



KIM HOTSTART
SINCE 1942



Product Catalog

Engine Heaters

Battery Pads & Wraps

Oil Heaters

Replacement Parts

KIM HOTSTART... YOUR ENGINE HEATING SOLUTION!

Kim Hotstart was established in 1942 with the original patent for engine coolant heating. We manufacture engine heating equipment and accessories that provide easy starts, reduced fuel consumption, reduced wear, and reduced emissions. As a world wide distributor of electric heating equipment for gasoline and diesel engines, Kim Hotstart has the experience and expertise to solve your engine heating problems.

Kim Hotstart, the Ultimate in Engine Pre-heating. Call us



All Direct Immersion Block Heaters Carry CSA C/US and UL C/US Approval.



- Long life Incoloy elements withstand higher temperatures to reduce element failure.
- Reduced heat in terminal connection area.
- Resists scale build-up on element surface.
- Tensile strength of Incoloy is three times that of copper, making it much less susceptible to engine and road vibration.
- Optional thermostat control and "Y" harness available for all in-block heaters.

Battery Warming Pads and Thermal Wraps Improve Cranking Power in the Coldest Conditions.

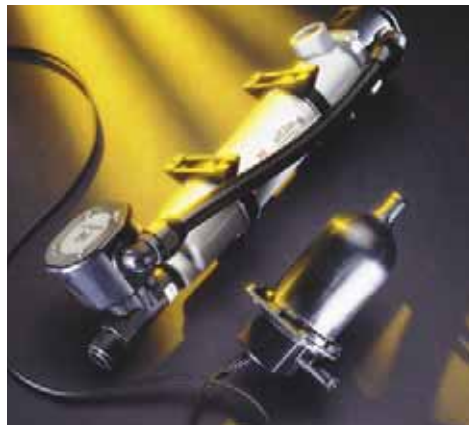


- Flexible SBR rubber pads are designed for installation under the battery to heat from the bottom up.
- Blanket-style heaters and pad heaters are impervious to battery acid and oil.
- Pad models for multiple battery applications available with accessory cords and thermostat assembly.
- Engineered to maintain batteries at 80°F/27°C to ensure full cranking power.

Silicone Hot Pads are Flexible and Easy to Install.

- Ideal for oil pans, hydraulic reservoirs, engine blocks and hydraulic cylinders.
- Durable silicone/fiberglass cover resists abrasion.

Tank Style Coolant Heaters That Meet Heating Requirements For a Wide Range of Engine Sizes and Applications.



- Constant circulation of coolant through the engine achieves even heat distribution.
- All parts replaceable — easy to service.
- Thermostatically controlled to save energy..
- CSA C/US and UL C/US approved.

Kim Hotstart Pre-Heaters

Easy Starts...

- Saves warm-up time
- Saves fuel
- Prolongs battery life
- Provides immediate defrosting

Reduces Engine Wear...

- 90% of engine wear is due to low water jacket temperature
- Stops destructive condensation
- Extends time between overhauls

Protects the Environment...

- Eliminates "White Smoke" upon start-up
- Reduces idle time
- Engine is ready for clean full power operation
- Reduces noise pollution
- No high speed idle

Pages 4-13



In-Block Direct Immersion Heaters
Replacement Cords
Thermocords
Flush Mount Kits and Accessories

Pages 14-17



Tank Style Coolant Heaters
Replacement Parts

Pages 18-19



Shielded Well Type Oil Heaters
Tubular Type Oil Heaters
DC Oil Heaters
Oil Heater Temperature Controls

Pages 20-22



Battery Warming Pads
Blanket Style Battery Warmers
Silicone Hot Pads

TABLE OF CONTENTS

Heater Installation Guide – Page 23

Custom Products

Call for information on:

*Wiring Harnesses
Air Intake Heaters
Battery Chargers
Other Specialty Products*

In-Block

Direct Immersion Heaters

Note: In-block heaters are complete with 2-wire w/ground 6 foot HPN cord and plug. For cord replacements or "Y" thermocord energy saver, please reference page 12.



Engine Model	Part Number 120 Volts	Part Number 240 Volts	Watts	Product Image	Application Information	Heat Shield Required	Oil Heater Thread Size*
Allis Chalmers							
670T & I 685T & I 6138LT, T & I 25000 (844 CID)	AC-101 CATV-151	AC-102 CATV-152	1000 1500		Replaces 1" thread-in plug on the oil cooler at rear of the engine on the right side. Note that not all of the engines have this opening.		
Case/IH - Agricultural							
ALL 4 CYL 390 ALL 6 CYL 590	CUB-751FP CUB-101FP CUB-151FP	CUB-752FP CUB-102FP CUB-152FP	750 1000 1500		Inserts in any of the freeze plugs right side of engine		22mm
ALL 6 CYL 830	CUC-151FP	CUC-152FP	1500		Inserts in the freeze plug right rear of the block		22mm
Caterpillar							
C7 ACERT	FP101-001 FP151-001	FP102-001 FP152-001	1000 1500		Replace 44mm frost plug on right hand side of engine just below the turbo charger.	YES	
C9 ACERT	CATV-151	CATV-152	1500		Replace 1" NPT plug in the right rear of the engine block		
C11 ACERT C13 ACERT	TF151-008	TF152-008	1500		Replace any of the 1 5/16" plugs in rear of oil cooler on the right hand side of the engine	Check Exhaust Routing	1 5/16" STOR
C15 ACERT	TF151-009	TF152-009	1500		Replace 1 3/16" plug in rear of the oil cooler on the right hand side of the engine		
C-10 C-12	TF121-000	TF122-000	1250		Replaces the 1" threaded plug in the oil cooler bonnet	YES	1" NPT
C-9 Non ACERT C-15 Non ACERT C-16 Non ACERT	CATV-151	CATV-152	1500		C-9 Only: Mount in rear face of block C-15, C-16: Mount in rear oil cooler bonnet from the back end		1" NPT
1674	CATB-151	CATB-152	1500		Replaces the 1 1/2" thread-in plug on the right side of the engine		
1693 & D343	CATC-151	CATC-152	1500		Replaces water jacket access plate on the left side of the engine		
1693T & 1693TA	CATC-151-S	CATC-152-S	1500		Replaces water jacket access plate on the left side of the engine		
3013 1.5L 3014 2.0L	FP531-003	FP532-003	530		Replaces 40mm core plug on the front, left side of the engine		
3024 2.22L	FP531-003	FP532-003	530		Replaces 40mm core plug on the front, left side of the engine		
3034 2.95L	FP531-001	FP532-001	530		Replaces 50mm core plug located at back of head		
3044 3.3L	PF531-001	PF532-001	530		Mounts in "football shaped" opening on the right of the engine		

* If supplemental oil heating is desired, this column gives the correct thread size in oil pan. See NOTE on page 11.

In-Block Direct Immersion Heaters

Note: In-block heaters are complete with 2-wire w/ground 6 foot HPN cord and plug. For cord replacements or "Y" thermocord energy saver, please reference page 12.



Engine Model	Part Number 120 Volts	Part Number 240 Volts	Watts	Product Image	Application Information	Heat Shield Required	Oil Heater Thread Size*
Caterpillar — Continued							
3046 5.0L	PF531-000	PF532-000	530		Replaces 35mm core plug located at rear of engine, left side		
3054 3.99L 3054B 4.23L	PER-751FP PER-101FP	PER-752FP PER-102FP	750 1000		Mounts in the 1 1/4" freeze plug opening on the right side of the engine		
3054C	PER-751FP	PER-752FP	750		Mounts in 1 1/4" freeze plug at right rear of engine with element straight up in 12 O'clock position.		
3056 6.0L	PER-151FP	PER-152FP	1500		Mounts in the 1 1/2" freeze plug on the right side of the engine		
3114 3116 3126	FP101-001 FP151-001	FP102-001 FP152-001	1000 1500		Replaces the core plug on the right side of the engine just below the turbocharger	YES	11/16"X12
3176 10.3L through 1995	DD8L-101 CAT-12015 TF151-001	DD8L-102 CAT-12023 TF152-001	1000 1250 1500		Replaces the 3/4" plug on the right side of the engine just below the head.		1" NPT
3176 10.3L 1996 and later	TF121-000	TF122-000	1250		Replaces the 1" threaded plug in the oil cooler bonnet	YES	11/16"X12
3196 12.0L	TF121-000	TF122-000	1250		Replaces 1" threaded plug in oil cooler bonnet	YES	11/16"X12
3204 all 1100 series	CATX-751 CATX-101	CATX-752 CATX-102	750 1000		Replaces the core plug on the right side of the engine just below the turbocharger		22mm
3208 — 2 heaters with a single cord	CATX-2-751-Y	CATX-2-752-Y	1500 total		Use on industrial engines when clear access is available. Replaces any core plug - one on each side of the engine		
3208 Recommended Aftermarket Installation	JD3/4-101IN JD1-101IN JD3/4-151IN JD1-151IN	JD3/4-102IN JD1-102IN JD3/4-152IN JD1-152IN	1000 1000 1500 1500		Replaces any of the 3/4" or 1" plugs on the water transfer casting (right front of the engine). 3/4" use JD3/4 — 1" use JD1		
3304 3306	DD8L-101 CAT-12015 TF151-001	DD8L-102 CAT-12023 TF152-001	1000 1250 1500		Replaces the 3/4" plug on the left side of the engine		
3406C/E 14.6L	AC-101 CATV-151	AC-102 CATV-152	1000 1500		Replaces 1" thread-in plug in the rear of the oil cooler bonnet on the right side of the engine		1" NPT
3406 & 3408 except 1998 Adem 2	AC-101 CATV-151	AC-102 CATV-152	1000 1500		Replaces 1" thread-in plug in the rear of the oil cooler bonnet on the right side of the engine		1" NPT
3406E 1998 Adem 2 engines only	TF151-002	TF152-002	1500		Replaces the 1" threaded plug that points downward on the top of the rear of the oil cooler bonnet	YES	1" NPT
3406E ADEM 3 and ADEM 2000 engines	AC-101 CATV-151	AC-102 CATV-152	1000 1500		Replaces 1" thread-in plug in the rear of the oil cooler bonnet on the right side of the engine		1" NPT









* If supplemental oil heating is desired, this column gives the correct thread size in oil pan. See NOTE on page 11.

In-Block

Direct Immersion Heaters

Note: In-block heaters are complete with 2-wire w/ground 6 foot HPN cord and plug. For cord replacements or "Y" thermocord energy saver, please reference page 12.



Engine Model	Part Number 120 Volts	Part Number 240 Volts	Watts	Product Image	Application Information	Heat Shield Required	Oil Heater Thread Size*
Caterpillar — Continued							
3456 15.8L	AC-101 CATV-151	AC-102 CATV-152	1000 1500		Replaces 1" thread-in plug in the rear of the oil cooler bonnet on the right side of the engine		1" NPT
Chevrolet/GMC (Small Truck)							
5.7L V8 (350 CID)	FC601-501	NONE	600		Mounts in the freeze plug in the engine's block No replacement cord available		
6.2L V8 Diesel 6.5L V8 Diesel	FC601-PY2						
Cummins							
6 Cylinder Engines: H, NT, NH, N Family 743 CID, 855 CID, 927 CID, "N14" 1. Cummins engines are often referred to by their horsepower rating "i.e. 350 Cummins" 2. Cummins engines are often referred to as Big Cam, Big Cam2, 3, 4, full flow cooling, etc. All refer to engines of 855 CID Size – listed below							
Group I							
Flat plate design	CUN-151B	CUN-152B	1500		6 bolt flat plate on the right side of the engine. May use either the forward or rear opening depending on clearance.		1" NPT
Flat plate design when the 1/2" NPT opening is used	CUN-151BH	CUN-152BH	1500				1" NPT
Group II							
When an external oil cooler is used..		Note: When a 4 bolt flat plate element design is encountered, remove the next two bolts on the casting, remove the whole casting, and replace the casting and element with either CNT-151B/CNT-152B OR CNT151B90/CNT152B90					
When connection is 1 1/2" rubber hose Engines produced Aug. 1975 thru June 1982	CNT-151B-90	CNT-152B-90	1500		6 bolt, flat plate design with an elbow that will rotate 360 degrees to connect with any hose or casting		1" NPT
Uses an "O" ring for the 1 1/4" water tube connection Engines produced prior to August '75	CNT-151B	CNT-152B	1500		6 bolt, flat plate design with an elbow that will rotate 360 degrees to connect with any hose or casting		1" NPT
Group III							
For industrial engines with hole pattern reversed	CUN-151BREV	CUN-152BREV	1500		Six bolt flat plate on the right side of the block		1" NPT
Group IV							
1998 and later N14 Industrial	PF151-002	PF152-002	1500		Six bolt flat plate on the right side of the block		1" NPT

* If supplemental oil heating is desired, this column gives the correct thread size in oil pan. See NOTE on page 11.

In-Block

Direct Immersion Heaters

Note: In-block heaters are complete with 2-wire w/ground 6 foot HPN cord and plug. For cord replacements or "Y" thermocord energy saver, please reference page 12.



Engine Model	Part Number 120 Volts	Part Number 240 Volts	Watts	Product Image	Application Information	Heat Shield Required	Oil Heater Thread Size*
Additional Cummins Engine Models							
Cummins A 4 cyl & 6 cyl	CUA-101F	CUA-102F	1000		Inserts in any of the freeze plugs on right side of engine. Element points down.		
ISC/QSC 8.3L ISL/QSL 9.0L	DD8L-101	DD8L-102	1000		3/4" NPT threaded plug in the right rear side of engine		22mm
L10, M11 ISM	CUL-151	CUL-152	1500		Inserts in the forward opening of the heater casting on the right rear of block		1" NPT
OSB 3.9L, 5.9L ISB 5.9	TF751-002	TF752-002	750		3/4" NPT threaded plug in the front of the oil cooler casting		22mm
ISM/QSM 11.0L Flat Plate Design	PF151-003	PF152-003	1500		Right rear. Replaces plate.		1" NPT
QSX, ISX Signature 600	PF151-004	PF152-004	1500		Mounts in the "football shaped" plate on the right side of the block		27mm
4BT 3.9L	CUB-751FP CUB-101FP	CUB-752FP CUB-102FP	750 1000		Inserts in any of the freeze plugs right side of engine	Check Exhaust Routing	22mm
6BT 5.9L	CUB-751FP CUB-101FP CUB-151FP	CUB-752FP CUB-102FP CUB-152FP	750 1000 1500		Inserts in any of the freeze plugs right side of engine	Check Exhaust Routing	22mm
6CT 8.3L	CUC-151FP	CUC-152FP	1500		Inserts in the freeze plug right rear of the block		22mm
Detroit Diesel							
SERIES 10 4 cylinder Phaser engines	PER-751FP PER-101FP	PER-752FP PER-102FP	750 1000		Mounts in the 1 1/4" freeze plug opening on either side of the engine		
SERIES 10 6 cylinder Phaser engines	PER-151FP	PER-152FP	1500		Mounts in the 1 1/2" freeze plug on the right side of the engine		
SERIES 30	DD8L-101	DD8L-102	1000		Mounts in the 3/4" NPT opening in the block		
SERIES 40 all versions	PER-751FP INTA-121 FR151-001	PER-752FP INTA-122 FR152-001	750 1250 1500		Mounts in the frost plug opening on the left side of the engine		
SERIES 50 SERIES 60	AC-101 CATV-151	AC-102 CATV-152	1000 1500		Mounts in the 1" NPT opening in either water pick up pipe (up to 1991) or in the 1" NPT opening on the oil cooler housing after 1991	yes on 1991 and later	3/4" NPT
SERIES 55	PF151-000	PF152-000	1500		Mounts in the triangle plate on the side of the block		
3-53, 4-53, 3-71, 4-71 with water cooled air compressor	DD-751-S	DD-752-S	750		Mounts in the "football shaped" plate on the block. Check clearance.		

* If supplemental oil heating is desired, this column gives the correct thread size in oil pan. See NOTE on page 11.

In-Block

Direct Immersion Heaters

Note: In-block heaters are complete with 2-wire w/ground 6 foot HPN cord and plug. For cord replacements or "Y" thermocord energy saver, please reference page 12.



Engine Model	Part Number 120 Volts	Part Number 240 Volts	Watts	Product Image	Application Information	Heat Shield Required	Oil Heater Thread Size*
Detroit Diesel – continued							
3-53, 4-53, 3-71, 4-71 without water cooled air compressor	DD-751	DD-752	750		Mounts in the "football shaped" plate on the block. Check clearance.		
6-71 with water cooled air compressor	DD-151-S	DD-152-S	1500		Mounts in the "football shaped" plate on the block. Check clearance.		
6-71 without water cooled air compressor	DD-151	DD-152	1500		Mounts in the "football shaped" plate on the block. Check clearance.		
8.2 L V-8 Diesel	DD8L-101	DD8L-102	1000		Threads into the 3/4" NPT opening on the block		
6V-53 with water cooled air compressor	DD6V-751-S	DD6V-752-S	750		Mounts in the "football shaped" plate on the block. Check clearance.		
6V-53 without water cooled air compressor	DD6V-751	DD6V-752	750		Mounts in the "football shaped" plate on the block. Check clearance.		
6V71 & 8V71 Alternate location	AC-101 CATV-151	AC-102 CATV-152	1000 1500		Threads into 1" NPT plug in the front face of the block		
6V-71 & 8V-71 6V-92 & 8V-92 except GMC General models	DDV-151B	DDV-152B	1500		Mounts in the square plate on the block		
6V92 & 8V92 alternate location - threads into oil cooler.	DD8L-101	DD8L-102	1000		Threads into the 3/4" NPT opening in the oil cooler housing. Note - not all engines have this opening		
Deutz							
BF4L913 BF6L913 F3L912 F3L913 F6L913 1011 SERIES oil cooled engines	OLT221515 plus A22M48M (adapter)	n/a	150		Use adapter kit to mount the 22MM heater in the 48MM opening		22MM or 48MM
1012 — 4 & 6 cyl 1013 — 4 cyl	PF751-000	PF752-000	750		Mounts in the "football shaped" plate opening on the oil cooler casting		
1013 6 cyl	PF121-001	PF122-001	1250		Mounts in the "football shaped" plate opening on the oil cooler casting		
1015 6 & 8 cyl	TL151-004	TL152-004	1500		Mounts in 30MM plug in water elbow on front of the engine		
2012 — 4 & 6 cyl	PF751-002	PF752-002	750		Mounts in the "football shaped" plate opening on the oil cooler casting		
Ford							
6.9L & 7.3L V-8 diesels through 1993	FC101-PY1	None	1000		Mounts in a freeze plug on the engine's block. No replacement cord available.		
7.3L V-8 diesels from 1994 on	TF751-002 DD8L-101	TF752-002 DD8L-102	750 1000		Mounts in the 3/4" NPT plug in the engine's block		













* If supplemental oil heating is desired, this column gives the correct thread size in oil pan. See NOTE on page 11.

In-Block

Direct Immersion Heaters

Note: In-block heaters are complete with 2-wire w/ground 6 foot HPN cord and plug. For cord replacements or "Y" thermocord energy saver, please reference page 12.



Engine Model	Part Number 120 Volts	Part Number 240 Volts	Watts	Product Image	Application Information	Heat Shield Required	Oil Heater Thread Size*
Ford Lehman (English)							
4 AND 6 CYL engines	FP531-002 FP751-000 FP101-002	FP532-002 FP752-000 FP102-002	530 750 1000		Mounts in freeze plug in the block		
Hino							
3.8L, 5.8L, 6.0L, 6.4L, 6.7L, W04C-T, W06E, H06C-T, H07C-B	DD8L-101	DD8L-102	1000		Threads into 3/4" NPT opening in the block	YES	
Isuzu							
4BD1 6HE1 6BD1 6SA1 6BG1	TF401-501	NONE	400		1" NPT opening in left rear of engine No replacement cord available		
John Deere							
With 3/4" plug in the back of the block	JD3/4-101IN JD3/4-151IN	JD3/4-102IN JD3/4-152IN	1000 1500		3/4" NPT opening in the rear face of the block	check Exhaust routing	
With 1" plug in the back of the block	JD1-101IN JD1-151IN	JD1-102IN JD1-152IN	1000 1500		1" NPT opening in the rear face of the block		
With 1 5/8" opening on the side of the water jacket	JDS-101	JDS-102	1000		1 5/8" threaded opening on the side of the block in the water distribution channel		
6105 (10.5L) 6125 (12.5L)	AC-101 CATV-151	AC-102 CATV-152	1000 1500		1" NPT opening in the oil cooler casting		
Komatsu							
L10 (10L) M11(11L)	CUL-151	CUL-152	1500		Inserts in the forward opening of the heater casting on the right rear of the block		
SA6D125	MA-151	MA-152	1500		Threads into the freeze plug opening in the block		
Kubota							
M, B, L Series D905 V1205 D1005 V1305 D1105 V1505 D3000B V4000B D3200B V4300B DH905 VH1205 DH1005 VH1305	TF401-501	N/A	400		1" NPT opening in left rear of engine No replacement cord available		
Mack							
Mid liner E3 MS200 & MS250	MAM-101	MAM-102	1000		Mounts in rear face of block		
Mid liner E5 MS300	MAM-151	MAM-152	1500		Mounts in the oil cooler bonnet		

* If supplemental oil heating is desired, this column gives the correct thread size in oil pan. See NOTE on page 11.

In-Block

Direct Immersion Heaters

Note: In-block heaters are complete with 2-wire w/ground 6 foot HPN cord and plug. For cord replacements or "Y" thermocord energy saver, please reference page 12.







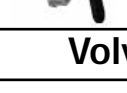





Engine Model	Part Number 120 Volts	Part Number 240 Volts	Watts	Product Image	Application Information	Heat Shield Required	Oil Heater Thread Size*
Mack - continued							
E6 engines "smooth bore" from 1981 on	MASB-151	MASB-152	1500		Mounts in the freeze plug opening. Smooth opening design.		
E6 engines threaded freeze plug opening not produced after '81 END 465, 711, EN438, 504, 707, 673, 675, 676 (1957 through 1981)	MA-151	MA-152	1500		Mounts in any threaded freeze plug opening		
E7 Engines Except E-Tech water pump mount	PF151-001	PF152-001	1500		Mounts in the plate in either the front or rear face of the block in the water jacket passage. For 2002 engine – mounts in rear face of block.		
E9, ENDT865, 866 and 1000 series V8 engines Use two heaters	DD8L-101	DD8L-102	2000 total		Threads into the 3/4" NPT opening on each side of the block		
MAN							
D2840 D2842 D2848	PF121-003	PF122-003	1250		Replace "football shaped" plate in lower water pipe on right side of engine		
D2866 D2876	PF151-006	PF152-006	1500		Replace 3 bolt plate on left side of engine. May require adapter if 3 bolt opening is not available on engine. Consult customer service.		
Mercedes Benz							
MBE904 MBE906	PF101-001	PF102-001	1000		Right side rear. Replaces frost plug.	YES	
Navistar/International							
V800 (796 CID)	AC-101 CATV-151	AC-102 CATV-152	1000 1500		Threads into a 1" NPT opening in the oil cooler bonnet		
INLINE 6 CYLINDER — all series — 312, 360, 414, 436, 466 & 530	PER-751FP INTA-121 FR151-001	PER-752FP INTA-122 FR152-001	750 1250 1500		Mounts in the frost plug on the left side of the engine. Fits all series of these engines.		
6.9L & 7.3L V8 diesels through 1993	FC101-PY1 or FC601-501	None	1000 600		No replacement cord available. Mounts in a freeze plug above starter		
7.3L & T444 all series	DD8L-101	DD8L-102	1000		3/4" NPT threaded opening in the block		
9.0L — V8 diesel	INT9-101F	INT9-102F	1000		Mounts in a freeze plug		
Onan — See Cummins "A" Series							

* If supplemental oil heating is desired, this column gives the correct thread size in oil pan. See NOTE on page 11.

In-Block Direct Immersion Heaters

Note: In-block heaters are complete with 2-wire w/ground 6 foot HPN cord and plug. For cord replacements or "Y" thermocord energy saver, please reference page 12.



Engine Model	Part Number 120 Volts	Part Number 240 Volts	Watts	Product Image	Application Information	Heat Shield Required	Oil Heater Thread Size*
Perkins							
3.152 4.236 6.354 1004 (4 Cyl) A & B	PER-751FP PER-101FP	PER-752FP PER-102FP	750 1000		Mounts in the 1 1/4" freeze plug opening on the right side of the engine		
1006 (6 Cyl) A & B	PER-151FP	PER-152FP	1500		Mounts in the 1 1/2" freeze plug on the right side of the engine		
1104 (4 Cyl) C	PER-751FP PER-101FP	PER-752FP PER-102FP	750 1000		Mounts in 1 1/4" freeze plug opening on right rear of engine with element straight up in 12 O'clock position		
103.15 104.22	FP531-003	FP532-003	530		Mounts in freeze plug		
700 Series 704.30	FP531-001	FP532-001	530		Mounts in freeze plug in rear of head		
Volvo							
D9	PF151-007	PF152-007	1500		Mounts in the "football shaped" plate on the front, right side of the engine		
D12C Prior to Serial # 250502	PF151-005	PF152-005	1500		Mounts below turbo charger on right center of engine	YES	
D12C After Serial # 250502	PF121-002	PF122-002	1250			YES	
TD60, TD61, TD70, TD71, TD100, TD101, VE10, TD120, TD121	VT6-101	VT6-102	1000		Mounts into threaded opening (44mm) in the front of the engine		
Yanmar							
3T72HLE 4TN82E D4T YYDXL4.41	TF401-501	N/A	400		1" NPT No replacement cord available		


NOTE: The only replacement parts for the direct immersion heaters is the power cord. Please see the power cord section on page 12 for the proper replacement cord set.

For thermostat control of in-block direct immersion heaters see page 12. The energy saver Thermocord is available in various temperature ranges.

Supplemental heat for engines using in-block direct immersion heaters can be acquired by the installation of oil pan heaters in the lube-oil. Reference page 18 of this catalog or consult factory.

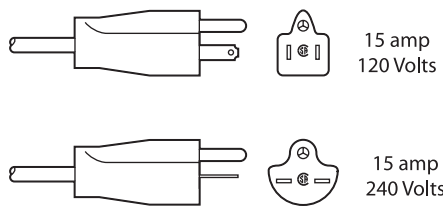

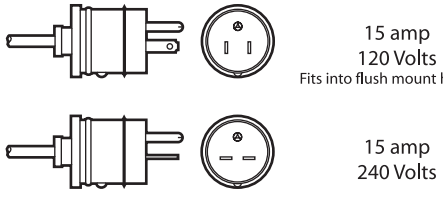

* If supplemental oil heating is desired, this column gives the correct thread size in oil pan. See NOTE on page 11.


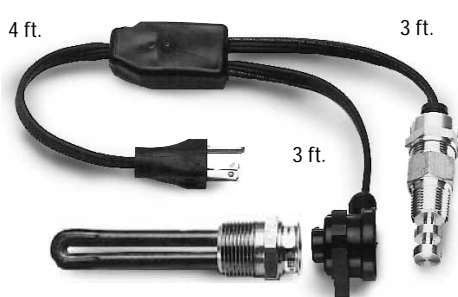

Replacement Cords & Thermocords

Heat Shield	
Model No.	
HS1	
Use when exhaust manifold or turbo come close to heater termination.	

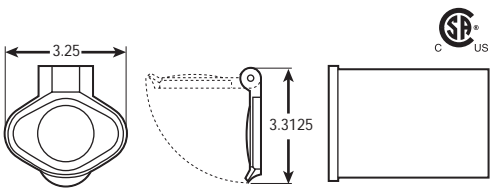
NOTE:

When ordering an in-block heater **and** Thermocord, indicate suffix **-WOC** (which stands for **without cord**) after the heater model number to save cost. The Thermocord harness will replace the standard 6' heater cord.

For use with In-Block Direct Immersion heaters					
Cord Length	Plug Style	120 Volt	120 Volt	STYLE 1  	
6'	1	IM6-1IN	IM6-2IN		15 amp 120 Volts
11'	1	IM11-1IN	IM11-2IN		15 amp 240 Volts
16'	1	IM16-1IN	M16-2IN	<div style="border: 1px solid black; padding: 2px; display: inline-block;">Fits most competitor's applications.</div> STYLE 2  	
Cord Length	Plug Style	120 Volt	240 Volt		
6'	2	11PR72T	21PR72T		15 amp 120 Volts Fits into flush mount housing
11'	2	11PR132T	21PR132T		15 amp 240 Volts
16'	2	11PR192T	21PR192T		

Thermocord for In-Block Direct Immersion heaters				
Part No.	Volts	Thread Size	Temp Range	
A-2822-ØB	120	1/2"	100-120	 4 ft. 3 ft. 3 ft. Heater shown for illustration purposes only. 
A-2822-ØC	120	1/2"	120-140	
A-2822-ØH	240	1/2"	100-120	
A-2822-ØI	240	1/2"	120-140	
A-2822-ØM	120	1/2"	80-100	
A-2822-ØP	240	1/2"	80-100	

Flush Mount Kits & Accessories

Flush mount kits for In-Block Direct Immersion heaters				
Cord Length	Plug Style	120 Volt	240 Volt	
6'	2	IM6-1IN-FM	IM6-2IN-FM	
11'	2	IM11-1IN-FM	IM11-2IN-FM	
16'	2	IM16-1IN-FM	IM16-2IN-FM	



Kim Hotstart offers a new heater and flush mount kit that includes all the components needed for an aftermarket heater installation but with the "factory installed" look!

CATV-151-11FM will fit CAT3406, C9, C15 and C16 pre-ACERT engines as well as Detroit Diesel Series 60 engines.

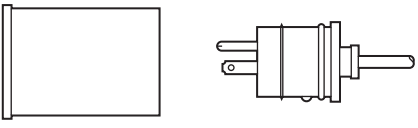
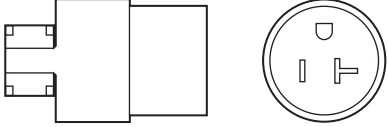
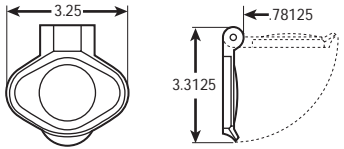
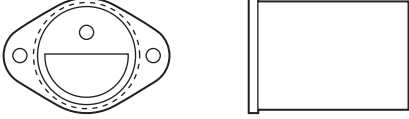
All CATV-151-11FM Kits Include ...

CATV-151 in-block heater, molded recessed male receptacle with 11 ft. power cord, black hinged spring-loaded cover and female connector.



Cord Length	Plug Style	120 Volt
11'	2	CATV-151-11FM

Other Accessories

Recessed Male Receptacle – with 6 ft. cord (no female connectors)				
Model Number	Volts	Amps		
RMS-15	120	15		
RM6-16	240	15		
RM5-20	120	20		
RM6-20	240	20		
Female Connector Only - for extension cords				
Model Number	Volts	Amps		
FM1G20A	120	15/20		
FM2G20A	240	15/20		
Hinged Cover Only				
Model Number	Description			
*FC-KH FC-KH-C	Black/Kim Logo Chrome/Kim Logo			
*Note: Standard with kit				
Plug Housing				
Model Number				
A-2223-PH				

Small Tank-Style Heaters

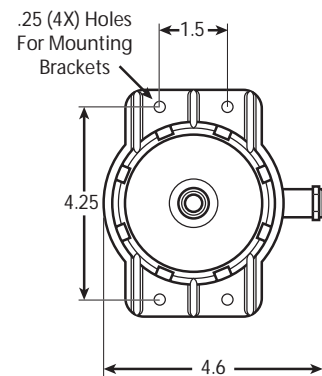
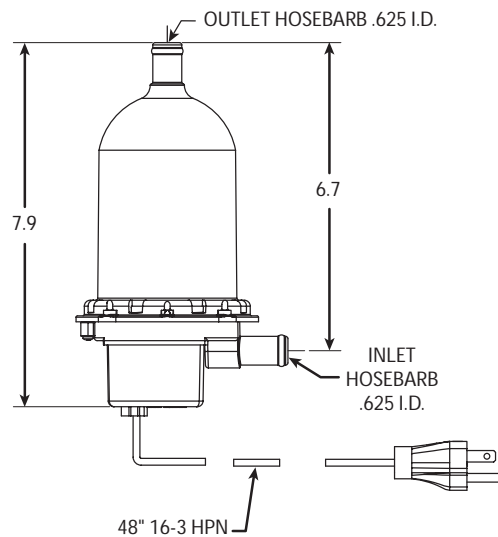
*High Impact Plastic
Single Phase
500-1800 Watts
120V*



View of a Kim Hotstart TPS tank heater. This durable heater is assembled with a built-in thermostat and 4-foot power cord.

Ambient Above -20° F	Ambient Below -20° F	Model Number	Volts	Watts	Amps	Thermostat Range	
						On	Off
150 Cubic Inch or Less	150 Cubic Inch or Less	TPS051T10-000	120	500	4.2	100°F	120°F
350 Cubic Inch or Less	200 Cubic Inch or Less	TPS101T10-000	120	1000	8.4	100°F	120°F
350 — 500 Cubic Inch or Less	200 — 300 Cubic Inch or Less	TPS151T10-000	120	1500	12.5	100°F	120°F
500 — 700 Cubic Inch or Less	300 — 400 Cubic Inch or Less	TPS181T10-000	120	1800	15	100°F	120°F

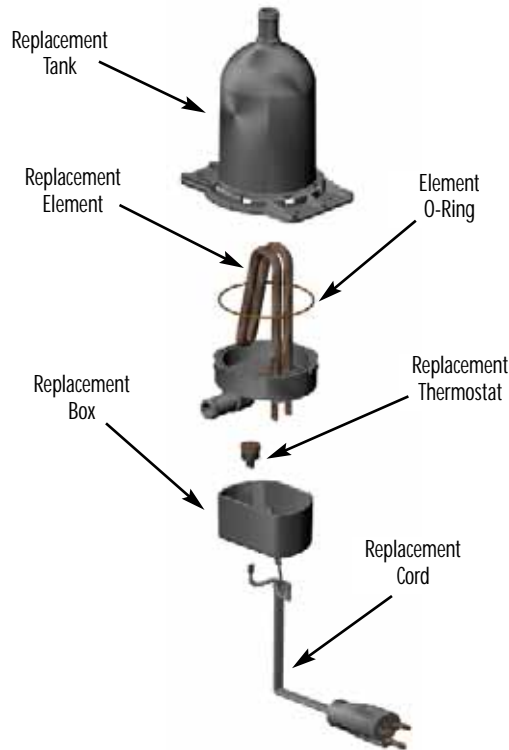
- Molded from Polyphenylene Sulfide (PPS).
- Rust-free, resists corrosion, exceptional tensile strength.
- Vibration and shock tested to extreme limits to guarantee durability.
- Greatly reduced heat loss for more efficient operation.
- Compatible with all chemicals.
- Incoloy element for longer service life.
- Thermostatically controlled.
- All parts are field replaceable — not a throw away heater.
- Compact design requires minimal mounting space.



Replacement Parts

For small tank-style heaters shown on page 14

Model Number	Volts	Watts	Thermostat Range		Replaceable Parts					
			On	Off	T-Stat	Element	Tank	Box	Power Cord	Element O-ring
TPS051T10-000	120	500	100°F	120°F	LSU-10	REPS051T10	TPS-T	CPS-1	11P48UU	TPS-BOR
TPS101T10-000	120	1000	100°F	120°F	LSU-10	REPS101T10	TPS-T	CPS-1	11P48UU	TPS-BOR
TPS151T10-000	120	1500	100°F	120°F	LSU-10	REPS151T10	TPS-T	CPS-1	11P48UU	TPS-BOR
TPS181T10-000	120	1800	100°F	120°F	LSU-10	REPS181T10	TPS-T	CPS-1	12P48UU	TPS-BOR



IN-LINE HEATER			
Engine Size	Model Number	Watts	Volts
2.5L or Less	TPT401-00	400	120
	TPT402-00	400	240

- **Small & Lightweight** - 6.5" long and 1.75" diameter. Weighs only 8 oz. including 3' cord and plug.
- **Easy to install** - 5/8" hose barb connections allow for easy in-line installation with no rigid mounting required.
- **Safe** - CSA approved, the heater is electrically grounded, double insulated and thermally protected to ensure safe operation.

In-Line Heater



2.5L engines and smaller



Tank-Style Heaters

(With Power Cord)

1500 - 2250 watt

Weathertight

Single Phase



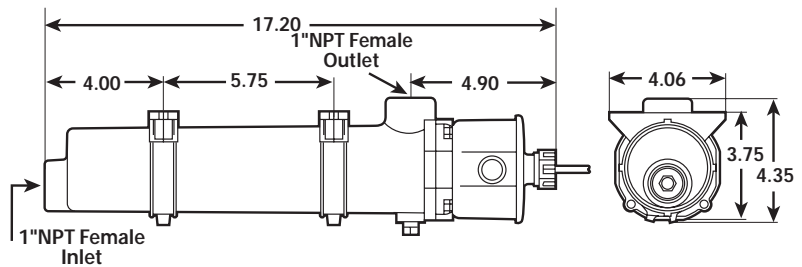
SB Model with power cord; no thermostat



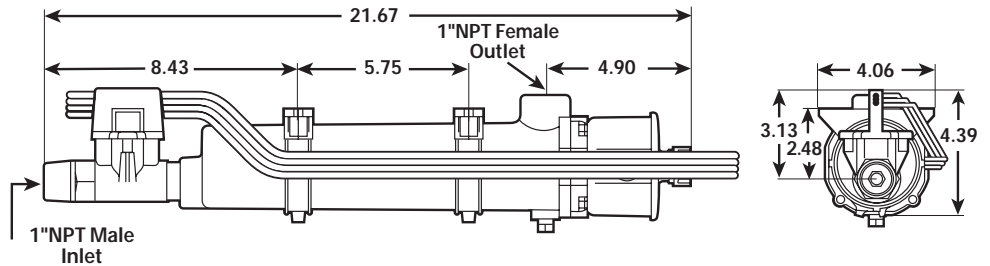
SB Model with thermostat and power cord

Ambient Above -20° F	Ambient Below -20° F	Model Number without Thermostat	Model Number with Thermostat	Thermostat Range		Volts	Watts	Amps
				On	Off			
350 — 500 Cubic Inch or Less	200 — 300 Cubic Inch or Less	SB115100-000	SB115108-000 SB115110-000 SB115112-000 SB115114-000	80°F	100°F	120	1500	12.5
				100°F	120°F	120	1500	12.5
				120°F	140°F	120	1500	12.5
				140°F	160°F	120	1500	12.5
500 — 600 Cubic Inch or Less	300 — 400 Cubic Inch or Less	SB120100-000	SB120108-000 SB120110-000 SB120112-000 SB120114-000	80°F	100°F	120	2000	16.7
				100°F	120°F	120	2000	16.7
				120°F	140°F	120	2000	16.7
				140°F	160°F	120	2000	16.7
600 — 800 Cubic Inch or Less	400 — 500 Cubic Inch or Less	SB122100-000	SB122108-000 SB122110-000 SB122112-000 SB122114-000	80°F	100°F	120	2250	18.8
				100°F	120°F	120	2250	18.8
				120°F	140°F	120	2250	18.8
				140°F	160°F	120	2250	18.8

SB Style Heater without thermostat



SB Style Heater with thermostat

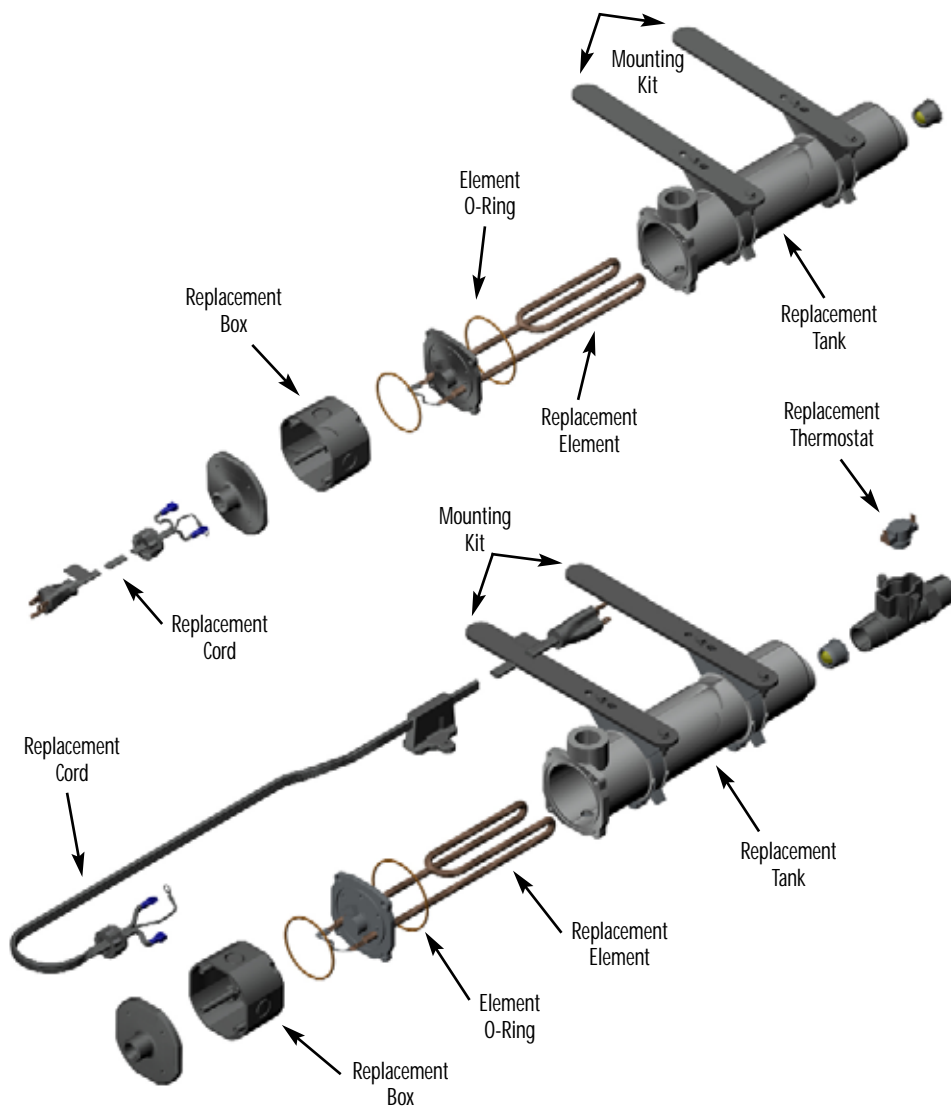


	Part Number	Description
INSTALLATION TIPS If you require a 1" NPT female thread on the thermostat intake, a coupler is available. Also, for the use of 3/4" or 1" ID heater hose, hose barb adapters are available.	HB-1	1" NPT to 1" hose barb adapter. Installs in 1" NPT female inlet or outlet of the heater.
	HB-3/4	1" NPT to 3/4" hose barb adapter. Installs in 1" NPT female inlet or outlet of the heater.
	HB-C	1" NPT x 1" NPT aluminum coupler. Installs on 1" NPT inlet to T-Stat and allows the addition of HB-1 or HB-3/4.
	HB-K3/4	Kit contains (2) HB-3/4 and (1) HB-C
	HB-K1	Kit contains (2) HB-1 and (1) HB-C

Replacement Parts

For tank-style heaters shown on page 16

Model Number	Volts	Watts	Thermostat Range		Replaceable Parts						
			On	Off	T-Stat	Element	Tank	Box	Power Cord	Element O-ring	Mount Kit
SB115100-000	120	1500	N/A	N/A	N/A	RESB1151	RTB	RTBSB	RTHC1-16	TMM-OR	FK2
SB115108-000	120	1500	80°F	100°F	RSU8	RESB1151	RTB	RTBSB	RHS1-16	TMM-OR	FK2
SB115110-000	120	1500	100°F	120°F	RSU10	RESB1151	RTB	RTBSB	RHS1-16	TMM-OR	FK2
SB115112-000	120	1500	120°F	140°F	RSU12	RESB1151	RTB	RTBSB	RHS1-16	TMM-OR	FK2
SB115114-000	120	1500	140°F	160°F	RSU14	RESB1151	RTB	RTBSB	RHS1-16	TMM-OR	FK2
SB120100-000	120	2000	N/A	N/A	N/A	RESB1201	RTB	RTBSB	RTHC1-14	TMM-OR	FK2
SB120108-000	120	2000	80°F	100°F	RSU8	RESB1201	RTB	RTBSB	RHS1-14	TMM-OR	FK2
SB120110-000	120	2000	100°F	120°F	RSU10	RESB1201	RTB	RTBSB	RHS1-14	TMM-OR	FK2
SB120112-000	120	2000	120°F	140°F	RSU12	RESB1201	RTB	RTBSB	RHS1-14	TMM-OR	FK2
SB120114-000	120	2000	140°F	160°F	RSU14	RESB1201	RTB	RTBSB	RHS1-14	TMM-OR	FK2
SB122100-000	120	2250	N/A	N/A	N/A	RESB1221	RTB	RTBSB	RTHC1-14	TMM-OR	FK2
SB122108-000	120	2250	80°F	100°F	RSU8	RESB1221	RTB	RTBSB	RHS1-14	TMM-OR	FK2
SB122110-000	120	2250	100°F	120°F	RSU10	RESB1221	RTB	RTBSB	RHS1-14	TMM-OR	FK2
SB122112-000	120	2250	120°F	140°F	RSU12	RESB1221	RTB	RTBSB	RHS1-14	TMM-OR	FK2
SB122114-000	120	2250	140°F	160°F	RSU14	RESB1221	RTB	RTBSB	RHS1-14	TMM-OR	FK2



Oil Heaters

Shielded Well-Type Tubular Style



SHIELDED WELL-TYPE OIL HEATERS

Oil Capacity	Watts	Thread Size	Probe Length	Oil Heater Only	Oil Heater With Thermostat	Thermostat Range	
				120 Volt	120 Volt	On	Off
2 Quarts to 6 Quarts	125	1/2" NPT	4"	OW212100-000	OW212106-000 OW212108-000 OW212110-000 OW212112-000	80°F 100°F 120°F 140°F	100°F 120°F 140°F 160°F
1 Gallon to 5 Gallons	150	3/4" NPT	5"	OW415100-000	OW415106-000 OW415108-000 OW415110-000 OW415112-000	80°F 100°F 120°F 140°F	100°F 120°F 140°F 160°F
	150	1" NPT	5 1/4"	OW615100-000	OW615106-000 OW615108-000 OW615110-000 OW615112-000	80°F 100°F 120°F 140°F	100°F 120°F 140°F 160°F
5 Gallons to 15 Gallons	300	3/4" NPT	5"	OW430100-000	OW430106-000 OW430108-000 OW430110-000 OW430112-000	80°F 100°F 120°F 140°F	100°F 120°F 140°F 160°F
	300	1" NPT	5 1/4"	OW630100-000	OW6301XX-000 OW6301XX-000 OW6301XX-000 OW6301XX-000	80°F 100°F 120°F 140°F	100°F 120°F 140°F 160°F
15 Gallons to 30 Gallons	500	1" NPT	5 1/4"	OW650100-000	OW650106-000 OW650108-000 OW650110-000 OW650112-000	80°F 100°F 120°F 140°F	100°F 120°F 140°F 160°F

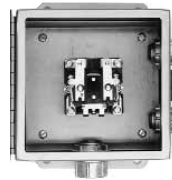
TUBULAR TYPE

Oil Capacity	Watts	Thread Size	Probe Length	Model Number
				120 Volt
1 Gallon to 5 Gallons	150	22mm 3/4" NPT 1" NPT	5 5/8" 5 3/8" 5 3/8"	OLT221515
				OLT41515
				OLT61515
5 Gallons to 15 Gallons	300	22mm 3/4" NPT 1" NPT	9" 8 5/8" 5 3/8"	OLT22315
				OLT4315
				OLT6315

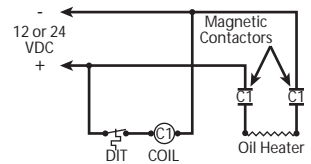
DC Oil Heaters

12 and 24 volt

12 VOLT/24 VOLT DC CONTROL BOXES		
25 Amps Maximum	12V	JBMC330DC-12V
	24V	JBMC330DC-24V



When used with a thermostat control, all DC oil heaters must use a DC relay



Oil Capacity	Volts	Watts	Kim Hotstart Model Numbers			Amps	Watts Per Square Inch
			1/2" N.P.T. With a 4" Probe Length	3/4" N.P.T. With a 4 7/8" Probe Length	1" N.P.T. With a 5 3/8" Probe Length		
2 Quarts or Less	12	75	OW207900-012	OW407900-012	—	6.3 3.1	1/2" are all 14.7 WSI 3/4" are all 7.3 WSI
	24	75	OW207900-024	OW407900-024	—		
2 to 6 Quarts	24	125	OW212900-024	—	—	5.2	24.6 WSI
1 to 5 Gallons	12	150	—	OW415900-012	OW615900-012	12.5 6.3	3/4" are all 14.6 WSI 1" are all 10.7 WSI
	24	150	—	OW415900-024	OW615900-024		
5 to 15 Gallons	12	300	—	—	OW630900-012	25.0 12.5	3/4" are all 29.3 WSI 1" are all 21.4 WSI
	24	300	—	OW430900-024	OW630900-024		
15 to 30 Gallons	24	500	—	—	OW650900-024	20.8	35.7 WSI

12 Volt and 24 Volt DC oil heaters can be powered directly from the battery, but it will drain the battery very rapidly unless charged by an alternator or generator.

NOTE: Heater amperage as shown in the table above will determine the life of the battery — (Amps x Hours = Amp hours).

Example: A 12.5 Amp heater will completely drain a 100 Amp-hour battery in 8 hours. $\frac{100 \text{ Amp} \times \text{hour}}{12.5 \text{ Amp}} = 8 \text{ Hours}$

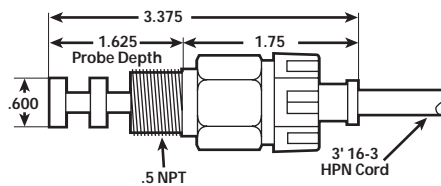
Heaters with Y-type harness and thermostat

Lube oil temperature controls hold lube oil at the desired temperature and protect the oil from overheating if the heater is energized while the engine is hot or running.

Kim Hotstart recommends using thermostats with all lube oil heaters to protect the oil from overheating.

Lube oil heaters must always be installed in the sump with the entire heater submerged below the oil level at all times. The sensing unit can be changed without draining the sump.

Weathertight Model Number	Temp. Range		Thread Size
	On	Off	
DIT68	60°F	80°F	1/2" N.P.T.
DIT810	80°F	100°F	1/2" N.P.T.
DIT1012	100°F	120°F	1/2" N.P.T.
DIT1214	120°F	140°F	1/2" N.P.T.



Temperature Controls



Weathertight

Weathertight models are furnished with a 3 ft. 16/3 HPN power cord.

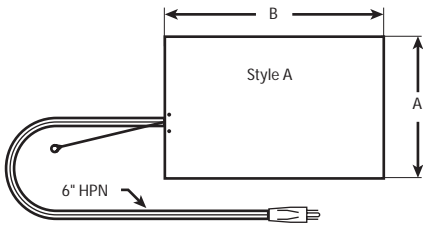


Battery Heating Pads

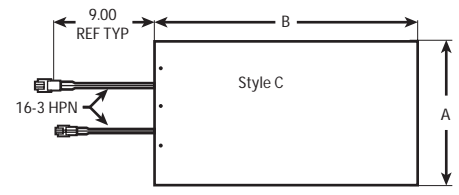
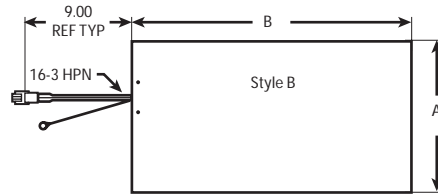
A fully charged battery has only 40% cranking power at 0° F when compared to 100% cranking power at 80° F.
 Battery heater not recommended for nickel cadmium batteries.

When batteries are placed in an insulated battery box, a thermostat is recommended to sense battery box temperature to prevent overheating the battery.

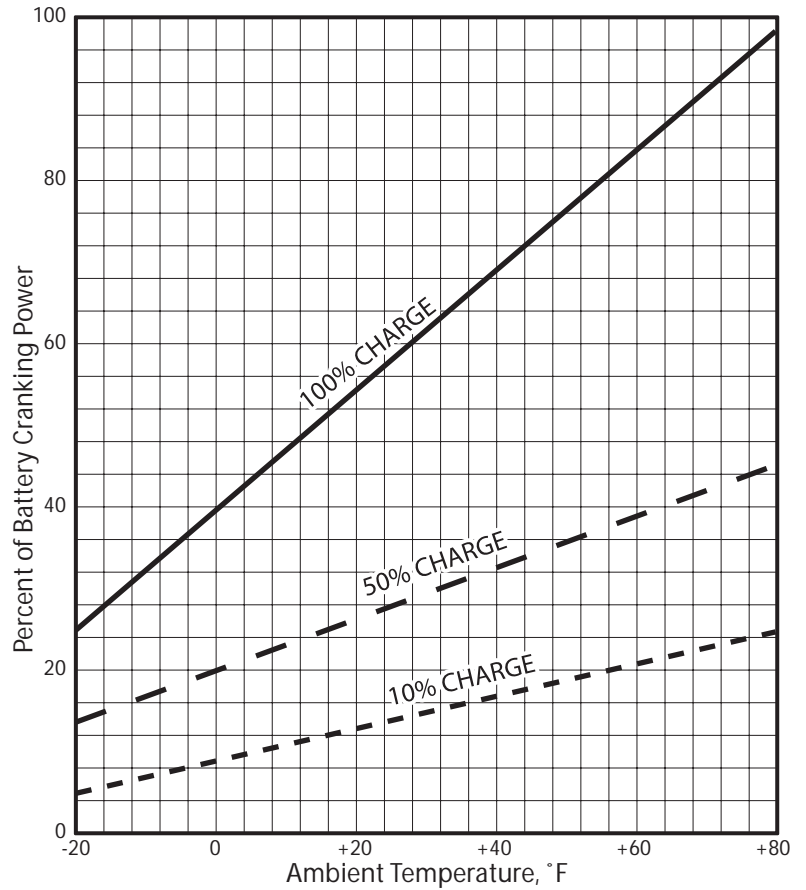
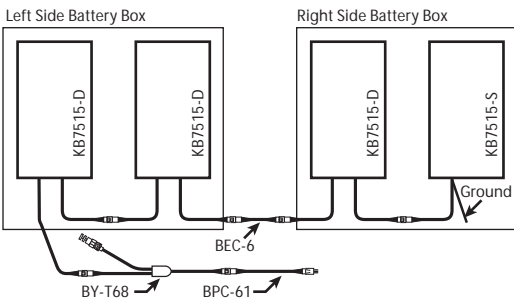
Standard Pad for Single Battery



Special Pads for Multiple Batteries

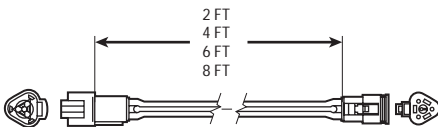


Typical Connection - 2 Batteries on Each Side of Vehicle

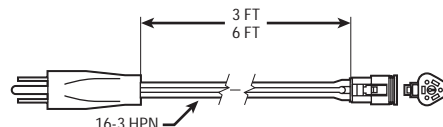


Model Number	Volts	Watts	Amps	Nominal Dimensions		Batt. Size	Style
				A	B		
KB5015	120	50	.42	8 1/4	13	4D	A
KB5015-S	120	50	.42	8 1/4	13	4D	B
KB5015-D	120	50	.42	8 1/4	13	4D	C
KB7515	120	75	.63	10 1/2	19 1/2	8D	A
KB7515-S	120	75	.63	10 1/2	19 1/2	8D	B
KB7515-D	120	75	.63	10 1/2	19 1/2	8D	C

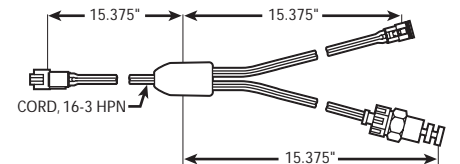
Accessories For Multiple Battery Heating



EXTENSION CORDS	
Model	Length
BEC-2	2'
BEC-4	4'
BEC-6	6'
BEC-8	8'



POWER SUPPLY CORDS		
Model	Length	Volts
BPC-31	3'	120
BPC-61	6'	120



THERMOSTAT & "Y" CORD ASSEMBLY		
Model	Temperature Control	
	On	Off
BY-T68	60°F	80°F

Prolong the life of your battery with Kim Hotstart thermal battery wraps with or without thermostat.

- Durable, fire-retardant vinyl cover that resists oils and acids.
- All standard battery pads and battery wraps come with 6' grounded cord and plug.
- Fast, easy installation.
- Boosts battery cranking power as much as 75%.

BATTERY THERMAL WRAP — NO THERMOSTAT			
Model Number	Volts	Watts	Length
KBW5015-000	120	50	28"
KBW8015-000	120	80	36"
KBW16015-000	120	160	72"

Thermostatically controlled battery thermal wraps provide optimum heating regardless of ambient temperature.

- At 80°F, the battery will achieve maximum cold cranking amps.
- Battery is constantly maintained at 80°F.
- Provides greater heat rise than plates or pads.
- Thermostat will eliminate battery damage caused by overheating and acid spill.

Thermostat range: 65°F - 80°F

BATTERY THERMAL WRAP — WITH THERMOSTAT			
Model Number	Volts	Watts	Length
KBW5015T-000	120	50	26"
KBW8015T-000	120	80	44"
KBW10015T-000	120	100	56"

Battery Thermal Wrap



Silicone Hot Pads



Not for use on batteries



Flexible, Versatile and Easy to Install.

Kim Hotstart adhesive Hot Pad Heaters are ideal for oil pans, hydraulic reservoirs, engine blocks, hydraulic cylinders and diesel fuel tanks.

- Available in 3 sizes
- Easy peel and stick application
- Etched foil heating element for optimal heat transfer and long life
- Durable silicone/fiberglass cover resists abrasion
- Assembled with a standard 6 ft. HPN cord and plug (120V only)

Model Number	Dimensions	Volts	Watts
AF10015	4" x 5"	120	100
AF15015	4" x 5"	120	150
AF25015	5" x 6"	120	250
AF40015	6" x 8"	120	400

Application Guideline	100 Watt	150 Watt	250 Watt	400 Watt
Engine oil pan	2 to 5 quarts	5 to 8 quarts	2 to 5 gallons	5 to 8 gallons
Diesel Tank	5 to 7 gallons	7 to 10 gallons	10 to 20 gallons	20 to 30 gallons
Hydraulic Tank	1 to 5 gallons	5 to 10 gallons	10 to 20 gallons	20 to 30 gallons
Water Tank	up to 2 gallons	2 to 4 gallons	4 to 7 gallons	7 to 10 gallons

CAUTION: Do not use pads with higher than recommended wattage for specific oil capacities.

Heater Installation

Instructions for:

In-block direct immersion heaters

Tank-type coolant heaters

Please refer to specific instructions that accompany heater.

THREADED PLUG TYPE HEATERS

- Drain the cooling system.
- Remove the recommended plug.
(See instructions with heater)
- Apply teflon tape to threads.
- Thread heater into engine. Be careful to keep element from touching walls.
- Align cord with pins on the heater and press the cord into the heater. Place clamp around cord & heater. Close tightly.
- Route the cord, keeping away from hot or moving surfaces. **DO NOT PLUG IN HEATER!**
- Re-fill the cooling system. Run engine until thermostat opens and continue running for another 20 minutes to eliminate air.
- Stop engine and let cool. Check for leaks. Check coolant level.
- Plug heater into power supply and test for proper operation. Block should feel warm near heater.

PLATE TYPE HEATERS

- Drain the cooling system.
- Remove the recommended plate.
(See instructions with heater)
- Clean the gasket area.
- Apply gasket sealant to plate and engine surfaces.
- Insert heater into engine, keeping element from touching walls. Tighten bolts.
- Align cord with pins on the heater and press the cord into the heater. Place clamp around cord & heater.
- Route the cord, keeping away from hot or moving surfaces. **DO NOT PLUG IN HEATER!**
- Re-fill the cooling system. Run engine until thermostat opens and continue running for another 20 minutes to eliminate air.
- Stop engine and let cool. Check for leaks. Check coolant level.
- Plug heater into power supply and test for proper operation. Block should feel warm near heater.

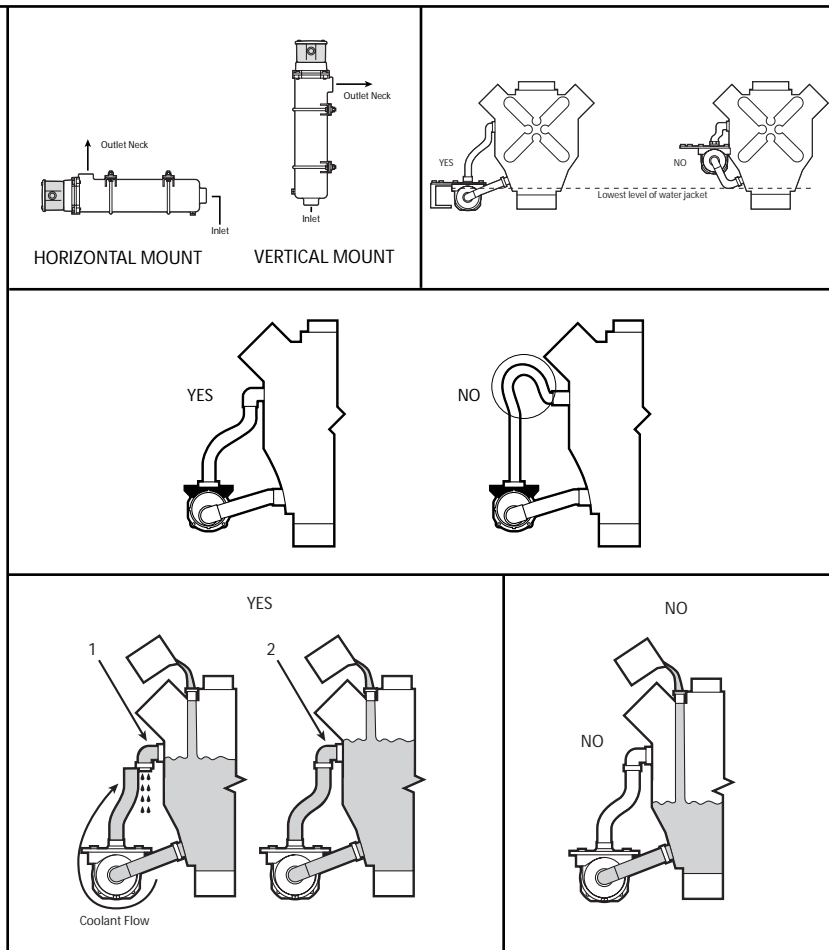
FREEZE (CORE) PLUG TYPE HEATERS

- Drain the cooling system.
- Remove the recommended plug.
(See instructions with heater)
- Clean, smooth and dry core plug opening.
- Apply a light coat of grease to the O ring and core plug opening.
- Insert heater into engine and position properly. Push the heater into the engine by hand, then tap with hammer handle until flange is even with engine block.
- Align cord with pins on the heater and press the cord into the heater. Place clamp around cord & heater.
- Route the cord, keeping away from hot or moving surfaces. **DO NOT PLUG IN HEATER!**
- Re-fill the cooling system. Run engine until thermostat opens and continue running for another 20 minutes to eliminate air.
- Stop engine and let cool. Check for leaks. Check coolant level.
- Plug heater into power supply and test for proper operation. Block should feel warm near heater.

TANK TYPE HEATERS

Please refer to specific instructions that accompany heater.

- Select a heater mounting location near the engine where the heater can be mounted horizontally and below the lowest point of the engine's water jacket. The heater can be installed vertically if necessary, but care must be taken to assure that the heater's internal heating elements are covered with coolant at all times.
- Mount the heater with the mounting straps provided. Position the heater with the outlet pointed up. If the heater is mounted vertically, mount the inlet at the bottom and below the lowest portion of the engine's water jacket.
- Connect the heater outlet to the highest accessible point in the engine's water jacket area, and at the furthest point from the engine's thermostat. Do not loop the hose higher than the port on the engine to avoid trapped air and air lock.
- Connect the heater's inlet to the lowest accessible point of the water jacket. If a connection point is not available, connect to the lower radiator hose. This hose should run down to the heater inlet.
- Refill the engine coolant. To eliminate trapped air in the heater circuit, fill the block with the heater outlet disconnected until the circuit is filled. Then connect the heater outlet and continue filling the engine block.
- Start the engine and run it until the thermostat opens, and then for an additional 20 minutes to get all air out of the system. Then shut down the engine and let it cool. Check for leaks and check coolant level.
- Route the power cord keeping it away from hot and moving surfaces.
- Plug the heater into a power source and test for proper operation. The engine block should feel warm to the touch in the area where the heater outlet hose joins the block.



ISO 9001: 2000



Customer Services



To better serve you, Kim Hotstart provides a customer service department to answer all your engine heating concerns, any questions regarding Kim Hotstart products or to take your sales order.

Customer Support Department:
(509) 536-8660

For even more convenience and time saving, Kim Hotstart offers a toll-free FAX number. Sending your sales order by FAX saves time!

Toll-free FAX line: (800) 224-5550

Warranty Information

The warranty below has been drafted to comply with the Federal Law applicable to products manufactured after December 31, 1976. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

Kim Hotstart products are warranted against defects in workmanship and materials. No other express warranty, written or oral, applies. No person is authorized to give any other warranty or assume any liability except by written statement from an officer of Kim Hotstart Manufacturing Company, Inc.

The warranty extends for twelve months from date of shipment from factory or authorized distributor.

Products must be installed and maintained in accordance with Kim Hotstart Manufacturing Company, Inc. instructions. Users are responsible for the suitability of the products to their application. There is no warranty against damage resulting from corrosion, misapplication, improper specification or other operating conditions beyond our control. Claims against carriers for damage in transit must be filed by the buyer.

Absolutely no material can be returned to Kim Hotstart Manufacturing Company, Inc. without prior factory authorization.

Upon factory authorization, return the defective part or product, freight prepaid, to: Kim Hotstart Manufacturing Company, Inc., 5723 E. Alki, Spokane, WA 99212. Telephone (509) 534-6171; FAX (509) 534-4216.

Defective items will be repaired or replaced, at our option, at no charge. Such repair or replacements is the exclusive right of Kim Hotstart Manufacturing Company, Inc. Kim Hotstart Manufacturing Company, Inc. is not liable for labor costs incurred in removal, reinstallation, or unauthorized repair of the product or for damage of any type whatsoever including incidental or consequential damage. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the preceding limitation or exclusion may not apply to you.

KIM HOTSTART MANUFACTURING COMPANY, INC.



P.O. Box 11245
Spokane, Washington U.S.A 99211-0245

Phone: (509) 534-6171
Fax: (509) 534-4216
Toll Free Fax: (800) 224-5550
www.kimhotstart.com

Distributor

03-06