AirDog® HEAVY DUTY DIESEL FUEL SYSTEMS

INDUSTRIAL
Fuel Air Separation System

INSTALLATION MANUAL
DETROIT SERIES 60® ENGINES 12.7L
Model Years 1987-2002

PLEASE READ
THESE INSTRUCTIONS
THROUGHLY
BEFORE BEGINNING
INSTALLATION

Part No. A3SPBT405

Revised 8/3/2026

NOW WITH DEMAND FLOW

AirDog® HEAVY DUTY DIESEL FUEL SYSTEMS
PureFlow® TECHNOLOGIES, INC.

PROUDLY MADE IN THE USA

www.airdogdiesel.com
1-573-635-0555 or
1-877-463-4373

Providing "Test Cell Performance" in "Real World Conditions" Since 1993

PATENT
www.AirDogDiesel.com/patents

AirDog® INDUSTRIAL Fuel Air Separation System

THE RIGHT CHOICE FOR YOUR DIESEL ENGINE

4G-HD Fuel Pump

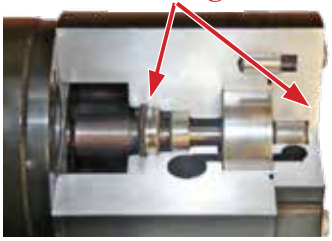
Pump shaft, stabilized with bearings on each end, holds the gerotor in virtually perfect alignment for quiet running and extended longevity!

Low Fuel Pressure Switch and LED Indicator
Lets you know when to service the fuel filter and water separator before suffering power loss. NO MORE GUESSING!

Positive Air Separation
with primary air discharge port.

Demand Flow System
Easy installation, only one small line connected to the engine return line to return air/vapor to the tank.

Bearings



Drain Valve

Protective Wire Screen
In water separator nipple.

LoveJoy Coupler System
The LoveJoy Coupler System is self-aligning and eliminates virtually all vibrations.

Dual Port Pump
Balances the gerotor for quiet operation and higher flows.

Adjustable Regulator
For just the right fuel pressure.

6 Micron Particulate Filters
Long-Lasting MicroGlass Media

Water Separator/Pre-Filter with Drain Valve

CARB Executive Orders D-595-5 & D-595U-6 permit the advertisement, sales and installation of PureFlow Technologies AirDog® Diesel Fuel Systems in California on 2020 and older model year on-road diesel vehicles and off-road diesel vehicles/equipment.

HEAVY DUTY & INDUSTRIAL
Fuel Systems
PureFlow
TECHNOLOGIES, INC.

SYSTEM OVERVIEW

Welcome to the **AirDog® Heavy Duty Industrial**
Fuel Air Separation System for Class 8 Trucks

The AirDog®, with ADVANCED FUEL AIR SEPARATION, DEMAND FLOW, ADJUSTABLE REGULATOR, LOW PRESSURE SENSOR with LED INDICATOR and the 4G-HD FUEL PUMP, is a premium fuel filtration and delivery system for the Detroit Diesel Series 60® engine, model years 1987 thru 2002.

Air and vapor are compressible. When air/vapor is present in a fuel injection system, the pressure buildup and injection of fuel is delayed while the air/vapor is being compressed. This delays the injection timing, causing a shorter power stroke and low power, increased fuel consumption, and increased exhaust emissions. Preventing the formation of vapor from pump cavitation and removing entrained air from the fuel flow to the injectors, restores correct injection timing. Diesel engines equipped with the AirDog® can now perform as designed, delivering "test cell" performance while in "real world" use.

The AirDog® removes water, particulates, and most importantly, the air that becomes entrained in diesel fuel, from the fuel flow to your engine. The entrained air and vapor that is separated from the fuel is returned to the fuel tank through a small return line. The fuel flow to the engine's transfer pump is at a net positive pressure, preventing cavitation and the formation of vapor, thus overcoming the performance related problems from plugged fuel filters, high altitude operation, and torque loss at higher engine RPMs.

There is an <u>"UPGRADE"</u> kit available for the Detroit installation kit, proceed to Pg. 17 for more information.

All AirDog® products are manufactured with a personal touch, unsurpassed attention to detail, and the most stringent quality assurance!

TYPICAL INSTALLATION LAYOUT

The AirDog® requires only one small return line connected to the engine return line, for quick and easy installations.

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The installation of your **AirDog®** can be made relatively easy by following the steps outlined in this manual, and:

1. Inventory the package components. Immediately notify PureFlow® Technologies, Inc., of any missing or damaged parts.

2. Read the installation manual completely. Understand how the system operates and the installation recommendations before beginning.

3. Proper location of the AirDog® on the vehicle is essential. Consider hazards presented to the equipment by road debris and the elements.

4. The installation recommendations and guidelines contained herein are suggestions only. Individual installations may vary.

5. Use diesel compatible thread sealer when installing fittings with NPT threads. (Loctite® 545 Thread Sealer is diesel compatible.)

DO NOT REMOVE FACTORY INSTALLED SECONDARY FUEL FILTERS. REMOVAL OF A FACTORY INSTALLED SECONDARY FUEL FILTER MAY VOID YOUR ENGINE WARRANTY.

SAFETY GUIDELINES

CAUTION: Chock the vehicle's tires to prevent rolling.

CAUTION: Disconnect the battery cables before proceeding with the AirDog® installation.

CAUTION: Wear safety glasses when operating power tools such as drills and grinders or when using a punch or chisel.

CAUTION: Do Not drill into or weld the top of the frame rail or within 1-½" of the frame rail flange on the side of the frame rail.

CAUTION: Route the fuel lines and electrical harnesses keeping them away from hot exhaust components and/or moving parts. Properly secure the fuel lines and electrical harnesses to prevent chafing using zip ties included in installation kit.

CAUTION: Do not subject the AirDog® system directly to high-pressure wash systems. Doing so may damage seals and electrical components, and such damage is NOT covered under warranty.

If you are uncertain of any installation procedure, please call:
PureFlow® Technologies, Inc. at 573-635-0555 for technical assistance.

NOTE: The pictures used in this manual are for example only and may not depict the exact components as found on your truck.

Installation Parts List

QTY	Description	Part Number	Image
1	**Installation Manual**	206-1-0405	
1	**AirDog® Diesel Fuel System including:** Fuel Filter FF200-MG-6 Water Separator WS200-WD	FPII-150	
1	**Wire Harness w/ Indicator Light & Dash Plate** 1 ea Indicator Light 5G-1-1-47674 1 ea Dash Plate 201-3-0004-S-M716	5E-2-010 908-5G-1-1-47674	
1	**3/8" Low Pressure Hose (Air/Vapor Return Line) - 7 ft Section**	4C-1-02-05-010-7FT	
1	**1- PC Mounting Bracket**	001-3C-0034	

ADFK-405 Installation Kit

1	**Fuel Pressure Sensor**	5C-9-007-SC-06	
15	**12" Zip Ties**	5H-2-1-12	
1	**908-5E-2-018/022 Add-A-Circuit Fuse Tap Adapters** 1 ea Add-A-Circuit Fuse Tap Adapter Mini 1 ea Add-A-Circuit Fuse Tap Adapter ATO	 5E-2-018 5E-2-022	
1	**901-08-0100-1 Bolt Kit** 4 ea 3/8-16 x 1-1/4 HHCS 4 ea 1/4-20 x 2 SHCS **908-08-0100-N Nut Packet** 4 ea 3/8-16 Hex Nut 4 ea 1/4-20 Hex Nut **908-08-0100-1-W Washer Packet** 4 ea 3/8 Split Lock Washer 4 ea 1/4 Split Lock Washer 4 ea 3/8 Flat Washer	 1J-1-C20SZ 1L-A32C 1S-1-CSZ 1S-1-AC 1R-6-CSZ 1R-6-AC 1P-2-CSZ	x4 x4 x4 x4 x4 x4 x4

908-08-0800-UNIV AirDog® FPII Basic Fitting Kit

2	**#10M JIC x 1/2 M NPTF Straight Connector**	4A-1-01-10-08-S	
2	**#10M JIC x #10F JICX 90º Swivel Nut Elbow**	4A-2-04-10-10-S	
2	**#8M JIC x 1/2 M NPTF Straight Connector**	4A-1-01-08-08-S	
2	**#8M JIC x #8F JICX 90º Swivel Nut Elbow**	4A-2-04-08-08-S	
1	**#6M JIC x 1/4 M NPTF Straight Connector**	4A-1-01-A-C-SZ	
1	**3/8 ID, 7/8 OD Rubber Grommet**	5J-1-1-04-2758	

908-01-0405-RLFK Return Line Fitting Kit

1	**#6M JIC x 1/4 M NPTF Straight Connector**	4A-1-01-A-C-SZ	
1	**#8M JIC x #8F JICX x 1/4 NPTF Port GagePort**	4A-1-11-08-08-4P	
2	**#6F JICX x 3/8 Push-lock Hose Barb**	4A-1-09-06-06-B	
1	**#6M JIC x #6F JICX 90º Street Elbow**	4A-2-04-06-06-S	
1	**3/8-18 M NPTF x 3/8-18 F NPTF x 3/8-18 F NPTF Tee**	4A-4-01-06-S	
1	**#6M JIC x 3/8 M NPTF Straight Connector**	4A-1-02-06-06-S	

Selecting the Best Location to Mount the AirDog®

Installing the AirDog® at the proper location on the vehicle is most important. When deciding where to locate the AirDog®, the following points should be considered:

- Best relationship to the transfer pump and the original primary fuel filter location
- Protection from the elements and road debris
- Accessibility for service

CAUTION: DO NOT mount the AirDog® directly on the engine. Mounting the AirDog® directly on the engine will immediately VOID your AirDog® Warranty!

Pictures below show examples of different AirDog® installations. There are many variations in the arrangements of the components on the various trucks. With a little ingenuity, the AirDog® can be successfully installed on any Class 8 Truck.

This installation shows the AirDog® mounted in the location of the orginal primary fuel filter. Plenty of room here!

NOTE: Check for clearance with the tire turned both toward and away from the AirDog®!

Selecting the Best Mounting Location

This installation on a short nose “Day Cab” is on the driver’s side, behind the battery box.

This picture shows how to find space to mount the AirDog® to the rear of the shock absorber.

Mounting the AirDog® on the Truck's Frame

NOTE: DO NOT MOUNT THE AIRDOG® ON THE ENGINE! MOUNTING THE AIRDOG® ON THE ENGINE WILL IMMEDIATELY VOID YOUR AIRDOG® WARRANTY.

5-1. The goal is to mount the AirDog® in, or as close as possible to, the original location of the primary fuel filter. In most cases, this will allow you to use the original fuel supply lines from the tank to the engine. In many cases, the AirDog® 1-piece Mounting Bracket can be bolted into the original primary fuel filter mounting holes, requiring no drilling.

5-2. Disconnect the fuel lines and remove the original primary fuel filter.

5-3. Loosely assemble the mounting brackets and filters to the AirDog®.

5-4. Hold the AirDog®, with the bracket and filters attached, next to the frame at the selected mounting location. Check for clearance. If mounted between the frame and steer tire, turn the steering wheel fully in both directions to check tire clearance.

If you are able to use the existing primary filter mounting holes, remove the AirDog® from the 1-piece Mounting Bracket and secure the 1-piece bracket to the frame with the included hardware.

If drilling mounting holes appears necessary, proceed to Pg. 11 for the optional NDC-1000 No-Drill Mounting Kit for the AirDog® system.

NOTE: If mounted between the frame and steer tire, turn the steering wheel fully to the left and right to check for tire clearance.

Mounting the AirDog® on the Truck's Frame

5-5. Hold the AirDog® at the selected mounting location on the frame. Mark and center punch each hole location.

5-6. Drill a 3/8" hole at each of the 4 previously marked locations.

WARNING! DO NOT DRILL INTO OR DAMAGE ANY WIRE, AIR LINES OR OTHER COMPONENTS LOCATED BEHIND THE FRAME RAIL.

5-7. Loosely assemble the 1-piece Mounting Bracket to the frame, then loosely assemble the AirDog® to the 1-piece Mounting Bracket.

5-8. After mounting the AirDog® on the brackets, snug the fasteners to achieve a good relaxed fit.

5-9. Properly tighten all of the fasteners.

NOTE: These steps are necessary to prevent stress cracks from forming in the mounting brackets due to road vibration and bouncing.

OPTIONAL KIT AVAILABLE (PN: NDC-1000)

NO-DRILL Frame Mount Bracket Kit

Many AirDog® Fuel System installations allow the original mounting holes in the frame to be used to mount the AirDog® 1-piece Mounting Bracket. In some instances, the original holes do not line up, or do not exist, making it necessary for new holes to be installed for mounting.

The AirDog® No-Drill Frame Mount Bracket Kit provides a Flanged Clamp Plate and Locking Clamps with hardware to enable attachment of the AirDog® 1-piece Mounting Bracket to the frame without drilling holes in the truck frame.

With the slotted holes in the 1-piece Mounting Bracket, combined with several inches of vertical hole mounting options, the No-Drill Mount Bracket Kit allows for practically unlimited positioning flexibility, ensuring clearance where it is needed.

The NDC-1000 Kit also includes 2” Spacers to step the 1-piece Mounting Bracket away from the frame, in the event that there is a bolt head, air or grease fitting, or another protrusion on the frame.

Scan here to place your order today

FUEL LINE OVERVIEW

The AirDog® has been engineered to eliminate fuel related problems. It is important that the fuel lines are assembled and installed properly so as not to cause fuel flow restriction.

When possible, use the fuel lines that are on the vehicle. This will reduce your installation costs and make the installation go much more quickly.

NOTE: On various Class 8 trucks, the manufacturer may use "plastic" or other than traditional steel braid fuel lines. These lines require special fittings. The fittings used with the original primary fuel filter are specific to the fuel lines used on the truck. When possible, mount the AirDog® in the location that will allow the use of the original fuel lines and fittings.

Inspect the original fuel lines for size, length, and condition. If the fuel lines are in good condition and the correct size and length to adequately reach the AirDog®, you may want to go ahead and use them. If any of the fuel lines need to be replaced, it is recommended that the fuel lines selected meet or exceed SAE 100R5 requirements.

Fuel Supply Line: The fuel supply lines from the tank to the AirDog® and to the engine should be size 10, or at the absolute minimum, size 8.

Air/Vapor Return Line: The AirDog® return line should be connected to the engine's return line, low pressure side. A size 6 line for the Air/Vapor return line is adequate.

Primary Fuel Filters: It is most important that there are no fuel filters between the fuel tank and the AirDog® or between the AirDog® and the engine's transfer pump to plug and cause fuel flow issues. These filters must be removed from the system as part of the AirDog® installation.

Secondary Fuel Filters: DO NOT REMOVE SECONDARY FUEL FILTERS. This is the filter between the transfer pump and the engine head.

Assembly Instruction for Hose Barb

1. Cut hose line to length.
2. Apply oil to fitting.
3. Push fitting into line until seated.

Installing the Fuel Fittings and Pressure Sensor

IMPORTANT: Use diesel compatible thread sealer when installing NPT fittings.

NOTE: Below pictures illustrate the installation of straight fittings - #8 JIC and #10 JIC fittings have been included - you will use one or the other based on your fuel line size. In some instances 90º fittings may be required to connect the fuel lines to the AirDog®. Therefore, two 90º fittings have been included in the kit.

6A-1. Install a straight #10 (or #8) JIC x ½" NPT fuel fitting in the AirDog® fuel port marked **"ENGINE".**

6A-2. Install a straight #10 (or #8) JIC x ½" NPT fuel fitting into the fuel inlet port next to the regulator marked **"FUEL IN"**.

6A-3. Install the ¼" NPT x #6 JIC Air/Vapor return fitting into the Air/Vapor return port marked **"TANK"**.

6A-4. Remove the 1/8" NPT plug in the 45° elbow. Install the pressure sensor into the elbow.

Connecting the AirDog® Pressure Line to the Transfer Pump on the Engine

6B-1. Connect the original fuel line from the primary fuel filter to the transfer pump (Step 5-1) to the AirDog® out to **"ENGINE"** port. If the fuel line is not in good condition or the proper length to make the connection, replace it with a new fuel line.

Note: This engine does not have a secondary fuel filter.

Connecting the AirDog® Fuel Line to the Transfer Pump on the Engine

6B-2. When replacing the fuel line connecting the AirDog® to the engine transfer pump, measure and cut the length of fuel line required, when properly routed, to make the connection. Assemble the fuel line per standard procedures.

6B-3. Connect one end of the fuel line to the AirDog® port marked **"ENGINE"**.

Install a 90º fitting as needed

Detroit Diesel Series 60® fuel transfer pump fuel Inlet

6B-4. Route the new fuel line from the AirDog® to the transfer pump. Connect the fuel line to the transfer pump fuel inlet fitting. Properly tighten the fittings. Secure the fuel line with zip ties as necessary to prevent abrasion and chaffing.

Installing the AirDog® Return Line

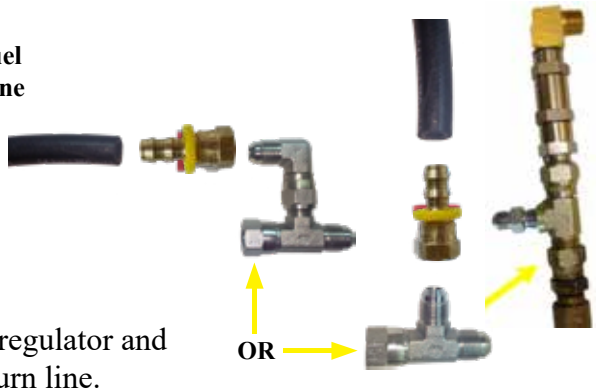
The AirDog® returns entrained air & vapor to the fuel tank. It is best to connect the AirDog® Air/Vapor return line directly to the engine fuel return line. Be sure to connect it after the pressure regulator.

NOTE: it is recommended to use a # 6 size line for the Air/Vapor return.

Connecting the AirDog® Air/Vapor return to the engine fuel return line

6C-1. Disconnect the fuel return line connected to the Rail Pressure Regulator at the back of the head.

Engine Fuel Return Line



6C-2. Insert a Tee between the engine rail pressure regulator and the return line to connect the AirDog® Air/Vapor return line.

NOTE: Some class 8 trucks may have a cab with a short hood. This style of truck will have the engine recessed into the firewall making the return fuel fitting on the back of the head difficult to reach. If the truck you are installing the AirDog® on has this style cab, **it may be easiest to connect the AirDog® Air/Vapor return line directly to splitter Tee.**

Installing the AirDog® Return Line

For trucks with only one fuel tank, it may be easiest to connect the AirDog® return line directly to the fuel tank. Keep in mind that the #6 return line included with the AirDog® is only long enough to connect to the engine return line at the engine.

6C-3. If the fuel tank has an extra port, as shown in photo, remove the plug.

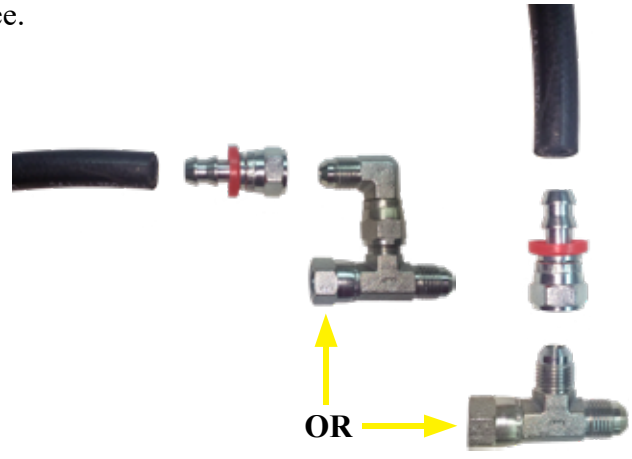
6C-4. Install a 3/8" NPT x #6 JIC fitting into the port. Use a bushing (not included), if necessary.

6C-5. To install the Air/Vapor return line in a tank with no extra port, install a 3/8" Tee fitting in the engine return line at the fuel tank.

6C-6. The filter assembly has return fuel from the engine running through it to heat the incoming fuel. When removing this filter, re-connect the return line, from the engine to the return line to the tank with the 3/8" Tee. Connect the AirDog® return line at the Tee.

6C-7. Measure and cut a length of fuel line required, when properly routed, to connect from the AirDog®Air/Vapor return fitting to the fuel return Tee.

AirDog®
Air/Vapor Return Port



6C-8. Assemble the fuel line using standard procedures for push lock fittings (see page 12).

6C-9. Route and connect the Air/Vapor return line to the air/vapor return fitting on the AirDog® and the return Tee. Properly tighten the fittings. Secure the fuel line with zip ties as necessary to prevent abrasion and chafing.

Connecting the AirDog® fuel supply line to the Fuel Tank

6D-1. Inspect the fuel supply lines that connect the fuel tank(s) to the primary fuel filter for size, length, and condition. If a fuel line has deteriorated or if it is too short to connect to the AirDog®, replace it or make an extension as necessary.

6D-2. If it is necessary to replace the fuel line, measure and cut the length of fuel line required when properly routed and secured, to make the connection. Assemble the fuel line per standard procedures.

6D-3. Route the fuel supply line from the fuel tank to the fitting on the AirDog® fuel inlet port marked **"FUEL IN"**.

6D-4. Connect the fuel supply line from the fuel tank to the fitting. Secure the line with zip ties to prevent chafing and abrasion.

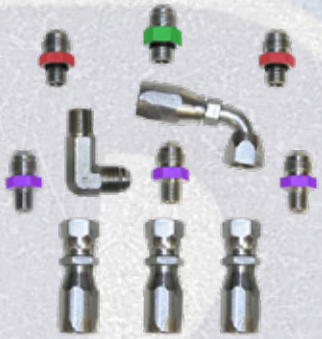
READY TO FULLY OPTIMIZE YOUR DETROIT™ ENGINE?

Champ™ II

Add the Champ™ II High-Pressure Air Separation System to maximize your Detroit engine's potential!

UPG-DEFS

Our Secondary Fuel System Upgrade Kit is the perfect complement to the Champ™ II and AirDog® - maximize fuel flow for supreme efficiency and performance!



SCAN FOR INFO

Contact us at
www.airdogdiesel.com
1-877-463-4273

AirDog® Wire Harness

NOTE: The AirDog® wire harness includes a 15-amp fuse.

The AirDog® wire harness has a low pressure sensor and an amber LED indicator light as standard equipment. The indicator light will illuminate at start-up, remain on for a few seconds, then go off and should remain off unless pressure flow to the engine drops below minimum requirements.

Relay
(7-1)

AirDog® Pump Motor Lead (7-2)

Fuel Pressure Sensor Lead (7-3)

Indicator Light & Dash Plate (7-5 & 7-9)

Battery Positive Lead - Red (7-12)

Battery Negative Lead - Green (7-11)

Indicator Light Lead (7-5)

Relay Trigger Lead (No Connector/Plug) (7-6)

Securing the AirDog® Wire Harness Relay to the Vehicle

7-1. Secure the AirDog® wire harness relay to the vehicle. This picture shows the relay mounted on the firewall.

7-2. Route the AirDog® wire harness pump motor lead and the fuel pressure sensor lead to the AirDog® unit. Connect the wire harness pump motor lead (labeled “Attach to Motor”) to the AirDog® unit pump motor lead (Figure 1).

Figure 1

Securing the AirDog® Wire Harness Relay to the Vehicle

7-3. Connect the AirDog® wire harness fuel pressure sensor lead to the AirDog® unit fuel pressure sensor.

Relay Trigger Lead and Indicator Light Lead

The AirDog® Wire Harness Indicator Light lead must be routed through the firewall and to the dashboard. The Relay Trigger lead must be connected to a contact point that is electrically "HOT" when the key is in the "RUN" position. This could be either in a spare fuse holder in the fuse panel, using an Add-A-Fuse (included) to add the relay trigger lead to an existing circuit, or on the ignition switch itself.

Note: DO NOT connect the AirDog® wire harness relay trigger lead to a point that is "HOT" when the key is in the ACCESSORY position.

Routing the Indicator Light and Relay Trigger Lead through the firewall:

7-4. Many trucks have access holes through the firewall, located below or near the steering column. Remove the plug from one of those access holes, and route the wire leads through the hole. For trucks that do not have an existing hole in the firewall, you will need to drill a 5/8" hole in the firewall for entry of the leads into the cab. Use the provided grommet to seal around the wire loom.

Relay Trigger Lead and Indicator Light Lead

7-5. Route the AirDog® wire harness trigger lead (red wire with no connector/plug) and indicator light lead through the firewall.

By the Steering Column

Under the Dash

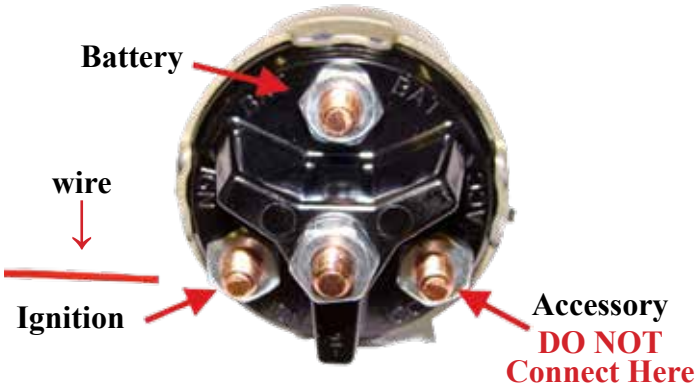
NOTE: Be sure to seal the opening or install a grommet around the wire loom to prevent water leakage and protection from chafing.

Relay Trigger Lead

This

There are several options for attaching the relay trigger wire:

7-6A. Connect the relay trigger lead to a terminal on the ignition switch that is "HOT" when the key is in the "RUN" position, as detailed in this picture:

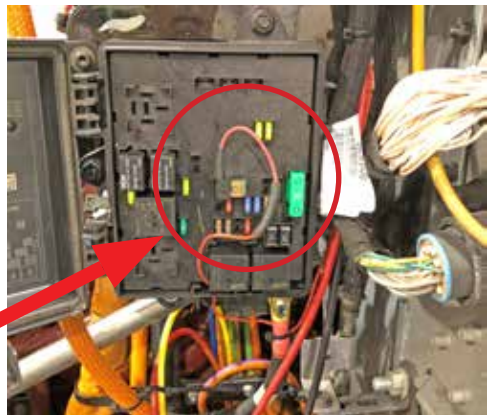


OR

Add-a-Fuse

That

7-6B. Using the appropriately sized Add-a-Fuse (included in your AirDog® installation kit), connect the relay trigger lead to a fuse holder in the fuse panel that is "HOT" when the key is in the "Run" position. An example is pictured here:



Installing the AirDog® Wire Harness Indicator Light

LED Indicator Light

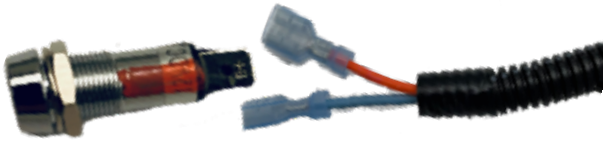
7-7. Select a location on the dash that is easily visible to the driver. Remove the dash components as necessary to access the area behind the selected location.

7-8. Drill a 7/16” hole in the dash at the selected location. Be very careful when drilling. Do not damage components located behind the dash.

7-9. Remove the nut from the indicator light and insert the indicator light through the dash plate. To adhere the dash plate to the dashboard, peel off the paper backing from the back side of the plate to expose the adhesive. Install the dash plate with indicator light into the hole in the dash. Reinstall the nut to the indicator light at the back side of the dash, and tighten the nut until snug.

Connect the positive (orange wire) lead of the wire harness to the positive quick-connect terminal (marked orange) on the indicator light (see image below).

Then connect the negative (blue wire) lead on the wire harness to the negative (unmarked) quick connect terminal on the indicator light.



7-10. Re-assemble the dash components back to their original position.

Connecting the Power Supply Leads

The power supply leads can be easily connected to the appropriate contacts on the battery. Another alternative option would be to connect the power supply leads to the appropriate contacts on the alternator. Any high amperage terminal that is always "HOT" is OK for the Positive + (RED) lead. Be sure the NEGATIVE - (GREEN) lead is connected to a reliable chassis ground.

IMPORTANT: On 24V systems, the power supply leads can be easily connected to the appropriate contacts on the ALTERNATOR. DO NOT connect directly to the 24V batteries.

7-11. Route the red & green power leads to the battery or an alternator. Connect the green (-) ground lead to the negative battery terminal post.

7-12. Connect the red (+) positive lead to the positive battery/alternator terminal post.

NOTE: Secure wire harness with zip ties included in installation kit.

Installing your filter restriction gauge into the AirDog® Gerotor Cap Sensor Port

Does your HD truck have a filter restriction gauge that you would like to continue using with the AirDog®?

8-1. Every AirDog® Heavy Duty Diesel Fuel System is now equipped with a port for your restriction sensor. On the inside surface of the gerotor pump cap, you will find a 1/8" NPT plug.

8-2. Remove that plug (3/16" Allen), and install your restriction sensor with the same 1/8" NPT thread, using an elbow if necessary, and you can now connect and use your original filter restriction gauge with the AirDog® system.

Initial Start Up Procedure

The AirDog® is a self priming system. However, to prevent damage to a dry seal and reduce the life expectancy of the system, it is suggested to pre-fill the water separator/pre-filter with diesel fuel to the bottom of the "NUT PLATE".

❒ 9-1. Rub CLEAN diesel fuel or oil on filter seals before installing to ensure a proper seal.

❒ 9-2. Pre-fill the water separator/pre-filter with diesel fuel up to the bottom of the nut plate.

❒ 9-3. Turn the starter key to the on/run position.

❒ 9-4. The AirDog® should now be running and pumping fuel, bleed the fuel line to the engine by loosening the fuel line connection at the engine fitting. As soon as the line is purged of air and pure fuel is observed, properly tighten the fuel fitting.

NOTE: Put a rag or shop towel over and around the fitting to prevent fuel splatter or spray. Catch all spilled fuel and dispose of properly. Wear safety glasses.

❒ 9-5. Start the engine.

Recheck all fuel fittings for leakage and proper torque. Be sure all fuel lines are properly routed to protect from excessive heat and secured to protect from chafing and abrasion. Recheck all electrical lines and secure as necessary.

Servicing the AirDog® Fuel Filter and Water Separator/Pre-Filter

It is highly recommended that you keep a replacement AirDog® fuel filter and water separator on-hand, ready for replacement when the AirDog® Indicator Light illuminates.

When the particulate fuel filter, water separator, mesh screen in the water separator nipple, or a combination of these, become plugged, the restriction will cause a loss in pressure and flow through the AirDog® system, which will cause the AirDog® Indicator Light to illuminate, and stay on. When the Indicator Light comes on, this indicates it is time for a filter change. It is strongly recommended that BOTH filters be changed at the same time. After changing filters, if the Indicator Light remains on, please check that the AirDog® fuel pump is running, with the key in the "RUN" position. If the pump is not running, check the fuse in the wire harness, located near the AirDog® wire harness terminals connected to the battery or alternator for power. It is possible for a restriction in flow to cause the pump to draw high amps for a short period of time, which could pop the 15A fuse in the harness. Replace the fuse, if blown. After replacing the fuse, if the Indicator Light remains on, please use the following procedure to check for debris in the water separator nipple:

- Remove the water separator from the AirDog® filter base.
- Using a 1-1/8" (29mm) deep-well socket, loosen and remove the threaded nipple that the water separator was installed on.
- Inspect the wire mesh screen inside the nipple, blow any debris out of the screen with compressed air.
- Reinstall the threaded nipple into the AirDog® filter base.
- Tighten the nipple securely with the socket and ratchet. Torque spec for the nipple installation is 35 FT-LBS.

FUEL FILTER: The AirDog® 6-micron fuel filters have a typical lifespan of 25,000+ miles, and up to 40,000 miles, as they are manufactured with a high-quality and high-capacity Micro-glass media, as opposed to a paper element. Fuel filter life is affected by many variables. In any case, we do not recommend exceeding 40,000 miles of service with a fuel filter. When replacing the fuel filter, be sure to clean the underside of the AirDog® filter base. Rub clean diesel fuel or oil on filter seals before installing, to ensure a proper seal. It is not necessary to pre-fill the fuel filter with fuel; the AirDog® integrated fuel pump will fill the filter and prime the system automatically. Follow the instructions on the filter for proper tightening procedures.

WATER SEPARATOR: The AirDog® water separator/pre-filters have a typical lifespan of up to 40,000 miles. Servicing of the water separator simply requires draining at regular intervals. It is suggested to check/drain the water separator weekly or as needed should you experience excessive 'water in fuel' conditions. Replace the water separator when the AirDog® Indicator Light illuminates, if it becomes damaged or permanently plugged, and when changing the AirDog® fuel filter. Before installing a new water separator, be sure to clean the underside of the AirDog® filter base. Rub clean diesel fuel or oil on filter seals, to ensure a proper seal. It is suggested that you pre-fill the water separator (only) with clean diesel fuel when changing filters, to assist the system with priming. Follow the instructions printed on the water separator/pre-filter for proper tightening procedures.

When tightening filters with a filter wrench, DO NOT overtighten, as doing so may damage the filters.

Caution: Be careful to prevent any contaminants from entering the water separator when replacing. Although the water separator pre-filter has a protective wire screen, any debris passing through the system could cause the Gerotor fuel pump to lock up, which can cause the in-line fuse to blow. Such a pump lock-up is not covered under warranty.

DISPOSE OF WASTE FUEL AND USED FILTERS PROPERLY TO PROTECT OUR ENVIRONMENT!

NOTES

NOTES

AirDog®

HEAVY DUTY DIESEL FUEL SYSTEMS

DON'T FORGET...

Heating Kit

The AirDog® Heater Kit provides additional thermal protection for the AirDog® FPII-150 and FPII-200 4G fuel air separation systems, preventing fuel gelling in cold climates.

Replacement Filters

PureFlow Technologies, Inc. offters AirDog® replacement filters and water separators to maintain the efficiency and longevity of AirDog® and Champ™ diesel fuel systems.

Apparel

Get your AirDog® apparel today! Rep your favorite brand and unleash the power of the AirDog!

SHOP NOW

877-463-4373

PureFlow TECHNOLOGIES, INC.

Check us out @ airdogdiesel.com

AirDog®
HEAVY DUTY DIESEL FUEL SYSTEMS

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