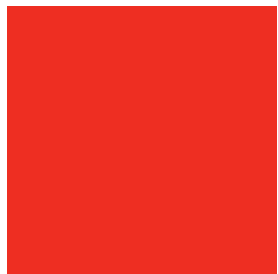


# Fleetguard®



## Engine Heating and Cold Starting Aids

LT36817

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## Introduction

Cold temperatures place extraordinary demands on vehicle lubrication, electrical and fuel systems. Heating an engine overnight or prior to driving can provide quicker starts and protect your engine from damage that can occur during cold weather starts. Cummins Filtration offers electric heaters for engines, batteries, and oil/transmission fluids. Electric heaters connect to AC power via standard NEMA 5-15P power cords.

When air temperatures are less than 20°F, starting a cold engine can produce 50-100 times more greenhouse gas emissions in the first minute than starting a pre-warmed engine does. Warmed engines also deliver better fuel economy and better lubrication to the engine during start-up which reduces wear and increases engine life.

## Types of Engine Heaters

### Plate-Style

- Designed for specific engines and replace inspection covers or similar
- Use existing fasteners from engine
- Comes with a non-thermostatic 6 foot cord. For thermostat control, use a Y-cord

### Thread-In Style

- Available for specific engines and universal applications
- Thread into existing ports on the engine block, oil coolers, or oil sump
- Available for heating coolant or oil
- Comes with a non-thermostatic 6 foot cord. For thermostat control, use a Y-cord

### Freeze Plug Style

- Designed for specific engines and replaces existing freeze plugs
- Also referred to as frost plug heaters, or simply block heaters
- Requires mechanical ability to install
- Comes with a non-thermostatic 6 foot cord. For thermostat control, use a Y-cord

### Y-Cord with Thermostat

- Add the thermostat control to a plate, thread-in, or freeze plug style engine heater
- The Y-cord plugs into your engine heater on one end and into the included oil thermostat on the other end

### External Tank Heaters

- Tank with the thermostatically controlled heater is mounted external to the engine
- Heater installation requires draining and cleaning of the cooling system
- Kit includes mounting hardware

### Ether Injection Systems

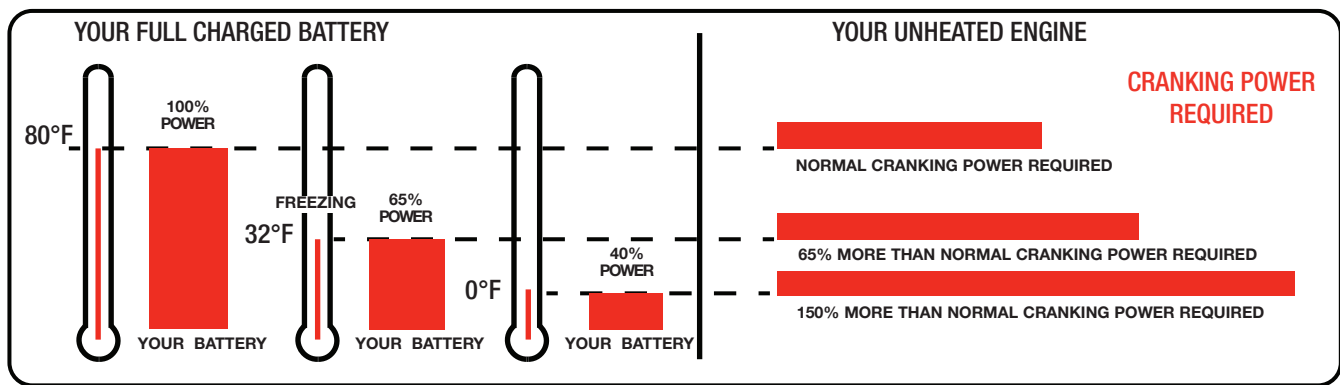
- Ether start systems burn pollution free and are environmentally helpful by reducing emissions
- Are available for a variety of application types and equipment sizes
- The system is activated via push button by operator
- Includes a thermostat that will only operate the system when the ambient temperature is 50°F or below

# Introduction

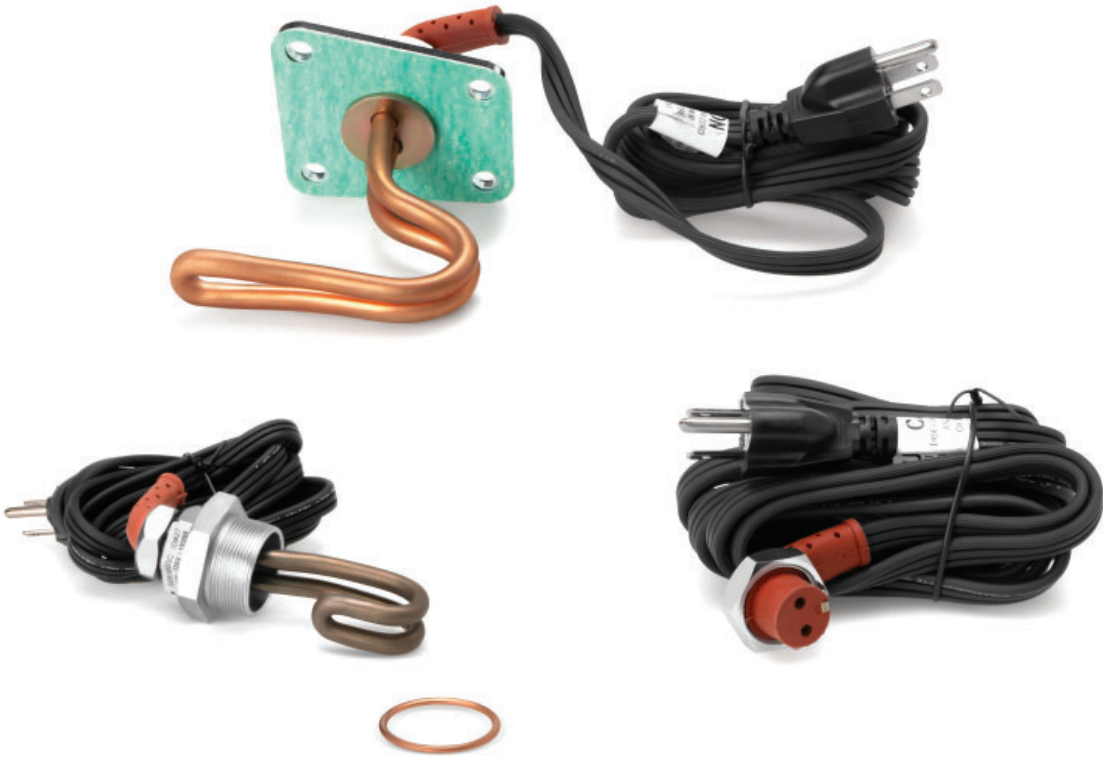
## Battery Heater

- Extends life of battery by reducing strain of cold weather starts
- Simply wraps around battery to heat and insulate
- Heater cover is oil and acid resistant

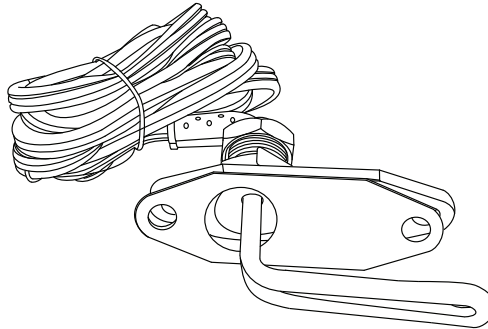
**⚠ CAUTION: DO NOT OPERATE BATTERY HEATER WHEN THE OUTSIDE TEMPERATURE IS ABOVE FREEZING**



# Engine Heaters



## Plate-Style



**SP1165 Heater**

## Ordering Information

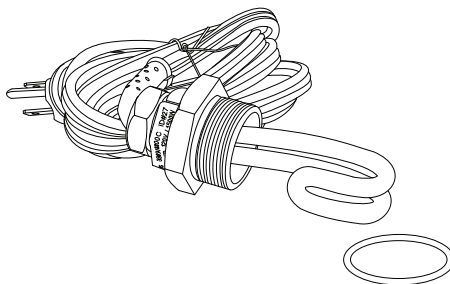
Part Number	Fluid Compatibility	Heater Interface	Voltage (VAC)	Power (Watts)	Cord Included	Location	Application
3310858	Coolant	Bolt on	120	1500	Yes	Inspection plate on right side of engine	Cummins 855 w/o full flow cooling, N14, Big Cam III and IV
3310859			240*				
259204	Coolant	Bolt on	120	1500	Yes	Inspection plate on front of left bank	Cummins V6-140, 155; VT225, V555, VT555; V8-170, 185, 210, 470
3309738	Coolant	Bolt on	120	1500	Yes	Rear header or inspection plate on right rear	Cummins 855 with full flow cooling
3317283	Coolant	Bolt on	120	1500	Yes	Inspection plate on rear; includes 1/2" NPT hose connection	Big Cam IV
3310063	Coolant	Bolt on	120	1500	Yes	Rear header or inspection plate on right rear	855 with full flow cooling
3832163	Coolant	Bolt on	120	1500	Yes	Inspection plate on right side of engine	Cummins 855 with full flow cooling reverse plate on New Big Cam IV
SP1165	Coolant	Bolt on	120	1500	Yes	Inspection plate on front right side of engine	Cummins ISX, QSK, Signature 600
3305647	Coolant	Bolt on	120	1500	Yes	Water jacket plate on left front cylinder bank	Detroit Diesel 6V-92, 8V-92

Do not use on engines with more than 60% glycol coolant

Do not operate the heater unless it is completely submerged in fluid

\*240V heaters are not compatible with ~240V 50Hz electrical connectors common in countries outside of US; appropriate adapter required

## Thread-In Style



## Ordering Information

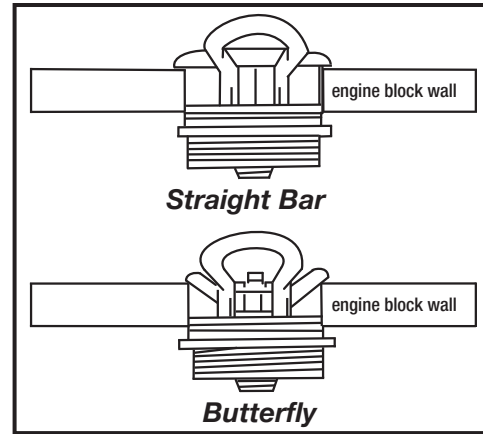
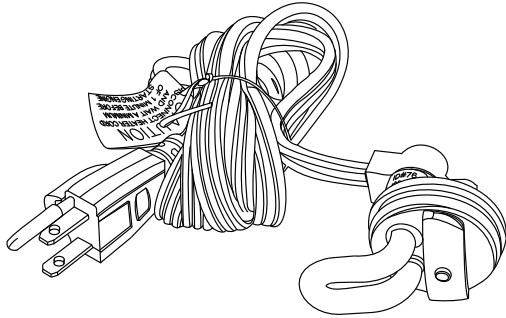
Part Number	Fluid Compatibility	Heater Interface	Heater Element Length	Voltage (VAC)	Power (Watts)	Cord Included	Location	Application
3309188	Coolant	38 mm x 1.5	3"	120	1500	Yes	Rear of engine	Cummins L10, ISM, QSM11, M11
3309189				240*				
3834513	Coolant	1 3/4"-18	5"	120	1500	Yes	Front of oil cooler cover	Cummins K Series
3834514				240*				
3313270	Coolant	3/4" NPT	1-1/2"	120	400	Yes	Various	Universal
3928341	Coolant	3/4" NPT	3 3/8"	120	750	Yes	Rear of oil cooler	Cummins ISB/QSB, Paccar PX-6
3306006	Coolant	3/4" NPT	3 1/4"	120	1000	Yes	Front of oil cooler	Detroit 8.2 L Cummins ISC/ISL
3307672	Coolant	3/4" NPT	5"	120	1500	Yes	Right rear of engine	Cat 3117
3833069	Coolant	1 1/2" NPT	5"	120	1500	Yes	Rear of engine	Cummins 855 and Big Cam IV
3841702	Coolant	1" NPT	5"	120	1500	Yes	Front of engine	Detroit 60 Series
3841703	Coolant			240*				

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## Freeze Plug Style



**Heater Interface Types**

## Ordering Information

Part Number	Fluid Compatibility	Heater Interface	Freezer Plug Diameter	Voltage (VAC)	Power (Watts)	Cord Included	Location	Application
3926764	Coolant	Butterfly	40 mm	120	400	Yes	Left rear of engine	Cummins / Komatsu B3.3L
3313272	Coolant	Straight Bar	2 1/4"	120	750	Yes	Right side of engine	Cummins B series
3826255	Coolant	Straight Bar	2 1/4"	240*	750	Yes	Right side of engine	Cummins B Series
3825411	Coolant	Straight Bar	2 1/4"	120	1000	Yes	Right side of engine	Cummins C Series
3825760	Coolant	Straight Bar	2 1/4"	240*	1000	Yes	Right side of engine	Cummins C Series
3841701	Coolant	Butterfly	1 3/4"	120	1000	Yes	Center right side of engine	CAT 3114, 3116, 3126, C7
3303104	Coolant	Threaded	1 3/4"	120	100	Yes	Left side of engine	MACK E6, EM6

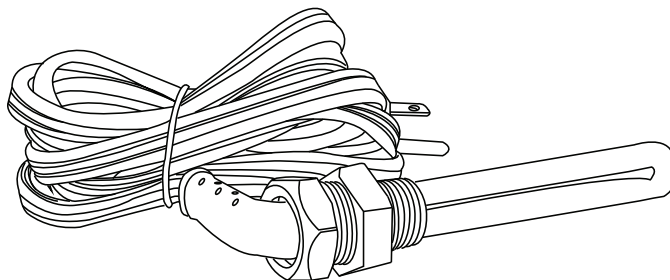
Do not use on engines with more than 60% glycol coolant

Do not operate the heater unless it is completely submerged in fluid

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Oil Sump



Ordering Information

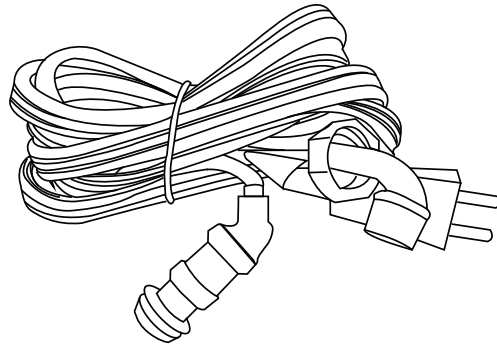
Part Number	Fluid Compatibility	Heater Interface	Heater Element Length	Voltage (VAC)	Power (Watts)	Cord Included	Location	Application
3825414C	Oil / Water	1/2" NPT	3 3/4"	120	150	Yes	Oil Pan	Universal
3825417C	Oil / Water	1/2" NPT	3 3/4"	120	300	Yes	Oil Pan	Universal
3825423	Oil / Water	1/2" NPT	3 3/4"	240*	300	Yes	Oil Pan	Universal
3825422	Oil / Water	1/2" NPT	3 3/4"	120	450	Yes	Oil Pan	Universal
3825418C	Oil / Water	1" NPT	3 3/4"	120	300	Yes	Oil Pan	Universal
3825419C	Oil / Water	M22	3 3/4"	120	300	Yes	Oil Pan	Universal
3825416	Oil / Water	M22	3 3/4"	120	150	Yes	Oil Pan	Universal
3825421	Oil / Water	M22	3 3/4"	240*	300	Yes	Oil Pan	Universal

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Do not operate the heater unless it is completely submerged in fluid

\*240V heaters are not compatible with ~240V 50Hz electrical connectors common in countries outside of US; appropriate adapter required

## Y-Cord



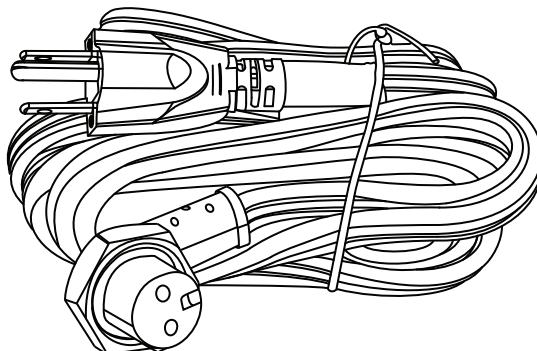
- Y-cord plugs into an engine heater on one end and into the included oil thermostat on the other. A 1/2" NPT bushing can be welded into the oil pan to provide the 1/2" threaded hole necessary to install the thermostat.

## Ordering Information

Part Number	Cord length to each end	Thermostat Setting	Voltage (VAC)	Thermostat Thread	Weld in Bushing Included	Application
3825424	6 feet	100°-120° F	120	1/2" NPT	Yes	Engine and Oil Pan Heaters
3832164	6 feet	55°-75° F	120	1/2" NPT	Yes	Engine and Oil Pan Heaters
3832165	6 feet	55°-75° F	240*	1/2" NPT	Yes	Engine and Oil Pan Heaters
3980620	6 feet	100°-120° F	240*	1/2" NPT	Yes	Engine and Oil Pan Heaters

\*240V heaters are not compatible with ~240V 50Hz electrical connectors common in countries outside of US; appropriate adapter required

## Replacement Heater Cords

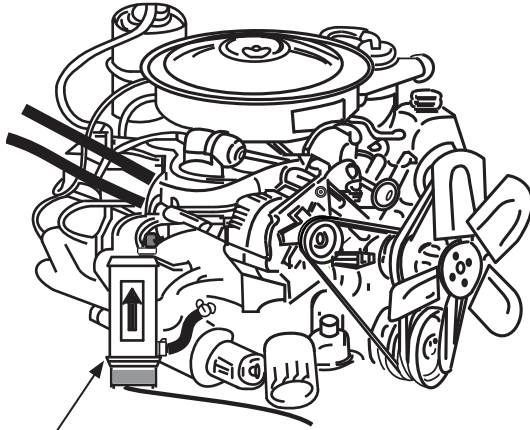


- All heaters come with 6 foot long cord but the following replacements are available
- If using extension cord to connect the heater to a power source ensure proper size is used
- All heater cords come with a NEMA 5-15 male electrical connector

### Ordering Information

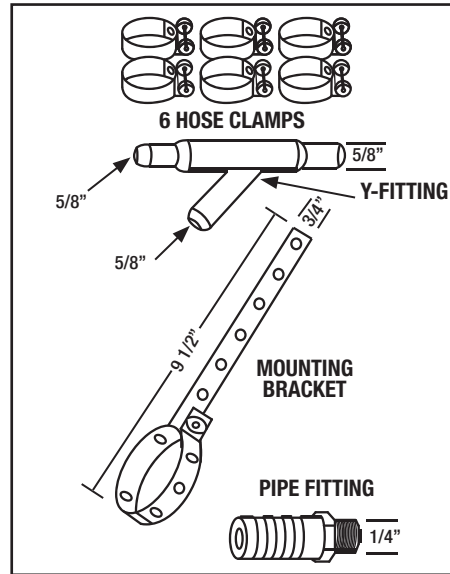
Part Number	Cord Length	Heater Interface	Voltage (VAC)	Application
251919	6 Foot	Thread	120	Engine and Oil Pan Heaters
3310478C	10 Foot	Thread	120	Engine and Oil Pan Heaters

## External Coolant Tank Heater



External Heater

INLET CONNECTION MADE FROM RADIATOR OR BLOCK DRAIN USING HOSE CONNECTOR OUTLET CONNECTION MADE TO TOP CAB HEATER HOSE AT WATER PUMP USING "Y" CONNECTOR



Kit Accessories

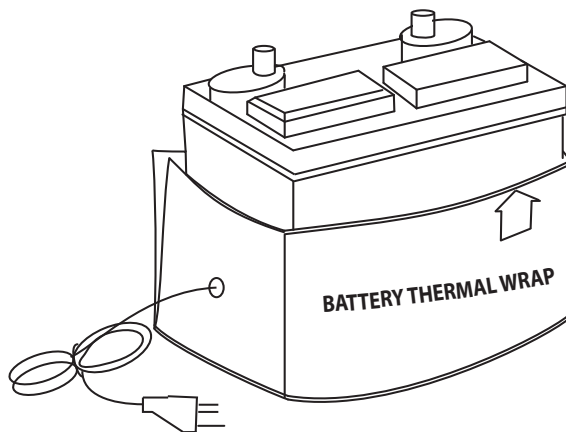
## Ordering Information

Part Number	Mounting Bracket Included	Y Fitting Included	Thermostat Setting	Voltage (VAC)	Power (Watts)	Current Draw (Amps)	Cooling System Capacity (Quarts)
3307059	Yes	Yes	135°-175° F	120	1000	8.3	15 - 25
3825403	Yes	Yes	135°-175° F	240*	1000	4.2	15 - 25
3307046	Yes	Yes	135°-175° F	120	1500	12.5	26 - 40
3307060	Yes	Yes	135°-175° F	120	2000	16.6	41 - 60

Do not use on engines with more than 60% glycol coolant

\*240V heaters are not compatible with ~240V 50Hz electrical connectors common in countries outside of US; appropriate adapter required

## Battery Thermal Wrap



## Ordering Information

Part Number	Length	Voltage (VAC)	Power (Watts)	Cord Included	Application	Material
3313276	72 in	120	160	Yes	Truck Batteries	Oil and acid resistant vinyl cover

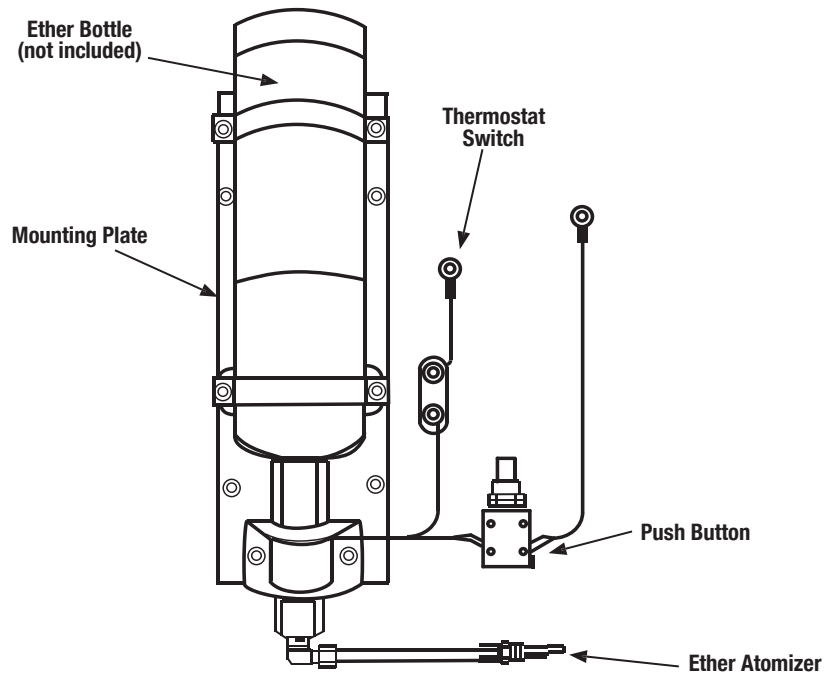
Battery wrap does not contain a thermostat. Do not use when ambient temperature is above 32°F



# Ether Injection



## Ether Injection Kit



## Ordering Information

Part Number	Voltage (VDC)	Engine Size (CID)	Injection Type	Ether Bottle Included	Mounting Plate and Clamp Assembly	Thermostat Switch	Nylon Tubing (1/8 inch OD) Length	Electrical Wiring Length	Atomizer Thread
3316413	12	250-450	Push Button	No	Included	50° F	4 Feet	12 Feet	1/8" NPT
3830395	24	250-450	Push Button	No	Included	50° F	4 Feet	12 Feet	1/8" NPT
359371	12	500+	Push Button	No	Included	50° F	4 Feet	12 Feet	1/8" NPT
3313273	12	500+	Push Button	No	Not Included	50° F	4 Feet	12 Feet	1/8" NPT

All kits include straight one side type atomizer as shown on page 17

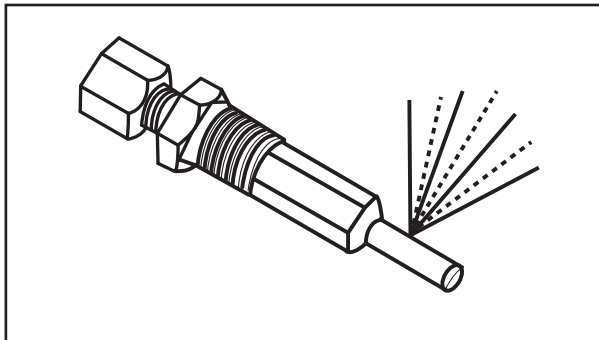


## Ether Fluid

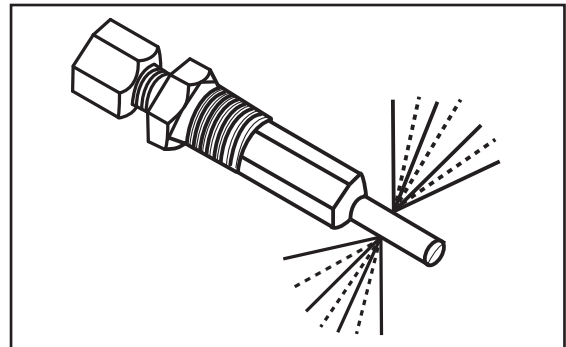
Part Number	Cylinder Volume	Cylinder Interface	Cylinder Pressure	Cylinder Dimensions (Length x Diameter)	Location
3302657	18 oz	1-20 UNEF-2A thread	148 PSI	10.5" x 3"	US

## Service Parts

Part Number	Part Type	Interface	Intended Use	Length	Atomizer Type
259377	Thermostat Switch	1/2" NPT	100 F Switch	2 inch	--
3826373	Thermostat Switch	1/2" NPT	45 F Switch	2 inch	--
3316410	Atomizer	1/8" NPT	500 CID and above engines	1 inch	Straight Dual Side
259350	Atomizer	1/8" NPT	500 CID and above engines	1 inch	Straight One Side
3923925S	Nylon Tubing	1/8" OD	Ether Injection Tube	500 feet	--
259369	Nylon Tubing	1/8" OD	Ether Injection Tube	5 feet	--
3302700	Elbow Fitting	1/8" OD tube to 1/8" NPT	Ether Injection Tube Fitting	--	--



*Straight One Side Atomizer*



*Straight Dual Side Atomizer*

