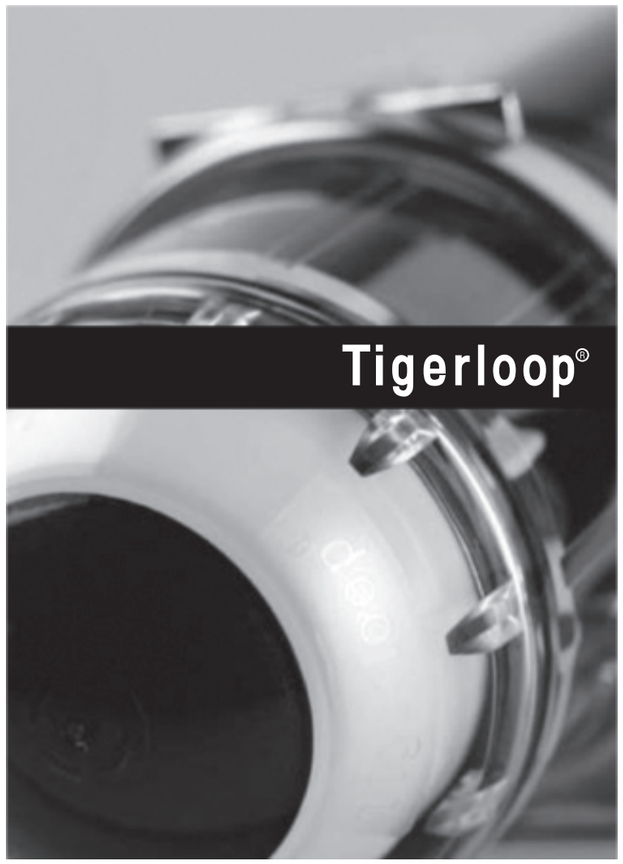
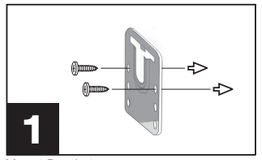
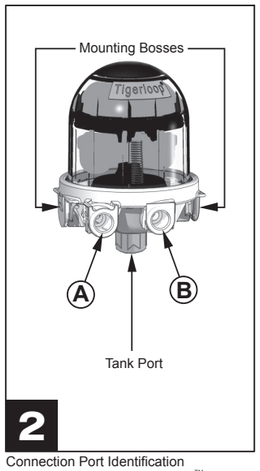
SPX®

Where Ideas Meet Industry

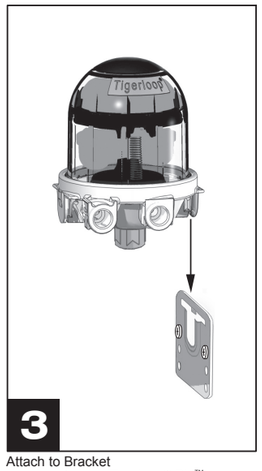




Mount Bracket
Tigerloop® TN & Tigerloop® Bio™



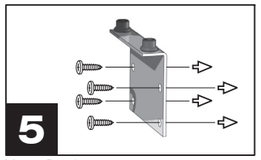
Connection Port Identification
Tigerloop® TN & Tigerloop® Bio™



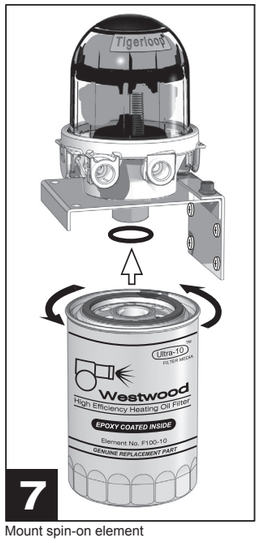
Attach to Bracket
Tigerloop® TN & Tigerloop® Bio™

For illustration clarity, fittings are not shown installed in the Tigerloop®

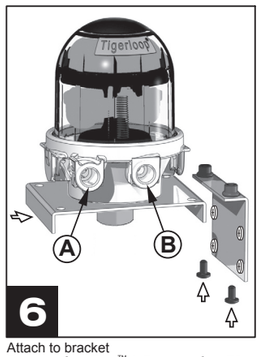
For illustration clarity, fittings are not shown installed in the Tigerloop®



Mount Bracket
Tigerloop® ULTRA™ & Tigerloop® ULTRA-***B***™

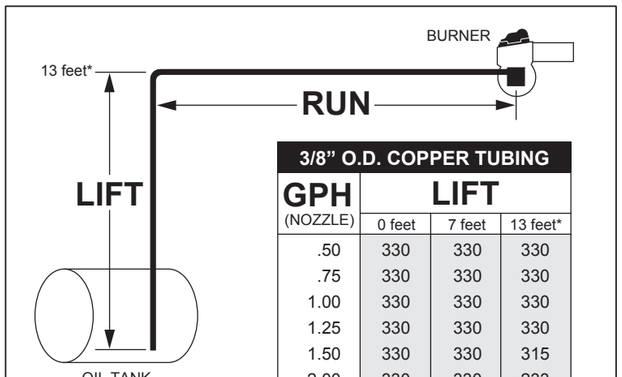


Mount spin-on element



Attach to bracket
Tigerloop® ULTRA™ & Tigerloop® ULTRA-***B***™

Spin-on element removal



3/8" O.D. COPPER TUBING

GPH (NOZZLE)	LIFT 0 feet	7 feet	13 feet*
.50	330	330	330
.75	330	330	330
1.00	330	330	330
1.25	330	330	330
1.50	330	330	315
2.00	330	330	233
3.00	330	330	151
4.00	330	330	108

Numbers in shaded area are maximum **RUN** in feet

1/2" O.D. COPPER TUBING

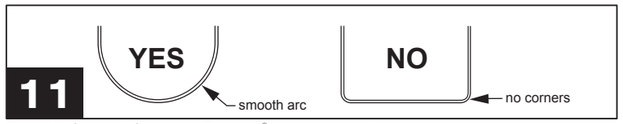
GPH (NOZZLE)	LIFT 0 feet	7 feet	13 feet*
5.00	330	330	330
10.00	330	330	161
15.00	330	330	105
20.00	330	246	76

Note: For each nozzle size, using a larger tubing size than shown in these charts may cause priming and air purging problems leading to nuisance lockouts.

10

* maximum allowable lift

Allowable LIFT and RUN by nozzle size



Tubing (or flex lines) feeding the Tigerloop® must be a smooth arc as shown

Tigerloop® OIL DE-AERATORS

SPECIFICATIONS

MAX. NOZZLE CAPACITY. . . . . 20 GPH
MAX. RETURN OIL FLOW*. . . . . 30 GPH
TEMPERATURE RANGE . . . . . 20° - 105° F
MAX. INLET PRESSURE . . . . . 8 PSI
FUEL (TN, ULTRA™) . . . . . No. 1 & 2 HEATING OIL, B5 BioHeat®
FUEL (Bio™, ULTRA-***B***™) . . . No. 1 & 2 HEATING OIL, B100 BioHeat®
Not for use with E-diesel or any fuel containing Ethanol (alcohol)
CONNECTIONS . . . . . 1/4" - NPT(F)

** Return oil flow from the oil burner pump to the Tigerloop® varies with pump model and RPM. To ensure that the maximum return flow to the Tigerloop® does not exceed 30 GPH, consult the oil burner pump manufacturer for return flow specifications.*

WARNING: INSTALLATION MUST BE PERFORMED BY A QUALIFIED TECHNICIAN FAMILIAR WITH OIL HEATING SYSTEMS, EQUIPPED WITH THE PROPER TOOLS AND EQUIPMENT, FAMILIAR WITH ALL GOVERNING CODES AND ORDINANCES, AND LICENSED BY THE PROPER AUTHORITY WHERE APPLICABLE. INSTALLATION BY AN UNQUALIFIED PERSON CAN RESULT IN HAZARDS TO THAT PERSON AND OTHERS. THESE HAZARDS MAY INCLUDE SPILLAGE OF FUEL OIL, FIRE, SEVERE BURNS, DAMAGE TO SYSTEM COMPONENTS, AND OTHER HAZARDS.

Use the appropriate installation instructions found on the other side of this sheet for the specific Tigerloop® model to be installed.

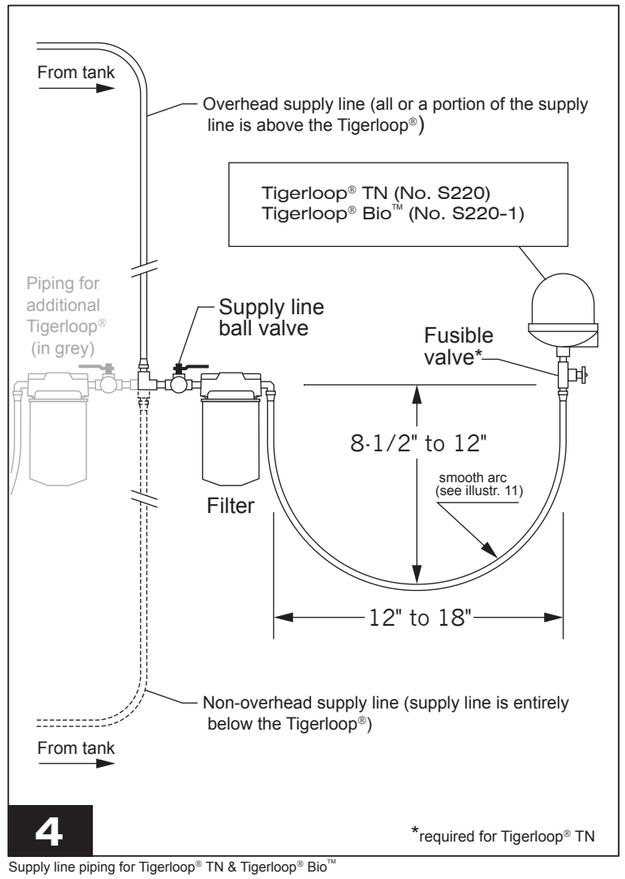
Tigerholm
AN SPX BRAND

Westwood

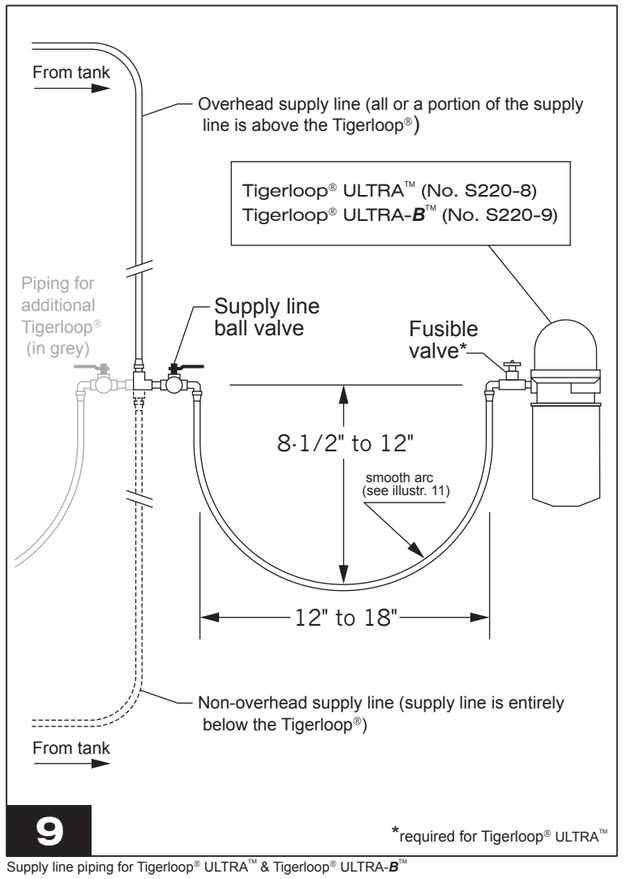
Westwood Products Inc. South River, NJ 08882

Tigerloop® Installation Check List
(complete after installation)

- ☐ For TN or ULTRA™: Heating oil is No. 1, No. 2, or BioHeat® to B5.
- ☐ For Bio™ or ULTRA-***B***™: Heating oil is No. 1, No. 2, or BioHeat® to B100.
- ☐ One Tigerloop® for each burner.
- ☐ Installed in an upright position in an area between 20° to 105° F.
- ☐ Inlet pressure not above 8 PSI.
- ☐ For TN or Bio™: Oil filter in the oil supply line before the Tigerloop®.
- ☐ Fusible valve installed in the "Tank Port" of Tigerloop® TN or ULTRA™.
- ☐ No valves, filters, etc., installed in piping between the Tigerloop® and the oil burner pump. (fusible valve permitted if required by code)
- ☐ Pump set for two-pipe operation. (by-pass plug installed if needed)



Supply line piping for Tigerloop® TN & Tigerloop® Bio™



Supply line piping for Tigerloop® ULTRA™ & Tigerloop® ULTRA-***B***™

SYSTEM START-UP

Important:
- * Do not use this procedure until directed to do so by the installation instructions.
- * Do not operate the system until ready to use this procedure.
- * Failure to adhere to the following procedure may cause priming and system air problems leading to nuisance lock-outs

System Bleeding (air purging and priming)

1. Read and understand all steps before starting, and have a sufficiently large enough oil resistant container ready to catch any fuel expelled from the pump during system bleeding.
2. Since system bleeding often requires burner operation past the primary control's safety lock-out time, follow the primary control manufacturer's instructions for keeping the burner operating long enough to complete the bleeding procedure.
3. Open all oil line shut-off valves (including the supply line ball valve shown in illustrations 4 and 9) and restore power.
4. Start the burner and open the pump bleeder.
5. When air free oil has been flowing from the bleeder for at least one minute, close the supply line ball valve.
6. When little or no oil flows from the bleeder, open the supply line ball valve.
7. When air free oil again flows from the bleeder for at least 1 minute, close the pump bleeder. Oil should circulate in the Tigerloop® and the burner should fire.
8. During system operation, inspect to insure that there are no leaks and that the system is working properly.
9. **For Tigerloop® TN and Tigerloop® ULTRA™ only:** The visible oil level in the **lower** chamber may vary with changing conditions on the job. For example, the air pocket may slowly disappear until the lower chamber is completely filled with oil. This is not a problem, the Tigerloop® is functioning properly. As conditions change, an air pocket may again appear. There should, however, be no oil in the **upper** chamber. A small amount of oil there generally indicates foaming caused by a large suction line air leak that needs to be fixed. If, however, enough oil accumulates in the upper chamber to lift the upper chamber float, the Tigerloop® is damaged and must be replaced.
10. If an additional Tigerloop® is installed on the job, as shown in illustrations 4 and 9, bleed each burner separately while the other burner is off and the other burner's supply line ball valve is closed.
11. Clean up the work area and properly dispose of all liquid fuel oil and used absorbent materials and refuse in accordance with applicable regulations.

Tigerloop® TN

No. S220 OIL DE-AERATOR

DESCRIPTION: The Tigerloop® TN makes it possible to use a one-pipe oil supply system on all standard oil heating installations using either No. 1 or 2 heating oil, or BioHeat® blends up to B5. It safely handles minor air leaks and long piping runs, while eliminating the return line with its potential for environmental problems.

INSTALLATION: The Tigerloop® TN should be installed indoors and close to the burner in a dry area with a temperature range of between 20° F and 105° F. In planning the installation, refer to illustration 10 for supply line sizes and maximum lift and run specifications. Overhead supply lines (the lines from the tank) should be avoided whenever possible as they cause increased air purging problems. Refer to illustration 4 for recommended piping. Since the Tigerloop® TN must be securely mounted vertically (see illustrations), the use of the supplied mounting bracket, securely attached to a suitably strong surface, is required. Never use the Tigerloop® TN as a structural member to support long, heavy runs of piping. If the tank is located above the Tigerloop® TN, an oil safety valve (ie. Westwood Products No. S225) is strongly recommended. If the inlet pressure will exceed 8 PSI, an oil safety valve ***must be installed***. On installations with more than one oil burner, ***each oil burner must have its own*** **Tigerloop® TN**, which may be teed into a common supply line from the tank.
The following procedure must be used to insure proper operation and to avoid fuel releases that can harm the environment and service personnel.
1. Eye protection and heating oil resistant gloves must be worn.
2. Inspect the entire fuel system to insure that all components are in good condition and that the system conforms to all applicable codes and ordinances. Correct any problems before proceeding with the installation.
3. Turn off all power to the heating system and close all oil line valves. Use a voltmeter to verify that the power is off.
4. Place an oil resistant container under the place where the Tigerloop® TN is to be installed and oil absorbent material in the work area to catch any fuel releases.
5. Securely attach the mounting bracket to a suitably strong surface such that the Tigerloop® TN will be oriented vertically and plumb (see illustration 1).
6. The Tigerloop® TN has three 1/4"-NPT ports that are marked with arrows to show oil flow direction. Ports "A" and "B" (see illustration 2) connect to the oil burner pump and are located on one side. The "Tank Port", which connects to the oil line from the tank, is located on the bottom (see illustration 2). All fittings should be installed in the Tigerloop® TN before attaching it to the mounting bracket. A good quality, non-hardening pipe compound must be used on all pipe threads (do not use Teflon tape). If connection is to copper tubing, flare fittings must be used for all tubing connections (do not use compression fittings). Since the Tigerloop® TN is UL Listed, the fusible valve that comes packed with it ***must be installed*** in the "Tank Port".
7. To accomodate the layout of the installation, the Tigerloop® TN may be mounted with ports "A" and "B" facing either left or right, depending upon which mounting boss is used to attach it to the mounting bracket. Carefully insert the mounting boss into the top of the slot in the mounting bracket and continue to push the Tigerloop® TN down until it snaps into place (see illustration 3).
8. Set the oil burner pump for *two-pipe* operation (install a by-pass plug if necessary) and connect port "A" to the return port of the oil burner pump. Connect port "B" to the inlet port of the oil burner pump. *Note: Do not install any filters, valves, or other devices that can impede oil flow in the lines between the* Tigerloop® TN *and the oil burner pump! (A fusible valve in the inlet port of the pump is permitted if required by code.)*
9. Install an oil filter in the supply line from the tank. Connect the outlet of the oil filter to the fusible valve in the "Tank Port". *Note: All filters must be upstream of the* Tigerloop® TN *and cannot be in the lines between the* Tigerloop® TN *and the oil burner pump!*
10. Complete the Tigerloop® Installation Check List, shown elsewhere on this sheet, to insure compliance with installation requirements.
11. Proceed to **"SYSTEM START-UP"** section, shown elsewhere on this sheet, for initial start-up and air bleeding procedure. *Note: Failure to follow the procedure in that section may cause priming and system air problems leading to nuisance lock-outs and damage to the* Tigerloop® TN*!*

SERVICE: The Tigerloop® TN has no serviceable parts inside. It is sealed at the factory and cannot be opened without destroying it. Clean the outside with a dry cloth only. *Do not use cleaning chemicals or any liquids containing alcohol!* Periodically check that there is no oil in the **upper** chamber of the Tigerloop® TN. If oil is found in the upper chamber, see #9 under **"SYSTEM START-UP"**. Since the Tigerloop® TN is exposed to modern fuels and fuel blends that may contain additives and contaminants, a reliable service life of 8 years is considered maximum. Use of the Tigerloop® TN beyond that time exposes the system to risk of component failure leading to fuel leakage, fire hazard, and environmental damage.

Tigerloop® Bio™

No. S220-1 OIL DE-AERATOR

DESCRIPTION: The Tigerloop® Bio™ makes it possible to use a one-pipe oil supply system on all standard oil heating installations using either No. 1 or 2 heating oil, or BioHeat® blends up to B100. It safely handles minor air leaks and long piping runs, while eliminating the return line with its potential for environmental problems. *Note: To insure system performance and safety, all other system components must be equally* BioHeat® *compatible.*

INSTALLATION: The Tigerloop® Bio™ should be installed indoors and close to the burner in a dry area with a temperature range of between 20° F and 105° F. In planning the installation, refer to illustration 10 for supply line sizes and maximum lift and run specifications. Overhead supply lines (the lines from the tank) should be avoided whenever possible as they cause increased air purging problems. Refer to illustration 4 for recommended piping. Since the Tigerloop® Bio™ must be securely mounted vertically (see illustrations), the use of the supplied mounting bracket, securely attached to a suitably strong surface, is required. Never use the Tigerloop® Bio™ as a structural member to support long, heavy runs of piping. If the tank is located above the Tigerloop® Bio™, a suitable BioHeat® compatible oil safety valve (operated by oil burner pump vacuum) in the supply line and a UL Listed 165° F fusible valve at the Tigerloop® Bio™ are strongly recommended. If the inlet pressure will exceed 8 PSI, an oil safety valve ***must be installed***. On installations with more than one oil burner, ***each oil burner must have its own*** **Tigerloop® Bio™**, which may be teed into a common supply line from the tank.
The following procedure must be used to insure proper operation and to avoid fuel releases that can harm the environment and service personnel.
1. Eye protection and heating oil resistant gloves must be worn.
2. Inspect the entire fuel system to insure that all components are in good condition and that the system conforms to all applicable codes and ordinances. Correct any problems before proceeding with the installation.
3. Turn off all power to the heating system and close all oil line valves. Use a voltmeter to verify that the power is off.
4. Place an oil resistant container under the place where the Tigerloop® Bio™ is to be installed and oil absorbent material in the work area to catch any fuel releases.
5. Securely attach the mounting bracket to a suitably strong surface such that the Tigerloop® Bio™ will be oriented vertically and plumb (see illustration 1).
6. The Tigerloop® Bio™ has three 1/4"-NPT ports that are marked with arrows to show oil flow direction. Ports "A" and "B" (see illustration 2) connect to the oil burner pump and are located on one side. The "Tank Port", which connects to the oil line from the tank, is located on the bottom (see illustration 2). All fittings should be installed in the Tigerloop® Bio™ before attaching it to the mounting bracket. A good quality, non-hardening pipe compound must be used on all pipe threads (do not use Teflon tape). If connection is to copper tubing, flare fittings must be used for all tubing connections (do not use compression fittings).
7. To accomodate the layout of the installation, the Tigerloop® Bio™ may be mounted with ports "A" and "B" facing either left or right, depending upon which mounting boss is used to attach it to the mounting bracket. Carefully insert the mounting boss into the top of the slot in the mounting bracket and continue to push the Tigerloop® Bio™ down until it snaps into place (see illustration 3).
8. Set the oil burner pump for *two-pipe* operation (install a by-pass plug if necessary) and connect port "A" to the return port of the oil burner pump. Connect port "B" to the inlet port of the oil burner pump. *Note: Do not install any filters, valves, or other devices that can impede oil flow in the lines between the* Tigerloop® Bio™ *and the oil burner pump! (A fusible valve in the inlet port of the pump is permitted if required by code.)*
9. Install an oil filter in the supply line from the tank. Connect the outlet of the oil filter to the "Tank Port" of the Tigerloop® Bio™. *Note: All filters must be upstream of the* Tigerloop® Bio™ *and cannot be in the lines between the* Tigerloop® Bio™ *and the oil burner pump!*
10. Complete the Tigerloop® Installation Check List, shown elsewhere on this sheet, to insure compliance with installation requirements.
11. Proceed to **"SYSTEM START-UP"** section, shown elsewhere on this sheet, for initial start-up and air bleeding procedure. *Note: Failure to follow the procedure in that section may cause priming and system air problems leading to nuisance lock-outs and damage to the* Tigerloop® Bio™*!*

SERVICE: The Tigerloop® Bio™ has no serviceable parts inside. It is sealed at the factory and cannot be opened without destroying it. Clean the outside with a dry cloth only. *Do not use cleaning chemicals!* Periodically check the pressure in the lower chamber of the Tigerloop® Bio™ by teeing in a suitable pressure gauge at Port "A" (see illustration 2). During burner operation if the pressure is greater than three PSI the Tigerloop® Bio™ is damaged and must be replaced. Since the Tigerloop® Bio™ is exposed to modern fuels and fuel blends that may contain additives and contaminants, a reliable service life of 8 years is considered maximum. Use of the Tigerloop® Bio™ beyond that time exposes the system to risk of component failure leading to fuel leakage, fire hazard, and environmental damage.

Tigerloop® ULTRA™

No. S220-8 OIL DE-AERATOR

DESCRIPTION: The ULTRA™ combines a Tigerloop® Oil De-Aerator with a Westwood Products *Ultra-10™ (10 micron)* high efficiency spin-on filter. This combination provides the ultimate in fuel conditioning for oil heating systems using either No. 1 or 2 heating oil, or BioHeat® blends up to B5.

INSTALLATION: The ULTRA™ should be installed indoors and close to the burner in a dry area with a temperature range of between 20° F and 105° F. In planning the installation, refer to illustration 10 for supply line sizes and maximum lift and run specifications. Overhead supply lines (the lines from the tank) should be avoided whenever possible as they cause increased air purging problems. Refer to illustration 9 for recommended piping. Since the ULTRA™ must be securely mounted vertically (see illustrations), the location must provide a suitably strong surface on which to attach the mounting bracket. ***The mounting bracket must be used! The*** **ULTRA™** ***cannot be mounted using piping only!*** If the tank is located above the ULTRA™, an oil safety valve (ie. Westwood Products No. S225) is strongly recommended. If the inlet pressure will exceed 8 PSI, an oil safety valve ***must be installed***. On installations with more than one oil burner, ***each oil burner must have its own*** **ULTRA™**, which may be teed into a common supply line from the tank.
The following procedure must be used to insure proper operation and to avoid fuel releases that can harm the environment and service personnel.
1. Eye protection and heating oil resistant gloves must be worn.
2. Inspect the entire fuel system to insure that all components are in good condition and that the system conforms to all applicable codes and ordinances. Correct any problems before proceeding with the installation.
3. Turn off all power to the heating system and close all oil line valves. Use a voltmeter to verify that the power is off.
4. Place an oil resistant container under the place where the ULTRA™ is to be installed and oil absorbent material in the work area to catch any fuel releases.
5. Securely attach the mounting bracket to a suitably strong surface such that the ULTRA™ will be oriented vertically and plumb (see illustration 5).
6. The ULTRA™ has three 1/4"-NPT ports that are marked with arrows to show oil flow direction. Ports "A" and "B" (see illustration 6) connect to the oil burner pump and are located on one side. The "Tank Port", which connects to the oil line from the tank, is located on the other side (not visible in illustration 6). All fittings should be installed in the ULTRA™ before attaching it to the mounting bracket. A good quality, non-hardening pipe compound must be used on all pipe threads (do not use Teflon tape). If connection is to copper tubing, flare fittings must be used for all tubing connections (do not use compression fittings). Since the ULTRA™ is UL Listed, the fusible valve that comes packed with it ***must be installed*** in the "Tank Port".
7. Attach the ULTRA™ to the mounting bracket using the screws supplied (see illustration 6). To accomodate the layout of the installation, it may be mounted with the "Tank Port" facing either left or right, depending upon which holes are used to attach it to the mounting bracket.
8. Set the oil burner pump for *two-pipe* operation (install a by-pass plug if necessary) and connect port "A" to the return port of the oil burner pump. Connect port "B" to the inlet port of the oil burner pump. *Note: Do not install any filters, valves, or other devices that can impede oil flow in the lines between the* ULTRA™ *and the oil burner pump! (A fusible valve in the inlet port of the pump is permitted if required by code.)*
9. Connect the oil line from the tank to the fusible valve in the "Tank Port".
10. Install the O-ring provided with the spin-on element on the threaded post on the bottom of the ULTRA™. Lubricate the surface of the spin-on element gasket with clean heating oil. Thread the spin-on element onto the threaded post and turn clockwise an additional 1/4 to 1/2 turn after the gasket makes contact with the ULTRA™ (see illustration 7).
11. Complete the Tigerloop® Installation Check List, shown elsewhere on this sheet, to insure compliance with installation requirements.
12. Proceed to **"SYSTEM START-UP"** section, shown elsewhere on this sheet, for initial start-up and air bleeding procedure. *Note: Failure to follow the procedure in that section may cause priming and system air problems leading to nuisance lock-outs and damage to the* ULTRA™*!*

SERVICE: Replace the filter element at the beginning of each heating season. For easy filter element removal, use a spin-on filter wrench (ie. Westwood Products No. F100-18) and an adjustable wrench (see illustration 8). The ULTRA™ itself has no serviceable parts inside. It is sealed at the factory and cannot be opened without destroying it. Clean the outside with a dry cloth only. *Do not use cleaning chemicals or any liquids containing alcohol!* Periodically check that there is no oil in the **upper** chamber of the ULTRA™. If oil is found in the upper chamber, see #9 under **"SYSTEM START-UP"**. Since the ULTRA™ is exposed to modern fuels and fuel blends that may contain additives and contaminants, a reliable service life of 8 years is considered maximum. Use of the ULTRA™ beyond that time exposes the system to risk of component failure leading to fuel leakage, fire hazard, and environmental damage.

Tigerloop® ULTRA-*B*™

No. S220-9 OIL DE-AERATOR

DESCRIPTION: The ULTRA-***B***™ combines a Tigerloop® Oil De-Aerator with a Westwood Products *Ultra-10™ (10 micron)* high efficiency spin-on filter. This combination provides the ultimate in fuel conditioning for systems using either No. 1 or 2 heating oil, or BioHeat® blends up to B100. It safely handles minor air leaks and long piping runs, while eliminating the return line with its potential for environmental problems. *Note: To insure system performance and safety, all other system components must be equally* BioHeat® *compatible.*

INSTALLATION: The ULTRA-***B***™ should be installed indoors and close to the burner in a dry area with a temperature range of between 20° F and 105° F. In planning the installation, refer to illustration 10 for supply line sizes and maximum lift and run specifications. Overhead supply lines (the lines from the tank) should be avoided whenever possible as they cause increased air purging problems. Refer to illustration 9 for recommended piping. Since the ULTRA-***B***™ must be securely mounted vertically (see illustrations), the location must provide a suitably strong surface on which to attach the mounting bracket. ***The mounting bracket must be used! The*** **ULTRA-*B*™** ***cannot be mounted using piping only!*** If the tank is located above the ULTRA-***B***™, a suitable BioHeat® compatible oil safety valve (operated by oil burner pump vacuum) in the supply line and a UL Listed 165° F fusible valve at the ULTRA-***B***™ are strongly recommended. If the inlet pressure will exceed 8 PSI, an oil safety valve ***must be installed***. On installations with more than one oil burner, ***each oil burner must have its own*** **ULTRA-*B*™**, which may be teed into a common supply line from the tank.
The following procedure must be used to insure proper operation and to avoid fuel releases that can harm the environment and service personnel.
1. Eye protection and heating oil resistant gloves must be worn.
2. Inspect the entire fuel system to insure that all components are in good condition and that the system conforms to all applicable codes and ordinances. Correct any problems before proceeding with the installation.
3. Turn off all power to the heating system and close all oil line valves. Use a voltmeter to verify that the power is off.
4. Place an oil resistant container under the place where the ULTRA-***B***™ is to be installed and oil absorbent material in the work area to catch any fuel releases.
5. Securely attach the mounting bracket to a suitably strong surface such that the ULTRA-***B***™ will be oriented vertically and plumb (see illustration 5).
6. The ULTRA-***B***™ has three 1/4"-NPT ports that are marked with arrows to show oil flow direction. Ports "A" and "B" (see illustration 6) connect to the oil burner pump and are located on one side. The "Tank Port", which connects to the oil line from the tank, is located on the other side (not visible in illustration 6). All fittings should be installed in the ULTRA-***B***™ before attaching it to the mounting bracket. A good quality, non-hardening pipe compound must be used on all pipe threads (do not use Teflon tape). If connection is to copper tubing, flare fittings must be used for all tubing connections (do not use compression fittings).
7. Attach the ULTRA-***B***™ to the mounting bracket using the screws supplied (see illustration 6). To accomodate the layout of the installation, it may be mounted with the "Tank Port" facing either left or right, depending upon which holes are used to attach it to the mounting bracket.
8. Set the oil burner pump for *two-pipe* operation (install a by-pass plug if necessary) and connect port "A" to the return port of the oil burner pump. Connect port "B" to the inlet port of the oil burner pump. *Note: Do not install any filters, valves, or other devices that can impede oil flow in the lines between the* ULTRA-***B***™ *and the oil burner pump! (A fusible valve in the inlet port of the pump is permitted if required by code.)*
9. Connect the oil line from the tank to the "Tank Port" of the ULTRA-***B***™.
10. Install the O-ring provided with the spin-on element on the threaded post on the bottom of the ULTRA-***B***™. Lubricate the surface of the spin-on element gasket with clean heating oil. Thread the spin-on element onto the threaded post and turn clockwise an additional 1/4 to 1/2 turn after the gasket makes contact with the ULTRA-***B***™ (see illustration 7).
11. Complete the Tigerloop® Installation Check List, shown elsewhere on this sheet, to insure compliance with installation requirements.
12. Proceed to **"SYSTEM START-UP"** section, shown elsewhere on this sheet, for initial start-up and air bleeding procedure. *Note: Failure to follow the procedure in that section may cause priming and system air problems leading to nuisance lock-outs and damage to the* ULTRA-***B***™*!*

SERVICE: Replace the filter element at the beginning of each heating season. For easy filter element removal, use a spin-on filter wrench (ie. Westwood Products No. F100-18) and an adjustable wrench (see illustration 8). The ULTRA-***B***™ itself has no serviceable parts inside. It is sealed at the factory and cannot be opened without destroying it. Clean the outside with a dry cloth only. *Do not use cleaning chemicals!* Periodically check the pressure in the lower chamber of the ULTRA-***B***™ by teeing in a suitable pressure gauge at Port "A" (see illustration 6). During burner operation if the pressure is greater than three PSI the ULTRA-***B***™ is damaged and must be replaced. Since the ULTRA-***B***™ is exposed to modern fuels and fuel blends that may contain additives and contaminants, a reliable service life of 8 years is considered maximum. Use of the ULTRA-***B***™ beyond that time exposes the system to risk of component failure leading to fuel leakage, fire hazard, and environmental damage.

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