								
1978-1983 L6 – ALL (Except 528E)	3100030		3600006		36 MM	LF	3 o'clock	
1982-1991 L6 – 2.5, 2.7, 3.5L	3100063		3600006		44 MM	2ND RF	4 o'clock	
1992-1999 24-Valve L6 – 2.0, 2.5, 2.8, 3.0, 3.2L	See Dealer		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	
2006-2016 L6 – 3.0L	See Dealer		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	
2010-2016 L6 – 3.0L (N55), Turbo	See Dealer		N/A		N/A	N/A	N/A	
2010-2016 L6 – 3.0L, Diesel	See Dealer		N/A		N/A	N/A	N/A	
8 Cylinder								
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	
2008-2012 V8 – 4.0L (S65B40)	See Dealer		N/A		N/A	N/A	N/A	
2009-2016 V8 – 4.4L, Turbo	See Dealer		N/A		N/A	N/A	N/A	
10 Cylinder								
2006-2009 V10 – 5.0L (S65B50)	See Dealer		N/A		N/A	N/A	N/A	
12 Cylinder								
1988-2003 V12 – 5.0, 5.4L	See Dealer		N/A		N/A	N/A	N/A	
2004-2008 V12 – 6.0L	See Dealer		N/A		N/A	N/A	N/A	
2010-2015 V12 – 6.0L, Turbo	See Dealer		N/A		N/A	N/A	N/A	
BUICK								
AUTOMOTIVE								
4 Cylinder								
1982-1986 L4 – 1.8L	3100014		3600006		34 MM	LF	12 o'clock	
1983-1989 L4 – 1.8, 2.0L OHC (Brazil engine)	3100015		3600006		34 MM	2ND LF	3 o'clock	2
1983-1984 L4 – 2.0L	3100014		3600006		34 MM	LF	12 o'clock	
1985-1986 L4 – 2.0L	3100062		3600006		42 MM	LF	4 o'clock	
1987-1996 L4 – 2.0L, 2.2L, Transverse	3100081		3600006		42 MM	LF	9 o'clock	
2012-2015 L4 – 2.0L, Turbo	See Dealer		N/A		N/A	N/A	N/A	
1987-1993 L4 – 2.3L, Quad IV	3100093		3600006		3/4" NPT	N/A	N/A	3
1994-1995 L4 – 2.3L, Quad IV Gen II	3100001		3600006		1/2" NPT	In water pump	N/A	

Point Element – Please confirm element orientation – improper position may result in heater or engine damage.

* Description of footnotes – see page 36.

FREEZE PLUG HEATER (UNLESS OTHERWISE NOTED)

MAKE, MODEL, YEAR, ENGINE	Heater Part No.		Repl. Cord Part No.		Bore Diameter	Installation Location	Element Position	Foot Notes*
	Std Kit	Lit Kit	Std Cord	Lit Cord				
BUICK – Continued								
AUTOMOTIVE								
4 Cylinder								
1996-1999 L4 – 2.4L (Twin Cam)	3100001		3600006		1/2" NPT	In water pump	N/A	
2011-2016 L4 – 2.4L, Ecotec	See Dealer		N/A		N/A	N/A	N/A	
1980-1992 L4 – 2.5L	3100076		3600006		1-5/8"	LF	12 o'clock	
6 Cylinder								
1980-1986 V6 – 2.8L, Transverse Except Vin W	3100014		3600006		34 MM	RS	3 o'clock	7
1987-1989 V6 – 2.8L, Transverse Vin W	3100015		3600006		34 MM	CR	3 o'clock	2
1982-1988 V6 – 3.0L, Transverse	3100041		3600006		1-1/2"	LF	12 o'clock	1
2010-2011 V6 – 3.0L, Transverse	See Dealer		N/A		N/A	N/A	N/A	
1989-2004 V6 – 3.1L, Transverse	3100015		3600006		34 MM	CR	3 o'clock	2
2005-2007 V6 – 3.1L, Transverse	See Dealer		N/A		N/A	N/A	N/A	
2002-2003 V6 – 3.4L, Transverse	3100015		3600006		34 MM	CR	3 o'clock	2
1978-1979 V6 – 196 cu. in.	3100039		3600006		1-1/2"	RR	12 o'clock	1
2005-2016 V6 – 3.6L, Transverse	3100110		3600082		Cartridge	LR	N/A	15
1988-2004 V6 – 3300, 3800, Transverse	3100041		3600006		1-1/2"	RF or LF	12 o'clock	15
2005-2009 V6 – 3800, Transverse	3100109	3100127	3600082	3600119	28 MM THD	CR	N/A	15
1975-1988 V6 – 3.8L (231 cu. in.), Conventional	3100039		3600006		1-1/2"	RR	12 o'clock	1
1984-1988 V6 – 3.8L (231 cu. in.), Transverse	3100041		3600006		1-1/2"	RF or LF	3 o'clock	
2009-2012 V6 – 3.9L, Transverse	3100109	3100127	3600082	3600119	28 MM THD	CR	N/A	15
1980-1985 V6 – 4.1L (252 cu. in.)	3100039		3600006		1-1/2"	RR	12 o'clock	
1982-1985 V6 – 4.3L (265 cu. in.), Diesel (Conv)	3100039		3600006		1-1/2"	LF or RF	12 o'clock	1
1982-1985 V6 – 4.3L (263 cu. in.), Diesel, Transverse	3100039		3600006		1-1/2"	RR or RF	12 o'clock	
1968-1976 L6 – 250 cu. in.	3100054		3600006		1-5/8"	LR	12 o'clock	
8 Cylinder								
1975-1976 V8 – 260 cu. in.	3100039		3600006		1-1/2"	RF	6 o'clock	
1981-1982 V8 – 4.4L (267 cu. in.)	3100057	3100126	3600006	3600116	1-5/8"	LR	9 o'clock	
1977-1982 V8 – 4.3 L (265 cu. in.) 4.9L (301 cu. in.)	3100070		3600006		1-15/16"	LC	11 o'clock	
2006-2012 V8 – 4.6L (North Star)	See Dealer		3600082		N/A	N/A	N/A	
1977-1995 V8 – 5.0L (305 cu. in.) (Chevrolet engine)	3100057	3100126	3600006	3600116	1-5/8"	LR	9 o'clock	
1981-1991 V8 – 5.0L (307 cu. in.) (Oldsmobile engine)	3100039		3600006		1-1/2"	LF or RF	12 o'clock	
2008-2009 V8 – 5.3L, Transverse	3100109	3100127	3600082	3600119	28 MM THD	RF	N/A	15
1968-1981 V8 – 5.7L (350 cu. in.) (Buick engine)	3100039		3600006		1-1/2"	LF or RR	12 o'clock	1
1980-1985 V8 – 5.7L (350 cu. in.), Diesel	3100039		3600006		1-1/2"	LF or RF	12 o'clock	
1991-1996 V8 – 5.0L (305 cu. in.), 5.7L (350 cu. in.) (Chevrolet engine)	3100057	3100126	3600006	3600116	1-5/8"	LR	9 o'clock	12
1975-1977 V8 – 400 cu. in.	3100070		3600006		49 MM	LF	12 o'clock	
1977-1979 V8 – 403 cu. in.	3100039		3600006		1-1/2"	RF	12 o'clock	
1967-1971 V8 – 430, 455 cu. in.	3100039		3600006		1-1/2"	RC	12 o'clock	
LIGHT TRUCK								
6 Cylinder								
2002-2004 V6 – 3.4L	3100015		3600006		34 MM	CR	3 o'clock	2
2005-2006 V6 – 3.4L	See Dealer		N/A		N/A	N/A	N/A	
2004 V6 – 3.5L	3100005		3600005		28 MM THD	CR	N/A	
2004 V6 – 3.6L, Transverse	3100106		3600100		Cartridge	LR	N/A	
2005-2016 V6 – 3.6L, Transverse	3100110		3600082		Cartridge	LR	N/A	15
2001-2003 V6 – 3800, Transverse	3100041		3600006		1-1/2"	RF or LF	12 o'clock	
2003-2004 L6 – 4.2L, Conventional	3100005		3600100		28 MM THD	LF	N/A	
2005-2007 L6 – 4.2L, Conventional	3100109	3100127	3600082	3600119	28 MM THD	LF	N/A	15

Point Element – Please confirm element orientation – improper position may result in heater or engine damage.

* Description of footnotes – see page 36.

FREEZE PLUG HEATER (UNLESS OTHERWISE NOTED)								
MAKE, MODEL, YEAR, ENGINE	Heater Part No.		Repl. Cord Part No.		Bore Diameter	Installation Location	Element Position	Foot Notes*
	Std Kit	Lit Kit	Std Cord	Lit Cord				
BUICK – Continued								
LIGHT TRUCK								
8 Cylinder								
2003-2004 V8 – 5.3L, Conventional	3100005		3600100		28 MM THD	LR	N/A	
2005-2007 V8 – 5.3L, Conventional	3100109	3100127	3600082	3600119	28 MM THD	LR	N/A	15
CADILLAC								
AUTOMOTIVE								
4 Cylinder								
1982-1984 L4 – 1.8, 2.0L	3100014		3600006		34 MM	LF	12 o'clock	
1985-1988 L4 – 2.0L	3100062		3600006		42 MM	LF	4 o'clock	
6 Cylinder								
1985-1986 V6 – 2.8L, Transverse	3100014		3600006		34 MM	RS	3 o'clock	7
2005-2007 V6 2.8L, Conventional	3100110		3600082		Cartridge	RR	N/A	15
1997-2001 V6 – 3.0L	3100006	3100124	3600005	3600117	28 MM	N/A	N/A	
2010-2014 V6 – 3.0L	3100110		3600082		Cartridge	RR	N/A	15
2002-2004 V6 – 3.2L	3100006	3100124	3600005	3600117	28 MM	LR	N/A	
2005-2006 V6 – 3.2L	See Dealer		N/A		N/A	N/A	N/A	
1986-1988 V6 – 2.8L, Transverse Vin W	3100015		3600006		34 MM	CR	3 o'clock	2
2004 V6 – 3.6L, Conventional	3100106		3600100		Cartridge	RR	N/A	
2005-2016 V6 – 3.6L, Conventional	3100110		3600082		Cartridge	RR	N/A	15
1981-1982 V6 – 4.1L (252 cu. in.)	3100039		3600006		1-1/2"	RR	12 o'clock	1
1984-1985 V6 – 4.3L (262 cu. in.), Diesel	3100039		3600006		1-1/2"	RF or RR	12 o'clock	
8 Cylinder								
1982-1994 V8 – 4.1, 4.5, 4.9L, Transverse	See Dealer		N/A		Clamp-On	N/A	N/A	
1993-2012 V8 – 4.6L, Transverse (Northstar)	See Dealer		N/A		Clamp-On	N/A	N/A	
2005-2009 V8 – 4.4L, Conventional (Northstar SC)	3100109	3100127	3600082	3600119	28 MM THD	RC	N/A	15
2004 V8 – 4.6L, Conventional (Northstar)	3100005		3600100		28 MM THD	RC	N/A	
2005-2010 V8 – 4.6L, Conventional (Northstar)	3100109	3100127	3600082	3600119	28 MM THD	RC	N/A	15
1986-1992 V8 – 5.0L (307 cu. in.)	3100039		3600006		1-1/2"	LF or RF	12 o'clock	
1990-1996 V8 – 5.0, 5.7L (Chevrolet engine)	3100057	3100126	3600006	3600116	1-5/8"	LR	9 o'clock	
1976-1981 V8 – 5.7L (350 cu. in.)	3100039		3600006		1-1/2"	LC or RC	12 o'clock	
1978-1985 V8 – 5.7L (350 cu. in.), Diesel	3100039		3600006		1-1/2"	LF or RF	12 o'clock	
2004 V8 – 5.7L (CTS-V)	3100005		3600100		28 MM THD	LF	N/A	
2005-2007 V8 – 5.7L (CTS-V)	3100109	3100127	3600082	3600119	28 MM THD	LF	N/A	15
1980-1984 V8 – 6.0L (368 cu. in.)	3100065		3600006		1-3/4"	RC	12 o'clock	
2009-2016 V8 – 6.2L (LSA) (CTS-V)	3100109	3100127	3600082	3600119	28 MM THD	LF	N/A	15
1977-1979 V8 – 425 cu. in.	3100065		3600006		1-3/4"	RC	11 o'clock	
1968-1976 V8 – 472, 500 cu. in.	3100065		3600006		1-3/4"	LF or RC	12 o'clock	
LIGHT TRUCK								
6 Cylinder								
2010-2012 V6 – 2.8L, Turbo	See Dealer		N/A		N/A	N/A	N/A	
2010-2014 V6 – 3.0L	3100110		3600082		Cartridge	RR	N/A	15
2004 V6 – 3.6L, Conventional	3100106		3600100		Cartridge	RR	N/A	
2005-2009 V6 – 3.6L, Conventional	3100110		3600082		Cartridge	RR	N/A	15
8 Cylinder								
2004 V8 – 4.6L, Conventional (Northstar)	3100005		3600100		28 MM THD	RC	N/A	
2005-2009 V8 – 4.6L, Conventional (Northstar)	3100109	3100127	3600082	3600119	28 MM THD	RC	N/A	15
2001-2004 V8 – 5.3, 6.0L	3100005		3600100		28 MM THD	LR	N/A	
2005-2006 V8 – 5.3, 6.0L	3100109	3100127	3600082	3600119	28 MM THD	LR	N/A	15
2009-2013 V8 – 6.0L, Hybrid	3100109	3100127	3600082	3600119	28 MM THD	LF	N/A	
2007-2016 V8 – 6.2L	3100109	3100127	3600082	3600119	28 MM THD	LF	N/A	

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* Description of footnotes – see page 36.

FREEZE PLUG HEATER (UNLESS OTHERWISE NOTED)

MAKE, MODEL, YEAR, ENGINE	Heater Part No.		Repl. Cord Part No.		Bore Diameter	Installation Location	Element Position	Foot Notes*
	Std Kit	Lit Kit	Std Cord	Lit Cord				
CHEVROLET (Also see Geo)								
AUTOMOTIVE								
3 Cylinder								
1986-1988 L3 – 1.0L	3400002		3600002		Clamp-On	N/A	N/A	
1998-2000 L3 – 1.0L	3400002		3600002		Clamp-On	N/A	N/A	
4 Cylinder								
1998-1999 L4 – 1.3L (Suzuki engine)	3400004		3600020		Clamp-On	N/A	N/A	
1976-1987 L4 – 1.4, 1.6L, Conventional	3100014		3600006		34 MM	RF	6 o'clock	
2011-2016 L4 – 1.4L	See Dealer		N/A		Oil Pan Heater	N/A	N/A	
1985-1988 L4 – 1.5L, Transverse Spectrum	3100018		3600006		35 MM	CR	12 o'clock	
2004-2016 L4 – 1.6L (Aveo)	See Dealer		N/A		Oil Pan Heater	N/A	N/A	
1985-1988 L4 – 1.6L, Transverse Nova	3100049		3600006		40 MM	CF	6 or 12 o'clock	
1982-1984 L4 – 1.8L, Transverse	3100014		3600006		34 MM	LF	12 o'clock	
1982-1987 L4 – 1.8L, Diesel	3100018		3600006		35 MM	RR	12 o'clock	
1998-2002 L4 – 1.8L (Toyota Eng.) (Prizm)	3100129	3100123	3600083	3600119	Cartridge	LR	N/A	
2011-2016 L4 – 1.8L	See Dealer		N/A		Oil Pan Heater	N/A	N/A	
1983-1984 L4 – 2.0L (122 cu. in.), Transverse	See Dealer		N/A		34 MM	LF	12 o'clock	
1985-1986 L4 – 2.0L (122 cu. in.), Transverse	3100062		3600006		42 MM	LF	4 o'clock	
2004-2009 L4 – 2.0L, Transverse (Optra)	See Dealer		N/A		N/A	N/A	N/A	
1987-2002 L4 – 2.0, 2.2L, Transverse	3100081		3600006		42 MM	LF	9 o'clock	
2005-2008 L4 – 2.0L (Ecotec Supercharged), Transverse	3400020		3600082		Clamp-On	RR	N/A	15
2009-2010 L4 – 2.0L (Ecotec, Turbo), Transverse	See Dealer		N/A		N/A	N/A	N/A	
2002-2004 L4 – 2.2L (Ecotec), Transverse	3400019		3600100		Clamp-On	RR	N/A	
2005-2010 L4 – 2.2L (Ecotec), Transverse	3400020		3600082		Clamp-On	RR	N/A	15
1990-1993 L4 – 2.3L Quad IV	3100093		3600023		3/4" NPT	N/A	N/A	3
1994-1995 L4 – 2.3L Quad IV Gen II	3100001		3600002		1/2" NPT	N/A	N/A	
1996-2002 L4 – 2.4L (Twin Cam)	3100001		3600002		1/2" NPT	N/A	N/A	
2006-2015 L4 – 2.4L (Ecotec), Transverse	3400020		3600082		Clamp-On	RR	N/A	15
1980-1992 L4 – 2.5L, Transverse	3100076		3600006		1-5/8"	LF	12 o'clock	
1977-1986 L4 – 2.5L, Conventional	3100076		3600006		1-5/8"	LR	6 or 12 o'clock	
1962-1970 L4 – 153 cu. in.	3100054		3600006		1-5/8"	LF	12 o'clock	
6 Cylinder								
2004 -2006 L6 – 2.5L, Transverse (Epica)	See Dealer		N/A		N/A	N/A	N/A	
1980-1988 V6 – 2.8L, Transverse Except Vin W	3100014		3600006		34 MM	RS	3 o'clock	7
1985-1989 V6 – 2.8L, Transverse Vin W	3100015		3600006		34 MM	CR or CF	3 o'clock	2
1982-1989 V6 – 2.8L, Conventional	3100014		3600006		34 MM	RFF IN BLOCK	3 o'clock	
1990-1996 V6 – 3.1, 3.4L, Conventional	3100015		3600006		34 MM	RC	3 o'clock	2
1990-2003 V6 – 3.1L, Transverse	3100015		3600006		34 MM	CR	3 o'clock	2
1992-1997 V6 – 3.4L, DOHC, Transverse	3100015		3600006		34 MM	CR	3 o'clock	2, 5
2000-2004 V6 – 3.4L, Transverse	3100015		3600006		34 MM	CR	3 o'clock	2, 5
2005-2009 V6 – 3.4L, Transverse (Equinox)	3100109	3100127	3600082	3600119	28 MM THD	CR	N/A	15
2004 V6 – 3.5L, Transverse	3100005		3600100		28 MM THD	CR	N/A	
2005-2012 V6 – 3.5L, Transverse	3100109	3100127	3600082	3600119	28 MM THD	CR	N/A	15
2008-2016 V6 – 3.6L, Transverse	3100110		3600082		Cartridge	LR	N/A	15
2010-2015 V6 – 3.6L, Conventional	3100110		3600082		Cartridge	RR	N/A	15
1980-1984 V6 – 3.8L, (229 cu. in.)	3100057	3100126	3600006	3600116	1-5/8"	LR	6 o'clock	
1978-1988 V6 – 3.8L, (231 cu. in.)	3100039		3600006		1-1/2"	RR	12 o'clock	1
1998-2004 V6 – 3.8L, Transverse	3100041		3600006		1-1/2"	RF or LF	12 o'clock	
2005-2011 V6 – 3.8L, Transverse	3100109	3100127	3600082	3600119	28 MM THD	CR	N/A	15
1986-1988 V6 – 3.8L (231 cu. in.), Transverse	3100041		3600006		1-1/2"	LF	3 o'clock	
1995-2002 V6 – 3.8L (Camaro)	3100041		3600006		1-1/2"	RR		
2006-2012 V6 – 3.9L, Transverse	3100109	3100127	3600082	3600119	28 MM THD	CR	N/A	15

Point Element – Please confirm element orientation – improper position may result in heater or engine damage.

* Description of footnotes – see page 36.

FREEZE PLUG HEATER (UNLESS OTHERWISE NOTED)								
MAKE, MODEL, YEAR, ENGINE	Heater Part No.		Repl. Cord Part No.		Bore Diameter	Installation Location	Element Position	Foot Notes*
	Std Kit	Lit Kit	Std Cord	Lit Cord				
CHEVROLET (Also see Geo) – Continued								
AUTOMOTIVE								
6 Cylinder								
1982-1985 V6 – 4.3L (263 cu. in.), Diesel, Conventional	3100039		3600006		1-1/2"	LR or RF	12 o'clock	
1983-1985 V6 – 4.3L (263 cu. in.), Diesel, Transverse	3100039		3600006		1-1/2"	RF or RR	12 o'clock	
1985-1988 V6 – 4.3L (263 cu. in.)	3100057	3100126	3600006	3600116	1-5/8"	LR	6 o'clock	
1955-1973 L6 – ALL	3100054		3600006		1-5/8"	LF	12 o'clock	
1978-1979 V6 – 200 cu. in.	3100057	3100126	3600006	3600116	1-5/8"	LR	9 o'clock	
1974-1979 L6 – 250 cu. in.	3100054		3600006		1-5/8"	LR	12 o'clock	
8 Cylinder								
1994-1996 V8 – 4.3L	3100057	3100126	3600006	3600116	1-5/8"	LR	9 o'clock	
1958-1997 V8 – 5.0, 5.7, 262, 267, 283, 305, 307, 327, 350, 400 (265 HP)	3100057	3100126	3600006	3600116	1-5/8"	LR	9 o'clock	
1986-1990 V8 – 5.0L, 307 cu. in. Vin Y	3100039		3600006		1-1/2"	LF or RF	12 o'clock	9, 12
2006-2010 V8 – 5.3L, Transverse	3100109	3100127	3600082	3600119	28 MM THD	RF	N/A	15
1980-1985 V8 – 5.7L, (350 cu. in.), Diesel	3100039		3600006		1-1/2"	LF or RF	12 o'clock	
1998-2002 V8 – 5.7L, (350 cu. in.) (Camaro)	3100005		3600100		28 MM THD	LR	N/A	
1996-2004 V8 – 5.7L (350 cu. in.) (Corvette, inc Z06)	3100005		3600005		28 MM THD	LR	N/A	
2005-2007 V8 – 6.0L LS2 (C6 Corvette)	3100109	3100127	3600082	3600119	28 MM THD	LF	N/A	15
2008-2016 V8 – 6.2L LS3 (C6 Corvette, Camaro)	3100109	3100127	3600082	3600119	28 MM THD	LF	N/A	15
2008-2016 V8 – 6.2L LS9 (C6 Corvette ZR1, Camaro ZL1)	3100109	3100127	3600082	3600119	28 MM THD	LF	N/A	15
2006-2015 V8 – 7.0L LS7 (C6 Corvette Z06)	3100109	3100127	3600082	3600119	28 MM THD	LF	N/A	15
1966-1971 V8 – 396 cu. in.	3100065		3600006		1-3/4"	RC or RF	12 o'clock	
1970-1977 V8 – 400 (300 HP) (402 cu. in.)	3100065		3600006		1-3/4"	LF	3 o'clock	
1969 V8 – 427 cu. in.	3100065		3600006		1-3/4"	LF or RC	12 o'clock	
1970-1977 V8 – 454 cu. in.	3100065		3600006		1-3/4"	RC	6 o'clock	
CHEVROLET & GMC (ALSO SEE GEO)								
LIGHT TRUCK – INCLUDES VANS/MPV								
4 Cylinder								
1988-1995 L4 – 1.6 (Suzuki engine)	3400003		3600002		Clamp-On	N/A	N/A	
1977-1982 L4 – 1.8L	3100018		3600006		35 MM	LF	12 o'clock	
1982-1986 L4 – 1.9L (119 cu. in.)	3100018		3600006		35 MM	LF	12 o'clock	
1983-1985 L4 – 2.0L (122 cu. in.)	3100014		3600006		34 MM	LF	12 o'clock	
2009-2010 L4 – 2.0L (Ecotec, Turbo), Transverse	See Dealer		N/A		N/A	N/A	N/A	
1994-2003 L4 – 2.2L	3100081		3600006		42 MM	LR	9 o'clock	
1981-1985 L4 – 2.2L, Diesel	3100068		3600006		1-3/4"	ANY LS	6 o'clock	
2006-2016 L4 2.4L (Ecotec), Transverse	3400020		3600082		Clamp-On	RR	N/A	15
1985-1994 L4 – 2.5L (151 cu. in.)	3100076		3600006		1-5/8"	LR	6 or 12 o'clock	
1962-1964 L4 – (153 cu. in.)	3100054		3600006		1-5/8"	LF	12 o'clock	
2004 L4 – 2.8L, Conventional	3100005		3600100		28 MM THD	LC	N/A	
2005-2006 L4 – 2.8L, Conventional	3100109	3100127	3600082	3600119	28 MM THD	LC	N/A	15
2007-2012 L4 – 2.9L, Conventional	See Dealer		N/A		N/A	N/A	N/A	
5 Cylinder								
2004 L5 – 3.5L, Conventional	3100005		3600100		28 MM THD	LC	N/A	
2005-2006 L5 – 3.5L, Conventional	3100109	3100127	3600082	3600119	28 MM THD	LC	N/A	15
2007-2012 L5 – 3.7L, Conventional	See Dealer		N/A		N/A	N/A	N/A	
6 Cylinder								
1984-1995 Forward/Tiltmaster (W7H, W7T)	3100089		3600006		1" NPT	RS (2 required)	N/A	
1987-1995 Forward/Tiltmaster (W4, W5, W6, W7)	3100089		3600006		1" NPT	LS	N/A	
1982-1993 V6 – 2.8L (173 cu. in.)	3100014		3600006		34 MM	RFF IN BLOCK	3 o'clock	6
2010-2012 V6 – 3.0L	See Dealer		N/A		N/A	N/A	N/A	

Point Element – Please confirm element orientation – improper position may result in heater or engine damage.

* Description of footnotes – see page 36.

FREEZE PLUG HEATER (UNLESS OTHERWISE NOTED)

MAKE, MODEL, YEAR, ENGINE	Heater Part No.		Repl. Cord Part No.		Bore Diameter	Installation Location	Element Position	Foot Notes*
	Std Kit	Lit Kit	Std Cord	Lit Cord				
CHEVROLET & GMC (ALSO SEE GEO) – Continued								
LIGHT TRUCK – INCLUDES VANS/MPV								
6 Cylinder								
1990-1996 V6 – 3.1L, Transverse	3100015		3600006		34 MM	CR	3 o'clock	2
1990-2004 V6 – 3.4L, Transverse	3100015		3600006		34 MM	CR	3 o'clock	2
2005-2009 V6 – 3.4L, Transverse (Equinox)	3100109	3100127	3600082	3600119	28 MM THD	LC	N/A	15
2009-2016 V6 – 3.6L (Acadia, Terrain)	3100110		3600082		Cartridge	RR	N/A	15
1980-1985 V6 – 3.8L (229 cu. in.) (El Camino)	3100057	3100126	3600006	3600116	1-5/8"	LR	9 o'clock	
1993-1996 V6 – 3.8L (231 cu. in.), Transverse	3100041		3600006		1-1/2"	LF	3 o'clock	
1978-1988 V6 – 3.8L (231 cu. in.) (El Camino)	3100039		3600006		1-1/2"	RR	12 o'clock	1
2002-2004 L6 – 4.2L	3100005		3600100		28 MM THD	LF	N/A	1
2005-2007 L6 – 4.2L	3100109	3100127	3600082	3600119	28 MM THD	LF	N/A	15
1985-2005 V6 – 4.3L (263 cu. in.)	3100054		3600006		1-5/8"	LR	12 o'clock	
2006-2016 V6 – 4.3L	3100109	3100127	3600082	3600119	28 MM THD	LC	N/A	15
1974-1989 L6 – 250, 292 cu. in.	3100054		3600006		1-5/8"	LR	12 o'clock	
1981-1985 L6 – 4.1L (250 cu. in.)	3100054		3600006		1-5/8"	LR	12 o'clock	
1960-1973 L6 – 194, 230, 248, 250, 261, 292 cu. in.	3100054		3600006		1-5/8"	LF	12 o'clock	
1960-1974 V6 – 305, 351, 401, 478 cu. in.	3100065		3600006		1-3/4"	LF or RF	12 o'clock	
8 Cylinder								
1955-1972 V8 – 265, 283, 305, 307, 327, 350, 400 (265 HP)	3100057	3100126	3600006	3600116	1-5/8"	LR	9 o'clock	
1958-1965 V8 – 348, 409 cu. in.	3100065		3600006		1-3/4"	LR	12 o'clock	
1972-1989 V8 – 366, 396, 402, 427 cu. in.	3100065		3600006		1-3/4"	RC	12 o'clock	
1978-1984 V8 – 5.7L (350 cu. in.) Diesel	3100039		3600006		1-1/2"	LF or RF	12 o'clock	
1981-2000 V8 – 6.2, 6.5L, Diesel (600W heater)	3100057	3100126	3600006	3600116	1-5/8"	LC	6 or 12 o'clock	
1981-2000 V8 – 6.2, 6.5L, Diesel (1000W heater)	3100059		3600006		1-5/8"	LC	6 or 12 o'clock	
2001-2006 V8 – 6.6L, Diesel (Duramax)	3100130		3600006		40MM	RF	12 o'clock	15
2007-2015 V8 – 6.6L, Diesel (Duramax)	3100130		3600006		40MM	RF	12 o'clock	15
1966-1989 V8 – 7.4L (454 cu. in.)	3100065		3600006		1-3/4"	RC	6 o'clock	
1990-2004 V8 – 5.7, 6.0, 7.4L (366, 350, 454 cu. in.)	3100057	3100126	3600006	3600116	1-5/8"	LC or RC	6 o'clock	
1973-2002 V8 – 5.0, 5.7, 6.6L (305, 350, 400 cu. in.)	3100057	3100126	3600006	3600116	1-5/8"	LR	9 o'clock	10
1999-2004 V8 – 4.8, 5.3, 6.0, 8.1L (Gen 3)	3100005		3600100		28 MM THD	LR	N/A	
2005-2016 V8 – 4.8, 5.3, 6.0, 6.2, 8.1L (Gen 3 & 4)	3100109	3100127	3600082	3600119	28 MM THD	LR or LF	3600006	15
1965-1985 V8 – DH 637	3100065		3600006		1-3/4"	LF or RC	12 o'clock	
CHRYSLER								
AUTOMOTIVE								
4 Cylinder								
1979-1984 L4 – 1.4L	3100016		3600006		35 MM	2ND LR	12 o'clock	
1985-1996 L4 – 1.5L (G15B), Transverse	3100024		3600006		35 MM	LR or 2ND LR	9 o'clock	
1971-1973 L4 – 1.5L, Conventional	3100055	3100125	3600006	3600116	1-5/8"	2ND LS	12 o'clock	
1978-1990 L4 – 1.6L, Transverse (Colt/Champ)	3100016		3600006		35 MM	2ND LR	12 o'clock	
1989-1990 L4 – 1.6L (4G61) DOHC, Turbo	3100024		3600006		35 MM	2ND RR	4 o'clock	
1971-1983 L4 – 1.6L, Conventional	3100016		3600006		35 MM	LC	12 o'clock	
1978-1983 L4 – 1.7L (Omni/Horizon)	3100034		3600016		36.5 MM	RR	6 o'clock	2
1989-1996 L4 – 1.8L (4G93)	3100020		3600006		35 MM	RF	3 o'clock	
2006-2011 L4 – 1.8L, Transverse (Caliber)	3100111		3600083		Cartridge	LF	N/A	
1974-1982 L4 – 2.0L, Conventional	3100049		3600006		40 MM	RF	6 o'clock	
1984-1993 L4 – 2.0L (4G63), Transverse	3100024		3600006		35 MM	LR	3 o'clock	
1994-2005 L4 – 2.0L, Transverse (Neon/Stratus)	3100024		3600006		35 MM	LR	3 o'clock	
2006-2012 L4 – 2.0L, Transverse (Caliber)	3100111		3600083		Cartridge	LF	N/A	
1992-2006 L4 – 2.4L (4G64), Transverse	3100075		3600004		35 MM	LR	3 o'clock	13
2003-2007 L4 – 2.4L, Turbo	3100075		3600004		35 MM	LR	3 o'clock	13
2008-2009 L4 – 2.4L, Turbo	3100111		3600083		Cartridge	LF	N/A	
2006-2014 L4 – 2.4L, Transverse (Caliber, Sebring)	3100111		3600083		Cartridge	LF	N/A	

Point Element – Please confirm element orientation – improper position may result in heater or engine damage.

* Description of footnotes – see page 36.

FREEZE PLUG HEATER (UNLESS OTHERWISE NOTED)								
MAKE, MODEL, YEAR, ENGINE	Heater Part No.		Repl. Cord Part No.		Bore Diameter	Installation Location	Element Position	Foot Notes*
	Std Kit	Lit Kit	Std Cord	Lit Cord				
CHRYSLER – Continued								
AUTOMOTIVE								
4 Cylinder								
1981-1997 L4 – 2.2L, 2.5L Including, Turbo (600W)	3100055	3100125	3600006	3600116	1-5/8"	CR	6 or 12 o'clock	
1981-1997 L4 – 2.2L, 2.5L Including, Turbo (400W)	3100053	3100125	3600006		1-5/8"	CR	6 or 12 o'clock	
1981-1989 L4 – 2.6L, Transverse	3100049	3100125	3600006		40 MM	RR	9 o'clock	
1978-1985 L4 – 2.6L, Conventional	3100049	3100125	3600006		40 MM	RR	9 o'clock	
1985-1989 L4 – 2.6L, Conventional, Turbo	See Dealer	3100125	N/A		N/A	N/A	N/A	
6 Cylinder								
1995-2000 V6 – 2.5L (6G73), Transverse	3100055	3100125	3600006	3600116	1-5/8"	CR	3 o'clock	
2002-2009 V6 – 2.7L, Transverse	See Dealer	3100125	N/A		Cartridge	LR	N/A	
1987-1998 V6 – 3.0L (6G72), Transverse	3100055	3100125	3600006	3600116	1-5/8"	LR	12 o'clock	
2001-2005 V6 – 3.0L	3100055	3100125	3600006	3600116	1-5/8"	RR	12 o'clock	
1988-1992 V6 – 3.0L (Monaco)	3100031	3100125	3600006		36 MM	RRF IN HEAD	9 o'clock	
2004-2008 V6 – 3.2L, Conventional (Crossfire, SRT6)	3100105	3100125	N/A		38 MM THD	Lower Hose Fitting	N/A	
1990-1998 V6 – 3.3L, Transverse	3100055	3100125	3600006	3600116	1-5/8"	LR	12-1 o'clock	
1993-1997 V6 – 3.3L, Conventional	3100055	3100125	3600006	3600116	1-5/8"	RR	12-1 o'clock	
1993-1997 V6 – 3.5L, Conventional	3100055	3100125	3600006	3600116	1-5/8"	RR	12 o'clock	
1998-2011 V6 – 2.7, 3.2, 3.5L, Conventional	See Dealer		N/A		Cartridge	RR	N/A	
2011-2016 V6 – 3.6L, Pentastar	3100128		3600120		Cartridge	RR	N/A	
1961-1983 L6 – 170, 198, 225 cu. in. (Slant)	3100055	3100125	3600006	3600116	1-5/8"	LF	12 o'clock	
8 Cylinder								
1966-1969 V8 – 273, 318, 340 cu. in.	3100055	3100125	3600006	3600116	1-5/8"	LC or RC	12 o'clock	
1966-1969 V8 – 383, 400, 413, 426, 440 cu. in.	3100055	3100125	3600006	3600116	1-5/8"	LC or RC	12 o'clock	
1970-1989 V8 – 318, 340, 360, 383, 400, 440 cu. in.	3100055	3100125	3600006	3600116	1-5/8"	LC or RC	12 o'clock	
2004-2016 V8 – 5.7L, Hemi	3100131		3600121		Cartridge	LR	N/A	
2005-2010 V8 – 6.1L, Hemi	See Dealer		N/A		Cartridge	LR	N/A	
2011-2014 V8 – 6.4L, Hemi	See Dealer		N/A		Cartridge	LR	N/A	
10 Cylinder								
1996-2010 V10 – 8.0, 8.2, 8.3, 8.4L	See Dealer		N/A		N/A	N/A	N/A	
DAEWOO								
AUTOMOTIVE								
4 Cylinder								
1999-2002 L4 – 1.6L (Lanos)								
1999-2002 L4 – 2.0L (Nubira)	3100015		3600006		34 MM	LF	3 o'clock	
1999-2002 L4 – 2.2L (Leganza)	3100015		3600006		34 MM	LF	3 o'clock	
DODGE								
LIGHT & MEDIUM DUTY TRUCKS & VANS								
4 Cylinder								
1992-1996 L4 – 1.8L (4G93) (Vista/Summit)	3100020		3600006		35 MM	RF	3 o'clock	
1979-1982 L4 – 2.0L	3100049		3600006		40 MM	RF	6 o'clock	
1983-1989 L4 – 2.0L (4G63B) (122 cu. in.)	3100024		3600006		35 MM	RR	3 o'clock	
1984-1991 L4 – 2.0L (Vista)	3100024		3600006		35 MM	2ND LR	9 o'clock	
1982-1987 L4 – 2.2L, Transverse	3100055	3100125	3600006	3600116	1-5/8"	CR	6 o'clock	
1982-1987 L4 – 2.2L, Transverse	3100053		3600006		1-5/8"	CR	6 o'clock	
1987-1997 L4 – 2.2L, 2.5L, Conventional	3100055	3100125	3600006	3600116	1-5/8"	RC	6 o'clock	
1983-1985 L4 – 2.3L (4D55) (140 cu. in.), Diesel	See Dealer		3600006		40 MM	LR	9 o'clock	
1987-1990 L4 – 2.4L (G64B), Conventional	3100024		3600006		35 MM	RR	3 o'clock	
1992-1996 L4 – 2.4L (4G64) (Vista)	3100024		3600006		35 MM	LR/2ND LR	3 o'clock	13
1986-1995 L4 – 2.5L, Transverse	3100055	3100125	3600006	3600116	1-5/8"	CR	6 o'clock	

Point Element – Please confirm element orientation – improper position may result in heater or engine damage.

* Description of footnotes – see page 36.

FREEZE PLUG HEATER (UNLESS OTHERWISE NOTED)

MAKE, MODEL, YEAR, ENGINE	Heater Part No.		Repl. Cord Part No.		Bore Diameter	Installation Location	Element Position	Foot Notes*
	Std Kit	Lit Kit	Std Cord	Lit Cord				
DODGE – Continued								
LIGHT & MEDIUM DUTY TRUCKS & VANS								
4 Cylinder								
1986-1995 L4 – 2.5L, Transverse	3100053		3600006		1-5/8"	CR	6 o'clock	
1986-1990 L4 – 2.6L, Transverse	3100049		3600006		40 MM	RR	9 o'clock	
1979-1990 L4 – 2.6L (G54B), Conventional	See Dealer		3600006		40 MM	RF	6 o'clock	
5 Cylinder								
2004-2006 L5 – 2.7L, Diesel	3100105		3600083		38 MM THD	LF	N/A	
6 Cylinder								
1987-2007 V6 – 3.0, 3.3L, 3.8L, Transverse	3100055	3100125	3600006	3600116	1-5/8"	LR	12 o'clock	
1987-1996 V6 – 3.0L (6G72), Transverse	3100055	3100125	3600006	3600116	1-5/8"	RR	9 o'clock	1
2007-2011 V6 – 3.0L, Diesel	See Dealer		N/A		N/A	N/A	N/A	
2011-2014 V6 – 3.6L Pentastar	3100128		3600120		Cartridge	RR	N/A	
2002-2008 V6 – 3.7L	3100104		3600006		35 MM	2ND RR	N/A	
1987-2003 V6 – 3.9L (239 cu. in.)	3100055	3100125	3600006	3600116	1-5/8"	RR	6 o'clock	
2007-2010 V6 – 4.0L	See Dealer		N/A		N/A	N/A	N/A	
1960-1988 L6 – 170, 198, 225 cu. in.	3100055	3100125	3600006	3600116	1-5/8"	LF	12 o'clock	
1989-2001 L6 – 5.9L Cummins, Diesel	3500030		3600008		58 MM	RC	6 o'clock	
2002-2006 L6 – 5.9L Cummins, Diesel	3500022		3600008		3/4" NPT	Rear of oil cooler	N/A	
2007-2014 L6 – 6.7L Cummins, Diesel	3500022		3600008		3/4" NPT	Rear of oil cooler	N/A	
8 Cylinder								
2000-2012 V8 – 4.7L	3100104		3600006		35 MM	RR	N/A	
1962-1996 V8 – ALL (Except Dakota)	3100055	3100125	3600006	3600116	1-5/8"	LC or RC	12 o'clock	
1991-1999 V8 – 5.2L (Dakota)	3100055	3100125	3600006	3600116	1-5/8"	RR	6 o'clock	
1996-2001 V8 – 5.2L (Ram) & (Durango)	3100055	3100125	3600006	3600116	1-5/8"	RR	6 o'clock	
2003-2014 V8 – 5.7L, Hemi								
1993-2002 V8 – 5.9L	3100055	3100125	3600006	3600116	1-5/8"	RR	6 o'clock	
10 Cylinder								
1994-2008 V10 – 8.0L	3100091		3600006		1-5/8"	RR	11 o'clock	
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.								
EAGLE								
AUTOMOTIVE								
4 Cylinder								
1989-1996 L4 – 1.5L (G15G), Transverse	3100024		3600006		35 MM	2ND LR	9 o'clock	
1989-1990 L4 – 1.6L (4G61) DOHC ENG	3100024		3600006		35 MM	2ND RR	4 o'clock	
1992-1996 L4 – 1.8L (4G93)	3100020		3600006		35 MM	RF	3 o'clock	
1990-1996 L4 – 1.8L (4G37) (Talon)	3100024		3600006		35 MM	RF	12 o'clock	
1989-1998 L4 – 2.0L (4G63), Turbo (Talon)	See Dealer		N/A		N/A	N/A	N/A	
1995-1997 L4 – 2.0L (Talon) (Chrysler engine)	3100024		3600006		35 MM	LR	3 o'clock	
1988-1989 L4 – 2.2L	3100003		3600001		1" NPT	RF	6 o'clock	
1992-1996 L4 – 2.4L (4G64), Transverse (Summit)	3100024		3600006		35 MM	LR/2ND LR	3 o'clock	13
1992-1996 L4 – 2.4L (4G64), Transverse	3100024		3600006		35 MM	RF	3 o'clock	
1988-1989 L4 – 2.5L (150 cu. in.)	3100065		3600006		1-3/4"	LF	12 o'clock	
6 Cylinder								
1988-1993 V6 – 3.0L	3100031		3600006		36 MM	RRF IN HEAD	9 o'clock	
1993-1997 V6 – 3.3L, Conventional	3100055	3100125	3600006	3600116	1-5/8"	LF	12-1 o'clock	
1993-1997 V6 – 3.5L, Conventional	3100055	3100125	3600006	3600116	1-5/8"	RR	12 o'clock	
FIAT								
AUTOMOTIVE								
2011-2016 L4 – 1.4L	See Dealer		N/A		N/A	N/A	N/A	
2012 L4 – 1.4L, Turbo	See Dealer		N/A		N/A	N/A	N/A	

Point Element – Please confirm element orientation – improper position may result in heater or engine damage.

* Description of footnotes – see page 36.

FREEZE PLUG HEATER (UNLESS OTHERWISE NOTED)								
MAKE, MODEL, YEAR, ENGINE	Heater Part No.		Repl. Cord Part No.		Bore Diameter	Installation Location	Element Position	Foot Notes*
	Std Kit	Lit Kit	Std Cord	Lit Cord				
FORD/MERCURY/LINCOLN								
AUTOMOTIVE								
4 Cylinder								
1988-1997 L4 – 1.3L	3100016		3600006		35 MM	2ND LR	12 o'clock	
1971-1981 L4 – 1.3, 1.6L	3100057	3100126	3600006	3600116	1-5/8"	LF	12 o'clock	
1971-1973 L4 – 1.6L OHV	3100054		3600006		1-5/8"	LF	12 o'clock	
1978-1980 L4 – 1.6L, Transverse (Fiesta)	3100053		3600006		1-5/8"	LF	9 o'clock	
1981-1985 L4 – 1.6L (Escort)	3100053		3600006		1-5/8"	LF	9 o'clock	
1988-1996 L4 – 1.6L (Tracer)	3100016		3600006		35 MM	2ND RF	12 o'clock	
2010-2016 L4 – 1.6L	See Dealer		N/A		35 MM	RR	N/A	
1991-1996 L4 – 1.8L DOHC	3100021		3600006		35 MM	2ND RF	9 o'clock	
1986-1990 L4 – 1.9L, Transverse	3100053		3600006		1-5/8"	LF	9 o'clock	
1991-2004 L4 – 1.9L CVH, 2.0L SPI, Transverse	3100102		3600006		35 MM	LR	9 o'clock	
1971-1975 L4 – 2.0L OHV/OHC	3100039		3600006		1-1/2"	RF	12 o'clock	
1972-1975 L4 – 2.0L OHV	3100039		3600006		1-1/2"	RF	12 o'clock	
1984-1988 L4 – 2.0L, Diesel	3100016		3600006		35 MM	2ND LF	12 o'clock	
1993-1997 L4 – 2.0L (Mazda engine)	3100023		3600006		35 MM	RR	8 o'clock	
1995-2004 L4 – 2.0L (Zetec engine, inc SVT)*	3100018		3600006		35 MM	RR	3 o'clock	
2004-2011 L4 – 2.0L (Duratec), Transverse (Focus)	3100002	3100121	3600001	3600118	3/4" NPT	LR	N/A	
2012-2016 L4 – 2.0L (Focus)	See Dealer		N/A		N/A	N/A	N/A	
2011-2015 L4 – 2.0L Ecoboost	See Dealer		N/A		N/A	N/A	N/A	
1989-1992 L4 – 2.2L	3100016		3600006		35 MM	2ND RF	12 o'clock	
1989-1992 L4 – 2.2L, Turbo	3100017		3600006		35 MM	2ND RF	12 o'clock	
1974-1995 L4 – 2.3L OHC, Conventional	3100039		3600006		1-1/2"	RR or RF	6 or 12 o'clock	
2004-2007 L4 – 2.3L (Duratec), Transverse	3100002	3100121	3600001	3600118	3/4" NPT	LR	N/A	
2008-2016 L4 – 2.5L (Duratec), Transverse	3100002	3100121	3600001	3600118	3/4" NPT	LR	N/A	
1983-1995 L4 – 2.3, 2.5L HSC, Transverse	3100065		3600006		1-3/4"	LR & RR	6 o'clock	
6 Cylinder								
1993-1997 V6 – 2.5L	3100028		3600006		35 MM	REAR	8 o'clock	
1995-2012 V6 – 2.5L, 3.0L 24-Valve (Duratec engine)**	3100002	3100121	3600001	3600118	3/4" NPT	RF	N/A	
2000-2005 V6 – 3.0L 24V, Conventional (Duratec engine)**	3100002	3100121	3600001	3600118	3/4" NPT	RR	N/A	
1972-1982 V6 – 2.6, 2.8L	3100036		3600003		1-1/2"	LFF or RFF	4 or 9 o'clock	
1987-1990 V6 – 2.9L (Scorpio)	3100042		3600006		1-1/2"	LFF	10 o'clock	
1986-2006 V6 – 3.0L 12-VALVE, Transverse (Except Villager and SHO)	3100039		3600006		1-1/2"	LF	6 o'clock	
1989-1994 V6 – 3.0, 3.2L (SHO)	See Dealer		N/A		N/A	N/A	N/A	
2007-2016 V6 – 3.5L, Transverse	3100002	3100121	3600001	3600118	3/4" NPT	RR	N/A	
2009-2016 V6 – 3.5L GTDI Ecoboost	3100002	3100121	3600001	3600118	3/4" NPT	RR	N/A	
2009-2016 V6 – 3.7L, Transverse	3100002	3100121	3600001	3600118	3/4" NPT	RR	N/A	
2010-2016 V6 – 3.7L, Conventional	See Dealer		N/A		Cartridge	N/A	N/A	
1988-1996 V6 – 3.8L, Transverse	3100040		3600006		1-1/2"	LF	12 o'clock	
1982-2004 V6 – 3.8L, Conventional	3100040		3600006		1-1/2"	LR or RR	12 o'clock	
2005-2009 V6 – 4.0L, Conventional	3100040		3600006		38MM	RR	7 o'clock	
1964-1983 L6 – 170, 200, 250 cu. in.	3100065		3600006		1-3/4"	RC or RF	6 or 12 o'clock	
1966-1972 L6 – 240 cu. in.	3100054		3600006		1-5/8"	2ND RF	12 o'clock	
8 Cylinder								
1963-1965 V8 – 221, 260, 289 cu. in.	3100039		3600006		1-1/2"	LR	12 o'clock	
1980-1982 V8 – 4.2L, 255 cu. in.	3100039		3600006		1-1/2"	RR	6 o'clock	1
1996-1998 V8 – 3.4L (SHO)	3100002	3100121	3600001	3600118	3/4" NPT	NOT ACCESSIBLE	N/A	5
2000-2005 V8 – 3.9L, Conventional	3100107		3600005		30 MM	LR	N/A	
1992-2010 V8 – 4.6L, Conventional	3100040		3600006		1-1/2"	LR	9 o'clock	

Point Element – Please confirm element orientation – improper position may result in heater or engine damage.

* Description of footnotes – see page 36.

FREEZE PLUG HEATER (UNLESS OTHERWISE NOTED)

MAKE, MODEL, YEAR, ENGINE	Heater Part No.		Repl. Cord Part No.		Bore Diameter	Installation Location	Element Position	Foot Notes*
	Std Kit	Lit Kit	Std Cord	Lit Cord				
FORD/MERCURY/LINCOLN – Continued								
AUTOMOTIVE								
8 Cylinder								
1999-2000 V8 – 4.6L, Conventional (Mustang)	3100040		3600006		1-1/2"	RR	9 o'clock	
2001-2009 V8 – 4.6L, Conventional (Mustang)	3100040		3600006		1-1/2"	LR	9 o'clock	
1995-2004 V8 – 4.6L 32V (Mustang)	3100040		3600006		1-1/2"	LR	9 o'clock	
2003-2004 V8 – 4.6L 32V (Merauder)	3100040		3600006		1-1/2"	LR	9 o'clock	
1995-2002 V8 – 4.6L, Transverse	3100040		3600006		1-1/2"	LF	9 o'clock	
2011-2016 V8 – 5.0L	3100002	3100121	3600001	3600118	3/4" NPT	LF	N/A	
2006-2011 V8 – 5.4L, Conventional (Mustang)	3100040		3600006		1-1/2"	LR	9 o'clock	
1966-1996 V8 – 289, 302 cu. in. (5.0L)	3100039		3600006		1-1/2"	LR or RR	6 o'clock	1
1974-1988 V8 – 5.8L, 351W, 351C, 351 cu. in.	3100039		3600006		1-1/2"	RR	12 o'clock	
1974-1985 V8 – 351M, 400 cu. in.	3100039		3600006		1-1/2"	LR	9 o'clock	
1968-1978 V8 – 429, 460 cu. in.	3100039		3600006		1-1/2"	LF or RF	12 o'clock	
1968-1973 V8 – 351, 400, 429, 460 cu. in.	3100039		3600006		1-1/2"	LF or RF	12 o'clock	
1963-1971 V8 – 352, 390, 410, 427, 428 cu. in.	3100065		3600006		1-3/4"	RF	6 or 12 o'clock	
LIGHT & MEDIUM DUTY TRUCKS & VANS – Includes Aerostar, Explorer & Windstar								
4 Cylinder								
1972-1982 L4 – 1.8L	3100071		3600006		50 MM	LC	12 o'clock	
1983-1988 L4 – 2.0L	3100039		3600006		1-1/2"	RR	6 o'clock	1
1979-1982 L4 – 1.8, 2.0L (Courier)	3100016		3600006		35 MM	LF	12 o'clock	
2002-2003 L4 – 2.0L (Zetec engine)	3100018		3600006		35 MM	RR	3 o'clock	
2010-2011 L4 – 2.0L (Transit)	See Dealer		N/A		N/A	N/A	N/A	
1981-1985 L4 – 2.2L, Diesel	3100010		3600005		30 MM	RR	6 o'clock	
1977-1994 L4 – 2.3L	3100039		3600006		1-1/2"	RR	6 o'clock	
1985-1988 L4 – 2.3L Mitsubishi, Diesel, Turbo	See Dealer		3600006		40 MM	LR	9 o'clock	
1995-1997 L4 – 2.3L	3100084		3600006		1-1/2"	LR	3 o'clock	
2001-2007 L4 – 2.3L, Conventional	3100002	3100121	3600001	3600118	3/4" NPT	RR	N/A	
2004-2012 L4 – 2.3L, Transverse	3100002	3100121	3600001	3600118	3/4" NPT	LR	N/A	
1998-2000 L4 – 2.5L	3100002		3600006		1-1/2"	LR	3 o'clock	
6 Cylinder								
1983-1986 V6 – 2.8L	3100002		3600003		1-1/2"	RFF IN HEAD	10 o'clock	
1986-1992 V6 – 2.9L	3100002		3600006		1-1/2"	LFF IN HEAD	10 o'clock	
1993-1999 V6 – 3.0L, Transverse (Villager)	3100002		3600004		30 MM	LF	6 o'clock	
1986-2003 V6 – 3.0L, 12-Valve	3100002		3600006		1-1/2"	ANY	6 o'clock	
2001-2011 V6 – 3.0L 24-Valve (Duratec engine)**	3100002	3100121	3600001	3600118	3/4" NPT	RF	N/A	
1999-2000 V6 – 3.3L, Transverse (Villager)	3100009		3600004		30 MM	LF	6 o'clock	
2011-2012 V6 – 3.5L, Conventional (Ecoboost)	See Dealer		N/A		Cartridge	N/A	N/A	
2011-2012 V6 – 3.7L, Conventional	See Dealer		N/A		Cartridge	N/A	N/A	
1992-1997 V6 – 3.8L, Conventional	3100039		3600006		1-1/2"	LR or RR	12 o'clock	
1995-2003 V6 – 3.8L, Transverse	3100040		3600006		1-1/2"	LF	6 o'clock	
2004-2010 V6 – 3.9L, Transverse	3100040		3600006		1-1/2"	LF	6 o'clock	
1990-2010 V6 – 4.0L	3100039		3600006		1-1/2"	RF	6 o'clock	
1996-2003 V6 – 4.2L, Conventional	3100040		3600006		1-1/2"	LR	12 o'clock	
2004-2008 V6 – 4.2L, Transverse	3100040		3600006		1-1/2"	LF	6 o'clock	
1964-1974 L6 – 170, 200, 250 cu. in.	3100065		3600006		1-3/4"	RF	12 o'clock	
1965-1997 L6 – 3.9, 4.9L (240, 300 cu. in.)	3100054		3600006		1-5/8"	2ND RF	12 o'clock	9
1986-1988 L6 – 6.6, 7.8L, Diesel (See Heavy Duty Application Guide)								
8 Cylinder								
1960-1974 V8 – 292, 428 cu. in.	3100065		3600006		1-3/4"	LF or RF	12 o'clock	
1966-1999 V8 – 5.0L (302 cu. in.), 289 cu. in.	3100039		3600006		1-1/2"	RR	6 o'clock	
1996-2010 V8 – 4.6L, 5.4L	3100040		3600006		1-1/2"	LR	12 o'clock	
2011 V8 – 5.0L	3100002	3100121	3600001	3600118	3/4" NPT	LR	N/A	

Point Element – Please confirm element orientation – improper position may result in heater or engine damage.

* Description of footnotes – see page 36.

FREEZE PLUG HEATER (UNLESS OTHERWISE NOTED)								
MAKE, MODEL, YEAR, ENGINE	Heater Part No.		Repl. Cord Part No.		Bore Diameter	Installation Location	Element Position	Foot Notes*
	Std Kit	Lit Kit	Std Cord	Lit Cord				
FORD/MERCURY/LINCOLN – Continued								
LIGHT & MEDIUM DUTY TRUCKS & VANS – Includes Aerostar, Explorer & Windstar								
8 Cylinder								
2000-2014 V8 – 5.4L	3100002	3100121	3600001	3600118	3/4" NPT	LR	N/A	
1966-1997 V8 – 5.8L (351 cu. in.), 400 cu. in.	3100039		3600006		1-1/2"	LR or RR	12 o'clock	
1966-1997 V8 – 7.5L (460 cu. in.), 429 cu. in.	3100039		3600006		1-1/2"	LF or RF	12 o'clock	
1960-1980 V8 – 330, 352, 361, 389, 391 cu. in.	3100065		3600006		1-3/4"	RF or 2ND RF	12 o'clock	
1960-1979 V8 – 360, 390 cu. in.	3100065		3600006		1-3/4"	LR or 2ND RF	12 o'clock	
1979-1986 V8 – 370 cu. in.	3100039		3600006		1-1/2"	LR or RR	12 o'clock	
1960-1981 V8 – 401, 475, 477, 534 cu. in.	3100065		3600006		1-3/4"	LR or 2ND RF	12 o'clock	
2003-2006 V8 – 6.0L, Diesel (VT365)	3500069		3600008		27MM	RR	N/A	
2010-2014 V8 – 6.2L	3100002	3100121	3600001	3600118	3/4" NPT	LR	N/A	
2007-2010 V8 – 6.4L, Diesel	3500069		3600008		27MM	RR	N/A	
2011-2014 V8 – 6.7, 6.8L, Diesel	3500069		3600008		27MM	LR	N/A	
1983-1994 V8 – 6.9, 7.3L, Diesel	3100043		3600010		1-1/2"	RR	11 o'clock	
1995-2002 V8 – 7.3L (T444E)	3500043		3600008		3/4 NPT	oil filter	N/A	
10 Cylinder								
1998-2010 V10 – 6.8L	3100040		3600006		1-1/2"	LR or RR	12 o'clock	
GEO								
AUTOMOTIVE								
3 Cylinder								
1989-1997 L3 – 1.0L (Metro)	3400002		3600002		Clamp-On	N/A	N/A	
4 Cylinder								
1989-1999 L4 – 1.3L (Suzuki engine)	3400004		3600020		Clamp-On	N/A	N/A	
1989 L4 – 1.5L	3100018		3600006		35 MM	CR	12 o'clock	
1988-1997 L4 – 1.6L (Suzuki engine) (Tracker)	3400003		3600002		Clamp-On	N/A	N/A	
1990-1997 L4 – 1.6, 1.8L (Trans) (Isuzu engine) (Storm)	3100018		3600006		35 MM	2ND RR	12 o'clock	
1985-1997 L4 – 1.6, 1.8L (Trans) (Toyota engine) (Prizm)	3100049		3600006		40 MM	CF	12 o'clock	
GMC – SEE CHEVROLET LIGHT & MEDIUM TRUCKS								
HINO – SEE HEAVY DUTY APPLICATION GUIDE								
HONDA								
AUTOMOTIVE								
4 Cylinder								
2002-2004 L4 -1.0L	3100006	3100124	3600005	3600117	28 MM THD			
1973-1983 L4 – 1.2, 1.3L	3400005		3600002		Clamp-On	N/A	N/A	
1984-1992 L4 – 1.3, 1.5L	3400001		3600002		Clamp-On	N/A	N/A	
2003-2014 – 1.3L	3100006	3100124	3600005	3600117	28 MM THD			
1996-2000 L4 – 1.6L, Transverse 16-Valve	3100006	3100124	3600005	3600117	28 MM THD	LR	N/A	
1999-2000 L4 – 1.6L DOHC (Civic SiR)	3100006	3100124	3600005	3600117	28 MM THD	RF	N/A	
1988-1995 L4 – 1.5L, 1.6L, Transverse 16-Valve only	3100006	3100124	3600005	3600117	28 MM THD	RF	N/A	
1976-1983 L4 – 1.5, 1.6L	3400006		3600002		Clamp-On	N/A	N/A	
2006-2016 L4 – 1.5L (Fit)	See Dealer		N/A		N/A	N/A	N/A	
2011-2016 L4 – 1.5L (CRZ)	See Dealer		N/A		N/A	N/A	N/A	
2001-2005 L4 – 1.7L, Transverse	3100006	3100124	3600005	3600117	28 MM THD	LR	N/A	
2006-2011 L4 – 1.8L, Transverse	See Dealer		N/A		N/A	N/A	N/A	
2012 L4 – 1.8L, Transverse	See Dealer		N/A		N/A	N/A	N/A	
1979-1987 L4 – 1.6L, 1.8L, 2.0L, Transverse	3100023		3600006		35 MM	RS	9 o'clock	
1988-1989 L4 – 2.0L, Transverse (Accord)	3100023		3600006		35 MM	RS	9 o'clock	
2002-2005 L4 – 2.0L, Transverse (Civic SiR)	3100006	3100124	3600005	3600117	28 MM THD	RR	N/A	
2006-2011 L4 – 2.0L, Transverse (Civic SiR)	3100006	3100124	3600005	3600117	28 MM THD	RR	N/A	

Point Element – Please confirm element orientation – improper position may result in heater or engine damage.

* Description of footnotes – see page 36.

FREEZE PLUG HEATER (UNLESS OTHERWISE NOTED)

MAKE, MODEL, YEAR, ENGINE	Heater Part No.		Repl. Cord Part No.		Bore Diameter	Installation Location	Element Position	Foot Notes*
	Std Kit	Lit Kit	Std Cord	Lit Cord				
HONDA – Continued								
AUTOMOTIVE								
4 Cylinder								
1988-1991 L4 – 2.0L, 2.1L, Transverse (Prelude)	See Dealer		N/A		Clamp-On	N/A	N/A	
2000-2009 L4 – 2.0, 2.2L, Conventional (S2000)	3100006	3100124	3600005	3600117	28 MM THD	N/A	N/A	
1990-1997 L4 – 2.2L, Transverse (Accord)	3100006	3100124	3600005	3600117	28 MM THD	LR	N/A	
1992-2001 L4 – 2.2L, 2.3L, Transverse (Prelude)	3100006	3100124	3600005	3600117	28 MM THD	RR	N/A	5
1998-2002 L4 – 2.3L (Accord)	3100006	3100124	3600005	3600117	28 MM THD	LR	N/A	
2003-2015 L4 – 2.4L (Accord)	3100006	3100124	3600005	3600117	28 MM THD	RR	N/A	
2012 L4 – 2.4L, Transverse (Civic SIR)	See Dealer		N/A		N/A	N/A	N/A	
6 Cylinder								
1998-2007 V6 – 3.0L (Accord)	3100006	3100124	3600005	3600117	28 MM THD	LF	N/A	
2008-2016 V6 – 3.5L (Accord)	3100006	3100124	3600005	3600117	28 MM THD	LF	N/A	
1995-1997 V6 – 2.7L (Accord)	See Dealer		N/A		N/A	CR	N/A	
LIGHT TRUCK								
4 Cylinder								
1997-2001 L4 – 2.0L (CRV)	3100006	3100124	3600005	3600117	28 MM THD	RF	N/A	
1995-1998 L4 – 2.2L Odyssey, Transverse	3100006	3100124	3600005	3600117	28 MM THD	LR	N/A	
2002-2014 L4 – 2.4L (CRV)	3100006	3100124	3600005	3600117	28 MM THD	RR	N/A	
6 Cylinder								
1994-1999 V6 – 3.2L (Passport)	3100005		3600005		28 MM THD	LR	N/A	
1999-2014 V6 – 3.5L (Odyssey, Pilot, Ridgeline)	3100006	3100124	3600005	3600117	28 MM THD	LF	N/A	
HUMMER								
AUTOMOTIVE								
5 Cylinder								
2005-2006 L5 – 3.5L (H3)	3100109	3100127	3600082	3600119	28 MM THD	LC	N/A	15
2007-2009 L5 – 3.7L (H3)	3100109	3100127	3600082	3600119	28 MM THD	LC	N/A	15
8 Cylinder								
2007-2009 V8 – 5.3L	3100109	3100127	3600082	3600119	28 MM THD	LR	N/A	15
2003-2004 V8 – 6.0L (H2)	3100005		3600005		28 MM THD	LR	N/A	
2005-2009 V8 – 6.0L (H2)	3100109	3100127	3600082	3600119	28 MM THD	LR	N/A	15
HYUNDAI								
AUTOMOTIVE								
4 Cylinder								
1995-1997 L4 – 1.5L (Accent)	3100098	3100122	3600006	3600116	35 MM	2ND LR	9 o'clock	
1998-1999 L4 – 1.5L (Accent)	3100098	3100122	3600006	3600116	35 MM	CR	4 o'clock	
2000-2005 L4 – 1.5L (Accent)	3100098	3100122	3600006	3600116	35 MM	RF	9 o'clock	
2006-2011 L4 – 1.6L (Accent)	3100114		3600006		35MM	LF	12 o'clock	
2012-2016 L4 – 1.6L (Accent, Velostar)	See Dealer		N/A		Cartridge	RF	N/A	
1983-1987 L4 – 1.4, 1.6L, Conventional	3100098	3100122	3600006	3600116	35 MM	LC	12 o'clock	
1986-1995 L4 – 1.5L (Mitsubishi engine) (Excel)	3100098	3100122	3600006	3600116	35 MM	2ND LR	7 or 9 o'clock	
1993-1995 L4 – 1.5L (Alpha engine), Turbo	3100098	3100122	3600006	3600116	35 MM	2ND LR	7 or 8 o'clock	
1985-1986 L4 – 1.6L	3100098	3100122	3600006	3600116	35 MM	LC	7-11 o'clock	
2001-2005 L4 – 1.6L (Accent)	3100098	3100122	3600006	3600116	35 MM	2ND RR		
1992-1999 L4 – 1.6, 1.8L, Transverse	3100098	3100122	3600006	3600116	35 MM	2ND RR	3 o'clock	
2012-2016 L4 – 1.8L (Elantra)	See Dealer		N/A		Cartridge	RF	N/A	
1986-1988 L4 – 2.0L, Conventional	3100098	3100122	3600006	3600116	35 MM	2ND LF	9 o'clock	
2009-2012 L4 – 2.0L, Turbo, Conventional	3100111		3600083		Cartridge	RR	N/A	
2011-2016 L4 – 2.0L, Turbo, Transverse (Theta 2)	See Dealer		N/A		Cartridge	RF	N/A	
1989-2005 L4 – 2.0, 2.4L, Transverse	3100098	3100122	3600006	3600116	35 MM	2ND RR	9 o'clock	
1999 L4 – 2.4L, Transverse	3100098	3100122	3600006	3600116	35 MM	LR	N/A	
2006-2010 L4 – 2.4L, Transverse	3100111		3600083		Cartridge	LF	N/A	
2010-2014 L4 – 2.4L, Transverse (Theta 2)	See Dealer		N/A		Cartridge	LF	N/A	

Point Element – Please confirm element orientation – improper position may result in heater or engine damage.

* Description of footnotes – see page 36.

FREEZE PLUG HEATER (UNLESS OTHERWISE NOTED)								
MAKE, MODEL, YEAR, ENGINE	Heater Part No.		Repl. Cord Part No.		Bore Diameter	Installation Location	Element Position	Foot Notes*
	Std Kit	Lit Kit	Std Cord	Lit Cord				
HYUNDAI – Continued								
AUTOMOTIVE								
6 Cylinder								
1989-1998 V6 – 3.0L	3100055	3100125	3600006	3600116	1-5/8"	RF	12 o'clock	
1999-2001 V6 – 2.5L	3100098	3100122	3600006	3600116	35 MM	LR	6 o'clock	
2002-2005 V6 – 2.7L (Sonata, Tiburon)	3100098	3100122	3600006	3600116	35 MM	LR	6 o'clock	
2001 V6 – 3.0L (XG300)	3100055	3100125	3600006	3600116	1-5/8"	LR	12 o'clock	
2006-2015 V6 – 3.3L	3100113		3600083		25 MM THD	CR	N/A	
2002-2005 V6 – 3.5L (XG350)	3100055	3100125	3600006	3600116	1-5/8"	LR	12 o'clock	
2009-2016 V6 – 3.8L	See Dealer		N/A		Cartridge	RR	N/A	
8 Cylinder								
2009-2011 V8 – 4.6L	See Dealer		N/A		Cartridge	RR	N/A	
LIGHT TRUCK								
4 Cylinder								
2011-2016 L4 – 2.0L, Transverse	See Dealer		N/A		Cartridge	LF	N/A	
2011-2016 L4 – 2.4L, Transverse	See Dealer		N/A		Cartridge	LF	N/A	
6 Cylinder								
2001-2005 V6 – 2.7L	3100098	3100122	3600006	3600116	35 MM	LR	6 o'clock	
2004-2005 V6 – 3.5L	3100055	3100125	3600006	3600116	1-5/8"	LR	12 o'clock	
2006-2008 V6 – 3.8L	3100113		3600083		25 MM THD	CR	N/A	
2010-2012 V6 – 3.5L, Transverse	See Dealer		N/A		Cartridge	RR	N/A	
2009-2015 V6 – 3.8L	See Dealer		N/A		Cartridge	RR	N/A	
INFINITI								
AUTOMOTIVE								
4 Cylinder								
1991-2002 L4 – 2.0L	3100007		3600005		30 MM THD	LR	N/A	
6 Cylinder								
1992-1997 V6 – 3.0L	3100009		3600004		30 MM	LF or LR	6 o'clock	
1996-2001 V6 – 3.0L (VQ30DE)	3100007		3600005		30 MM THD	RF	N/A	
2002-2013 V6 – 3.5L (VQ35DE), Transverse	3100007		3600005		30 MM	RF	N/A	
2003-2013 V6 – 3.5L (VQ35DE, VQ35HR) Conventional	3100007		3600005		30 MM	LR	N/A	16
2007-2014 V6 – 3.7L (VQ37VHR), Conventional	3100007		3600005		30 MM	LR	N/A	16
8 Cylinder								
1990-1996 V8 – 4.5L	3100007		3600005		30 MM THD	REAR	N/A	
1997-2000 V8 – 4.1L	3100007		3600005		30 MM THD	REAR	N/A	
2001-2009 V8 – 4.5L	3100007		3600005		30 MM THD	REAR	N/A	
2011-2013 V8 – 5.6L	3100007		3600005		30 MM THD	RF	N/A	
LIGHT TRUCK								
6 Cylinder								
1998-2000 V6 – 3.3L (VG33)	3100009		3600004		30 MM	LR	6 o'clock	
2001-2004 V6 – 3.5L	3100007		3600005		30 MM THD	LF	N/A	
2005-2008 V6 – 4.0L (VQ40DE)	See Dealer		N/A		N/A	N/A	N/A	
8 Cylinder								
2004 V8 – 4.5L	3100007		3600005		30 MM THD	REAR	N/A	
2004-2013 V8 – 5.6L (VK56DE)	3100007		3600005		30 MM THD	RF	N/A	
INTERNATIONAL BY NAVISTAR								
LIGHT & MEDIUM DUTY TRUCKS (ALSO SEE HEAVY DUTY APPLICATION GUIDE)								
4 Cylinder								
ALL L4 – 152, 196 cu. in.	3100054		3600006		1-5/8"	RC or RF	12 o'clock	
6 Cylinder								
ALL L6 – 225 cu. in.	3100054		3600006		"1-5/8"	LF	12 o'clock	
ALL L6 – 220, 240, 241, 264, 265 (Black Diamond)	3100054		3600006		1-5/8"	LF	12 o'clock	
ALL L6 – 3.2L (SD-33) (Nissan, Diesel)	3100023		3600006		35 MM	2ND or 4TH LS	12 o'clock	

Point Element – Please confirm element orientation – improper position may result in heater or engine damage.

* Description of footnotes – see page 36.

FREEZE PLUG HEATER (UNLESS OTHERWISE NOTED)

MAKE, MODEL, YEAR, ENGINE	Heater Part No.		Repl. Cord Part No.		Bore Diameter	Installation Location	Element Position	Foot Notes*
	Std Kit	Lit Kit	Std Cord	Lit Cord				
INTERNATIONAL BY NAVISTAR – Continued								
LIGHT & MEDIUM DUTY TRUCKS (ALSO SEE HEAVY DUTY APPLICATION GUIDE)								
8 Cylinder								
ALL V8 – 401, 461, 462, 478, 549, 550	3100038		3600006		1-1/2"	ANY LS or RS	12 o'clock	
ALL V8 – 401 cu. in. (AMC)	3100039		3600006		1-1/2"	RR	5 o'clock	
ALL V8 – 9.0L, 404, 446, 485, 537 cu. in.,	3100044		3600006		1-1/2"	ANY LS or RS	12 o'clock	
ALL V8 to 93 – 6.9, 7.3L, Diesel	3100043		3600010		1-1/2"	RR	11 o'clock	
1994-2002 V8 – 7.3L (T444E)	3500043		3600008		3/4" NPT	oil cooler	N/A	
ALL V8 – 266, 304, 345, 392, 400 cu. in.	3100054		3600006		1-5/8"	LF or RF	12 o'clock	
ISUZU								
AUTOMOTIVE								
4 Cylinder								
1992-1993 L4 – 1.6, 1.8L	3100018		3600006		35 MM	2ND RR	12 o'clock	
1985-1989 L4 – 1.5L, Transverse	3100018		3600006		35 MM	CR	12 o'clock	
1981-1988 L4 – 1.8L, 1.9L	3100018		3600006		35 MM	LF	12 o'clock	
1981-1985 L4 – 1.8L, Diesel	3100018		3600006		35 MM	RR	12 o'clock	
LIGHT & MEDIUM TRUCKS								
4 Cylinder								
1998-2002 L4 – 2.2L	3100081		3600006		42 MM	LR	9 o'clock	
1985-1995 L4 – 2.3L	3100019		3600006		35 MM	RF	3 o'clock	
1982-1989 L4 – 1.8L, 1.9L	3100018		3600006		35 MM	LF	12 o'clock	
1982-1986 L4 – 2.2L, Diesel	3100068		3600006		1-3/4"	LF	6 o'clock	
1988-1995 L4 – 2.6L	3100098	3100122	3600006	3600116	35 MM	RF	6 o'clock	
2007-2008 L4 – 2.9L, Conventional	See Dealer		N/A		N/A	N/A	N/A	15
ALL L4 – 4BD1 engine	3100089		3600006		1" NPT	LR	N/A	
5 Cylinder								
2007-2008 L5 – 3.7L, Conventional	See Dealer		N/A		N/A	N/A	N/A	15
6 Cylinder								
1989-1993 V6 – 2.8, 3.1L	3100014		3600006		34 MM	RFF IN BLOCK	3 o'clock	6
1992-2003 V6 – 3.2L	3100005		3600005		28 MM THD	LR	N/A	
1998-1999 V6 – 3.5L	3100005		3600005		28 MM THD	LR	N/A	
2003-2005 L6 – 4.2L	3100005		3600005		28 MM THD	LF	N/A	
2006-2007 L6 – 4.2L	See Dealer		N/A		N/A	N/A	N/A	15
ALL L6 – 5.8, 6.5L (6BD1, 6BG1 engine)	3100089		3600006		1" NPT	LR	N/A	
ALL L6 – 6SA1 Engine	3100089		3600006		1" NPT	RS	2 Required	
8 Cylinder								
2003-2005 V8 – 5.3L	3100005		3600100		28 MM THD	LR	N/A	
2006-2007 V8 – 5.3L	3100109	3100127	3600082	3600119	28 MM THD	LR	N/A	15
JAGUAR								
AUTOMOTIVE								
6 Cylinder								
1952-1988 L6 – 2.5, 3.4, 3.6, 3.8, 4.2L	3100003		3600001		1" NPT	N/A	N/A	
2000-2007 V6 – 3.0L	3100002	3100121	3600001	3600118	3/4" NPT	RR	N/A	
2002-2008 V6 – 2.5, 3.0L, Transverse	3100002	3100121	3600001	3600118	3/4" NPT	RF	N/A	
8 Cylinder								
1998-2009 V8 – 4.0, 4.2L	See Dealer		N/A		30 MM THD	LR	N/A	
2010-2015 V8 – 5.0L	See Dealer		N/A		30 MM THD	LR	N/A	
12 Cylinder								
1971-1997 V12 – 5.3, 6.0L	3100003		3600001		1" NPT	N/A	N/A	
JEEP								
AUTOMOTIVE / LIGHT TRUCK								
4 Cylinder								
1984-1987 L4 – 2.1L, Diesel	3100003		3600001		1" NPT	RF	N/A	
2002-2004 L4 – 2.4L	3100024		3600006		35 MM	RR/2ND RR	3 o'clock	

Point Element – Please confirm element orientation – improper position may result in heater or engine damage.

* Description of footnotes – see page 36.

FREEZE PLUG HEATER (UNLESS OTHERWISE NOTED)								
MAKE, MODEL, YEAR, ENGINE	Heater Part No.		Repl. Cord Part No.		Bore Diameter	Installation Location	Element Position	Foot Notes*
	Std Kit	Lit Kit	Std Cord	Lit Cord				
JEEP – Continued								
AUTOMOTIVE / LIGHT TRUCK								
4 Cylinder								
2007-2016 L4 – 2.4L (Compass, Patriot)	3100111		3600083		Cartridge	LF	N/A	
1980-1983 L4 – 2.5L (Pontiac engine)	3100054		3600006		1-5/8"	LR	12 o'clock	
1984-2002 L4 – 2.5L	3100065		3600006		1-3/4"	LR	11 o'clock	
6 Cylinder								
1984-1987 V6 – 2.8L (Chevrolet engine)	3100014		3600006		34 MM	RFF IN BLOCK	3 o'clock	
2007-2009 V6 – 3.0L, Diesel	See Dealer		N/A		N/A	N/A	N/A	
1963-1971 L6 – 230 cu. in. (OHC)	3100057	3100126	3600006	3600116	1-5/8"	ANY LS	6 o'clock	
2002-2012 V6 – 3.7L	3100104		3600006		35 MM	2ND RR	N/A	
1965-1971 L6 – 225 cu. in.	3100039		3600006		1-1/2"	LR	2 o'clock	
2011-2016 V6 – 3.6L Pentastar	3100128		3600120		N/A	RR	N/A	
2007-2010 V6 – 3.8L	See Dealer		N/A		N/A	N/A	N/A	
1987-2006 L6 – 4.0L	3100072		3600006		2"	LF	12 o'clock	
1968-1990 L6 – 4.2L	3100072		3600006		2"	LR	12 o'clock	
8 Cylinder								
1968-1971 V8 – 350 cu. in. (Buick engine)	3100039		3600006		1-1/2"	LF or RR	12 o'clock	
1972-1991 V8 – 304, 360, 401 cu. in.	3100039		3600006		1-1/2"	LR	5 o'clock	
1999-2007 V8 – 4.7L	3100104		3600006		35 MM	RR	N/A	
1993-1998 V8 – 5.2L	3100055	3100125	3600006	3600116	1-5/8"	RR	6 o'clock	
2005-2016 V8 – 5.7L, Hemi	3100131		3600121		Cartridge	LR	N/A	
1998 V8 – 5.9L	3100055	3100125	3600006	3600116	1-5/8"	RR	6 o'clock	
2006-2010 V8 – 6.1L, Hemi	See Dealer		N/A		Cartridge	LR	N/A	
2012-2016 V8 – 6.4L, Hemi	See Dealer		N/A		Cartridge	LR	N/A	
KIA								
AUTOMOTIVE								
4 Cylinder								
2001-2002 L4 – 1.5L (Rio)	See Dealer		3600006		35MM	N/A	N/A	
2003-2004 L4 – 1.6L (Rio)	See Dealer		3600006		35MM	N/A	N/A	
2006-2010 L4 – 1.6L (Rio)	3100114		3600006		35MM	LF	12 o'clock	
2009-2011 L4 – 1.6L (Soul)	See Dealer		N/A		Cartridge	RR	N/A	
2012 L4 – 1.6L GDI (Rio, Soul)	See Dealer		N/A		Cartridge	RR	N/A	
1998-2003 L4 – 1.8L (Sephia, Spectra)	3100016		3600006		35 MM	RF	12 o'clock	
1995-2003 L4 – 2.0L (Sportage)	3100016		3600006		35 MM	2ND LF	12 o'clock	
2004-2006 L4 – 2.0L (Spectra, Sportage)	3100098	3100122	3600006	3600116	35 MM	2ND RR	9 o'clock	
2009-2016 L4 – 2.0L (Forte)	3100111		3600083		Cartridge	LF	N/A	
2012-2016 L4 – 2.0L, Turbo	See Dealer		N/A		Cartridge	RR	N/A	
2002-2006 L4 – 2.4L, Transverse	3100098	3100122	3600006	3600116	35 MM	LR	6 o'clock	
2006-2016 L4 – 2.4L, Transverse (Optima, MaGentis, Forte)	3100111		3600083		Cartridge	LF	N/A	
2011-2014 L4 – 2.4L GDI	See Dealer		N/A		Cartridge	RR	N/A	
6 Cylinder								
2001 V6 – 2.5L (Magentis)	3100098	3100122	3600006	3600116	35 MM	LR	6 o'clock	
2002-2005 V6 – 2.7L (MaGentis, Sportage)	3100098	3100122	3600006	3600116	35 MM	LR	6 o'clock	
2007-2009 V6 – 3.3L (Sorento)	3100113		3600083		25 MM THD	RR	N/A	
2002-2005 V6 – 3.5L (Sedona)	3100055	3100125	3600006	3600116	1-5/8"	LR	12 o'clock	
2004-2006 V6 – 3.5L (Amanti)	3100055	3100125	3600006	3600116	1-5/8"	LR	12 o'clock	
2003-2005 V6 – 3.5L (Sorento)	3100055	3100125	3600006	3600116	1 5/8"	RR	12 o'clock	
2010-2015 V6 – 3.5L (Sorento, Sedona)	See Dealer		N/A		Cartridge	LR	N/A	
2006-2009 V6 – 3.8L (Sedona)	3100113		3600083		25 MM THD	CR	N/A	
2007-2009 V6 – 3.8L (Amanti)	3100113		3600083		25 MM THD	CR	N/A	
2009-2012 V6 – 3.8L (Borrego)	See Dealer		N/A		Cartridge	RR	N/A	
2010 V6 – 3.8L (Sedona)	3100111		3600083		Cartridge	LR	N/A	

Point Element – Please confirm element orientation – improper position may result in heater or engine damage.

* Description of footnotes – see page 36.

FREEZE PLUG HEATER (UNLESS OTHERWISE NOTED)

MAKE, MODEL, YEAR, ENGINE	Heater Part No.		Repl. Cord Part No.		Bore Diameter	Installation Location	Element Position	Foot Notes*
	Std Kit	Lit Kit	Std Cord	Lit Cord				
KIA – Continued								
AUTOMOTIVE								
8 Cylinder								
2009-2011 V8 – 4.6L (Borrego)	3100113		3600083		25 MM THD	LR	N/A	
LADA								
AUTOMOTIVE								
1978-1993 L4 – 1.5L	3100050		3600006		40 MM	LF	9 o'clock	
1981-1993 L4 – 1.6L	3100050		3600006		40 MM	LS	9 o'clock	
1987-1993 L4 – 1.3, 1.5L, Transverse	3100032		3600006		36 MM	LF	3 o'clock	
LAND ROVER								
AUTOMOTIVE								
4 Cylinder								
1958-UP L4 – 120.8 cu. in. Gas/Diesel (Land Rover)	3100070				1-15/16"	LC	6 o'clock	
2012-2016 L4 – 2.0L, Turbo	See Dealer		N/A		N/A	N/A	N/A	
6 Cylinder								
1958-UP L6 – 161, 182.7 cu. in.	3100003		3600001		1" NPT	N/A	N/A	
2002-2005 V6 – 2.5L	See Dealer		N/A		N/A	N/A	N/A	
2007-2012 L6 – 3.2L	See Dealer		N/A		N/A	N/A	N/A	
2004-2008 V6 – 4.0L	3100039		3600006		1-1/2"	RF	6 o'clock	
8 Cylinder								
1987-2004 V8 – 3.9, 4.0, 4.2, 4.6L	3100039		3600006		1-1/2"	LC	12 o'clock	
2003-2004 V8 – 4.4L (BMW Engine)	See Dealer		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	
2010-2016 V8 – 5.0L	See Dealer		N/A		30 MM THD	LR	N/A	
LEXUS								
AUTOMOTIVE								
4 Cylinder								
2012 L4 – 1.8L	See Dealer		N/A		N/A	N/A	N/A	
2011-2012 L4 – 2.4L	See Dealer		N/A		N/A	N/A	N/A	
6 Cylinder								
2001-2005 L6 – 3.0L	See Dealer		N/A		N/A	N/A	N/A	
1989-1991 V6 – 2.5L	3100019		3600006		35 MM	CF	6 o'clock	
2006-2015 V6 – 2.5L (4GR-FSE), Conventional	See Dealer		N/A		N/A	LR	N/A	
1992-1994 V6 – 3.0L (3VZ-FE)	3100021		3600006		35 MM	LF	3 o'clock	
1994-2003 V6 – 3.0L (1MV-FE)	3100029		3600006		35 MM	RF	3 o'clock	
1992-1996 L6 – 3.0L, Conventional	See Dealer		N/A		N/A	N/A	N/A	
2004-2006 V6 – 3.3L (3MZ-FE)	3100029		3600006		35 MM	RF	3 o'clock	
2007-2016 V6 – 3.5L (2GR-FE), Transverse	See Dealer		N/A		N/A	N/A	N/A	
2006-2016 V6 – 3.5L (2GR-FSE), Conventional	See Dealer		N/A		N/A	LR	N/A	
8 Cylinder								
1989-2001 V8 – 4.0L	See Dealer		N/A		N/A	N/A	N/A	
2002-2007 V8 – 4.3L (3UZ-FE)	3100029		3600006		35 MM	RF	ANY	
2007-2016 V8 – 4.6L (1URFS, 1UR-FSE, 2UR-FSX)	See Dealer		N/A		N/A	N/A	N/A	
2008-2014 V8 – 5.0L (2UR-FSE)	See Dealer		N/A		N/A	N/A	N/A	
2008-2014 V8 – 5.0L (2UR-GSE) (IS-F)	See Dealer		N/A		N/A	N/A	N/A	
LIGHT TRUCK								
6 Cylinder								
1999-2003 V6 – 3.0L	3100029		3600006		35 MM	RF	3 o'clock	
2004-2006 V6 – 3.3L (3MZ-FE)	3100029		3600006		35 MM	RF	3 o'clock	
2007-2016 V6 – 3.5L (2GR-FE), Transverse	See Dealer		N/A		N/A	LF	N/A	
8 Cylinder								
2010-2015 V8 – 4.6L	See Dealer		N/A		35 MM	RF	N/A	
1998-2009 V8 – 4.7L (2UZ-FE)	See Dealer		N/A		35 MM	RF	N/A	
2008-2016 V8 – 5.7L (2UR-FE)	3100129	3100123	3600083	3600119	Cartridge	LR	N/A	

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* Description of footnotes – see page 36.

FREEZE PLUG HEATER (UNLESS OTHERWISE NOTED)								
MAKE, MODEL, YEAR, ENGINE	Heater Part No.		Repl. Cord Part No.		Bore Diameter	Installation Location	Element Position	Foot Notes*
	Std Kit	Lit Kit	Std Cord	Lit Cord				
JEEP – Continued								
LIGHT TRUCK								
10 Cylinder								
2010-2013 V10 4.8L	See Dealer		N/A		N/A	N/A	N/A	
MAZDA								
AUTOMOTIVE								
Rotary								
1971-1996 R2 – ALL	See Dealer		3600002		Clamp-On	N/A	N/A	
2004-2011 R2 (RX8)	See Dealer		N/A		N/A	N/A	N/A	
4 Cylinder								
1971-1980 L4 – 1.2L, Conventional	3400008		3600001		Clamp-On	N/A	N/A	
1975-1980 L4 – 1.3L, 1.4L, 1.5L, Conventional	3100016		3600006		35 MM	LF	6 o'clock	
1981-1982 L4 – 1.5L	3400009		3600002		Clamp-On	N/A	N/A	
1981-1985 L4 – 1.5L, Transverse	3100019		3600006		35 MM	LF	3 o'clock	
1995-1998 L4 – 1.5L	3100023		3600006		35 MM	2ND RF	6 or 12 o'clock	
1986-1989 L4 – 1.6L, Transverse (Except, Turbo)	3100016		3600006		35 MM	2ND RF	12 o'clock	
1988-1989 L4 – 1.6L, Transverse DOHC, Turbo	3100017		3600006		35 MM	2ND RF	12 o'clock	
1990-1998 L4 – 1.6L, Transverse	3100023		3600006		35 MM	2ND RF	9 o'clock	
1989-1995 L4 – 1.6L DOHC, Conventional	3100016		3600006		35 MM	2ND LF	12 o'clock	
1970-1980 L4 – 1.6L – 1.8L, Conventional	3100071		3600006		50 MM	LC	12 o'clock	
1999 L4 – 1.6L DOHC, Transverse	See Dealer		N/A		N/A	N/A	N/A	
2010-2012 L4 – 1.6L, Transverse (Mazda 2)	See Dealer		N/A		35MM	LR	N/A	
1990-1998 L4 – 1.8L SOHC	3100021		3600006		35 MM	2ND RF	6 o'clock	
1995-1999 L4 – 1.8L DOHC	3100016		3600006		35 MM	2ND RF	12 o'clock	
1999-2000 L4 – 1.8L DOHC, Transverse	See Dealer		N/A		N/A	N/A	N/A	
1985-1987 L4 – 2.0L, Diesel	3100016		3600006		35 MM	2ND RF	12 o'clock	
1983-1992 L4 – 2.0L (626), Transverse	3100016		3600006		35 MM	2ND RF	9 o'clock	
1979-1982 L4 – 2.0L, Conventional	3100071		3600006		50 MM	LC	12 o'clock	
1993-1998 L4 – 2.0L	3100023		3600006		35 MM	RR	8 o'clock	
1998-2003 L4 – 2.0L DOHC (626, Ptotege)	See Dealer		N/A		35 MM	RR	N/A	
2003-2004 L4 – 2.0L DOHC, Turbo	See Dealer		N/A		35 MM	RR	N/A	
2004-2011 L4 – 2.0L (Mazda 3)	3100002	3100121	3600001	3600118	3/4" NPT	LR	N/A	
2012-2016 L4 – 2.0L Skyactiv (Mazda 3)	3100002	3100121	3600001	3600118	3/4" NPT	LR	N/A	
2006-2007 L4 – 2.0L (Mazda MX5)	3100002	3100121	3600001	3600118	3/4" NPT	RR	N/A	
1988-1992 L4 – 2.2L (626), Transverse	3100016		3600006		35 MM	2ND RF	12 o'clock	
1988-1992 L4 – 2.2L, Turbo	3100017		3600006		35 MM	2ND RF	12 o'clock	
2003-2009 L4 – 2.3L (Mazda 3, Mazda 5, Mazda 6)	3100002	3100121	3600001	3600118	3/4" NPT	LR	N/A	
2006-2012 L4 – 2.3L, Turbo	3100002	3100121	3600001	3600118	3/4" NPT	LR	N/A	
2009-2016 L4 – 2.5L (Mazda 3, Mazda 6)	3100002	3100121	3600001	3600118	3/4" NPT	LR	N/A	
6 Cylinder								
1992-1999 V6 – 1.8L, 2.5L, Transverse	3100028		3600006		35 MM	REAR	8 o'clock	
1995-2002 V6 – 2.5L, 2.3L (Miller cycle engine)	3100028		3600006		35 MM	REAR	1 o'clock	
1988-1997 V6 – 3.0L	3100016		3600006		35 MM	RF	6 o'clock	
2003-2008 V6 – 3.0L (Mazda 6)	3100002	3100121	3600001	3600118	3/4" NPT	RF	N/A	
2009-2015 V6 – 3.7L (Mazda 6)	3100002	3100121	3600001	3600118	3/4" NPT	RR	N/A	
LIGHT & MEDIUM DUTY TRUCKS								
4 Cylinder								
1971-1977 L4 – 1.6L	3100071		3600006		50 MM	LC	6 o'clock	
1977-1984 L4 – 1.8L, 2.0L	3100071		3600006		50 MM	LC	12 o'clock	
1985-1993 L4 – 2.0L, 2.2L GAS	3100016		3600006		35 MM	2ND LF	12 o'clock	
2001-2003 L4 – 2.0L (Tribute) (Ford engine)	3100018		3600006		35 MM	RR	3 o'clock	
2012-2016 L4 – 2.0L Skyactiv (CX-5)	3100002	3100121	3600001	3600118	3/4" NPT	LR	N/A	
1982-1987 L4 – 2.2L, Diesel	3100023		3600006		35 MM	2ND RF	3 or 9 o'clock	

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* Description of footnotes – see page 36.

FREEZE PLUG HEATER (UNLESS OTHERWISE NOTED)

MAKE, MODEL, YEAR, ENGINE	Heater Part No.		Repl. Cord Part No.		Bore Diameter	Installation Location	Element Position	Foot Notes*
	Std Kit	Lit Kit	Std Cord	Lit Cord				
MAZDA – Continued								
LIGHT & MEDIUM DUTY TRUCKS								
4 Cylinder								
2001-2011 L4 – 2.3L (B2300)	3100002	3100121	3600001	3600118	3/4" NPT	RR	N/A	
1994 L4 – 2.3L (B2300) (Ford engine)	3100039		3600006		1-1/2"	RR	12 o'clock	
1995-1997 L4 – 2.3L (B2300) (Ford engine)	3100084		3600006		1-1/2"	LR	3 o'clock	
2004-2008 L4 – 2.3L (Tribute)	3100002	3100121	3600001	3600118	3/4" NPT	LR	N/A	
2006-2010 L4 – 2.3L, Turbo (CX-7)	3100002	3100121	3600001	3600118	3/4" NPT	LR	N/A	
1998-2000 L4 – 2.5L (Ford engine)	3100084		3600006		1.5 IN	LR	3 o'clock	
2009-2012 L4 – 2.5L (Tribute)	3100002	3100121	3600001	3600118	3/4" NPT	LR	N/A	
1989-1995 L4 – 2.6L (B2600) & MPV (Mazda engine)	3100075		3600006		35 MM	2ND LF	9 o'clock	
1987-1988 L4 – 2.6L (B2600) (Mitsubishi engine)	3100049		3600006		40 MM	RF	6 o'clock	
6 Cylinder								
2000-2001 V6 – 2.5L (MPV) (Ford engine)	3100002	3100121	3600001	3600118	3/4" NPT	RF	N/A	
1989-1993 V6 – 3.0L	3100016		3600006		35 MM	RF	6 o'clock	
2001-2012 V6 – 3.0L (Tribute) (Ford engine)	3100002	3100121	3600001	3600118	3/4" NPT	RF	N/A	
2002-2011 V6 – 3.0L (MPV) (Ford engine)	3100002	3100121	3600001	3600118	3/4" NPT	RF	N/A	
1994-2011 V6 – 3.0L (B3000) (Ford engine)	3100039		3600006		1-1/2"	RR	12 o'clock	
2007-2008 V6 – 3.5L (CX-9)	3100002	3100121	3600001	3600118	3/4" NPT	RR	N/A	
2008-2016 V6 – 3.7L, Transverse	3100002	3100121	3600001	3600118	3/4" NPT	RR	N/A	
1991-2011 V6 – 4.0L (B4000) (Ford engine)	3100039		3600006		1-1/2"	RF	6 o'clock	
MERCEDES-BENZ								
AUTOMOTIVE								
4 Cylinder								
ALL 230	3100105		N/A		38 MM THD	See Instructions	N/A	
ALL, Diesel-Except 190D (1984 & newer)	3100105		N/A		38 MM THD	See Instructions	N/A	
1994-2004 L4 – 1.8L, 2.0L, 2.3L (M111)	3100105		N/A		38 MM THD	See Instructions	N/A	
2001-2007 L4 – 1.8L (M271)	8604967		N/A		3/4" NPT	RF	N/A	
2012 L4 – 1.8L, Turbo	See Dealer		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	
5 Cylinder								
ALL Diesel	3100105		N/A		38 MM THD	See Instructions	N/A	
6 Cylinder								
1998-2005 V6 – 2.6L, 3.2L, 3.7L (M112)	3100105		N/A		38 MM THD	Lower hose casting	N/A	
2004-2011 V6 – 2.5L, 3.0L, 3.5L (M272)	3100105		N/A		38 MM THD	Lower hose casting	N/A	
2012-2016 V6 – 3.5L (M276)	See Dealer		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	
8 Cylinder								
1971-2000 – ALL V8	3100105		N/A		38 MM THD	See Instructions	N/A	
2001-2007 V8 – 4.3L, 5.0L, 5.4L (M113)	3100105		N/A		38 MM THD	Lower hose casting	N/A	
2006-2009 V8 – 4.7L, 5.0L (M273)	3100105		N/A		38 MM THD	Lower hose casting	N/A	
2011-2016 V8 – 4.7L, Turbo	See Dealer		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	
2011-2016 V8 – 5.5L, Turbo	See Dealer		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	

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* Description of footnotes – see page 36.

FREEZE PLUG HEATER (UNLESS OTHERWISE NOTED)								
MAKE, MODEL, YEAR, ENGINE	Heater Part No.		Repl. Cord Part No.		Bore Diameter	Installation Location	Element Position	Foot Notes*
	Std Kit	Lit Kit	Std Cord	Lit Cord				
MERCEDES-BENZ – Continued								
AUTOMOTIVE								
12 Cylinder								
2001-2005 V12 – 5.8L (M137)	3100105		N/A		38 MM THD	Lower hose casting	N/A	
2002-2016 V12 – 5.5L, 6.0L, Turbo (M275/285)	3100105		N/A		38 MM THD	Lower hose casting	N/A	
1989-2008 V12 – 7.3L AMG (M120)	See Dealer		N/A		N/A	N/A	N/A	
MINI								
AUTOMOTIVE								
4 Cylinder								
2003-2006 L4 – 1.6L	See Dealer		N/A		N/A	N/A	N/A	
2007-2016 L4 – 1.6L	See Dealer		N/A		N/A	N/A	N/A	
MITSUBISHI								
AUTOMOTIVE								
4 Cylinder								
1985-1993 L4 – 1.5L (Precis)	3100024		3600006		35 MM	2ND LR	9 o'clock	
1987-2001 L4 – 1.5L (G15B) (Mirage)	3100024		3600006		35 MM	2ND LR	9 o'clock	
1989-1992 L4 – 1.6L (4G61)	3100024		3600006		35 MM	2ND RR	4 o'clock	
1993-1999 L4 – 1.8L (4G93) (Expo/Mirage)	3100024		3600006		35 MM	RF	3 o'clock	
1989-1994 L4 – 1.8L (4G37) (Eclipse)	3100024		3600006		35 MM	RF	12 o'clock	
1989-1996 L4 – 2.0L (4G63) (Eclipse)	See Dealer		N/A		N/A	N/A	N/A	
1989-1993 L4 – 2.0L (4G63) (Galant)	3100024		3600006		35 MM	LR	3 o'clock	
1995-1999 L4 – 2.0L (420A) (Eclipse non-Turbo)	3100024		3600006		35 MM	2ND LR	9 o'clock	
2004-2006 L4 – 2.0L (Lancer)	3100075		3600006		35 MM	2ND LF	3 o'clock	
2004-2006 L4 – 2.0L (Lancer Evo VIII)	See Dealer		N/A		N/A	N/A	N/A	
2007-2016 L4 – 2.0L (Lancer)	3100111		3600083		Cartridge	LF	N/A	
2008-2016 L4 – 2.0L, Turbo (Lancer Evo)	3100111		3600083		Cartridge	LF	N/A	
1982-1996 L4 – 2.4L (4G64) (Expo/Expo LRV)	3100024		3600006		35 MM	LR/2ND LR	3 o'clock	
1992 L4 – 2.4L (4G64) (Galant DOHC)	3100024		3600006		35 MM	RF	3 o'clock	
1994-1998 L4 – 2.4L (4G64) (Galant SOHC)	3100024		3600006		35 MM	RF	3 o'clock	
1999-2008 L4 – 2.4L (4G64) (Galant, 00 Eclipse)	3100020		3600006		35 MM	2ND LF	4 o'clock	
1996-1999 L4 – 2.4L (4G64) (Eclipse Spyder)	3100024		3600006		35 MM	RF	3 o'clock	
2004-2007 L4 – 2.4L (JT41/45 4 MIVEC) (Galant, Lancer)	3100075		3600006		35 MM	LF	3 o'clock	
2008-2016 L4 – 2.4L (Lancer GTS)	3100111		3600083		Cartridge	LF	N/A	
6 Cylinder								
1995-1996 V6 – 2.5L (6G73) (Galant)	3100055	3100125	3600006	3600116	1-5/8"	CR	3 o'clock	
1988-1996 V6 – 3.0L (6G72) (Except 3000GT)	3100055	3100125	3600006	3600116	1-5/8"	RF	9 o'clock	
1991-1996 V6 – 3.0L (6G72) (3000GT)	See Dealer		N/A		N/A	N/A	N/A	
1999-2003 V6 – 3.0L (6G72) (Galant, 00 Eclipse)	3100055	3100125	3600006	3600116	1-5/8"	LR	9 o'clock	
1997-2007 V6 – 3.5L (6G74) (Diamante)	3100055	3100125	3600006	3600116	1-5/8"	LR	6 o'clock	
2004-2012 V6 – 3.8L (Galant)	3100055	3100125	3600006	3600116	1-5/8"	LR	12 o'clock	
LIGHT & MEDIUM DUTY TRUCKS								
4 Cylinder								
1983-1989 L4 – 2.0L (G63B)	3100024		3600006		35 MM	RR	3 o'clock	
1983-1986 L4 – 2.3L (4D55), Diesel	See Dealer		3600006		40 MM	LR	9 o'clock	
1987-1990 L4 – 2.4L (G64B)	3100024		3600006		35 MM	RR	3 o'clock	
1990-1996 L4 – 2.4L (4G64)	3100024		3600006		35 MM	RR	3 o'clock	
2003-2007 L4 – 2.4L (4G64) (Outlander)	3100024		3600006		35 MM	2ND LF	3 o'clock	
2008-2016 L4 – 2.4L (Outlander)	3100111		3600083		Cartridge	LF	N/A	
1997-2009 L4 – 2.4L (4G64) (Montero Sport)	3100024		3600006		35 MM	LF	3 o'clock	
1983-1989 L4 – 2.6L (G54B)	See Dealer		3600006		40 MM	RF	6 o'clock	

Point Element – Please confirm element orientation – improper position may result in heater or engine damage.

* Description of footnotes – see page 36.

FREEZE PLUG HEATER (UNLESS OTHERWISE NOTED)

MAKE, MODEL, YEAR, ENGINE	Heater Part No.		Repl. Cord Part No.		Bore Diameter	Installation Location	Element Position	Foot Notes*
	Std Kit	Lit Kit	Std Cord	Lit Cord				
MITSUBISHI – Continued								
LIGHT & MEDIUM DUTY TRUCKS								
6 Cylinder								
1990-2005 V6 – 3.0L (6G72) (Truck,Montero)	3100055	3100125	3600006	3600116	1-5/8"	RR	9 o'clock	
2007-2008 V6 – 3.0L (6B31) (Outlander)	See Dealer		3600006		40 MM	RF	6 o'clock	
1997-2005 V6 – 3.0L (6G72) (Montero Sport)	3100055	3100125	3600006	3600116	1-5/8"	RC	6 o'clock	
2008-2012 V6 – 3.5L (Outlander)	3100007		3600005		30MM	CR	N/A	
1999-2002 V6 – 3.5L (6G74) (Montero Sport)	3100055	3100125	3600006	3600116	1-5/8"	RC	6 o'clock	
1995-2002 V6 – 3.5L (6G74) (Montero)	3100055	3100125	3600006	3600116	1-5/8"	RR	12 o'clock	
2003-2011 V6 – 3.8L	3100055	3100125	3600006	3600116	1-5/8"	RR	12 o'clock	
NISSAN								
AUTOMOTIVE								
4 Cylinder								
1966-1980 L4 – 1.0, 1.2, 1.3, 1.4, 1.6L OHV (Conv)	3100016		3600006		35 MM	LF	12 o'clock	
1972-1982 L4 – 1.2, 1.4, 1.5L OHC, Conventional	3100016		3600006		35 MM	LF	12 o'clock	
1968-1973 L4 – 1.3, 1.6L OHC, Conventional	3100048		3600006		40 MM	LF or RR	12 o'clock	
1976-1981 L4 – 1.4L (A14), 1.5L (A15), Transverse	3100016		3600006		35 MM	LR	12 o'clock	
1982-1988 L4 – 1.5L (E15), 1.6L (E16), Transverse	3100074		3600004		30 MM	RR	8 o'clock	
1989-1990 L4 – 1.6L (GA16i), Transverse	3100074		3600004		30 MM	RF	9 o'clock	
1991-1992 L4 – 1.6L (E16), Transverse	3100074		3600004		30 MM	RR	8 o'clock	
1991-1999 L4 – 1.6L (GA16DE), Transverse	3100074		3600004		30 MM	RF	9 o'clock	
1987-1989 L4 – 1.6L (CA16DE), 1.8L (CA18DE) (Trans)	3100074		3600004		30 MM	LF	4 o'clock	
2011-2016 L4 – 1.6L (MR16DDT), Transverse	See Dealer		N/A		N/A	N/A	N/A	
1983-1987 L4 – 1.7L (CD17), Transverse, Diesel	3100074		3600004		30 MM	RR	8 o'clock	
1984-1988 L4 – 1.8L (CA18ET), Conventional, Turbo	3100074		3600004		30 MM	RC	3 o'clock	1
1973-1980 L4 – 1.8L (L18), 2.0L (L20), Conventional	3100048		3600006		40 MM	3RD RS	12 o'clock	
2002-2006 L4 – 1.8L (QG18DE)	See Dealer		N/A		N/A	N/A	N/A	
2007-2016 L4 – 1.8L (MR20DE)	See Dealer		N/A		N/A	N/A	N/A	
1986-1988 L4 – 2.0L (CA20), Conventional	3100074		3600004		30 MM	LR	6 o'clock	
1982-1989 L4 – 2.0L (CA20,CA20E), Transverse	3100074		3600004		30 MM	LF	7 o'clock	
1991-1999 L4 – 2.0L (GA20DE), Transverse	3100007		3600005		30 MM THD	RR	N/A	
1980-1985 L4 – 2.0L (Z20), 2.2L (Z22), Conventional	3100048		3600006		40 MM	LF	12 o'clock	
2007-2012 L4 – 2.0L (MR18DE)	See Dealer		N/A		N/A	N/A	N/A	
2002-2007 L4 – 2.5L (QR25DE), Transverse	3100007		3600005		30 MM THD	RF	N/A	
1989-2001 L4 – 2.4L (KA24E), Transverse	3100049		3600006		40 MM	LF	12 o'clock	
1989-1998 L4 – 2.4L (KA24E, KA24DE), Conventional	3100049		3600006		40 MM	LR	12 o'clock	
6 Cylinder								
1974-1980 L6 – 2.6L (L26)	3100016		3600006		35 MM	RF	12 o'clock	
1970-1985 L6 – 2.4L, 2.8L (L24, L28 E, ET)	3100016		3600006		35 MM	3RD RS	12 o'clock	
1981-1984 L6 – 2.8L (LD28), Diesel	3100016		3600006		35 MM	LR	12 o'clock	
1986-1993 V6 – 3.0L (VG30E, ET, DE), Conventional	3100009		3600004		30 MM	LR	6 o'clock	
1986-1994 V6 – 3.0L (VG30E, DE), Transverse	3100009		3600004		30 MM	LF	6 o'clock	
1995-2001 V6 – 3.0L (VQ30DE), Transverse	3100007		3600005		30 MM THD	RF	N/A	
2002-2014 V6 – 3.5L (VQ35DE), Transverse	3100007		3600005		30 MM THD	RF	N/A	
2004-2009 V6 – 3.5L (VQ35DE, VQ35HR), Conventional	3100007		3600005		30 MM THD	LR	N/A	16
2010-2014 V6 – 3.7L, Conventional	See Dealer		N/A		N/A	N/A	N/A	
2010-2014 V6 – 3.8L, Turbo (VR38DETT)	See Dealer		N/A		N/A	N/A	N/A	
LIGHT & MEDIUM DUTY TRUCKS								
4 Cylinder								
1970-1973 L4 – 1.6L OHC ENG	3100048		3600006		40 MM	LF or RR	12 o'clock	
1974-1980 L4 – 1.8L (L18), 2.0L (L20)	3100048		3600006		40 MM	3RD RS	12 o'clock	

Point Element – Please confirm element orientation – improper position may result in heater or engine damage.

* Description of footnotes – see page 36.

FREEZE PLUG HEATER (UNLESS OTHERWISE NOTED)								
MAKE, MODEL, YEAR, ENGINE	Heater Part No.		Repl. Cord Part No.		Bore Diameter	Installation Location	Element Position	Foot Notes*
	Std Kit	Lit Kit	Std Cord	Lit Cord				
NISSAN – Continued								
LIGHT & MEDIUM DUTY TRUCKS								
4 Cylinder								
1981-1989 L4 – 2.0L (Z20), 2.2L (Z22), 2.4L (Z24)	3100048		3600006		40 MM	LF	12 o'clock	
1990-1998 L4 – 2.4L (KA24E)	3100049		3600006		40 MM	LR	12 o'clock	
1981-1988 L4 – 2.2, 2.5L (SD25), Diesel	3100016		3600006		35 MM	LF	6 o'clock	
2005-2007 L4 – 2.5L (QR25DE), Conventional	3100007		3600005		30 MM THD	LF	N/A	
6 Cylinder								
1984-1995 V6 – 3.0L (VG30E, VG30i)	3100009		3600004		30 MM	LR	6 o'clock	
1993-1998 V6 – 3.0L (VG30E), Transverse (Quest)	3100009		3600004		30 MM	LF	6 o'clock	
1999-2000 V6 – 3.3L (VG33), Transverse (Quest)	3100009		3600004		30 MM	LF	6 o'clock	
1998-2004 V6 – 3.3L (VG33), Conventional	3100009		3600004		30 MM	LR	6 o'clock	
2001-2014 V6 – 3.5L (VQ35DE), Conventional	3100007		3600005		30MM THD	LF	N/A	
2005-2015 V6 – 4.0L (VQ40DE), Conventional	See Dealer		N/A		N/A	N/A	N/A	
8 Cylinder								
2004-2016 V8 – 5.6L (VK56DE)	3100007		3600005		30MM THD	RF	N/A	
2016 V-8 5.0L Diesel	3600165		3600008		27mm		N/A	
OLDSMOBILE								
AUTOMOTIVE								
4 Cylinder								
1982-1989 L4 – 1.8, 2.0L OHC (Brazil engine)	3100015		3600006		34 MM	2ND LF	1 or 3 o'clock	
1982-1984 L4 – 1.8, 2.0L	3100014		3600006		34 MM	LF	12 o'clock	
1985-1986 L4 – 2.0L	3100062		3600006		42 MM	LF	4 o'clock	
1987-1992 L4 – 2.2L	3100081		3600006		42 MM	LF	9 o'clock	
1993-1996 L4 – 2.0L, 2.2L, Transverse	3100081		3600006		42 MM	LF	9 o'clock	
2002-2004 L4 – 2.2L (Ecotec), Transverse	3400019		3600100		Clamp-On	RR	N/A	
1987-1993 L4 – 2.3L Quad IV	3100093		3600023		3/4" NPT	N/A	N/A	3
1994-1995 L4 – 2.3L Quad IV Gen II	3100001		3600002		1/2" NPT	N/A	N/A	
1996-2001 L4 – 2.4L (Twin Cam)	3100001		3600002		3/4" NPT	N/A	N/A	
1980-1992 L4 – 2.5L, Transverse	3100076		3600006		1-5/8"	LF	12 o'clock	
1978-1981 L4 – 2.5L, Conventional	3100076		3600006		1-5/8"	LR	12 o'clock	
6 Cylinder								
1980-1986 V6 – 2.8L, Transverse	3100014		3600006		34 MM	RS	3 o'clock	7
1987-1989 V6 – 2.8L, Transverse (Vin W)	3100015		3600006		34 MM	CR	3 o'clock	2
1982-1988 V6 – 3.0L, Transverse	3100041		3600006		1-1/2"	LF	12 o'clock	
1989-1999 V6 – 3.1L, Transverse	3100015		3600006		34 MM	CR	3 o'clock	2
1992-1997 V6 – 3.4L, Transverse	3100015		3600006		34 MM	CR	3 o'clock	2, 5
1999-2004 V6 – 3.4L, Transverse	3100015		3600006		34 MM	CR	3 o'clock	2, 5
1999-2002 V6 – 3.5L DOHC, Transverse	See Dealer		N/A		Clamp-On	N/A	N/A	
1989-1998 V6 – 3300, 3800, Transverse	3100041		3600006		1-1/2"	RF or LF	12 o'clock	
1975-1988 V6 – 3.8L (231 cu. in.), Conventional	3100039		3600006		1-1/2"	RR	12 o'clock	1
1984-1988 V6 – 3.8L (231 cu. in.), Transverse	3100041		3600006		1-1/2"	LF	3 o'clock	
1981-1984 V6 – 4.1L (252 cu. in.), Conventional	3100039		3600006		1-1/2"	RR	12 o'clock	1
1983-1985 V6 – 4.3L, Diesel, Transverse	3100039		3600006		1-1/2"	RF or RR	12 o'clock	
1982-1985 V6 – 4.3L, Diesel, Conventional	3100039		3600006		1-1/2"	LF or RF	12 o'clock	
1991-1996 V6 – 4.3L	3100057	3100126	3600006	3600116	1-5/8"	LR	6 o'clock	
1968-1976 L6 – 250 cu. in.	3100054		3600006		1-5/8"	LF or LR	6 or 12 o'clock	
2006-2014 V6 – 4.3L	3100109	3100127	3600082	3600119	28 MM THD	LC	N/A	15
8 Cylinder								
1979-1985 V8 – 260 cu. in., Diesel	3100039		3600006		1-1/2"	LR	12 o'clock	
1975-1982 V8 – 260 cu. in. GAS	3100039		3600006		1-1/2"	RF	6 o'clock	
1997-2003 V8 – 4.0L (Aurora)	See Dealer		N/A		Clamp-On	N/A	N/A	
1980-1981 V8 – 4.3L (265 cu. in.)	3100070		3600006		1-15/16"	LC	11 o'clock	1

Point Element – Please confirm element orientation – improper position may result in heater or engine damage.

* Description of footnotes – see page 36.

FREEZE PLUG HEATER (UNLESS OTHERWISE NOTED)

MAKE, MODEL, YEAR, ENGINE	Heater Part No.		Repl. Cord Part No.		Bore Diameter	Installation Location	Element Position	Foot Notes*
	Std Kit	Lit Kit	Std Cord	Lit Cord				
OLDSMOBILE								
AUTOMOTIVE								
8 Cylinder								
1981-1982 V8 – 4.4L (267 cu. in.)	3100057	3100126	3600006	3600116	1-5/8"	LR	9 o'clock	
1980-1990 V8 – 5.0L (307 cu. in.)	3100039		3600006		1-1/2"	LF or RF	12 o'clock	
1979 V8 – 301 cu. in.	3100070		3600006		1-15/16"	LC	6 or 12 o'clock	
1977-1992 V8 – 305, 350 cu. in. (Chevrolet engine)	3100057	3100126	3600006	3600116	1-5/8"	LR	9 o'clock	
1964-1967 V8 – 330 cu. in.	3100039		3600006		1-1/2"	LF or RF	12 o'clock	
1968-1981 V8 – 350, 455 (Except Delmont) (Olds eng)	3100039		3600006		1-1/2"	LF or RF	12 o'clock	
ALL V8 – 350 (Delmont)	3100039		3600006		1-1/2"	RC	12 o'clock	
1967-1976 V8 – 400 cu. in.	3100039		3600006		1-1/2"	LF or RC	12 o'clock	
1975 V8 – 400 cu. in. (Vista Cruiser)	3100070		3600006		1-15/16"	LF	6 o'clock	
1977-1979 V8 – 403 cu. in.	3100039		3600006		1-1/2"	RF	12 o'clock	
1978-1985 V8 – 350 cu. in., Diesel	3100039		3600006		1-1/2"	LF or RF	12 o'clock	
LIGHT & MEDIUM DUTY TRUCKS								
2004 L6 – 4.2L	3100005		3600100		28MM THD	LF	N/A	
1991-1996 V6 – 4.3L (Bravada)	3100054		3600006		1-5/8"	LR	12 o'clock	
PONTIAC								
AUTOMOTIVE								
3 Cylinder								
1985-1999 L3 – 1.0L	3400002		3600002		Clamp-On	N/A	N/A	
4 Cylinder								
1987-1999 L4 – 1.3L (Suzuki engine)	3400004		3600020		Clamp-On	N/A	N/A	
1985-1987 L4 – 1.5L, Transverse	3100018		3600006		35 MM	CR	12 o'clock	
1981-1988 L4 – 1.6L OHV, Conventional	3100014		3600006		34 MM	RF	6 o'clock	
2004-2009 L4 – 1.6L (Wave)	3100008		3600003		36 MM	LF	N/A	
1988-1998 L4 – (Suzuki engine) (Sunrunner)	3400003		3600002		Clamp-On	N/A	N/A	
1988-1993 L4 – 1.6L, Transverse (Lemans)	3100015		3600006		34 MM	LF	3 o'clock	2
1982-1984 L4 – 1.8L, 2.0L, OHV	3100014		3600006		34 MM	LF	12 o'clock	
1982-1987 L4 – 1.8L, Diesel	3100018		3600006		35 MM	RR	12 o'clock	
1982-1994 L4 – 1.8L, 2.0L OHC (Brazil engine)	3100015		3600006		34 MM	2ND LF	3 o'clock	2
2002-2009 L4 – 1.8L (1ZZFE), Transverse (Vibe)	3100129	3100123	3600083	3600119	Cartridge	LR	N/A	
2007-2009 L4 – 2.0L (Ecotec, Turbo), Conventional	See Dealer		3600082		Clamp-On	N/A	N/A	
1995-2001 L4 – 2.2L	3100081		3600006		42 MM	LF	9 o'clock	
2002-2004 L4 – 2.2L (Ecotec), Transverse	3400019		3600100		Clamp-On	RR	N/A	
2005-2009 L4 – 2.2L (Ecotec), Transverse	3400020		3600082		Clamp-On	RR	N/A	15
1985-1986 L4 – 2.0L	3100062		3600006		42 MM	LF	4 o'clock	
1987-1993 L4 – 2.3L Quad IV	3100093		3600003		3/4" NPT	N/A	N/A	3
1994-1995 L4 – 2.3L Quad IV Gen II	3100001		3600002		1/2" NPT		N/A	
2006-2009 L4 – 2.4L (Ecotec), Transverse	3400020		3600082		Clamp-On	RR	N/A	15
2006-2009 L4 – 2.4L (Ecotec), Conventional	3400020		3600082		Clamp-On	RF	N/A	15
1996-2001 L4 – 2.4L (Twin Cam)	3100001		3600002		1/2" NPT		N/A	
2009 L4 – 2.4L (Toyota Engine) (Vibe)	3100129	3100123	3600083	3600119	Cartridge	LR	N/A	
1977-1987 L4 – 2.5L, Conventional	3100076		3600006		1-5/8"	LR	6 or 12 o'clock	
1980-1994 L4 – 2.5L, Transverse	3100076		3600006		1-5/8"	LF	12 o'clock	
6 Cylinder								
1980-1986 V6 – 2.8L, Transverse	3100014		3600006		34 MM	RS	3 o'clock	7
1985-1989 V6 – 2.8L, Transverse (Vin W)	3100015		3600006		34 MM	CR	3 o'clock	2
1982-1989 V6 – 2.8L, Conventional	3100014		3600006		34 MM	RFF IN BLOCK	3 o'clock	
1985-1988 V6 – 3.0L, Transverse	3100041		3600006		1-1/2"	LF	12 o'clock	
1990-1997 V6 – 3.1, 3.4L, Conventional	3100015		3600006		34 MM	LC or RC	3 o'clock	2
1988-2002 V6 – 3.1L, Transverse	3100015		3600006		34 MM	CR	3 o'clock	2

Point Element – Please confirm element orientation – improper position may result in heater or engine damage.

* Description of footnotes – see page 36.

FREEZE PLUG HEATER (UNLESS OTHERWISE NOTED)								
MAKE, MODEL, YEAR, ENGINE	Heater Part No.		Repl. Cord Part No.		Bore Diameter	Installation Location	Element Position	Foot Notes*
	Std Kit	Lit Kit	Std Cord	Lit Cord				
PONTIAC – Continued								
AUTOMOTIVE								
6 Cylinder								
1992-1997 V6 – 3.4L, Transverse	3100015		3600006		34 MM	CR	3 o'clock	2, 5
1999-2004 V6 – 3.4, Transverse	3100015		3600006		34 MM	CR	3 o'clock	2, 5
2005-2009 V6 – 3.4, Transverse (Torrent)	3100109	3100127	3600082	3600119	28 MM THD	CR	N/A	15
2005-2009 V6 – 3.5L, Transverse	3100109	3100127	3600082	3600119	28 MM THD	CR	N/A	15
2007-2009 V6 – 3.6L, Transverse	3100110		3600082		Cartridge	LR	N/A	15
2008-2009 V6 – 3.6L, Conventional	3100110		3600082		Cartridge	LR	N/A	15
2005-2009 V6 – 3.9L, Transverse	3100109	3100127	3600082	3600119	28 MM THD	CR	N/A	15
1988-2004 V6 – 3300, 3800, Transverse	3100041		3600006		1-1/2"	RF or LF	12 o'clock	
2005-2009 V6 – 3800, Transverse	3100109	3100127	3600082	3600119	28 MM THD	CR	N/A	15
1996-2002 V6 – 3.8L Firebird	3100041		3600006		1-1/2"	RF	12 o'clock	
1976-1988 V6 – 3.8L (231 cu. in.), Conventional	3100039		3600006		1-1/2"	RR	12 o'clock	1
1987-1989 V6 – 3.8L (231 cu. in.), Transverse	3100041		3600006		1-1/2"	LF	3 o'clock	
1980-1981 V6 – 3.8L (229 cu. in.)	3100057	3100126	3600006	3600116	1-1/2"	LR	6 o'clock	
1982-1983 V6 – 4.1L (252 cu. in.)	3100039		3600006		1-1/2"	RR	12 o'clock	1
1985-1987 V6 – 4.3L	3100057	3100126	3600006	3600116	1-5/8"	LR	6 o'clock	
1982-1985 V6 – 4.3L, Diesel	3100039		3600006		1-1/2"	LF or LR	12 o'clock	
1955-1973 L6 – 194, 230, 250 cu. in.	3100054		3600006		1-5/8"	LF	12 o'clock	
1974-1978 L6 – 250 cu. in.	3100054		3600006		1-5/8"	LR	12 o'clock	8
8 Cylinder								
1975-1976 V8 – 260 cu. in.	3100039		3600006		1-1/2"	RF	6 o'clock	
1980-1981 V8 – 4.3L (265 cu. in.)	3100070		3600006		1-15/16"	LC	11 o'clock	1
1978-1982 V8 – 4.4L (267 cu. in.)	3100057	3100126	3600006	3600116	1-5/8"	LR	9 o'clock	
1977-1981 V8 – 301 cu. in.	3100070		3600006		1-15/16"	LR	6 or 12 o'clock	
1958-1994 V8 – 283, 305, 307, 327, 350, 400 (Red) cu. in.	3100057	3100126	3600006	3600116	1-5/8"	LR	9 o'clock	
1973-1979 V8 – 350, 400, 455 (Blue) cu. in.	3100070		3600006		1-15/16"	LC or LR	12 o'clock	
2005-2007 V8 – 5.3L, Transverse	3100109	3100127	3600082	3600119	28 MM THD	RF	N/A	15
1998-2002 V8 – 5.7L Gen 3	3100005		3600100		28 MM THD	LR	N/A	
2004 V8 – 5.7L Gen 3	3100005		3600100		28 MM THD	LR	N/A	
1980-1985 V8 – 5.7L (350 cu. in.), Diesel	3100039		3600006		1-1/2"	LF or RF	12 o'clock	
2005-2006 V8 – 6.0L LS2	3100109	3100127	3600082	3600119	28MM THD	LF	N/A	15
2008-2009 V8 – 6.0L	3100109	3100127	3600082	3600119	28MM THD	LF	N/A	15
2009 V8 – 6.2L	3100109	3100127	3600082	3600119	28MM THD	LF	N/A	15
1962-1970 V8 – 396, 409, 427 cu. in.	3100065		3600006		1-3/4"	RC or LF	3 or 12 o'clock	
1977-1989 V8 – 307,350, 403 cu. in. (Oldsmobile eng)	3100039		3600006		1-1/2"	RF	12 o'clock	
1970-1977 V8 – 454 cu. in.	3100065		3600006		1-3/4"	RC	6 o'clock	
1971-1981 V8 – 350 cu. in. (Buick engine)	3100039		3600006		1-1/2"	LF or RF	12 o'clock	
PORSCHE								
AUTOMOTIVE								
6 Cylinder								
1998-2011 H6 – 2.5, 2.7, 3.0, 3.2, 3.6, 3.8, 4.0L	See Dealer		N/A		N/A	N/A	N/A	
2012 V6 – 3.0L Hybrid	See Dealer		N/A		N/A	N/A	N/A	
2004-2007 V6 – 3.2L (Cayenne)	3100010		3600005		30 MM	CFF	10 o'clock	
2007-2010 V6 – 3.6L (Cayenne)	See Dealer		N/A		N/A	N/A	N/A	
2011-2016 V6 – 3.6L (Panamera, Cayenne)	See Dealer		N/A		N/A	N/A	N/A	
8 Cylinder								
2003-2006 V8 – 4.5L (Cayenne & Turbo)	See Dealer		N/A		N/A	RFF	N/A	
2007-2014 V8 – 4.8L (Cayenne & Panamera)	See Dealer		N/A		N/A	N/A	N/A	

Point Element – Please confirm element orientation – improper position may result in heater or engine damage.

* Description of footnotes – see page 36.

FREEZE PLUG HEATER (UNLESS OTHERWISE NOTED)

MAKE, MODEL, YEAR, ENGINE	Heater Part No.		Repl. Cord Part No.		Bore Diameter	Installation Location	Element Position	Foot Notes*
	Std Kit	Lit Kit	Std Cord	Lit Cord				
SAAB								
AUTOMOTIVE								
4 Cylinder								
1975-1984 L4 – 2.0, 2.1L	3100056		3600006		1-5/8"	RR	3 o'clock	
1985-1993 L4 – 2.0, 2.1L	See Dealer		3600083		26 MM THD	N/A	N/A	
2003-2012 L4 – 2.0L, Turbo	See Dealer		N/A		Clamp-On	N/A	N/A	
2004-2005 H4 – 2.0L, Turbo (Subaru Engine)	3100008		3600003		36 MM THD	LF Bottom	N/A	
1990-2005 L4 – 2.3L (B234)	3100033		3600006		36 MM	LF	9 o'clock	
2004-2005 H4 – 2.5L (Subaru Engine)	3100008		3600003		36 MM THD	LF Bottom	N/A	
6 Cylinder								
1994-1995 V6 – 2.5L	See Dealer		N/A		N/A	N/A	N/A	
2006-2012 V6 – 2.8L, Turbo	See Dealer		N/A		N/A	N/A	N/A	
1999-2003 V6 – 3.0L	3100006	3100124	3600005	3600117	LF	N/A	N/A	
2005-2007 L6 – 4.2L, Conventional	3100109	3100127	3600082	3600119	28 MM THD	LF	N/A	15
8 Cylinder								
2005-2007 V8 – 5.3L, Conventional	3100109	3100127	3600082	3600119	28 MM THD	LR	N/A	15
SATURN								
AUTOMOTIVE								
4 Cylinder								
1991-2001 L4 – 1.9L	See Dealer		N/A		Clamp-On	N/A	N/A	
2004 L4 – 2.0L (Ecotec), Transverse	3400019		3600100		Clamp-On	RR	N/A	
2005-2006 L4 – 2.0L (Ecotec), Transverse	3400020		3600082		Clamp-On	RR	N/A	15
2007-2009 L4 – 2.0L (Ecotec, Turbo), Conventional	See Dealer		3600082		Clamp-On	N/A	N/A	
2000-2004 L4 – 2.2L (Ecotec), Transverse	3400019		3600100		Clamp-On	RR	N/A	
2005-2006 L4 – 2.2L (Ecotec), Transverse	3400020		3600082		Clamp-On	RR	N/A	15
2006-2009 L4 – 2.4L (Ecotec), Transverse	3400020		3600082		Clamp-On	RR	N/A	15
2006-2009 L4 – 2.4L (Ecotec), Conventional	3400020		3600082		Clamp-On	RF	N/A	15
6 Cylinder								
2000-2004 V6 – 3.0L	3100006	3100124	3600005	3600117	28MM THD	LF	N/A	
2005-2006 V6 – 3.0L	See Dealer		N/A		N/A	N/A	N/A	
2007-2009 V6 – 3.5L, Transverse	3100109	3100127	3600082	3600119	28 MM THD	LR	N/A	15
2007-2009 V6 – 3.6L, Transverse	3100110		3600082		Cartridge	LR	N/A	15
LIGHT & MEDIUM DUTY TRUCKS & VANS								
4 Cylinder								
2002-2004 L4 – 2.2L	3400019		3600100		Clamp-On	RR	N/A	
2005-2007 L4 – 2.2L	3400020		3600082		Clamp-On	RR	N/A	15
6 Cylinder								
2002-2004 V6 – 3.0L								
2005-2007 V6 – 3.0L	See Dealer		N/A		N/A	N/A	N/A	
2004-2007 V6 – 3.5L (Honda Engine)	3100006	3100124	3600005	3600117	28 MM THD	LF	N/A	
2005-2009 V6 – 3.5L	3100109	3100127	3600082	3600119	28 MM THD	LR	N/A	15
2007-2009 V6 – 3.6L, Transverse	3100110		3600082		Cartridge	LR	N/A	15
SCION								
AUTOMOTIVE								
4 Cylinder								
2004-2009 L4 – 1.5L (1NZ-FE)	3100129	3100123	3600083	3600119	Cartridge	LR	N/A	
2012-2016 H4 – 2.0L	See Dealer		N/A		36 MM THD	LF Bottom	N/A	
2004-2014 L4 – 2.4L	3100129	3100123	3600083	3600119	Cartridge	LR	N/A	
2011-2016 L4 – 2.5L (2AR-FE)	See Dealer		N/A		N/A	N/A	N/A	
SMART								
AUTOMOTIVE								
3 Cylinder								
2005-2007 L3 – Diesel (ForTwo)	See Dealer		N/A		N/A	N/A	N/A	
2008-2015 L3 – Gasoline (ForTwo)	See Dealer		N/A		N/A	N/A	N/A	

Point Element – Please confirm element orientation – improper position may result in heater or engine damage.

* Description of footnotes – see page 36.

FREEZE PLUG HEATER (UNLESS OTHERWISE NOTED)								
MAKE, MODEL, YEAR, ENGINE	Heater Part No.		Repl. Cord Part No.		Bore Diameter	Installation Location	Element Position	Foot Notes*
	Std Kit	Lit Kit	Std Cord	Lit Cord				
SUBARU								
AUTOMOTIVE								
1980-2012 – ALL H4 & H6	3100008		3600003		36 MM THD	LF Bottom	N/A	
2012-2016 H4 – 2.0L	See Dealer		N/A		36 MM THD	LF Bottom	N/A	
2008-2016 H6 – 3.6L	See Dealer		N/A		36 MM THD	N/A	N/A	
SUZUKI								
AUTOMOTIVE								
3 Cylinder								
1985-2000 L3 – 1.0L	3400002		3600002		Clamp-On	N/A	N/A	
4 Cylinder								
1985-1999 L4 – 1.3L	3400004		3600020		Clamp-On	N/A	N/A	
1989-2001 L4 – 1.6L	3400003		3600002		Clamp-On	N/A	N/A	
2005-2006 L4 – 1.6L (Swift)	See Dealer		N/A		N/A	N/A	N/A	
2011-2012 L4 – 1.6L (Swift)	See Dealer		N/A		N/A	N/A	N/A	
1998-2003 L4 – 1.8L	See Dealer		N/A		30 MM	LR	N/A	
1999-2003 L4 – 2.0L	See Dealer		N/A		30 MM	LR	N/A	
2003-2004 L4 – 2.0L (Aerio)	See Dealer		N/A		N/A	N/A	N/A	
2004-2005 L4 – 2.0L (Reno)	See Dealer		N/A		N/A	N/A	N/A	
2007-2012 L4 – 2.0L (SX4)	See Dealer		N/A		N/A	N/A	N/A	
2005-2007 L4 – 2.3L (Aerio)	See Dealer		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	
6 Cylinder								
2004-2006 L6 – 2.5L	See Dealer		N/A		N/A	N/A	N/A	
1999-2003 V6 – 2.5L	See Dealer		N/A		Clamp-On	LF	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	
2008-2009 V6 – 3.2L	3100110		3600082		Cartridge	LR	N/A	15
2007-2010 V6 – 3.6L (XL7)	3100110		3600082		Cartridge	LR	N/A	15
2011-2012 V6 – 4.0L (Equator)	See Dealer		N/A		N/A	N/A	N/A	
TOYOTA								
AUTOMOTIVE								
4 Cylinder								
1967-1980 L4 – 1.1L (K), 1.2L (3K, 3KC)	3100016		3600006		35 MM	LF	6 o'clock	
1981-1985 L4 – 1.3L (4KC, 4KE)	3100021		3600006		35 MM	LF	6 o'clock	
1980-1987 L4 – 1.5L (3A, 1AC, 3AC)	3100049		3600006		40 MM	LC	12 o'clock	
1988-1990 L4 – 1.5L (3E)	3100021		3600006		35 MM	LF	10-12 o'clock	
1990-1994 L4 – 1.5L (3EE)	3100019		3600006		35 MM	LF	12 o'clock	
1992-1999 L4 – 1.5L (5EFE)	3100011		3600004		30 MM	2ND RF	3 o'clock	
2000-2016 L4 – 1.5L (1NZ-FE)	3100129	3100123	3600083	3600119	Cartridge	LR	N/A	
2004-2009 L4 – 1.5L (1NZ-FXE) (Prius)	See Dealer		N/A		Cartridge	LR	N/A	
1983-1986 L4 – 1.6L (4AC), Conventional	3100049		3600006		40 MM	2ND LF	12 o'clock	
1985-1997 L4 – 1.6L (4AF, 4AFE), Transverse	3100049		3600006		40 MM	CF	12 o'clock	
1984-1987 L4 – 1.6L (4AC), Transverse	3100049		3600006		40 MM	2ND LF	12 o'clock	
1985-1988 L4 – 1.6L (4AGE), Conventional	3100021		3600006		35 MM	RC	9 or 12 o'clock	
1985-1989 L4 – 1.6L (4AGE) (Mid engine)	3100021		3600006		35 MM	RF	12 o'clock	
1988-1991 L4 – 1.6L (4AGE), Transverse	3100021		3600006		35 MM	LR	9 or 12 o'clock	
1971-1982 L4 – 1.6L (2TC), 1.8L (3TC)	3100075		3600004		35 MM	LF	9 o'clock	
1970-1978 L4 – 1.8L (8R, 8RC)	3100048		3600006		40 MM	LC	12 o'clock	
1966-1980 L4 – 1.8L (3R, 3RB, 3RC)	3100071		3600006		50 MM	LF	12 o'clock	
1993-1997 L4 – 1.8L (7AFE), Transverse	3100049		3600006		40 MM	CF	12 o'clock	
1998-2014 L4 – 1.8L (1ZZFE), Transverse	3100129	3100123	3600083	3600119	Cartridge	LR	N/A	

Point Element – Please confirm element orientation – improper position may result in heater or engine damage.

* Description of footnotes – see page 36.

FREEZE PLUG HEATER (UNLESS OTHERWISE NOTED)

MAKE, MODEL, YEAR, ENGINE	Heater Part No.		Repl. Cord Part No.		Bore Diameter	Installation Location	Element Position	Foot Notes*
	Std Kit	Lit Kit	Std Cord	Lit Cord				
TOYOTA – Continued								
AUTOMOTIVE								
4 Cylinder								
2010-2014 L4 – 1.8L (2ZR-FXE) (Prius)	See Dealer		N/A		Cartridge	LR	N/A	
1994-2002 V8 – 7.3L (T444E)	3100129	3100123	3600083	3600119	Cartridge	LR	N/A	
1972-1974 L4 – 2.0L (18RC)	3100049		3600006		40 MM	RR	12 o'clock	
1987-1991 L4 – 2.0L (3SFE)	3100098	3100122	3600006	3600116	35 MM	2ND RR	9 o'clock	
1986-1989 L4 – 2.0L (3SGE)	3100019		3600006		35 MM	2ND RR	9 or 12 o'clock	
1983-1986 L4 – 2.0L (2SE,2SGE)	3100049		3600006		40 MM	2ND LF	12 o'clock	
1975-1980 L4 – 2.2L (20R)	3100049		3600006		40 MM	RF	6 o'clock	
1991-1993 L4 – 2.2L (5SFE) MR2	3100021		3600006		35 MM	2ND LR	9 o'clock	
1990-1995 L4 – 2.2L (5SFE) (Celica)	3100049		3600006		40 MM	2ND LF	12 o'clock	
1990-2001 L4 – 2.2L (5SFE), Transverse	3100049		3600006		40 MM	2ND LF	12 o'clock	
1990-1993 L4 – 2.2L (5SFE) (Mid engine)	3100049		3600006		40 MM	2ND LR	12 o'clock	
1981-1985 L4 – 2.4L (22R, 22RE)	3100049		3600006		40 MM	RF	10 o'clock	
2002-2008 L4 – 2.4L (2AZ-FE)	3100129	3100123	3600083	3600119	Cartridge	LR	N/A	
2009-2016 L4 – 2.5L (2AR-FE)	See Dealer		N/A		Cartridge	LR	N/A	
6 Cylinder								
1989-1991 V6 – 2.5L (2VZFE)	3100019		3600006		35 MM	CF	6 o'clock	
1992-1996 V6 – 3.0L (3VZFE)	3100021		3600006		35 MM	LF	3 o'clock	
1994-2006 V6 – 3.0L (1MZ-FE)	3100029		3600006		35 MM	RF	3 o'clock	
1966-1971 L6 – 2.2L (2M)	3100048		3600006		40 MM	LF	12 o'clock	
1971-1979 L6 – 2.6L (4M)	3100049		3600006		40 MM	RR	5 o'clock	
1979-1988 L6 – 2.6L (4ME), 2.8L (5ME, 5MGE)	3100049		3600006		40 MM	RF	10 o'clock	
1986-1995 L6 – 2.8L (5MGE)	3100049		3600006		40 MM	LF	10-12 o'clock	
1986-1995 L6 – 3.0L (7MGE)	3100049		3600006		40 MM	LF	10-12 o'clock	
2004-2006 V6 – 3.3L	3100029		3600006		35 MM	RF	3 o'clock	
2005-2016 V6 – 3.5L (2GR-FE)	See Dealer		N/A		Cartridge	LF	N/A	
LIGHT & MEDIUM DUTY TRUCKS & VANS								
4 Cylinder								
1981-1987 L4 – 1.8L (L), 2.2L (2L,2LT), Diesel	3100024		3600006		35 MM	LR	12 o'clock	1
1996-2000 L4 – 2.0L (3SFE) (RAV4)	3100098	3100122	3600006	3600116	35 MM	2ND RR	9 o'clock	
2001-2005 L4 – 2.0L (RAV4)	3100129	3100123	3600083	3600119	Cartridge	LR	N/A	
1984-1989 L4 – 2.0L (3YE), 2.2L (4YE)	3100049		3600006		40 MM	RR	12 o'clock	
1972-1974 L4 – 2.0L (18RC)	3100049		3600006		40 MM	RF	6 o'clock	
1975-1980 L4 – 2.2L (20R)	3100049		3600006		40 MM	RF	6 o'clock	
1981-1998 L4 – 2.4L (22R, 22RE, 22RTE)	3100049		3600006		40 MM	RF	10 o'clock	
1991-1997 L4 – 2.4L (2TZ-FE) (Previa)	3100022		3600006		35 MM	BOTTOM RF	9 o'clock	
2001-2013 L4 – 2.4L	3100129	3100123	3600083	3600119	Cartridge	LR	N/A	
1994-2016 L4 – 2.7L	See Dealer		N/A		N/A	N/A	N/A	
2009-2016 L4 – 2.7L (1AR-FE), Transverse	See Dealer		N/A		N/A	N/A	N/A	
1981-1987 L4 – 3.4L (3B), Diesel	3100021		3600006		35 MM	LR	11 or 12 o'clock	
6 Cylinder								
1988-1998 V6 – 3.0L (3VZE)	3100098	3100122	3600006	3600116	35 MM	LF or 2ND LF	3 o'clock	
1998-2003 V6 – 3.0L (1MZ-FE)	3100029		3600006		35 MM	RF	3 o'clock	
2004-2006 V6 – 3.3L (2MZFE)	3100029		3600006		35 MM	RF	3 o'clock	
1997-2003 V6 – 3.4L (5VZ-FE)	See Dealer		N/A		N/A	N/A	N/A	
2003-2016 V6 – 4.0L (1GR-FE)	3100129	3100123	3600083	3600119	Cartridge	LR	N/A	
1985-1987 L6 – 3.9L (2H), Diesel	3100021		3600006		35 MM	RR	3 or 5 o'clock	

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* Description of footnotes – see page 36.

FREEZE PLUG HEATER (UNLESS OTHERWISE NOTED)								
MAKE, MODEL, YEAR, ENGINE	Heater Part No.		Repl. Cord Part No.		Bore Diameter	Installation Location	Element Position	Foot Notes*
	Std Kit	Lit Kit	Std Cord	Lit Cord				
TOYOTA – Continued								
LIGHT & MEDIUM DUTY TRUCKS & VANS								
8 Cylinder								
2010-2016 V8 – 4.6L	See Dealer		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	
2007-2016 V8 – 5.7L (3UR-FE)	3100129	3100123	3600083	3600119	Cartridge	LR	N/A	
VOLKSWAGEN								
AUTOMOTIVE								
4 Cylinder								
1962-1976 L4 – ALL Air Cooled, except 411, 412	See Dealer		N/A		N/A	N/A	N/A	
1971-1976 L4 – 411, 412	See Dealer		N/A		N/A	N/A	N/A	
1974-1994 L4 – 1.5L, 1.6 & 1.7L Gas/Diesel (Conv)	3100034		3600016		36.5 MM	2ND RF	6 o'clock	2
1974-1994 L4 – 1.5L, 1.6, & 1.7L Gas/Diesel (Trans)	3100034		3600016		36.5 MM	CR or RR	6 o'clock	2
1987-1995 L4 – 1.8L, Conventional	3100034		3600016		36.5 MM	RF	12 o'clock	2
1983-1997 L4 – 1.8L, Transverse	3100034		3600016		36.5 MM	CR or RR	12 o'clock	2
1998-2005 L4 – 1.8L, Turbo	See Dealer		N/A		N/A	N/A	N/A	
1993-1997 L4 – 1.9L, Turbo, Diesel	3100034		3600016		36.5 MM	LR or CR	6 o'clock	2
1998-1999 L4 – 1.9L, Turbo, Diesel (Direct Injection)	3100034		3600016		36.5 MM	LR	N/A	2
2000-2005 L4 – 1.9L, Turbo Diesel (Direct Injection)	See Dealer		N/A		N/A	N/A	N/A	
1991-1999 L4 – 2.0L, Transverse	3100034		3600016		36.5 MM	CR or RR	6 o'clock	2
1998-2005 L4 – 2.0L (Beetle)	See Dealer		N/A		N/A	N/A	N/A	
2000-2015 L4 – 2.0L	See Dealer		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	
2009-2015 L4 – 2.0L, Diesel	See Dealer		N/A		N/A	N/A	N/A	
2006-2015 L4 – 2.0L, Turbo FSI & TSI	See Dealer		N/A		N/A	N/A	N/A	
5 Cylinder								
1987-1995 L5 – 2.2, 2.3L	3100035		3600016		36.5 MM	RF or 2ND RF	3 o'clock	
2005-2014 L5 – 2.5L	See Dealer		N/A		N/A	N/A	N/A	
6 Cylinder								
1993-2002 VR6 – 2.8L, Transverse	See Dealer		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	
2004 VR6 24V – 3.2L, Transverse	See Dealer		N/A		N/A	N/A	N/A	
2008 VR6 24V – 3.2L, Transverse	See Dealer		N/A		N/A	N/A	N/A	
1998-2004 V6 – 2.8L, Conventional	See Dealer		N/A		N/A	N/A	N/A	
2006-2015 VR6 – 3.6L, Transverse	See Dealer		N/A		N/A	N/A	N/A	
8 Cylinder								
2003-2004 W8 – 4.0L	See Dealer		N/A		N/A	N/A	N/A	
2004-2006 V8 – 4.2L	See Dealer		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	
LIGHT & MEDIUM DUTY TRUCKS & VANS								
4 Cylinder								
2009-2014 L4 – 2.0L, Turbo TSI	See Dealer		N/A		N/A	N/A	N/A	
5 Cylinder								
1992-1995 L5 – 2.5L	See Dealer		N/A		N/A	N/A	N/A	
6 Cylinder								
2002-2003 VR6 24V – 2.8L, Transverse	See Dealer		N/A		N/A	N/A	N/A	
2010-2015 V6 – 3.0L, Diesel	See Dealer		N/A		N/A	N/A	N/A	
2003-2007 VR6 – 3.2L, Conventional	3100010				30 MM	CFF	10 o'clock	
2007-2014 VR6 – 3.6L, Conventional	See Dealer		N/A		N/A	N/A	N/A	
2009 V6 – 3.8L, Transverse	See Dealer		N/A		N/A	N/A	N/A	
2009 V6 – 4.0L, Transverse	See Dealer		N/A		N/A	N/A	N/A	

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* Description of footnotes – see page 36.

FREEZE PLUG HEATER (UNLESS OTHERWISE NOTED)

MAKE, MODEL, YEAR, ENGINE	Heater Part No.		Repl. Cord Part No.		Bore Diameter	Installation Location	Element Position	Foot Notes*
	Std Kit	Lit Kit	Std Cord	Lit Cord				
VOLKSWAGEN – Continued								
LIGHT & MEDIUM DUTY TRUCKS & VANS								
8 Cylinder								
2003-2010 V8 – 4.2L	See Dealer		N/A		N/A	N/A	N/A	
10 Cylinder								
2004-2008 V10 – 5.0L, Diesel	See Dealer		N/A		N/A	N/A	N/A	
VOLVO								
AUTOMOTIVE								
4 Cylinder								
2000-2003 L4 – 1.9L	See Dealer		N/A		N/A	N/A	N/A	
1985-1991 L4 – 2.3L (B230)*	3100047		3600006		40 MM	RF	9 o'clock	14
1991-1996 L4 – 2.3L (B230)	3100052		3600006		40 MM	RF	9 o'clock	14
1989-1990 L4 – 2.3L (B234)	3100052		3600006		40 MM	RF	9 o'clock	
1962-1979 L4 – 1.8L, 2.0L	3100064		3600006		1-3/4"	RR	3 o'clock	
1976-1984 L4 – 2.1L, 2.3L (B21,B23)	3100064		3600006		1-3/4"	RR	9 o'clock	
5 Cylinder								
1993-2006 L5 – 2.3L, Transverse	See Dealer		N/A		N/A	N/A	N/A	
1993-2011 L5 – 2.4L, Transverse	See Dealer		N/A		N/A	N/A	N/A	
2003-2016 L5 – 2.5L, Transverse	See Dealer		N/A		N/A	N/A	N/A	
2006-2016 L5 – 2.5L, Turbo, Transverse	See Dealer		N/A		N/A	N/A	N/A	
6 Cylinder								
1976-1990 V6 – 2.7L, 2.8L	3100031		3600006		36 MM	RRF IN HEAD	9 o'clock	
1980-1986 L6 – 2.4L, Diesel	3100034		3600016		36.5 MM	RC	6 o'clock	
1969-1979 L6 – 3.0L	3100064		3600006		1-3/4"	RR	9 o'clock	
1992-1998 L6 – 3.0L Turbo, Transverse	See Dealer		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	
2008-2016 L6 – 3.0L, Turbo, Transverse	See Dealer		N/A		N/A	N/A	N/A	
2007-2015 L6 – 3.2L, Transverse	See Dealer		N/A		N/A	N/A	N/A	
8 Cylinder								
2006-2011 V8 – 4.4L, Transverse	3100002	3100121	3600001	3600118	3/4" NPT	LR	N/A	

FOOTNOTES

Footnote #	Application Information
1	Remove and replace starter.
2	Pull or pry out core plug.
3	Replacement heater only. May require lower coolant return line (steel tube purchase from GM).
4	Remove and replace alternator.
5	Installation by certified mechanic recommended.
6	On some models, the air pump has to be loosened.
7	Remove right front wheel and splash guard.
8	Lower radiator hose heater: 1-3/4" diameter prior to 1970, 1-1/2" diameter later.
9	Lower radiator hose heater: 1970 & earlier—use 1-3/4" model; 1971-1993—use 1-1/2" model.
10	Install in hose rise closest to water pump.
11	Lower radiator hose heater: 1977-1982—use 1-1/4" model; 1983-1985—use 1-1/2" model.
12	Lower radiator hose heater to 1993 only.
13	If LR is a 40mm core hole, install heater in 2ND LR.
14	Confirm with dealer on core hole type. Stepped core hole (1985-1991). Normal style core hole (1991-1996).
15	Kit contains a thermostatically controlled cord required for compatibility with the OBD 11 system in these vehicles.
16	May require mounting Elbow P/N 14075-AM700, Gasket P/N 11065-AM700 and Bolts P/N A1005H8, available from Nissan Infinity.

Point Element – Please confirm element orientation – improper position may result in heater or engine damage.

* Description of footnotes – see page 36.

AGRICULTURAL, HEAVY DUTY, OFF ROAD & INDUSTRIAL APPLICATION



SECTION DESCRIPTIONS

Manufacturer

MACK

E6 (672 CID 6 cyl.)

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

Part No.	Watt	Volt	Diameter	Type
8609748	1500	120	1-3/4"	Freeze Plug
8609772	1500	240	1-3/4"	Freeze Plug



Installation Information: Replaces 1-3/4" freeze plug on side of engine.

Available Service Parts: O-ring and clamping device kit (3500003)


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

Typical applications for engine:

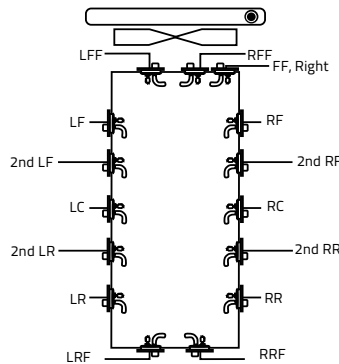
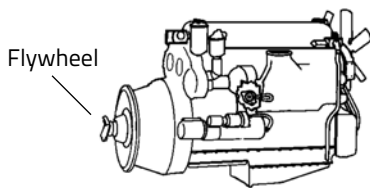
Agricultural Use 

Industrial Use 

Heavy Duty Truck Use 

INSTALLATION LOCATION

Heater installation locations are as viewed from flywheel end of 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
- RFF Front Face, Right Cylinder Head
- RR Right Rear
- RS Right Side
- 2ND RR 2ND Core Plug from the Right Rear

Note: Heaters in this section ship with the appropriate standard 6 ft. cord.

Agricultural, Heavy Duty, Off Road & Industrial Applications

UTILISATION AGRICOLE, POIDS LOURD & INDUSTRIEL



sauf où il y a une note

DESCRIPTION DES SECTIONS

Manufacturier

MACK

E6 (672 CID 6 cyl.)

(Moteurs avec bouchon expansible à alésage lisse. Exemple: EM6300, E6350, EM6237)



Numero de pièce	Watt	Volt	Diamètre	Type
8608748	1500	120	1-3/4"	Bouchon expansible
8609772	150	240	1-3/4"	Bouchon expansible



Consignes d'installation :

Remplace le bouchon expansible 1-3/4" sur le côté du moteur.

Pièces disponibles : ensemble de joints toriques et dispositif de serrage (3500003)

Consignes d'installation : voir le schéma ci-dessous pour information sur l'emplacement du montage.

No Pièce: puissance et tension du chauffe-moteur, diamètre de l'alésage (si applicable), type de chauffe-moteur, "Plaque" indique installation avec plaque de montage.

Critères de sélection additionnels en fonction du moteur.

Modèle et/ou grandeur du moteur, plus toutes autres descriptions.

Application d'usage pour un moteur

Usage agricole



Usage industriel

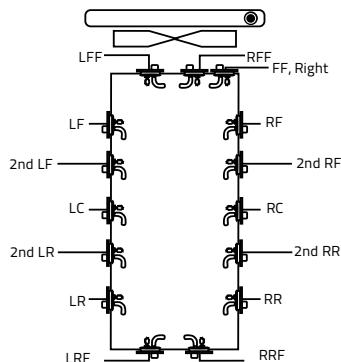
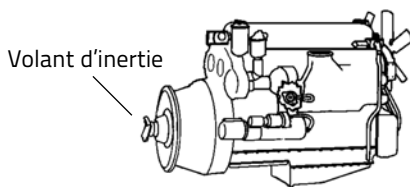


Usage pour camions lourd



EMPLACEMENT POUR L'INSTALLATION

Emplacements d'installation du chauffe-moteur sont montrés à partir de l'extrémité du volant d'inertie et du moteur



CF	Centre avant
CR	Centre arrière
F	Avant
FF	Face avant du bloc moteur
LC	Centre gauche
LF	Avant gauche
2ND LF	2e avant gauche
LFF	Face avant, gauche du cylindre
LLC	Face gauche, bas du centre
LR	Arrière gauche
2ND LR	2e Arrière gauche
LS	Côté gauche
R	Arrière
RC	Centre droit
Rear	Face arrière ou côté
RF	Avant droit
2ND RF	2e de l'avant droit
RFF	Face avant, culasse de cylindre droit
RR	Arrière droite
RS	Côté droit
2ND RR	2e bouchon expansible à partir de l'arrière droite

Remarque : Les chauffes-moteurs dans cette section sont expédiés avec le cordon standard de 6 pi. approprié.

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.

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. Circulation heater is acceptable alternative.

XP180, XP210, XP220

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



Installation Information: Lower Radiator Hose Heater. Circulation heater is acceptable alternative.

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

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.

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.

BOLENS – CONTINUED

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.

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.

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 / CASE NEW HOLLAND

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

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.

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 or #3200005 Lower Radiator Hose Heater are acceptable alternatives.

675 (6 cyl.) 675TWV, 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.

Agricultural, Heavy Duty, Off Road & Industrial Applications

CASE IH / JI CASE / CASE NEW HOLLAND – CONTINUED

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.



B10

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500149	1000	120	42mm THD	Immersion	3600008

Installation Information: Replace 42mm pipe plug. **Available Service Parts:** Hex Nut (8602999), Element Gasket (8603650)



Case Maxxum (4 & 6 cyl.) New Holland T6000 Series

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500154	750	120	58MM 2 Bolt Flange	Immersion	3600008

Installation Information: Install Right side (RS) of engine.



Cursor Engine

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500150	1000	120	42MM THD	Immersion	3600008

Installation Information: Replace 42mm pipe plug.

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



CATERPILLAR

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	3600008

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.



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).



Agricultural, Heavy Duty, Off Road
& Industrial Applications

CATERPILLAR – CONTINUED

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 (5L)

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



Installation Information: Install 2ND Left Rear (2ND LR). Point element 6 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 (RS) of engine, between #1 and #2 cylinders, behind exhaust manifold.

3054C, 3054E, C4.4 (2004-2006)

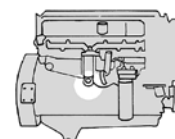
Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500084	750	120	1-1/4"	Freeze Plug	3600008



Installation Information: Install Right Rear (RR), Point element 3 o'clock.

3114 (4.4L), 3116 (6.6L), 3126 (7.2L), 3126B (7.2L), C7 (7.2L, all years prior to 2004), C7 ACERT (2004-2007), 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 83 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.

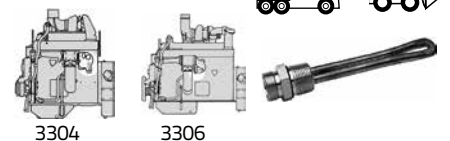


3304 (with oil cooler), 3306 (638 CID)

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



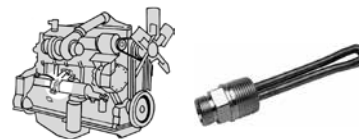
Installation Information: Replaces 3/4" pipe plug at Rear of oil cooler on Left Side of engine.



Agricultural, Heavy Duty, Off Road & Industrial Applications

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
8605580	2000	120	1" NPT	Immersion	8608652



Installation Information: Without BrakeSaver: Replaces 1" pipe plug in oil cooler rear bonnet (pictured). **With BrakeSaver:** Install in front bonnet.

3406 (With BrakeSaver-1994 & newer)
 Not for use with 1998 3406E or 15.8L 600 hp 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 (1998 models only), **3456, 15.8L** (600 hp)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500033	1500	120	1" NPT	Immersion	3600048
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.)

(See Circulation Heater Section pages 87-90)



C3.3B, C3.8

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500120	400	120	1" NPT	Immersion	3600110



Installation Information: C3.3B – Left Front (LF), C3.8 – Right Rear (RR).

C3.4, C3.4B

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100117	600	120	40mm	Freeze Plug	3600006



Installation Information: Right Front (RF).

C4.4

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



Installation Information: Only use 3500084 when replacing existing freeze plug. 3500145 is recommended for all new installations. Install 3500145 Left Center (LC). Install 3500084 Right Rear (RR) or Right Front (RF) with element at 3 o'clock.

C4.4 ACERT Tier 4

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500145	600	120	3/4" NPT	Immersion	3600100
3500148	600	240	3/4" NPT	Immersion	8608377



Installation Information: Left Center (LC).

C6.6 (2006 & Newer)

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



Installation Information: Install in Right Rear (RR).

C9, C15, C16

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: Install in oil cooler rear bonnet.

C9 ACERT, C15 ACERT, C16 ACERT (2004-2006)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500073	1500	120	1-1/16" – 12	Immersion	3600008
3500077	1500	120	1-3/16" – 12	Immersion	3600008
3500076	1500	240	1-3/16" – 12	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).

C9.3, C15

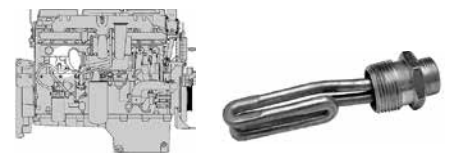
Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500117	1500	120	1-5/16" – 12	Immersion	3600008
3500128	1500	240	1-5/16" – 12	Immersion	8608377



Installation Information: Right Rear (RR).

C10, C12

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 threaded immersion heater page for specifications.

C11 ACERT, C13 ACERT, 2004-2006 C11, C13 (2004-2006)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500075	1500	120	1-5/16" – 12	Immersion	3600008
3500074	1500	240	1-5/16" – 12	Immersion	8608377



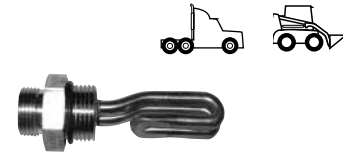
Installation Information: Replaces 1-5/16" threaded plug in rear of oil cooler. Engine may also accept the following oil pan heaters: 3500079, 3500078 (replaces 1-5/16" threaded plug).

CATERPILLAR – CONTINUED

C13 ACERT & C15 ACERT (2007 & NEWER CAT)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500111	1500	120	1-3/16" – 12	Immersion	3600008

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



C18 ACERT

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500077	1500	120	1-3/16" – 12	Immersion	3600008
3500132	1500	240	1-3/16" – 12	Immersion	8608377

Installation Information: Right Rear (RR).



CHEVROLET

Forward & Tiltmaster, all Gasoline engines

See Chevrolet Automotive/Light Truck Gasoline applications.



CONTINENTAL (TELEDYNE)

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

Note: Heater for cup-type core hole only.



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.



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.



CUMMINS

170 & 185 (470 CID), 210 (504 CID), VT225, V555, VT555 (555 CID)

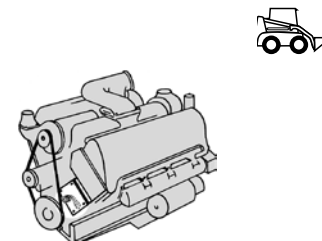
Engines without alternator mounted over water jacket access plate

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
8601763	1000	120	Plate	Immersion	3600008
8601801	1000	240	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).

If Cummins 504 CID has alternator, uses International Bracket International Bracket (3549687C1).



Agricultural, Heavy Duty, Off Road & Industrial Applications

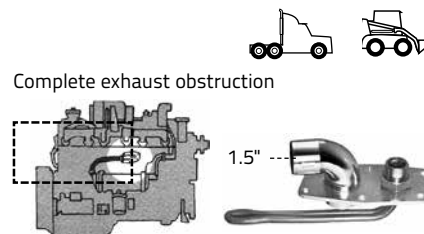
CUMMINS – CONTINUED

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)

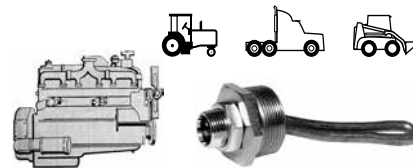


855 CID Alternate installation

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).

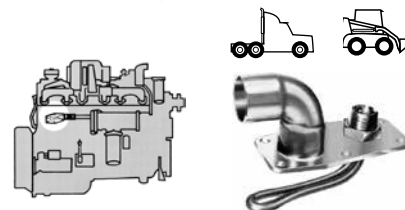


855 CID Engines with full flow cooling, high-mount oil cooler
Uses hose and two clamps for water connection to casting.
(Most engines manufactured from August 1975 to June 1982)

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)

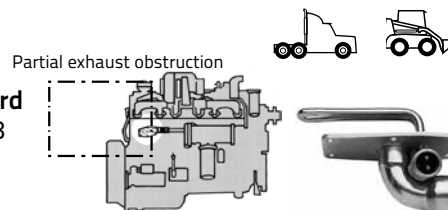


855 CID Engines with full flow cooling, high-mount oil cooler-obstruction
(Connected to Rear port which is partially blocked by exhaust)

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.

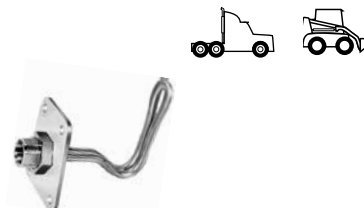


855 CID Replacement element for existing 8602379 heater
(Does NOT include casting. Cordset is included)

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)



B3.3T (3.3L), QSB (3.3L)

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

Installation Information: Installs in Left Rear (LR).



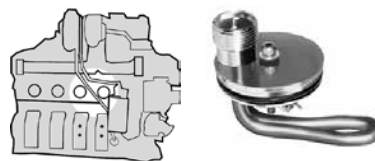
Agricultural, Heavy Duty, Off Road & Industrial Applications

CUMMINS – CONTINUED

B Series: 4B3.9 & 4BT3.9 (1987-2002) (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



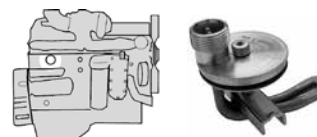
Installation Information: Replaces freeze plug on Right side on engine.

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

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)

C & J 160, 175 & 190 (464 CID)

Use Circulation heater.



ISB Series: (5.9L, 6.7L) **QSB** (3.9L, 4.5L, 5.9L, 6.7L)



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.

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.

ISV (5.0L)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3600165	600	120	27mm	Immersion	3600008

ISX 12, ISX 12G

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500107	1500	120	26mm	Immersion	3600008
3500153	1500	240	26mm	Immersion	3600008



Installation Information: Install in Right Side (RS).

ISX, QSX (2007 & Newer)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500107	1500	120	26mm	Immersion	3600008
3500153	1500	240	26mm	Immersion	3600008



Installation Information: Install in Right Side (RS).

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 THUD	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)

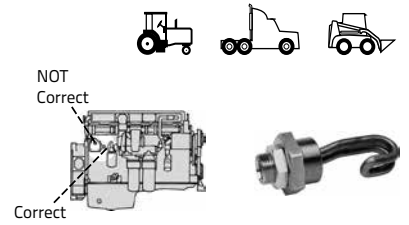
Agricultural, Heavy Duty, Off Road & Industrial Applications

CUMMINS – CONTINUED

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

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

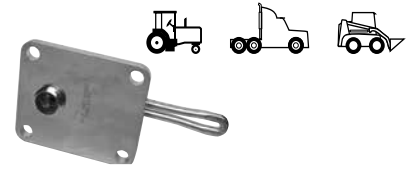
Installation Information: Install in heater casting on Right rear side of engine.
Available Service Parts: Hex Nut (8602999), Element Gasket (8603650)



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 (RR) side of engine.



**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**

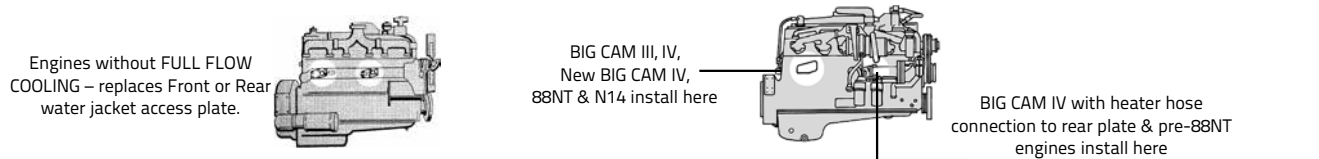
Engines without heater hose connection to rear plate or Full Flow Cooling

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

Replaces water jacket access plate

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 83 for oil pan heater specifications.

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

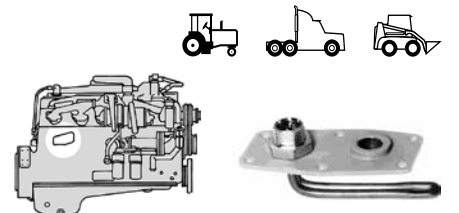


N Series, Big Cam IV, New Big Cam IV, 88NT Alternate installation

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)

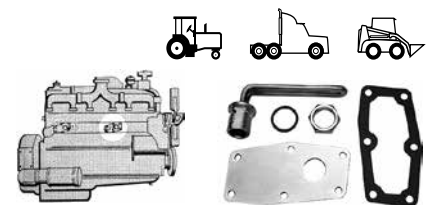


New Big Cam IV

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

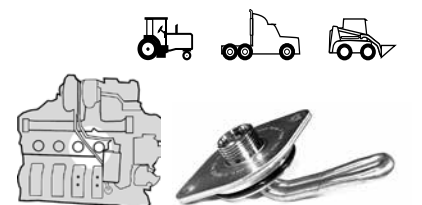
Installation Information: Replaces forward side plate. **Available Service Parts:** Hex Nut (8602999), Plate Gasket (8603715).



**QSB (4.5L) Hot Side
 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.



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 included.

Signature 600, ISX, QSX (15L – 915 CID)

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

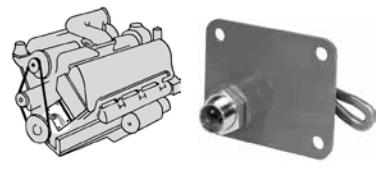


Installation Information: Install in Right Side (RS). Reuse gasket from plate that was removed. Gasket not included.

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	240	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)

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.

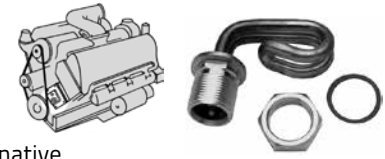
V903, VT903, VT350, Formula VT300 (903 CID)

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	N/A	Immersion	3600008



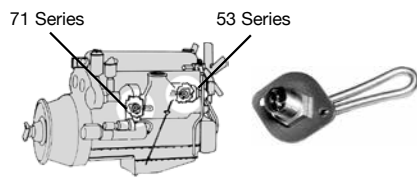
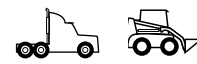
Installation Information: Replacement element only. Circulation heater is acceptable alternative.

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.

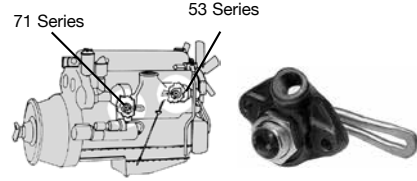
Note: Do not use 1000 watt heater on 3-53, 4-53, or 3-71 engines.

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)

Agricultural, Heavy Duty, Off Road & Industrial Applications

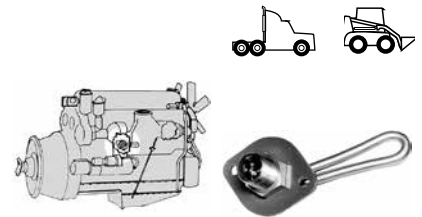
DETROIT DIESEL – CONTINUED

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)

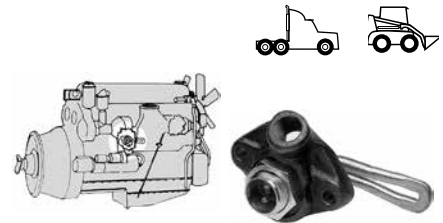


6-71

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)

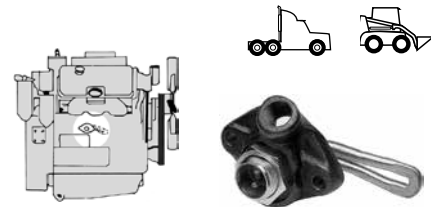


6V-53

Vehicles with or without automatic transmission

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

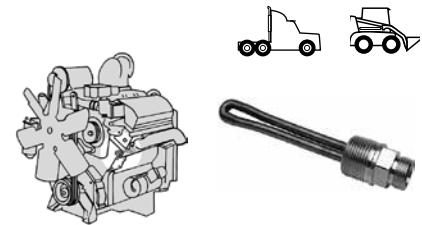
Installation Information: Replaces water jacket access plate on side of engine.
Available Service Parts: Hex Nut (8602999), Element Gasket (8603650)



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.



8V-53

Use 1500 or 2250 Watt Circulation heater.



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.



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.



DD13, DD15, DD16 (2008 & Newer)

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.



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.



Agricultural, Heavy Duty, Off Road & Industrial Applications

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.

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)



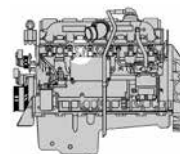
Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500007	1000	120	1-1/2"	Freeze Plug	3600008



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.

Series 60 (2007 & Newer)

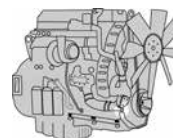
Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500077	1500	120	1-3/16" STOR	Immersion	3600008



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
8605580	2000	120	1" NPT	Immersion	8608652



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.

Agricultural, Heavy Duty, Off Road & Industrial Applications

DETROIT DIESEL – CONTINUED

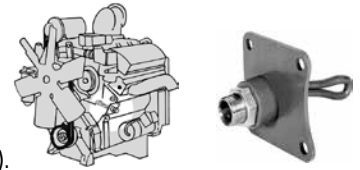
**Silver Series
6V-92, 8V-92**



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).

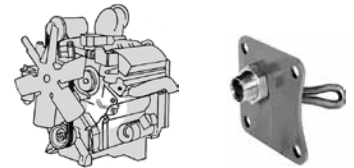
Silver Series

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.

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

DEUTZ

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.



BF4L913 (4 cyl.)

(Oil pan heater only)



Part No.	Watt	Volt	Diameter	Type	Repl. Cord
8603170	325	120	48mm THUD	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)



F3L912, F3L913 (3 cyl)

(Oil pan heater only)



Part No.	Watt	Volt	Diameter	Type	Repl. Cord
8603146	150	120	48mm THUD	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)



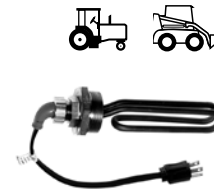
Agricultural, Heavy Duty, Off Road
& Industrial Applications

DEUTZ – CONTINUED

F6L913, BF6L913 (6 cyl.)
(Oil pan heater only)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
8603170	325	120	48mm THUD	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)



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 THUD	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

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.



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.



FORD – CONTINUED

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

(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	3600008



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

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

(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	240	1-1/2"	Freeze Plug	8608377



Installation Information: Replaces 2ND freeze plug from rear – right side.

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

(Except Navistar T444E engine)

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

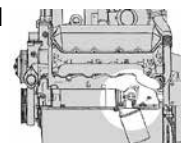


Installation Information: Replaces freeze plug on Right rear of engine. Point element 11 o'clock.

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

(Except Navistar T444E engine)

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



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

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

(Cummins B Series)

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



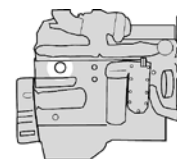
Installation Information: Replaces freeze plug on Right side of engine.

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

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

(Cummins C Series)

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



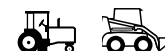
Installation Information: Replaces freeze plug on Right rear side of engine.

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

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. Circulation heater is acceptable alternative.

FORD – CONTINUED

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

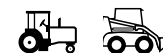


Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100065	600	120	1-3/4"	Freeze Plug	3600006



Installation Information: Install in 4TH & 5TH Right Side (RS). Two heaters required. Point element DOWN. Circulation heater or LRHH are acceptable alternative.

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.

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.

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.

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.

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.

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.

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 (RR). 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.

Agricultural, Heavy Duty, Off Road & Industrial Applications

FORD – CONTINUED

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.



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.



SSD655 (335 CID 6 cyl.)

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

Installation Information: Install in Right Rear (RR). 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.



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.



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.



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/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/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.



Agricultural, Heavy Duty, Off Road
& Industrial Applications

HINO

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.



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.



INTERNATIONAL / NAVISTAR

400, 500, 600, 700, 900

(Engines built in 1986 and later) See UD Truck listings – page 80-81.



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

(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)



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.



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 (RC). Point element DOWN. Circulation heater is acceptable alternative.



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.



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.



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.

**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.

**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. Circulation heater is acceptable alternative.

**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.

**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.

**DT466 High Torque, DT466, DT466E, HT530, DT530 (2001-2003)**

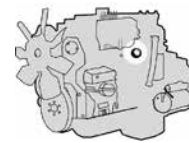
Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500054	1250	120	1-1/4"	Immersion	3600008

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

**DT466 & DT570 (2004-2006)****DT408, DT466, DT466E, 530, 570 (1994-2000)**

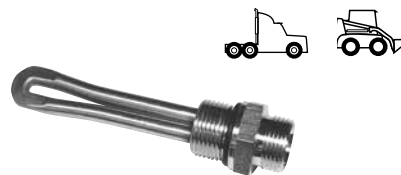
Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500044	1250	120	1-1/4"	Freeze Plug	3600008
8608911	1250	240	1-1/4"	Freeze Plug	8608377

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



MaxxForce 5 & 7 (2007 & Newer)
VT365, VT275

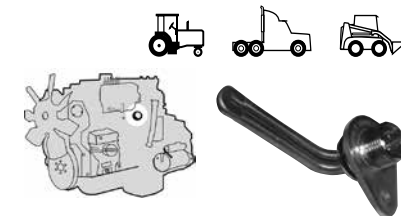
Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500069	1000	120	27mm THD	Immersion	3600008



Installation Information: Right Rear (RR).

MaxxForce 9 & 10 MaxxForce DT (2007 & Newer)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500160	1000	120	1-1/4"	Freeze Plug	3600008



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

MaxxForce 11 & 13

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



Installation Information: Lower right front.

MaxxForce 15

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



Installation Information: Right Side (RS).

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.

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

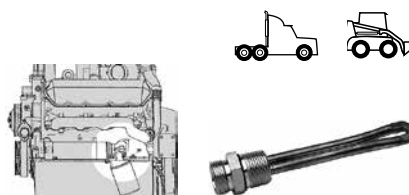


Installation Information: Install in Left Side (LS). Circulation heater is acceptable alternative.

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.

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.

Agricultural, Heavy Duty, Off Road & Industrial Applications

ISUZU

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.

**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.)**

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), 4BGI, 4BGIT, 4BGITC**

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.

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.

4H Series

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500151	600	120	45mm	Freeze Plug	3600008



Installation Information: Replace 45mm core plug between #1 & #2 cylinder near alternator. Point element DOWN.

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.

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

Use circulation heater.



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.

Agricultural, Heavy Duty, Off Road & Industrial Applications

ISUZU – CONTINUED

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

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.

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

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.

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.)

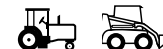
Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100065	600	120	45mm	Freeze Plug	3600006



Installation Information: Install in back of head. Point element 1 o'clock. Not for use on Isuzu 4JJ engines.

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

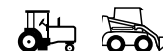
Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100067	400	120	45mm	Freeze Plug	3600006



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.

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. Not for use on Isuzu 4JJ engines.

IVECO

Z100 (F5L-912 Deutz air cooled engine)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3400014	500	120	6" x 6" (15.2cm ²)	Clamp-On	3600001



Installation Information: Clamp-On type heater. Engine may also use M22 x 1.5 threaded oil pan heater – see page 83.

Z110, Z120, Z220, Z340 (335 CID)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
8600333	1000	120	42mm 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)

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.

1020, 2020, 3010, 3020, 4000, 4010, 4020

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



Installation Information: Lower radiator hose heater. Circulation heater is acceptable alternative.

2010

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



Installation Information: Lower radiator hose heater. Circulation heater is acceptable alternative.

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.

4230, 4430, 4440, 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.

6105, 6125

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



Installation Information: Installs in oil cooler housing.

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.

Power Tech: 4045, 6068

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



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

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.

JOHN DEERE – CONTINUED

Series 300 (3029, etc.)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500045	1000	120	1" NPT	Immersion	3600008
3500152	1000	240	1" NPT	Immersion	8608377



Installation Information: Install in Left rear face of block.

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" THUD	Immersion	3600008



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

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 (RR).

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" THUD	Immersion	3600008



Installation Information: Install in Left Side (LS). Point element UP. Circulation heater is acceptable alternative.

KOMATSU

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.

SA6D107

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



Installation Information: Replace 40mm core plug.

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: Left Center (LC)

Agricultural, Heavy Duty, Off Road & Industrial Applications

KOMATSU – CONTINUED

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.

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 use 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

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.

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.

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.

*Kubota D722: use 3100099 on Tier 2 or older; use 3110108 on newer D722 (needs a pound in heater due to change in valve cover).

Agricultural, Heavy Duty, Off Road & Industrial Applications

D650, D750, D850, DH850, D950 (3 cyl.)

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.

D850 – V1200 Models (70mm Stroke)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
2204320	400	115	35mm	Freeze Plug	3600083



Installation Information: Crankcase, inlet side under fuel injection pump, tapered head

05 Series Installation: Crankcase, exhaust side, threaded plug, tapered head

D1102, D1302, D1402, D1403, D1703, D1803, D2203, D2403 (3 cyl.)

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.

D3000B, D3200B (3 cyl.)

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



Installation Information: Install in front.

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.

Super 5 Series: D905, DH905, D1005, DH1005, D1105, V1205, VH1205, V1305, VH1305, V1505

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



Installation Information: Install in Left Front (LF).

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.

V1100, VH1100, V1200 (4 cyl.)

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.

V1505

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100093	400	120	3/4" NPT	Immersion	3600008



Installation Instructions: Install in open port closest to center of engine.

V1702, V1703, V1902, V1903, V2003, V2003T, V2203 (4 cyl.)

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.

Agricultural, Heavy Duty, Off Road & Industrial Applications

KUBOTA – CONTINUED

V2607, V3307, V3600, V3800

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500120	400	120	1" NPT	Immersion	3600110



Installation Information: Replaces 1" NPT pipe plug.

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.

V4000B, V4300B (3 cyl.)

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



Installation Information: Install in front.

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.

*Kubota D722: use 3100099 on Tier 2 or older; use 3110108 on newer D722 (needs a pound in heater due to change in valve cover).

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.

Z602-D902-WG, DF, DG972

(Super Mini 02 Series 73.6mm Stroke)

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100132	400	155	30mm	Freeze Plug	3600083



Installation Information: Rear of cylinder head in rear frost plug hole, knock in type, tapered body

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

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.

Agricultural, Heavy Duty, Off Road & Industrial Applications

LOMBARDINI – CONTINUED

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.



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.



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

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	240	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.



E3 Midliner (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	240	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)

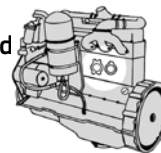


E6 (672 CID 6 cyl.)

(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	240	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)

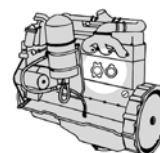


E6, EM6 (threaded freeze plug models manufactured prior to August 1981)

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	240	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)



Agricultural, Heavy Duty, Off Road & Industrial Applications

MACK – CONTINUED

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	240	1-3/8"	Immersion	8608377
3500070	1500	120	1-3/8"	Immersion	8608652



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	240	25mm	Immersion	3600086



Installation Information: Right rear

MP8 (12.8L)

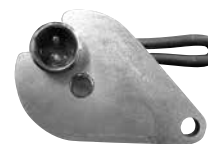
Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500102	1500	240	25mm	Immersion	3600086
3500115	1500	120	25mm	Immersion	3600085
3500104	1000	120	25mm	Immersion	3600085



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

1100

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



Installation Information: Lower radiator hose heater. Circulation heater is acceptable alternative.

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.

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.

Agricultural, Heavy Duty, Off Road & Industrial Applications

MASSEY FERGUSON – CONTINUED

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.



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.



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.



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.



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-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.



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.



MERCEDES

Freightliner Sprinter Van 2.7L (2009 & Older)

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

Installation Information: Right Rear (RR). May need to heat existing plug to remove.



MBE4000 Series/OM460 (2003 & Older)

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.



Agricultural, Heavy Duty, Off Road & Industrial Applications

MERCEDES – CONTINUED

MBE4000 Series/OM4609 (2004 & Newer)

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



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

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.

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.

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.

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.

mitsubishi

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.

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.

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.

Agricultural, Heavy Duty, Off Road & Industrial Applications

MITSUBISHI – CONTINUED

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.

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.

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.

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.

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.

MTU

Series 1100 (10.7L), Series 1300 (12.8L), Series 1500 (15.6L)

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



Note: 3500095 heater does not come with 3600008 cord. Order cord separately.

Installation Information: Left side of engine, M27x2 port to the right of oil filter housing below intake manifold.

MWM MURPHY

D225 & D226 Series (2, 3, 4, 6 cyl.)

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

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.

NISSAN – CONTINUED

H20, SD22, SD4-47 (2.2L), SD-25, A12 (1.2L), A15 (1.5L) (4 cyl. 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 (LR) or Left Rear (LR) and point element 12 o'clock.



H20-2, H25 (4 cyl. 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.



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.



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).



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.



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.



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.



OLIVER

All Models (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.

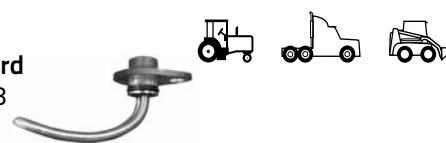


PACCAR

MX-13

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

Installation Information: Right Front (RF).



PACCAR – CONTINUED

PX-6, PX-7 (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.

PX-8, PX-9 (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

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.

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.

4-135 (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.

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.

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.

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.

Agricultural, Heavy Duty, Off Road & Industrial Applications

PERKINS – CONTINUED

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.

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.

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 (RS), point element UP.

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 (LR).

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.

854

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3100117	600	120	40mm	Freeze Plug	3600006



Installation Information: Left Center (LC).

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.

Agricultural, Heavy Duty, Off Road & Industrial Applications

PERKINS – CONTINUED

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.

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: Only use 3500084 when replacing existing freeze plug. 3500145 is recommended for all new installations. Install 3500145 Left Center (LC). Install 3500084 Right Rear (RR) or Right Front (RF) with element at 3 o'clock.

1104 Tier 4, 1204

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500145	600	120	3/4" NPT	Immersion	3600100



Installation Information: Left Center (LC).

1106D, 1206E (2006 and Newer)

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



Installation Information: Install in Right Rear (RR).

N Series: 4-300 (4 cyl.), **4-318** (4 cyl.)

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

PEUGEOT

1.6L

Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500147	400	120	N/A	Manifold Plug	N/A



Installation Information: Replaces Manifold Drain Plug.

TOYOTA

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.

TOYOTA – CONTINUED

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.



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.



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.



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.



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.



TD42T

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

Installation Information: Install in Right Center (RC) 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.



Agricultural, Heavy Duty, Off Road & Industrial Applications

VOLVO

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	240	25mm	Immersion	3600086



Installation Information: Right Rear (Contact Volvo dealer for Replacement O'Ring P/N 975664).

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 (RF) in coolant pipe. (Contact Volvo dealer for Replacement O-ring (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

VE-D7

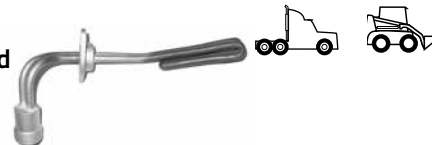
Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500041	1500	120	1-3/4"-18	Immersion	3600008



Installation Information: Replace plug on Left Rear of engine. Reuse existing seal. Point element at 1 o'clock.

VED-12 (2002 & Newer)

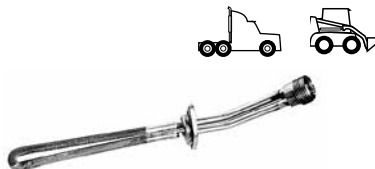
Part No.	Watt	Volt	Diameter	Type	Repl. Cord
3500090	1000	120	Plate	Immersion	3600008
3500091	1500	120	Plate	Immersion	3600008



Installation Information: Mount below turbocharger at the Right Center (RC) 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 (RC) of engine.

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	240	44mm	Immersion	8608377



Installation Information: Replaces 44mm threaded plug on Left Front (LF) of engine. Point element at 4 or 5 o'clock.

Agricultural, Heavy Duty, Off Road & Industrial Applications

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 Models – 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 page 80-81 for Universal Coolant Heater and Oil Pan Heater applications.

STANDARD IMMERSION HEATERS

THREADED IMMERSION HEATERS (COPPER)



- Easy to Spec: Not model specific! Measure space and determine threading at installation location.
- Ensure quick winter starts – reduce engine wear
- Most efficient type of heater
- Direct OEM replacement in many applications



Voltage	Wattage	Thread Size	Element Length	For Use In	Part No.		Element Construction
					Without Thermostat	With Thermostat	
120	150	1" NPT	6-5/8" (16.6cm)	Oil	2204274*	—	Copper
120	150	1" NPT	5-5/8" (14.2cm)	Oil	2200635	—	Copper
120	150	1/2" NPT	7-3/4" (19.5cm)	Water/Oil	2201712	—	Copper
120	300	3/4" NPT	11-1/8" (28.2cm)	Oil	2201968	—	Copper
120	300	1" NPT	6" (15.2cm)	Oil	2202662	—	Copper
120	400	3/8" NPT	2-3/4" (6.9cm)	Water	3500026	—	Copper
120	400	3/4" NPT	1" (2.5cm)	Water	3100093	—	Copper
120	400	1" NPT	1" (2.5cm)	Water	3100003	—	Copper
120	600	3/4" NPT	1-3/8" (3.4cm)	Water	8604967	—	Copper
120	750	3/4" NPT	2-7/8" (7.1cm)	Water	3500022	—	Copper
120	1000	3/4" NPT	4" (10.1cm)	Water	8602549**	—	Copper
120	1000	1" NPT	4-1/4" (10.6cm)	Water	8600090	—	Copper
120	1000	3/4" NPT	3-3/8" (8.5cm)	Water	3500032	—	Copper
120	1000	3/4" NPT	3-7/8" (9.7cm)	Water	3500043	—	Copper
120	1500	3/4" NPT	4-3/4" (12cm)	Water	8602611**	—	Copper
120	1500	3/4" NPT	5-1/4" (13.3cm)	Water	8601011	—	Copper
120	1500	1" NPT	5" (12.7cm)	Water	8605556	—	Copper
120	1500	1" NPT	3-3/4" (9.5cm)	Water	3500013	—	Copper
240	1000	3/4" NPT	4" (10.1cm)	Water	8602514**	—	Copper
240	1000	3/4" NPT	4-1/2" (11.4cm)	Water	8600988	—	Copper
240	1000	1" NPT	4-1/4" (10.8cm)	Water	8600120	—	Copper
240	1500	3/4" NPT	4-3/4" (12cm)	Water	8602573**	—	Copper
240	1500	3/4" NPT	5-1/4" (13.3cm)	Water	8601054	—	Copper
240	1500	1" NPT	5" (12.7cm)	Water	8600260	—	Copper
240	1500	1" NPT	3-3/4" (9.5cm)	Water	3500031	—	Copper

*Welding flange included. Designed for Caterpillar 3406 with BrakeSaver

**Element does not turn during installation.

Warning: Not for use in oil or hydraulic-fluids.

OIL PAN HEATERS

THREADED OIL PAN HEATERS (STAINLESS)



All 120V Immersion heaters
CSA approved

- Easy to spec: Not model specific! Measure space and determine threading at installation location.
- 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.



Voltage	Wattage	Thread Size	Element Length	For Use In	Part No.		Element Construction
					Without Thermostat	With Thermostat	
120	150	M22 x 1.5	7" (17.8cm)	Water/Oil	3500047	—	Stainless Steel
120	150	M25 x 1.5	3-1/2" (8.9cm)	Water/Oil	3500071	—	Stainless Steel
120	150	1/2" NPT	5" (12.7cm)	Water/Oil	8609624	—	Stainless Steel
120	150	M22 x 1.5	3-1/2" (8.9cm)	Water/Oil	8602859	8602794	Stainless Steel
120	150	1" NPT	6" (15.2cm)	Water/Oil	8609802	8609845	Stainless Steel
120	150	1-1/16" – 12 STOR	5" (12.7cm)	Water/Oil	3500006	—	Stainless Steel
120	150	1-5/16" – 12 STOR	5" (12.7cm)	Water/Oil	3500085	—	Stainless Steel
120	150	M27 x 2	3-1/2" (8.9cm)	Water/Oil	3500094	—	Stainless Steel
120	300	1/2" NPT	5" (12.7cm)	Water/Oil	8609683	—	Stainless Steel
120	300	M22 x 1.5	5-1/2" (13.9cm)	Water/Oil	8602913	8602905	Stainless Steel
120	300	3/4" NPT	5-1/2" (13.9cm)	Water/Oil	8603243	—	Stainless Steel
120	300	1" NPT	6" (15.2cm)	Water/Oil	8609861	8609853	Stainless Steel
120	300	1-5/16" STOR	5" (12.7cm)	Water/Oil	3500079	—	Stainless Steel
120	300	M27 x 2	5-1/2" (13.9cm)	Water/Oil	3500093	—	Stainless Steel
120	450	1/2" NPT	7-1/2" (19cm)	Water/Oil	8609713	—	Stainless Steel
120	450	M27 x 2	7-1/4" (18.4cm)	Water/Oil	3500049	—	Stainless Steel
120	1000	1" NPT	9-1/2" (24cm)	Water/Oil	8609098	—	Stainless Steel
240	150	1" NPT	6" (15.2cm)	Water/Oil	8609837	—	Stainless Steel
240	150	1-5/16" – 12 STOR	5" (12.7cm)	Water/Oil	3500086	—	Stainless Steel
240	300	1/2" NPT	5" (12.7cm)	Water/Oil	8609659	—	Stainless Steel
240	300	1-5/16" STOR	5" (12.7cm)	Water/Oil	3500078	—	Stainless Steel

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.

Replacement Cordsets: See page 94-95.

Installation: 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.

Accessory: 8602824

1/2" NPT Adapter Bushing (1" outside diameter). For use on steel pans only. 1/2" NPT oil pan heaters are supplied with weld or braze-in adapter.



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)

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

Part No.	Volt	Capacity (BTU/hr)	Airflow (CFM)	Current (Amps)	Dimensions (H x W x D)	Outlet Diameter	Outlet Direction	Wt. (Lbs)
MODEL 100								
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								
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								
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								
7000401	12	13,500	130	4.3	9.3 x 11.5 x 10.6" (237 x 292 x 270mm)	5/8" (16mm)	Bottom	10.4
7000403	24	13,500	130	2.2	9.3 x 11.5 x 10.6" (237 x 292 x 270mm)	5/8" (16mm)	Bottom	10.4



MODEL 500								
7000501	12	17,500	150	4.4	7.6 x 8.5 x 4.3" (193 x 109 x 26mm)	5/8" (16mm)	Bottom Right	7.4
7000502	12	17,500	150	4.4	7.6 x 8.5 x 4.3" (193 x 109 x 26mm)	5/8" (16mm)	Rear Right*	7.4
7000503	12	17,500	150	4.4	7.6 x 8.5 x 4.3" (193 x 109 x 26mm)	3/4" (19mm)	Bottom Right	7.4
7000504	12	17,500	150	4.4	7.6 x 8.5 x 4.3" (193 x 109 x 26mm)	3/4" (19mm)	Rear Right*	7.4
7000505	24	17,500	150	2.2	7.6 x 8.5 x 4.3" (193 x 109 x 26mm)	5/8" (16mm)	Bottom Right	7.4
7000506	24	17,500	150	2.2	7.6 x 8.5 x 4.3" (193 x 109 x 26mm)	5/8" (16mm)	Rear Right*	7.4
7000508	24	17,500	150	2.2	7.6 x 8.5 x 4.3" (193 x 109 x 26mm)	3/4" (19mm)	Rear Right*	7.4



* Outlet direction featured in photos

CAB & CARGO HEATERS

DEFROSTER FANS, HEAT EXCHANGERS & REPLACEMENT PARTS



Part No.	Description	For use in Models No.S
DEFROSTER FANS		
7602855	12 Volt – Defroster Fan – 2 Speed	
7602891	24 Volt – Defroster Fan – 2 Speed	

INSTALLATION KITS

7100001	Installation Kit (includes on/off switch, electrical terminals)	
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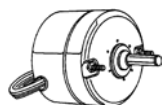


REPLACEMENT FAN BLADES

7100002	7" (17.6cm) Fan Blade	100, 300, 400, 500
7100003	8" (20.1cm) Fan Blade	200
7100025	6" (15.5cm) Fan Blade	Model 7009001

DEFROSTER FAN REPLACEMENT PARTS

7670036	Replacement 2-Speed Switch	
7675755	Replacement Front Fan Guard	
7675771	Replacement Rear Fan Guard	
7619162	Blade	

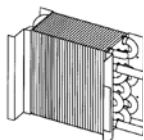


MOTORS

7100004	12-Volt Motor (short)	100, 300, 400, 500, & 7009001
7100005	12-Volt Motor (long)	200
7100006	24-Volt Motor (short)	100, 300, 400, 500
7100007	24-Volt Motor (long)	200

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)

INTERIOR CAR HEATER

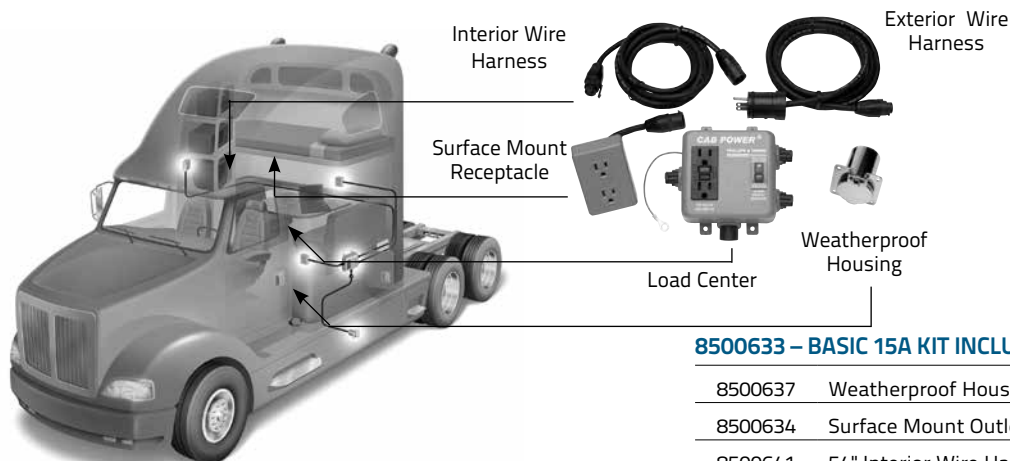
Part No. 2600900

- 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
- Includes a blower fan



Car Warmer Replacement Cord
Part No. 3600055

CAB POWER® – SHORE POWER



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:

- Reduce Idling
- Increase Cab Comfort & Convenience
- Increase Driver Retention
- Reduce Overall Fuel Cost
- Integrates with Idle Free System
- Long-haul Trucking Convenience Products

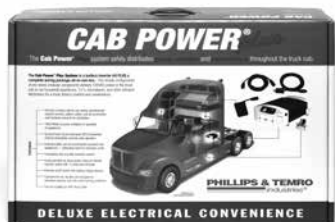
8500633 – BASIC 15A KIT INCLUDES:

8500637	Weatherproof Housing w/Cab Power Insignia
8500634	Surface Mount Outlet/Receptacle
8500641	54" Interior Wire Harness (to outlet)
8500640	85" Exterior Wire Harness (to housing)

CAB POWER ACCESSORIES:

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)

CAB POWER® PLUS – SHORE POWER PLUS



- Complete 12 Volt DC to 120 Volt AC Battery Inverter Kit & Wiring All In One Package.
- Includes 1800W Inverter
- Reduce Idling
- Increase Cab Comfort & Convenience
- Increase Driver Retention
- Reduce Overall Fuel Cost
- Integrates with Idle Free System

8500652 – CAB POWER PLUS 1800W INVERTER AND 15A WIRING KIT INCLUDES:

8500658	1800W Inverter – Cab Power Ready (with connectors)
8500640	Cable – AC IN 85"
8500639	Cable – Interior Cab Power 163"
8500634	Surface Mount Interior Outlet
8500637	Weatherproof Housing w/Cab Power Insignia

CAB POWER PLUS COMPONENTS & ACCESSORIES:

8500640	Cable – AC IN 85"
8500639	Cable – Interior Cab Power 163"
8500638	Cable – Exterior Cab Power 96"
8500657	Y-Splice Cable
8500660	200A Fuse
8500658	1800W Inverter – Cab Power Ready (with connectors)
8500634	Surface Mount Interior Outlet
8500637	Weatherproof Housing w/Cab Power Insignia
8500663	1800 W Inverter with 40A Battery Charger

CIRCULATION HEATERS

HIGH CAPACITY – REGULATING THERMOSTAT



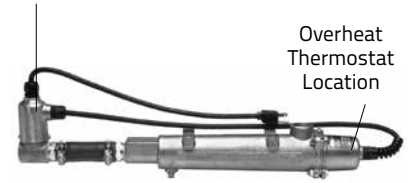
Applications:

- Industrial
- Big Bore Engines (14L+)

Features:

- Low Watt-Density heating elements for long life
- Thermally isolated regulating thermostat
- Overheat thermostat 205°F (96°C)
- NRTL/C approval (complies with UL/CSA)
- 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
- 1" NPT inlet and outlet / 1/4" NPT drain

Regulating
Thermostat
Location



Overheat
Thermostat
Location

Mounting space requirements
(including thermostat):
27.5" (69.8cm) length x 3" (7.6cm) width x
6.5" (16.5cm) height.

High Wattage Heater	Heater with Regulating Thermostat			Watts	Volts	Amps	Replacement Element	Plug Configuration
	Range A 80°F ON - 100°F OFF 27°C ON - 38°C OFF	Range B 100°F ON - 120°F OFF 38°C ON - 49°C OFF	Range C 120°F ON - 140°F OFF 49°C ON - 60°C OFF					
3300001	3300011	3300021	3300031	1500	120	12.5	3300051	(A)
3300002	3300012	3300022	3300032	2000	120	16.7	3300052	(C)
—	3300014	—	—	2000	240	8.4	—	(B)
3300005	3300015	3300025	3300035	2250	120	18.8	3300055	(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)
Replaceable Thermostat Disc	3300094	3300095	3300096	—	—	—	—	—

See page 88 for plug configuration.

BASIC HIGH CAPACITY – OVERHEAT THERMOSTAT



Applications:

- Industrial
- Big Bore Engines (14L+)

Features:

- Overheat thermostat included
- Optional regulating thermostat available
- Cord: Stranded wires, 14 gauge, 18 amps, 22" long, and rated for weather conditions 194°F to -40°F (90°C to -40°C)
- 1" NPT inlet and outlet / 1/4" NPT drain

Overheat Thermostat
Location



Mounting space requirements:
22.5 in. (57.1cm) length x 3 in. (7.6cm)
width x 4.5 in. (11.4cm) height.

Basic Heater Part No.	Watts	Volts	Amps	Replacement Element
3300041	1500	120	12.5	3300051
3300042	2000	120	16.7	3300052
3300045	2250	120	18.8	3300055

REGULATING THERMOSTAT – AVAILABLE

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)

Fits on all basic high capacity models.

CIRCULATION HEATERS

INDUSTRIAL – TANK



Applications:

- Genset

Features:

- Designed to be plugged in for long periods of time for quick start
- Enhances immediate full-load acceptance and reduces time to reach operating speed
- Available in small and large body tanks
- Rugged cast 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

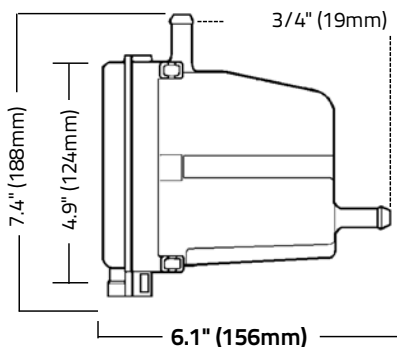


Heater with Regulating Thermostat

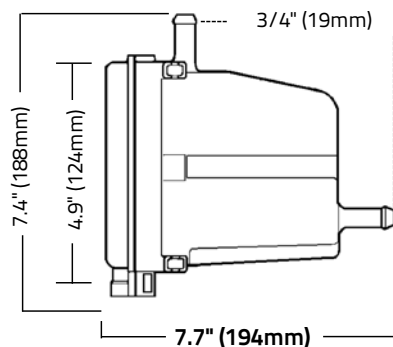
Range 1 80°F ON - 100°F OFF 27°C ON - 38°C OFF	Range 2 100°F ON - 120°F OFF 38°C ON - 49°C OFF	Range 3 120°F ON - 140°F OFF 49°C ON - 60°C OFF	No Regulating Thermostat	Watts	Volts	Amps	Plug Configuration	Inlet/ Outlet Size
SMALL BODY TANK								
3305028	3305032	3305036	–	750	120	6.3	A	5/8"
–	3305034	–	–	750	240	3.1	No	5/8"
3305040	3305044	3305048	–	1000	120	8.3	A	5/8"
LARGE BODY TANK								
3305052	3305056	3305060	–	1500	120	12.5	A	3/4"
–	3305058	3305062	–	1500	240	6.3	No	3/4"
3305064	3305068	3305072	–	2250	120	18.8	No	3/4"
–	3305070	–	–	2250	240	9.4	No	3/4"
–	–	–	3305004	2250	120	18.8	C	–

See page 88 for plug configuration.

Small Body Tank Dimensions



Large Body Tank Dimensions



CIRCULATION HEATERS

SERIES 41

Applications:

- Industrial
- Agriculture
- Off-road

Features:

- Thermostatically controlled: 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.
- Rugged cast aluminum construction is corrosion and impact resistant.
- Copper heating element provides excellent heat transfer.
- Dimensions: 2-3/4" x 8-1/2" (7cm x 21.6cm)
- Replaceable element and thermostat



Part No.	Watts	Volts	Amps	Plug Configuration	Inlet/Outlet Size	Replacement Element	Thermostat
2204010	750	120	16	A	5/8"	2204061	2204266
2204029	1000	120	12	A	5/8"	2204088	2204266
2204037	1500	120	8	A	5/8"	2204096	2204266
3300091	2000	120	6	C	5/8"	3300093	2204266
Replacement Part	1000	240	24	B	-	-	2204266
Replacement Part	1500	240	16	B	-	2240126	2204266

See page 88 for plug configuration.

SERIES 8000

Applications:

- Light-duty

Features:

- Cylindrical design of heater and universal mounting strap allow for convenient, new or retrofit applications.
- Integral check valve supports extensive range of plumbing configurations.
- Top-side location of power cord connection provides damage protection from road debris and chemicals.
- New detachable power cord enhances ease of installation.
- Temperature sensing safety thermostat provides overheat protection 147°F (64°C) ON - 185°F (85°C) OFF.



Part No.	Watts	Volts	Amps	Plug Configuration	Inlet/Outlet Size	Replacement Cord 18"	Replacement Cord 60"
3308001	750	120	16	A	5/8"	3309001	3309002
3308002	1000	120	12	A	5/8"	3309001	3309002
3308003	1500	120	8	A	5/8"	3309001	3309002

See page 88 for plug configuration.

CIRCULATION HEATERS

PLUG CONFIGURATIONS

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) 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.

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 4 for more information on proper cord length and gauge.

All circulation heaters on pages 87-90 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.

ACCESSORIES

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:



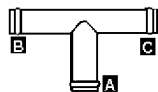
Part No. 3300085
5/8" (15.8MM) x 3/4" (19MM)
Metal "T" fitting



Part No. 3300086
1/4" NPT (6MM)
"A" Adapter to 5/8"
(15.8MM) hose



Part No. 3300090
5/8" (15.8MM) x 3/4" (19MM)
Plastic "Y" fitting



Beaded T (Steel)

Part No.	DIM A	DIM B	DIM C
A-2321	5/8"	5/8"	5/8"
A-2323	5/8"	7/8"	7/8"
A-3600	3/4"	3/4"	3/4"
A-2322	3/4"	7/8"	7/8"



Beaded Y (Steel)

Part No.	DIM A	DIM B	DIM C
A-457	5/8"	5/8"	5/8"
A-459	3/4"	3/4"	3/4"

CIRCULATION HEATERS

LOWER RADIATOR HOSE HEATER



Features:

- 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

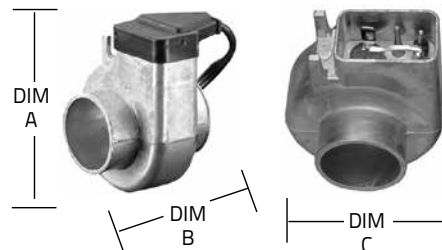


Part No.	Fits hose size (ID)	Watt	Volt	Dim A	Dim B	Dim C
3200001	1"	375	120	3.5"	3"	2.5"
3200002	1-1/4"	375	120	3.5"	3"	2.5"
3200003	1-1/2"	600	120	4"	3"	3"
3200004	1-3/4"	600	120	4"	3"	3"
3200005	2"	600	120	4.25"	3"	3.25"

Note: All dimensions reflect approximate installation space requirements, not exact product measurements. Dimension "A" includes cord.

Installation:

- Hose must have a minimum 15° rise.
- Must be installed in smooth, molded hose.
- Must have direct access to engine water jacket

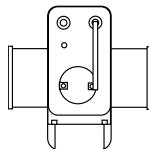


Replacement Cordsets:

- 120 Volt AC, 42" (112CM)

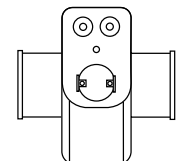
Part No. 3600009

For heaters with this configuration. Heater stamped with Model C (example 150C) on bottom of unit.



Part No. 3600047

For heaters with this configuration. Heater stamped with Model D (example 150D) on bottom of unit.



HEAT MAGNET®



Part No. 3400017

- 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)



SILICONE PAD HEATERS



Easily Adaptable to Component Surfaces

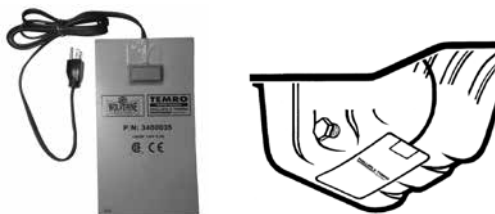
Application:

- Metal engine oil pans
- Metal transmission pans
- Metal hydraulic tanks
- Metal gear boxes
- Batteries (non-stick pad)
- Diesel fuel filters (velcro wrap)
- Hydraulic fluid filters (velcro wrap)

Benefits:

- Reliable cold weather starting
- Improved crankability for reduced engine wear
- Immediate lubrication for longer engine life
- Pre-applied adhesive for easy installation

Easy Do-it-yourself Installation!



120V Canadian Pad Part #'s are CSA Approved for Automotive use and includes a built in safety cut-off thermostat.

Note: 120V Heaters equipped with 6' cords. 12V Heaters equipped with 18" leads.

Part No.	Watts	Volts	Amps	Pad Size	Oil Pan Capacity	Hydraulic Fluid	Application	
USA 3400060 CAN 3400030	50	120	0.4	3.5" x 1.25"	1 – 3 U.S. Qts (1.0 – 1.9 L)	N/A	Transmissions, Home Generators, ATV, Snowmobiles, Gear Boxes & Small Engines.	
USA 3400061 CAN 3400031	125	120	1.0	3" round	3 – 6 U.S. Qts (2.9 – 5.7 L)	N/A	Small to Mid-Size Cars & Sedans. Examples: Kia, Honda, Hyundai.	
USA 3400062 CAN 3400032	125	120	1.0	6" x 1.5"	3 – 6 U.S. Qts (2.9 – 5.7 L)	N/A	Ribbed Oil Pans & Automatic Transmissions. Examples: Toyota 4Runner & European Cars.	
USA 3400063 CAN 3400033	250	120	2.1	3.75" x 4.25"	5 – 13 U.S. Qts (4.7 – 12.3 L)	10 to 30 Gallons	Most 6 Cylinder & Small Block V8 Engines. Marine Applications.	
USA 3400064 CAN 3400034	500	120	4.2	5" x 7"	13 – 27 U.S. Qts (12.3 – 25.5 L)	20 to 50 Gallons	Mid-Size Trucks, SUVs & Medium to Heavy Duty Commercial Trucks.	
USA 3400065 CAN 3400035	1000	120	8.3	6" x 10.75"	26 – 48 U.S. Qts (24.6 – 45.4 L)	50 to 100 Gallons	Mid-Size Trucks, SUVs & Medium to Heavy Duty Commercial Trucks.	
3400037	100	12	8.3	12" x 4"	Diesel Fuel Filter Heater (velcro wrap)	N/A	Diesel Vehicles Only Filter Housing Diameter: Minimum 3.5" (8.9 cm) Maximum 5.0" (12.7 cm)	
3400039	50	12	4.2	9" x 3"	Diesel Fuel Filter Heater (velcro wrap)	N/A	Diesel Vehicles Only Filter Housing Diameter: Minimum 2.75" (6.98 cm) Maximum 3.75" (9.52 cm)	
3400040	100	24	8.3	12" x 4"	Diesel Fuel Filter Warmer (velcro wrap)	N/A	Diesel Vehicles Only Filter Housing Diameter: Minimum 3.5" (8.9 cm) Maximum 5.0" (12.7 cm)	

BATTERY HEATERS

SILICONE BATTERY PAD HEATERS



- Silicone material is resistant to battery acid
- Maintains available cold cranking amps in cold weather by warming the batteries
- Efficient – direct heat transfer into the batteries
- Slim design to fit in truck battery box
- Canadian models are CSA approved



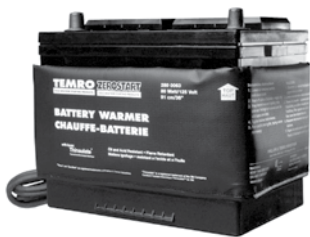
Part No.	Watts	Volts	Amps	Pad Size	Oil Pan Capacity	Hydraulic Fluid	Application
USA 3400066 CAN 3400036	60	120	0.5	5.5" x 8.5"	Battery Heater (non-stick pad)	N/A	All Cars & Trucks. Most Batteries.
USA 3400068 CAN 3400038	180	120	1.5	13" x 20.5"	Battery Heater (non-stick pad)	N/A	Large Battery Pad Heater. Fits under 3–4 group31 Batteries



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" (76cm) grounded cord
- All battery blanket heaters are 5". (12.7cm) tall, 1/2". (1.1cm) thick



Part No.	Length	Wattage	Battery Size
2800055	28"	50	Series 26, 26R, 70
2800063	36"	80	Series 24, 24F, 27, 27F, 74
2800071	72"	160	Truck batteries, Series – parallel systems

Thinsulate™ is a registered trademark of 3M corporation.

BATTERY BOX HEATER

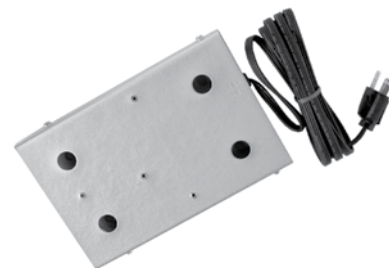
Part No. 8500320 (120V)

Part No. 8500339 (240V)

- 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).

Caution: Battery heaters are not recommended for nickel cadmium batteries.



COOLANT DAM



Part No. T-1000

2-in-1 Shop Tool – Coolant Dam pulls a vacuum on the cooling system through the radiator cap allowing repairs to be done in less time while not completely draining the coolant out and then, changes over to a pressure tester after the repair has been completed.

Applications:

- Changing heater hoses
- Changing fan sensors
- Changing Temperature sensors
- Installing shut-off valves for fuel warmers & separators
- Replacing cab heater cores
- Replacing heater control valves

Features:

- Creates a vacuum, holding coolant inside the engine without hand pumping or running the engine
- Quickly converts the unit from vacuum to a pressure tester
- No need to drain the block for simple repairs
- Coolant Filling



ACCESSORIES

 <p>T-1025 Standard Automotive Size. Reversible seal fits 1" or 3/4" deep filler necks. Also fits late model Mercedes 1319.</p>	 <p>T-1020 Volvo. Fits vehicles using Volvo part number 1542591 radiator cap. (46x33mm Thread).</p>	 <p>T-1024 Truck "B" Size</p>																	
 <p>T-12027 To be used with T-1025 to test 32mm I.D. 16mm deep cooling system filler necks.</p>	 <p>T-1029 GMC – Freightliner – Western Star Threaded, Non-Vented, Western Star cap part number 20009-0002.</p>	 <p>T-1030 Transit Bus Adapter. Fits many Flexible, Crown, MCI, New Flyer, GM, MAN, SAAB filler necks.</p>																	
 <p>T-1034 Pop Off Pressure Adapter. Mounts to top of Coolant Dam® to test pop off pressure of truck "B" size cap.</p>	 <p>T-1040 Volvo. Fits vehicles using Volvo part number 6794968 radiator cap. (63 x 3mm Thread).</p>	 <p>T-1223 Volvo VN Series. Fits vehicles using Volvo part number 1674922.</p>																	
 <p>T-1228 Ford E-350. International 7.3L. Fits vehicles using Cap # RS-103, F6DZ-8100A, 12R-16#, or 31406.</p>	 <p>T-1229 Kenworth Vehicles using cap #N5349001.</p>	 <p>T-1230 Volvo VN Series. 2006 and newer Fits vehicles using Volvo part number 20519046.</p>																	
 <p>T-1233 Freightliner Columbia/Cascadia. 2008 & newer Vehicles using cap # N9685001 or BHTN9685001 or BHTW3678001.</p>	 <p>T-3000 Navistar (1996 & Newer). Fits vehicles using Navistar part number 2039390C1 radiator cap.</p>	 <p>T-3064 Freightliner Columbia Fits vehicles using Freightliner part number 05-20763-000 radiator cap.</p>																	
 <p>T-3030X Caterpillar Adapter. Call for information – Cat. #s 7N918, 7N5565, 6N1981, 1N3599.</p>	<p>Rubber Expansion Plugs – Used to temporarily plug coolant lines during component replacement</p> <table border="1" data-bbox="576 1774 1421 1911"> <tbody> <tr> <td>A-440 – 3/8"</td> <td>A-444 – 5/8"</td> <td>A-448 – 7/8"</td> <td>A-449 Kit (1) ea 3/8" to 7/8"</td> </tr> <tr> <td>A-441 – 7/16"</td> <td>A-445 – 11/16"</td> <td>A-451 – 1"</td> <td></td> </tr> <tr> <td>A-442 – 1/2"</td> <td>A-446 – 3/4"</td> <td>A-452 – 1-1/8"</td> <td>A-467 – Case</td> </tr> <tr> <td>A-443 – 9/16"</td> <td>A-447 – 13/16"</td> <td>A-453 – 1-1/4"</td> <td>A-466 – Foam Insert</td> </tr> </tbody> </table>			A-440 – 3/8"	A-444 – 5/8"	A-448 – 7/8"	A-449 Kit (1) ea 3/8" to 7/8"	A-441 – 7/16"	A-445 – 11/16"	A-451 – 1"		A-442 – 1/2"	A-446 – 3/4"	A-452 – 1-1/8"	A-467 – Case	A-443 – 9/16"	A-447 – 13/16"	A-453 – 1-1/4"	A-466 – Foam Insert
A-440 – 3/8"	A-444 – 5/8"	A-448 – 7/8"	A-449 Kit (1) ea 3/8" to 7/8"																
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A-443 – 9/16"	A-447 – 13/16"	A-453 – 1-1/4"	A-466 – Foam Insert																

COOLANT DAM

Part No. KT-T1000-CUMMINS-ISX-ATI

Servicing Cummins ISX After-Treatment Injector (ATI) Units

Kit includes:

- 3089567 Coolant Block Plug
- 4918690 Coolant Line Plugs
- A-6622 36" Extension Hose
- B-702 Work Instruction Sheet



LIT PLUGS



Applications:

- Automotive industry
- Light Truck

Features:

- LED Light is visible from 50' to monitor from a distance
- Visual cue that indicates power to the heater
- Offered on popular aftermarket block and cartridge heater kits
- Cord may be purchased separately and added to existing heater
- CSA approved



Replacement Cord Only		
Lit Cord	Std Cord	Cord Length
3600118	3600001	5" (1.52m)
3600116	3600006	5" (1.52m)
3600119	3600083	5" (1.52m)
3600117	3600005	5" (1.52m)
3600116	3600006	5" (1.52m)
3600116	3600006	5" (1.52m)
3600119	3600082	5" (1.52m)
3600119	3600083	5" (1.52m)

See page 6-36 for model specific applications



REPLACEMENT CORDSETS






FREEZE PLUG AND ENGINE BLOCK HEATERS




	Part No.	Description	Cord Length
	3600001	Silicone cord with right angle connector	5' (1.52m)
	3600002	Radiant heater replacement cord	5' (1.52m)
	3600023	Replacement cordset with silicone connectors	5' (1.52m)
	3600019	Replacement cord	3' (0.9M)
	3600010	Silicone cord	7.5' (2.29M)
	3600003	Silicone cord with straight connector	5' (1.52m)
	3600005	Silicone cord with straight connector	5' (1.52m)
	3600021	Silicone cord with 90° connector	94" (2.4M)
	3600036	Replacement cordset with silicone connector	1' (30.3CM)
	3600006	Silicone cord with 90° connector	5' (1.52m)
	3600007	Reverse freeze plug cord	5' (1.52m)
	3600016	Silicone cord with 90° connector	6' (1.83M)
	3600022	Replacement cordset with silicone connectors	1' (30.3CM)
	3600004	Silicone cord with right angle connector	5' (1.52m)
	3600080	Replacement cordset with silicone connectors – Pyroil brands only	5' (1.52m) Pyroil
	3600082	GM - Replacement cordset with thermostat. Must be used in all 2006 and newer GM passenger cars to avoid a check engine light.	5' (1.52m)
	3600083	GM - Replacement cordset with silicone connector, threaded nut (No t-stat)	5' (1.52m)
	3600100	GM - Replacement cordset with silicone connector (No t-stat)	5' (1.52m)

REPLACEMENT CORDSETS

CORDSET ACCESSORIES

	Part No.	Description	
	3600012	Plug Protector <ul style="list-style-type: none"> Prevents freeze ups Keeps plug contacts clean for optimum power & safety 	
	3600040	3-way Connector <ul style="list-style-type: none"> Use multiple cold weather products with one common cord 3 Wire grounded cord Not available in Canada (Not CSA Approved) 	<ul style="list-style-type: none"> Cord Length 23" (59cm) 14 Gauge Cord
	3600018	Through-The-Grille Cordset <ul style="list-style-type: none"> 2 Piece, Low Profile Prevents plug from being visible Fits all vehicles - 	<ul style="list-style-type: none"> 120 V AC 1500 W Cord Length 6' (1.8m)
	3600045	Cord Holder <ul style="list-style-type: none"> Holds cord in place for routing 	
	3600115	Thermostat By-Pass Tool <ul style="list-style-type: none"> Used to test heavy duty heaters through a Series Y-Cord Connects to thermostat cord end of a Series Y-Cord 	



HEAVY DUTY IMMERSION HEATERS

	Part No.	Description	Volts	Length	Gauge
	3600024	Heavy duty replacement cord	120	1' (30.1CM)	16
	3600015	Heavy duty replacement cord	120	5' (1.5M)	16
	3600085	Volvo - Hi-temp replacement cord	120	6' (1.8M)	14
	3600048	Hi-temp silicone replacement cord	120	6' (1.8M)	16
	3600008	Heavy duty replacement cord	120	6' (1.8M)	16
	8608377	Heavy duty replacement cord	240	6' (1.8M)	16
	3600086	Volvo - Hi-temp replacement cord	240	6' (1.8M)	14

WEATHERPROOF CORDSETS – STANDARD CORDS

Application:

- Use with weatherproof receptables.

	Part No.	Description	Volts	Length	Gauge
	3600046	Weatherproof Cordset with frost plug connector	120	6' (1.8m)	18
	8608849	Weatherproof Cordset & Silicone connector	120	5.5' (1.7m)	14
	8608652	Weatherproof Cordset & Silicone connector	120	7' (2.2m)	14
	8608814	Weatherproof Cordset & Silicone connector	120	10' (3.1m)	14
	8608857	Weatherproof Cordset & Silicone connector	120	12' (3.6m)	14
	8608865	Weatherproof Cordset & Silicone connector	120	14' (4.3m)	14
	8605122	Weatherproof Cordset & Silicone connector	240*	7' (2.2m)	14




THERMOSTATS

Upgrade Option:

Install thermostat on opposite side of engine block heater and use Series Y-Cord to connect thermostat with engine block heater. The thermostat will turn the engine block heater on & off for maximum efficiency.

Features

- Thermostatically controlled
- Saves money by reducing engine heater operating hours
- For new installations or replacement use
- For more economy use lower thermostat temperature settings

	Part No.	Description	On/Off
	3600068	1/2" NPT	40° F / 55° F
	3600058	1/2" NPT	55° F / 75° F
	3600057	1/2" NPT	100° F / 120° F
	3600066	3/4" NPT	40° F / 55° F
	3600096	M18 x 1.5	40° F / 55° F
	3600073	M22 x 1.5	40° F / 55° F
	3600087	M27	40° F / 55° F
	3600081	#8 STOR	40° F / 55° F

COMMON THERMOSTAT APPLICATION CHART



Engine	Part No.	Description
CATERPILLAR		
3406E	3600066	3/4" NPT
C9	3600081	#8 STOR
C11 & C13	3600081	#8 STOR
C15 & C16	3600081	#8 STOR
CUMMINS		
ISB	3600066	3/4" NPT
ISC	3600066	3/4" NPT
ISM	3600068	1/2" NPT
ISX	3600087	M27
DETROIT DIESEL		
Series-60	3600066	3/4" NPT
DD13, DD15, DD16	3600087	M27
INTERNATIONAL		
DT-466 (Non-EGR 1998-2005)	3600068	1/2" NPT
DT 5 & 7	3600087	M27
DT 11 & 13	3600087	M27
MACK		
E-Tech	3600068	1/2" NPT
PACCAR		
PX-6, PX-7	3600066	3/4" NPT
PX-8, PX-9	3600066	3/4" NPT

SPECIALTY CORDSETS

SERIES Y-CORDS

Application:

- Use with heater and thermostat to control heater usage.



	Part No.	Description	Volts	Length	Gauge	Thermostat On / Off
	3600065	Series Y-Cord (standard plug)	120	6' / 6'	16	-
	8604002	Series Y-Cord and thermostat (standard plug)	120	6' / 6'	16	100° F / 120° F
	8604037	Series Y-Cord and thermostat (standard plug)	240	6' / 6'	16	100° F / 120° F

SPECIALTY CORDSETS

WEATHERPROOF SERIES Y-CORDS

Application:

- Use with heater and thermostat to control heater usage.

	Part No.	Description	Volts	Length	Gauge	Specifications
	3600079	Weatherproof Series Y-Cord & indicator light connections	120	72" / 72"	-	-
	3600091	Weatherproof Series Y-Cord & indicator light connections	120	100" / 168"	-	-
	3600090	Weatherproof Series Y-Cord & indicator light connections	120	110" / 55"	-	-
	3600097	Weatherproof Series Y-Cord & indicator light connections	120	168" / 168"	-	-
	3600054	Weatherproof Series Y-Cord Kit - Thermostat, Housing & Dual Indicator Light	120	6' / 6'	16	100° F / 120° F (on/off)
	3600064	Weatherproof Series Weatherproof Y-Cord	120	6' / 6'	15	flat wire
	3600089	Weatherproof Series Weatherproof Y-Cord	120	8.5' / 14'	14	flat wire

WEATHERPROOF W-CORD

Application:




- Use with two heaters and one thermostat

	Part No.	Description	Volts	Length	Gauge
	3600094	Weatherproof W-Cord Series and Parallel Note: One heater is always on and one heater is controlled by thermostat	120	10' / 10' / 11.5'	16

WEATHERPROOF PARALLEL Y-CORD

Application:








- Use with multiple heaters (no thermostat)






	Part No.	Description	Volts	Length	Gauge	Specifications
	8608768	Weatherproof Parallel Y-Cord with AC Outlet	120	12" / 7'	14	12" Female Plug
	8608792	Weatherproof Parallel Y-Cord with AC Outlet	120	12" / 10'	14	12" Female Plug
	8607990	Weatherproof Parallel Y-Cord	120	7' / 7'	14	
	8608059	Weatherproof Parallel Y-Cord	120	7' / 10'	14	
	8608423	Weatherproof Parallel Y-Cord	120	14' / 14'	14	
	8607311	Weatherproof Parallel Y-Cord & Receptacle	120	7' / 9'	14	

WEATHERPROOF RECEPTACLES & INDICATOR LIGHTS





RECEPTACLE

- Enhance vehicle appearance with clean install
- One-piece molded cordset with QuickConnect™ receptacles
- Field-wired model allows for custom installations

	Part No.	Description	Volts	Length	Gauge	Housing Spec.	Finish
	3600028	Weatherproof Cordset & receptacle	120	8' (2.4m)	16	2-hole square	chrome plated
	3600014	Weatherproof Cordset & receptacle	120	12' (3.6m)	16	2-hole square	chrome plated
	8602891	Weatherproof cordset & receptacle	120	6' (1.8m)	16	3-hole round	zinc plated
	8602948	Weatherproof cordset & receptacle	120	10' (3.1m)	16	3-hole round	zinc plated
	8602921	Weatherproof cordset & receptacle	240*	6' (1.8m)	16	3-hole round	zinc plated
	8606005	Weatherproof Silicone Cordset & receptacle	120	6' (1.8m)	16	4-hole square	chrome plated
	8606013	Weatherproof Silicone Cordset & receptacle	120	10' (3.1m)	16	4-hole square	chrome plated
	8605505	Weatherproof Field-Wired receptacle	120	-	-	3-hole round	zinc plated
	8605688	Weatherproof Field-Wired receptacle	120	-	-	4-hole square	chrome plated
	8605513	Weatherproof Field-wired receptacle	240*	-	-	3-hole round	zinc plated
	3600041	3-way connector & receptacle (not CSA approved)	120	5' (1.5m)	14	4-hole square	chrome plated

	Part No.	Description	Specifications	Finish	Housing Dimensions
	8608032	Square receptacle	2-hole w/ gasket	chrome plated	2.5" (6.2cm) x 2.5" (6.2cm)
	8605149	Square receptacle only	2-hole	chrome plated	2.5" (6.2cm) x 2.5" (6.2cm)
	3600056	Round receptacle	3-hole w/ gasket	zinc plated	2.8" diameter
	8606080	Square Receptacle only	4-hole	chrome plated	2.5" (6.2cm) x 2.5" (6.2cm)
	3600088	Square Receptacle only	4-hole	black plastic	2.5" (6.2cm) x 2.5" (6.2cm)

WEATHERPROOF RECEPTACLES & INDICATOR LIGHTS

	Part No.	Description	Specifications	Finish	Housing Dimensions	
	8606056	Mounting bracket	3-hole round	chrome plated	3" W x 3.1" H	Use with WP housing: 8605505, 8602921, 8602891, 8602948
	8606048	Mounting bracket	2 & 4-hole square	chrome plated	3" W x 3.1" H	Use with WP housing: 8605688, 3600028, 3600041, 8606080, 3600014, 3600088
	8605254	Replacement male plug for WP receptacle kit	120 V/15A	-	-	Can be used with any WP housing
	8605645	Replacement rubber boot for WP receptacle	-	-	-	Can be used with any WP housing

RECEPTACLE + SINGLE INDICATOR LIGHT

- All features of receptacle PLUS
- LED indicator light for voltage confirmation or heater operation at a single glance



Part No.	Description	Volts	Specifications	Finish
3600101	Indicator Light Receptacle		2.25" W x 2.5" H	chrome
3600098	Indicator Light Harness			
3600099	Indicator Light Harness & Receptacle			
3600067	Replacement LED Light			

RECEPTACLE + DUAL INDICATOR LIGHT

- All features of receptacle PLUS
- LED indicator light for voltage confirmation at a single glance
- LED indicator light for heater operation at a single glance



Part No.	Description	Volts	Specifications	Finish
3600049	Receptacle, light plate and cord kit	120	6'	chrome
3600062	Replacement Cord		6'	
3600078	Replacement Cord		12'	
3600060	Replacement Indicator Light Plate			chrome
3600077	Replacement Indicator Light Plate		2+4 hole square	black
3600067	Replacement LED Light			

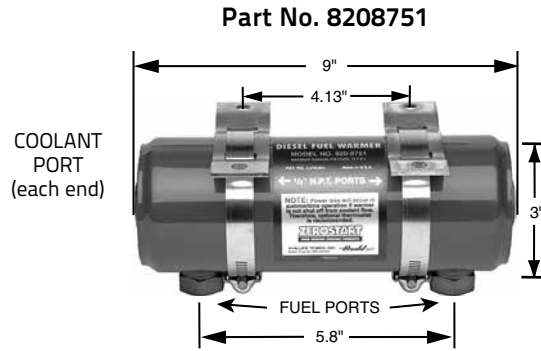
DIESEL FUEL HEATER

Features:

- 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)

Specifications:

Pressure Dropless 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		
	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.

Note: See full Arctic Fox catalog for additional diesel fuel heaters.

DIESEL STARTING FLUID



8200327

8201277

- 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.

- A disposal fee will be charged for each cylinder included in a product return.
- MSDS pages are available on our website at www.phillipsandtemro.com.

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 KBI Dieselmatic kits)	4" x 8"	1" – 20
8203903	1" standard gaskets (cork gasket flat)	Pkg. of 50	

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 and 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 101 for applications)

Replace existing systems, or custom design your own. Kit includes: valve and mounting bracket mounting bracket, switch, valve fitting, dash decal, 48" nylon tubing. Atomizer not included – see page 102.



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, push button switch, valve fitting, 48" nylon tubing, dash decal. See page 101 for applications. Atomizer not included – see page 102 for information.



Standard Electrical Kit (12/24 Volt)

(See page 101 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 102.



Mechanical Kit

(See page 101 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 102.



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	Shot Size	EZ-Mount Electrical		Standard Electrical		Mechanical
		12V	24V	12V	24V	
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

ENGINE SPECIFIC APPLICATIONS

STARTING FLUID SYSTEMS APPLICATIONS

Make & Engine Model	E-Z Stock E-Z Mount	EZ-Mount Electrical		Standard Electrical		Mechanical	Atomizer
		12V	24V	12V	24V		
CATERPILLAR							
1100, 3208, 3306, others over 500 cid1	8203237	8203954	8203962	8200157	8200238	8200270	8202982
3406, 3408, 1693, D3461	8203237	8203954	8203962	8200157	8200238	8200270	8202966 (A)
3406B turbo1	—	8203954	8203962	8200157	8200238	8200270	8203067 (A)
31761	8203237	8203954	8203962	8200157	8200238	8200270	8202982 (A)
CUMMINS							
855 CID series, all turbo over 400 cid	8203237	8203954	8203962	8200157	8200238	8200270	8202982
B Series – 4 cylinder	(D)	8204136	—	8204179	—	—	8202931
B Series – 6 cylinder	(D)	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
DETROIT DIESEL							
3-53, 4-53, 3-71, 4-71	(D)	8203938	8203946	8200106	8200165	8200211	(B, C)
6-71, 6V-53, 8V-53, 6V-71, 6V-92	8203237	8203954	8203962	8200157	8200238	8200270	(B, C)
8V-71, 8V-92	—	8203970	8203989	—	8200602	8200432	(B, C)
8.2 Litre	—	8203954	8203962	8200157	8200238	8200270	8202958
Series 60 (677 & 774 CID)	—	8203954	8203962	8200157	8200238	8200270	8202966
FORD							
6.6L, 7.8L	8203237	8203938	8203946	8200106	8200165	8200211	8202974
INTERNATIONAL							
D150 (461 CID), D170, D190	8203237	8203954	8203962	8200157	8200238	8200270	(B, C)
D550 (549 CID), V800 (798 CID)	8203237	8203954	8203962	8200157	8200238	8200270	(B, C)
817 (817 CID), 9 Litre	8203237	8203954	8203962	8200157	8200238	8200270	(B, C)
D, DT31—DT312, DT360, DT436, DT466	(D)	8203938	8203946	8200106	8200165	8200211	8202974
MACK							
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
MERCEDES							
ALL	—	8203938	8203946	8200106	8200165	8200211	8202958
PERKINS							
ALL	(D)	8203938	8203946	8200106	8200165	8200211	8202982

If your engine is not under "Specific Applications", then choose a kit based on the engine size.

(A)–Air-to-air aftercooled engines (ATAAC) generally will use an 8202982 atomizer installed in pipe between discharge side of aftercooler and engine manifold.

(B)–Use 8202966 if installed in blower box or manifold.

(C)–Use 8202982 if installed in air intake horn.

(D)–Mini ether system (#8200001) may be used for this application.

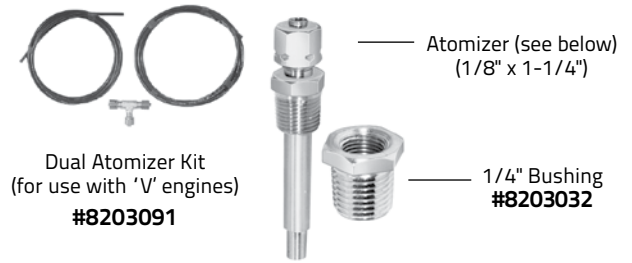
Note: All starting fluid kits, except mini-ether kits, use starting fluid cylinder #8200327 (not included).

All kits, except for #8203237 require atomizer. See following page for atomizer information.

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



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 either 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



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)

PRODUCT LITERATURE

Visit our website at www.phillipsandtemro.com to view or print product literature for ZeroStart, Temro and Arctic Fox products. Locate product and the nearest dealer to you with our interactive Where-to-Buy application on the www.phillipsandtemro.com website.

PRODUCT CATALOGS

- ZeroStart Product Catalog 2016..... LIT0057P
- Arctic Fox Product Catalog 2016 LIT0058A

PRODUCT DATA SHEETS

Zerostart & Temro

- Cold Weather Fuel Gelling Solutions..... LIT0004PA
- VIBRA Dump Body Vibrators..... LIT0011P
- Series 8000 Circulation Tank Heaters..... LIT0014P
- Industrial Tank Circulation Heaters LIT0015P
- Cab & Cargo Heaters LIT0016P
- Indicator Light Systems..... LIT0017P
- Thermostat for Immersion Heaters..... LIT0018P
- Cab Power® LIT0019P
- Cab Power® Plus..... LIT0020P
- Flexible Silicone Pad Heaters - USA..... LIT0021P
- Flexible Silicone Pad Heaters - CAN LIT0022P
- Air Intake Heaters..... LIT0028P
- Immersion Block Heaters..... LIT0031P
- Series 41 Circulation Tank Heaters LIT0033A
- Battery Pad Heater LIT0043P
- Lit Plug..... LIT0045A

Arctic Fox

- Coolant Dam Pressure Tester..... LIT0003A
- Cold Weather Fuel Gelling Solutions..... LIT0004PA
- Arctic Fox Electric Pad Heaters..... LIT0005A
- Hydraulic Liner Fluid Warmers..... LIT0007A
- Fuel & Fluid Heating Solutions..... LIT0008A
- Arctic Fox In-Line Fluid Warmers..... LIT0009A
- Arctic Fox Hot Line® In-Line Fuel Heater..... LIT0010A

COLD WEATHER FUEL GELLING SOLUTIONS

ZEROSTART
Arctic Fox

Fuel heating solutions.

BENEFITS

- Maximize uptime time
- Prevent costly breakdown repairs
- Reduce the need for fuel additives

WHERE TO USE

- Off-Highway
- Construction

IN-LINE FUEL HEATER

- Provides heat to the fuel filter
- Simple to install and maintain
- Thermoelectrically controlled to prevent overheating
- Can operate in temperatures up to 150° F
- Available in electric or gas-fired options
- Available in aftermarket or OEM models

HOT TAP® IN-TANK FUEL HEATER WITH SHUT-OFF THERMOSTAT

- Exchange heat from engine coolant to warm fuel as it flows up from fuel tank
- Thermoelectrically controlled to prevent overheating
- Includes a shut-off fuel tank heating gas or GEL agent that opens or closes the electric
- Models available with integrated auxiliary fuel injection for Arctic Diesel fuel assist heater applications

Customer service Toll Free 800-328-6108
Email customerservice@phillipsandtemro.com
www.phillipsandtemro.com

PHILLIPS & TEMRO
industries®

IN-LINE FLUID WARMERS

ARCTIC FOX

In-line fluid warmers warm diesel fuel as it flows out your in-cold temperatures.

BENEFITS

- Improves efficiency by providing fluid that operates in cold climates
- Reduces wear components, minimizes emissions and contamination of the fuel lines
- Easy to install in the fuel lines

WHERE TO USE

Some larger diesel fuel customers:

- Locomotives
- Coal-mining trucks
- Oil and mining equipment
- Off-road vehicles

1-400078-0100
1-400079-0100
1-110087-0100
1-110088-0100

Customer service Toll Free 800-328-6108
Email customerservice@phillipsandtemro.com
www.phillipsandtemro.com

PHILLIPS & TEMRO
industries®

THERMOSTAT IMMERSION HEATERS

ZEROSTART
Arctic Fox

Immersion heater with a thermostat which regulates heater's operating hours.

BENEFITS

- Saves money by reducing electrical costs when the engine heater cycle time is reduced
- Engines start up more quickly when they are maintained
- Accumulated fuels, air and dirt are prevented from entering or staying in the fuel lines or pump lines
- Efficient heater operation because the thermostat measures the coolant temperature rather than ambient air
- Coolant being can be treated away from the heater since the system stays on-board the truck

HERE'S HOW IT WORKS

The immersion regulates the engine temperature. The heater is system on and off according to temperature range setting. The sensor that float sensor in the engine coolant electrically closes whether the truck is parked in the bay or on the road.

TEST DATA

- Tests were conducted across North America from extremely cold climates to moderate climates. The results showed that the thermostat system reduced heater operating hours and electrical loads in the cold weather months.

See back for details.

Customer service Toll Free 800-328-6108
Email customerservice@phillipsandtemro.com
www.phillipsandtemro.com

PHILLIPS & TEMRO
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TECHNICAL INFORMATION

RECOMMENDED PART APPLICATION BASED ON CLIMATE & EQUIPMENT

Use the chart below to determine the recommended part based on the climate, starting system and equipment classification.

1. Select the appropriate "Temp" the equipment will operate under

ATTENTION: 90% of maximum temperature will be reached in 5 hours of operation but the heater is designed for continuous overnight use.

2. Select the proper "Starting System"
3. Determine what "Engine Class" the equipment is classified
4. If you need additional information, please contact your Phillips & Temro Industries sales representative or contact customer service directly.

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
40/4 ↓ 0/-18	Coolant Heater	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
	Oil Pan Heater	150 Watt Immersion with Thermostat	150 Watt Immersion or 300 Watt Clamp-On	300 Watt Immersion or 500 Watt Clamp-On	300 Watt Immersion
	Additional Products	Measured Shot Ether Kit, Battery Heater	Measured Shot Ether Kit, Battery Heater	Measured Shot Ether Kit, Battery Heater	Measured Shot Ether Kit, Battery Heater
0/-18 ↓ -30/-34	Coolant Heater	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
	Oil Pan Heater	150 Watt Immersion with Thermostat	150 Watt Immersion or 300 Watt Clamp-On	300 Watt Immersion or 500 Watt Clamp-On	450 Watt Immersion
	Additional Products	Measured Shot Ether Kit, Battery Heater	Measured Shot Ether Kit, Battery Heater	Measured Shot Ether Kit, Battery Heater	Measured Shot Ether Kit, Battery Heater
-30/-34 ↓ -60/-51	Coolant Heater	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
	Oil Pan Heater	150 Watt Immersion with Thermostat	300 Watt Immersion or 500 Watt Clamp-On	450 Watt Immersion	450 Watt Immersion
	Additional Products	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

HEATERS

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.

DETERMINING CURRENT USAGE

The current usage of a heater can be determined based on a heaters volt and wattage rating.

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

WARRANTY

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

Phillips & Temro Industries
c/o Purolator
1151 Martin Grove Road
Door 50
Etobicoke, Ontario, M9W 4W7

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/provinces 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 year's 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

Phillips & Temro Industries
c/o Purolator
1151 Martin Grove Road
Door 50
Etobicoke, Ontario, M9W 4W7

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.



THERMAL TECHNOLOGY SOLUTIONS AND SYSTEMS

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Eden Prairie, MN 55344
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