BG

DEMOS

PRODUCT SALES DEMONSTRATIONS

14	STEP-BY-STEP	standardized sales training

BG Demos

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This BG Demos book includes 14 proven-effective product sales demonstrations with step-by-step walkthroughs and talking points. Use your smart phone to scan the QR code for each demo and watch a video of a professional BG field trainer performing the demo.

Important!

To avoid injury, basic safety precautions such as the following should be observed. IMPORTANT! Read product Safety Data Sheet before use. Always use appropriate personal protective equipment such as chemical resistant gloves and eye protection.

These demos are for skilled BG professionals only. BG Products, Inc., accepts no liability for excessive use or misuse of its products in these or other demonstrations.

BG EPR® bearing demo

Objective: Demonstrate how well BG EPR® cleans deposits from metal.

BG PRODUCT: BG EPR® Engine Performance Restoration,® PN 109

SUPPLIES NEEDED

- Test tube with stopper
- Test tube stand
- Butane or propane torch
- Two deposit-covered bearings
- Engine deposits
- Strong magnet
- Waste container
- Small plate

THE DEMO

Here are two bearings coated in tar and oil deposits. I'm going to clean one of them using BG EPR,® so you can see how well BG EPR® cleans deposits from metal.

1. **Place one bearing in a test tube—make sure to tip test tube to the side, so bearing doesn't break through the bottom!**
2. **Add two fingers of BG EPR® to the test tube.**

   One can of BG EPR® is very concentrated and will work in an engine that normally holds about 5 quarts/liters of fluid.
3. **Heat the fluid while gently agitating.**

   This is similar to what happens inside the engine. We put BG EPR® in the engine, bring it up to operating temperature and that will start the cleaning process.

   This is dispersant chemistry. When you're running BG EPR® in the engine, the engine is moving the oil around through the system.

The product will now break down the deposits into liquid form, so it will not replug the filter as the oil goes through the system. If you use a product with alcohol, it will clean up the deposits on the bearing, but then they will redeposit back inside the system as the alcohol evaporates.

When using BG EPR,® you'll notice that, even with heat, the deposits still stay with the oil.

4. **Use the magnet to remove the bearing from the test tube.**
5. **Compare the clean bearing to the deposit-covered bearing.**

   This is your nice, clean, shiny engine. All of the deposits from this bearing surface have now been picked up by the fluid. And, look how clean that test tube is! There are no deposits, they have all been absorbed into the fluid, so when you drain the oil, the deposits comes out with it.

   If you want to completely clean an engine, you can use BG EPR® in combination with BG 44K,® PN 208, and BG MOA,® PN 110. This will remove even more oil deposits.

   You'll be amazed at how clean your engine is just by using BG EPR.®
6. **Empty deposit-filled oil into waste container.**

   This test tube represents your engine after BG EPR.®

   Here are the metal surfaces.

   Which one works for you?

Note: This demo also works with BG Quick Clean for Engines, PN 105, BG Quick Clean for Automatic Transmissions, PN 106, and BG Quick Clean for Power Steering, PN 108. The main difference is BG EPR® will also work on the baked-on deposits on the rings.

BG 44K®/BG 244® acid demo

Objective: Demonstrate how BG 44K®/ BG 244® dissolves deposits.

BG PRODUCT: BG 44K,® PN 208, or BG 244,® PN 244

SUPPLIES NEEDED

- Gasoline for BG 44K® demo or diesel for BG 244® demo
- Sulfuric Acid
- Test tube with stopper
- Butane or propane torch
- Small waste container

THE DEMO

NOTE: Do not do this presentation in an enclosed area because the acid creates a very strong smell.

Before I can show you the cleaning ability of BG 44K,® I need to show you how deposits form and the chemical basis of those deposits.

1. **Pour two fingers of fuel in a test tube.**
2. **Pour two drops of acid in the test tube then replace the stopper.**
3. **Agitate.**

   Agitating causes the fuel to oxidize, by breaking down its component parts. Look at this test tube—see this white slime that's forming on the side of the tube? As I continue to roll the tube, more slime forms. These are called olefins and diolefins.
4. **Pour out fuel, leaving the deposits.**
5. **Heat the deposits gently at the top of the test tube until they turn black. Do not burn. Tip the deposits gently over the heated area at the top to show how deposits build faster and faster.**

Now you will see the carbon forming on the top of the test tube. Inside your combustion chamber, on top of the piston, you have a couple of thousandths of a gap when the piston comes to top dead center. That's all. When deposits form, that gap is shut down, you don't get proper burn and the timing retards. When you retard the timing, you lose power.

6. **Pour more fuel into the test tube to show what effect new fuel has on the existing deposits. Replace stopper.**
7. **Agitate.**

   The carbon has been washed down into the fuel. That will end up going down into your injectors and catalytic converter. Also, more slime is starting to form.
8. **Add BG 44K®/BG 244® to the fuel in the test tube, replace stopper.**

   BG 44K® will re-absorb the olefins and diolefins into the solution. These are soft deposits. Next, I'll show you how to remove the hard deposits.
9. **Agitate.**
10. **Use your finger to remove hardened deposits at the top of the test tube, then replace stopper.**

    The carbon is much harder to remove. Now, you can see the carbon wipes off as a powder. In your engine, this powder will be carried by the BG 44K® down through the system and go completely through the catalytic converter. It won't stick because every molecule is separated from the other molecules. This is how BG 44K® acts as a dispersant.
11. **Agitate.**
12. **Use your finger to remove hardened deposits at the top of the test tube again.**

    This is showing how BG 44K® goes down through the system and cleans it slowly, so you won't have any problems inside the system.

continued

In this hand, I have little pieces of chocolate that are separated and in this hand, I have M&Ms that are coated. If I close my hand and put this one under heat, within a few minutes the chocolate sticks back together and they will cause problems going back through your catalytic converter honeycomb. Ideally with the M&Ms, apply same amount of heat and they stay separate. That's exactly how a dispersant chemistry works. It keeps everything separated so it doesn't collect and it carries it out the tailpipe.

BG MOA® bearing machine demo

Objective: Demonstrate how effective BG MOA® is as a friction modifier.

BG PRODUCTS: BG MOA,® PN 110; BG Carb and Choke Cleaner, PN 411

SUPPLIES NEEDED

- BG Demo Machine, PN 980, with new bearing
- New engine oil
- Small amounts of gasoline, water, sulfuric acid
- Pliers (to loosen the bearing)
- Emery cloth (to clean machine)

THE DEMO

I will be demonstrating how effective BG MOA® is as a friction modifier. We have a new bearing inside the machine and when I press down on it we will be getting some pressure between the two metal surfaces. When there's no oil in there, we're going to get some friction, which will cause squealing. The noise is actually metal bonding together and breaking off. So we're creating a lot of wear without any lubrication at all.

1. **Turn on BG Demo Machine.**
2. **With no oil in the BG Demo Machine cup, slowly press down on the torque wrench until the machine locks up. Note the reading.**

   See the amount of wear we have on the bearing surface, running it under pressure with no oil present? What does an oil do? What function does it perform? It cools, cleans and lubricates.
3. **Rotate bearing to new surface.**
4. **Add oil to the BG Demo Machine cup until you see a film of oil on the surface of the machine wheel.**

   This is the cushioning effect to stop the friction.

continued

5. **Slowly press the torque wrench down again until the machine locks up. Note the reading.**

   As I push down on the torque wrench, I'm actually forcing the oil out of the way. The thinner the oil, the easier it moves out of the way. Since we have no lubrication, we're creating wear. This happens even faster when the oil is old.

   Let's look at the bearing surface now, it's scored very badly. That means we're creating a lot of wear inside the engine. And, also getting a lot of metal particulates going through the engine. The more metal floating around, the quicker it wears out the engine.

   Next, we're going to demonstrate what effects BG MOA® has on an old car.

6. **Using the same torn bearing surface, add a small amount of BG MOA® to the oil.**

   Let's see what effect BG MOA® has on the old bearing. Let's see how much pressure we can apply with BG MOA® added to an old engine.

7. **Slowly press down the torque wrench again until the machine locks up. Note the reading.**

   This is the impressive part. <**Show the bearing**> *If you remember what it looked like before, it was scored and ridged, and now, it's polished. We have a nice polished surface coming in contact with another polished surface with an automatic film left in between. Now, we get almost no friction and that increases your miles per gallon. Remember, that's with an old car.*

   Now let's see what happens with a new car with dirty oil.

8. **Rotate bearing to new surface.**

9. **Slowly press down the torque wrench again. Note the reading.**

   You can do this with other products, such as a chlorinated product, but a chlorinate actually creates problems inside your engine. It's a very good friction modifier, but if you take the chemical symbol for chlorine, which is a Cl, and you add hydrogen to it—which is in the water, the fuel, the air—and it attaches to that chlorinate, that makes hydrochloric acid. You don't want more acid in your engine.

10. **Add a small amount of water to the BG Demo Machine cup.**

    Let's go a step further. What happens to contaminated oil when you're driving down a road? Over a period of time, because of condensation and combustion water blow-by, your car will produce water that will get down into your oil. Depending on how many times you cycle the engine on and off.

11. **Add a small amount of gasoline to the BG Demo Machine cup.**

    Every time you turn the engine off, gasoline runs down past the rings and gets into the oil. We're diluting this oil down pretty badly.

12. **Add a small amount of acid to the BG Demo Machine cup.**

    Acids form in the crankcase over time and miles. I'm using sulfuric acid, which is an oxidizing agent. You'll start to see a color change. See how it's starting to get darker?

13. **Slowly press the torque wrench down again. Note the reading.**

    Let's see the results: This is a brand new car with dirty oil. <**Show bearing**> *You can barely feel that mark, and it's a polished mark. With all that pressure, you barely get any wear when using BG MOA® Even when you don't change the oil when you should, you can go a lot longer with BG MOA® in it than without.*

14. **Clean the BG Demo Machine with BG Carb and Choke Cleaner.**

BG MOA® acid demo

Objective: Demonstrate how BG MOA® protects engine components from the corrosive acids that build up in engines.

BG PRODUCT: BG MOA®, PN 110

SUPPLIES NEEDED

- Sulfuric acid
- Applicator bottle
- Shop rag
- Bottle of water
- Waste container

THE DEMO

NOTE: Do not do this presentation in an enclosed area because the acid creates a very strong smell.

1. **Remove jewelry. Remove cap from acid bottle.**

   I'm going to demonstrate the effects of BG MOA® on resistance to acid. Acids build up in your engine every 2,000 miles/ 3,200 km of driving.

   To resist acid in an engine, we need a Total Base Number (TBN). The total base number shows the alkali content or resistance to acid. The TBN of most engine oils, to last at least 3,000 miles/4,800 km, has to be a minimum of 6. For a diesel engine it has to be a minimum of 9.

   This little can of BG MOA® has a TBN of 33.4. It does get diluted into the oil, so it will boost the TBN by 3.

2. **Place a small amount of BG MOA® on the palm of your hand and rub your hands to cover both hands with BG MOA.®**

3. **Squeeze 10 drops of acid on your hand.**

4. **Let it sit while you talk.**

   Under normal circumstances, the acids build inside the engine. If I get a head gasket leak, slowly I'm putting ethylene glycol and water into my oil. Ethylene glycol can oxidize into various acids. These acids are detrimental in the crankcase.

5. **Remove carefully with shop rag and point out the acid damage to the rag.**

   BG MOA® will protect my hand the same way it will protect your engine. On my hands and in my engine, I want maximum protection, not just friction modification.

   NOTE: This demo also works with BG DOC® Diesel Oil Conditioner, PN 112.

BG MOA® penny/ paper clip demo

Objective: Demonstrate that BG MOA® stabilizes oil and makes it last longer while protecting metal components from carbon.

BG PRODUCT: BG MOA®, PN 110

SUPPLIES NEEDED

- Two pennies
- Two paper clips
- Two test tubes with stoppers
- Sulfuric acid
- New engine oil
- Butane or propane torch
- Demonstration tray lined with paper towels

THE DEMO

NOTE: Do not do this presentation in an enclosed area because the acid creates a very strong smell. Also, make sure to keep the test tube stoppers separate to avoid cross-contamination.

1. **Pour about one inch of oil into the first test tube and ¾ inch into the second.**

   The sample without BG MOA® has slightly more oil because the other test tube will have BG MOA®.

2. **Add about ¼ inch of BG MOA® into the second test tube and replace stopper.**

3. **Agitate gently.**

4. **Insert a penny with a paper clip attached into both test tubes and replace stopper.**

   The penny and paper clip represent the metals in the engine. The paper clip represents the steel—including bearings, rings and other components. The penny represents the copper in the engine. Let's see what happens when these metals become exposed to oil and other contaminants.

5. **Agitate gently. Be sure to get a nice coating of oil on both pennies/paper clips.**

6. **Add 20 drops of acid to each test tube and replace stopper.**

   An engine builds up to 2–4 pounds of acid every 2,000 miles/3,200 km.

7. **Agitate gently.**

   Note the dramatic change in color in both test tubes, especially the BG MOA® with the red dye. NOTE: BG MOA® is no longer dyed red.

8. **Heat evenly 10 seconds at a time. Repeat 4 times.**

9. **Set aside and allow to oxidize for five minutes. Demonstrate the BG MOA® or BG DOC® acid demo in your hand while waiting for the fluids to oxidize in the test tubes.**

10. **Pour out fluids with penny and paper clip into demonstration tray.**

    Notice the dark, thick, sludgy oil from the oil-only test tube. Notice the difference in the color of the BG MOA® oil.

11. **Note the clean BG MOA® penny and paper clip versus the deposit-covered penny and paper clip.**

    Notice the clean and shiny BG MOA® penny and paper clip. BG MOA® minimizes the amount of soot. Notice it doesn't cover your bearings and it doesn't stay in your oil. The other penny and paper clip are covered in soot and carbon. Soot will wear out your engine fast. Which one works best for you?

NOTE: The penny/paper clip demo does NOT work with BG DOC® Diesel Oil Conditioner, PN 112.

BG ATC Plus® acid demo

Objective: Demonstrate what happens with simple pan drop transmission service and how BG ATC Plus® can clean used transmission fluid.

BG PRODUCT: BG ATC Plus,® PN 310

SUPPLIES NEEDED

- Test tube with stopper
- Test tube stand
- Sulfuric acid
- New transmission fluid
- Small waste container
- Butane or propane torch
- Water (to be safe!)

THE DEMO

NOTE: Do not do this presentation in an enclosed area because the acid creates a very strong smell.

Transmission fluid breaks down because of the heat that is generated inside of that transmission. A transmission will run at 180°F/82°C and above. At 180°F/82°C the automatic transmission fluid will last 100,000 miles/160,000 km. Every 18°F/–7.7°C above that, you half the life of the fluid. At 198°F/92°C, it will last 50,000 miles/80,000 km, etc.

At 190–195°F/87–90°C the thermostat opens and transmission fluid goes into the transmission cooler to cool down. At 220°F/104°C degrees the fan comes on.

1. **Pour about two fingers of transmission fluid into the test tube.**
2. **Add two drops of acid and insert stopper.**
3. **Agitate.**

   Have you ever seen oil like that? All the time! You're getting sludge and varnish inside the test tube, and oil that does not flow properly.

   At a normal drain and fill, only 4–5 quarts/liters of fluid are removed. The average transmission holds 11.9 quarts/liters. This means only 40 percent of the fluid is removed. So, let's try that.

4. **Pour 40 percent of the fluid into the second test tube.**
5. **Add more transmission fluid and observe the color.**

   The fluid stays the same dirty color. Your customer won't be very impressed to see that same dirty color still in their transmission. If something goes wrong with the transmission, they will think you haven't changed the fluid.

6. **Add ¼ inch of BG ATC Plus® to the test tube.**

   When just doing the typical drain and fill, add BG ATC Plus® to the oil left behind. BG ATC Plus® will treat the fluid left behind, as well as help neutralize the acids and reduce the varnishes.

7. **Agitate. If color doesn't change immediately, apply heat.**

   <**Show both test tubes**> *Which one works better for you?*

BG Power Clean bearing machine demo

Objective: Demonstrate how BG Power Clean protects components from premature wear.

BG PRODUCT: BG Power Clean, PN 332

SUPPLIES NEEDED

- BG Demo Machine, PN 980, with new bearing
- Competitor power steering fluid
- Metal coat hanger
- One gallon jug of water

THE DEMO

I will demonstrate what happens in a power steering unit. When we apply weight to the torque wrench, two metals will grind against each other creating noise, (which also creates wear) similar to what happens in a power steering unit.

1. **Turn on BG Demo Machine.**
2. **Pour in competitor power steering fluid.**

   Now we have a film of oil that cushions and lubricates the two surfaces.

3. **Hang the jug of water from the torque wrench on the BG Demo Machine. Note the loud squeal of metals grinding.**

   That's fine without any pressure. Don't forget, a power steering pump can generate up to 2,000 pounds per square inch of pressure. This machine won't get anywhere close to that amount of pressure. Can you hear the wear taking place? This creates real problems in your system. It's the metals grinding.

4. **Add a capful of BG Power Clean. It may take up to a few minutes, but the squealing will stop.**

   See the heat being generated due to the friction. (As it quiets)

Isn't that amazing? So what I've got here is a clean, friction-free system. The smoke is disappearing. The temperature is going down. That's with only one capful. That's the power of BG Power Clean.

BG Ignition & Battery Terminal Sealer demo

Objective: Demonstrate how BG Ignition & Battery Terminal Sealer protects battery terminals from corrosion.

BG PRODUCT: BG Ignition & Battery Terminal Sealer, PN 490

SUPPLIES NEEDED

- Two power units that convert from 110-volt down to 12-volts/ 1-amp
- Power strip
- Four nails, sanded (IMPORTANT! The nails must be sanded)
- Four plastic clips
- Bottle of water
- Two beakers
- Salt

THE DEMO

1. ***Make sure power strip is turned off!*** **Clip the nails to the power units and plug them in to the power strip. Place two plastic clips on the rim of each beaker. These clips will hold the nails upright in the beakers.**
2. **Spray two nails (battery terminals) liberally with BG Ignition & Battery Terminal Sealer and allow to dry—generally five minutes.**
3. **Add about one finger of water to each beaker.**
4. **Add a pinch (equal amounts) of salt to the beakers.**

   Salt starts the corrosive reaction much faster.
5. **Immerse nails in the salt water.**

   We will be passing electric currents through these nails. There is BG Ignition & Battery Terminal Sealer on two terminals only, we shouldn't get near as much corrosion on these terminals.

6. **Turn on the power strip.**

   Notice one is starting to bubble and fizz already. The electric current is causing electrolysis to occur.
7. **Wait a few minutes and note the corrosion of the nails.**

   Notice the difference in the two beakers? You can see the difference in the colors between the two beakers. This is what would happen to your batteries without BG Ignition & Battery Terminal Sealer. This could cause tremendous voltage loss. Which one works best for you?

BG HCF bearing machine demo

Objective: Demonstrate that BG HCF protects against salt, water and heat.

BG PRODUCTS: BG HCF, PN 498; BG Carb and Choke Cleaner, PN 411

SUPPLIES NEEDED

- WD-40®
- BG Demo Machine, PN 980, with new bearing
- Water
- Propane or butane torch
- Sandpaper
- Salt
- Shop towel

THE DEMO

1. **Clean bearing surface with BG Carb and Choke Cleaner.**
2. **Turn on BG Demo Machine**
3. **Spray the bearing with WD-40.®**

   WD-40® stands for water displacement #40. Let's see how good it is as far as water displacement or as a lubricant. If it doesn't work as a lubricant on its own, it's not going to work with water either.

4. **Push down on the torque wrench. Note the wear on the bearing.**

   Let's see how far we have to go before we break through that WD-40® lubrication. The two metal surfaces are welding together and tearing apart, causing a lot of wear, a lot of friction and a lot of excess heat. The WD-40® withstood about 25 pounds before it broke through. Did the WD-40® actually achieve anything? No, not in this case.

5. **Turn to a new bearing surface.**
6. **Remove WD-40® with a towel.**
7. **Sand the surface with sandpaper.**

   The sandpaper gets rid of some of the welding that took place.

8. **Spray the bearing with BG HCF.**

   BG HCF stands for Heat, Corrosion and Friction. It's salt water resistant and handles up to 550°F/288°C before it drips. Let's test its lubrication qualities.

9. **Push down on the torque wrench. Note the absence of wear on the bearing.**
10. **Add water to the bearing machine cup.**

    Let's create adverse conditions for BG HCF.

11. **Add a pinch of salt to the BG Demo Machine cup.**

    Salt water is very corrosive. Let's put this to the test.

12. **Push down on the torque wrench. Note the absence of wear.**
13. **Push down on the torque wrench while applying heat. Observe results.**

    Remember, BG HCF will protect up to 550°F/288°C! Let's test that claim. See how far you have to push down on the torque wrench to create any wear at all.

BG Frigi-Clean® demo

Objective: Demonstrate the reaction that takes place inside the evaporator of an A/C unit when BG Frigi-Clean® is introduced.

BG PRODUCT: BG Frigi-Clean,® PN 709, and adaptor, PN 709A

SUPPLIES NEEDED

- Jar with lid drilled to accommodate 709 adaptor
- Used engine oil
- Dropper

THE DEMO

1. **Make a hole in the lid of the jar and insert the adaptor.**

   The jar represents the evaporator on the A/C unit.

2. **Use the dropper to spread the oil around the inside of the jar**

   Used oil represents the oil/deposits that may get in the evaporator. The oil stuck to the inside of the evaporator would be very difficult to remove without disassembly.

3. **Screw the cap on lightly. Fill jar with BG Frigi-Clean.®**

   Filling the jar simulates how we would fill the evaporator in the A/C unit.

4. **Wait for the foam to subside and note the oil sitting in the bottom of the jar.**

   The foam will gradually reduce down and it will carry the oil with it to the bottom of the jar. Unlike this jar, the bottom of an evaporator has a drain tube and the oil will drain out. BG Frigi-Clean® is also an antibacterial product, so it will also kill the molds and bacteria in your evaporator.

BG RF-7 bearing demo

Objective: Demonstrate how BG RF-7 protects components against the corrosiveness of acid.

BG PRODUCT: BG RF-7, PN 107

SUPPLIES NEEDED

- Competitor product (e.g. STP)
- Butane or propane torch
- Two clean bearings
- Two test tubes with stoppers filled with one finger of hydrochloric acid

THE DEMO

1. **Add about 2 fingers of competitor product to one test tube.**
   Notice how it sits nicely on top of the acid.

2. **Add about 2 fingers of BG RF-7 the other test tube.**
   There is very little difference in appearance of STP and BG RF-7.

3. **Tip test tube, gently roll bearing into each test tube.**
   Now, we see what happens to the metals inside an engine when the acid starts to build up. An engine builds up to 2–4 pounds of sulfurous and nitrous acid every 2,000 miles/3,200 km.

4. **Heat evenly only until you begin to see bubbles.**
   This heat simulates an engine heating up.

5. **Note the differences.**
   Observe that the bearing in BG RF-7 is hardly responding to the acid, while the bearing in the competitor product is quickly boiling as the acid is attacking the bearing. Eventually the STP (or competitor product) will start to develop sludge in the test tube. The sludge stops the compression by locking compression rings in place. Notice the etching that's already occurred in the competitor test tube. If left overnight, the bearing will be reduced to ash.

BG Fuel System Drier water demo

Objective: Demonstrate how BG Fuel System Drier removes water from fuel.

BG PRODUCTS: BG Fuel System Drier, PN 280 or BG Ethanol Fuel System Drier, PN 281

SUPPLIES NEEDED

- Two test tubes with stoppers
- Butane or propane torch
- Heet®
- Gasoline sample
- Water
- Dropper

THE DEMO

Water forms in the fuel system from condensation. We want to make sure that when the water is in there, it doesn't cause corrosion.

1. **Pour two fingers of fuel into each test tube.**
2. **Add a few drops of water to each test tube. Replace stopper and agitate**

   When I shake it up, you'll notice the water droplets appear on the sides of the test tube. <**You can add food dye to the water, which makes it show up a lot better**> *Water is causing corrosion, oxidation and can freeze in certain temperatures.*
3. **Add about one finger of Heet® Replace stopper and agitate.**

   Heet® is the number one selling additive in the world. It has not completely absorbed the water.
4. **Add about one finger of BG Fuel System Drier to the other test tube.**

5. **Note how BG Fuel System Drier causes the water to become soluble in the fuel.**

   You'll notice the water is gone immediately. No shaking is needed. There is no water left at the bottom. That will actually stay like that for years. Even if you don't run your car, this is still going to be working in your fuel tank.

BG Supercharge® II demo

Objective: Demonstrate how BG Supercharge®II stabilizes fuel and protects metals from corrosion.

BG PRODUCTS: BG Supercharge® II, PN 2026; BG Fuel System Drier, PN 280, or BG Ethanol Corrosion Preventer, PN 2126; BG Ethanol Fuel System Drier, PN 281

SUPPLIES NEEDED

- Water
- Heet®
- Sta-bil® or other competitor product
- Gasoline
- Test tubes with stoppers
- Beakers
- Stir sticks
- Butane or propane torch
- Two power units that convert from 110-volt down to 12-volts/ 1-amp
- Power strip
- Four nails, sanded
- Four plastic clips

THE DEMO

1. ***Make sure power strip is turned off!*** **Clip the power units to the nails and plug them in to the power strip. Place two plastic clips on the rim of each beaker. These clips will hold the nails upright in the beakers.**

   This first step is to treat the fuel with BG Fuel System Drier because ethanol is in most fuel today. Fuel that doesn't contain ethanol is dielectric, which means it is not a normal conductor of electric current. Ethanol attracts water to its proximity and water is highly corrosive.

2. **Add water to each test tube.**

   Notice the fuel and the water do not mix.

3. **Add gasoline to each test tube.**
4. **Add Heet® to one test tube.**
5. **Add BG Fuel System Drier to the other.**
6. **This test tube step removes the moisture from the ethanol-containing fuel. Pour contents of the test tubes into separate beakers.**
7. **Add one pinch of salt in beakers.**

   The salt is used in ASTM testing to speed up the corrosive process.

8. **Add 5 drops of Sta-bil® to Heet® treated fuel beaker and stir.**
9. **Add 5 drops of BG Supercharge® II to the BG Fuel System treated beaker.**

   BG Supercharge® II does not need to be stirred, but to make it equal, stir.

10. **Add more gasoline to both beakers.**
11. **Turn on the power strip.**
12. **Wait about 5 minutes and then turn off the power strip. Observe the results.**

    The yellow color shows corrosion is occurring. This is what happens when fuel sits in a tank. Once the fuel is corroded like this, you need a clean up product like BG 44K.® As you can see, BG Supercharge® II helps prevent this corrosion. Which one works best for you?

NOTE: This demo also works with BG CF5,® PN 203

BG Deposit Control Additive in Fuel Test Kit

Objective: Demonstrate the cleaning strength of BG fuel system cleaners compared to competitor product.

BG PRODUCTS: Deposit Control Additive in Fuel Test Kit, PN 995DCA; BG 44K,® PN 208, or BG 244,® PN 244

SUPPLIES NEEDED

- Competitor fuel system cleaner
- Small beaker
- 30 mL gasoline for BG 44K® demo or diesel fuel for BG 244® demo
- Extra fuel for rinsing beaker
- Droppers (one for each product)
- Small waste container

THE DEMO

This is a test for nitrogen content of fuels. This is not our test, this is an industry standard test used to determine the cleaning strength of fuel additives.

I'm going to look for the comparative nitrogen content in these products. Nitrogen content means amine chemistry. We get this by taking a base stock fluid, such as ether or butene. We're looking for polyetheramine, or polybuteneamine in there. Amine has nitrogen content, poly means many. So, we have many molecules of ether.

On each molecule of ether, there are 5 molecules of hydrogen. If I remove some of those molecules of hydrogen and replace them with nitrogen, then I have a cleaner. If the base stock is butene, I have a polybuteneamine.

According to the WorldWide Fuel Charter, the only chemistry that will clean the entire fuel system is polyetheramine chemistry, which is what BG uses.

To start this process, I need to test the fuel for additives.

1. **Add 10 mL of fuel to the beaker.**
2. **Add 5 drops of Indicator B.**
3. **Agitate**

   If there is nitrogen present, this will change color to a blue or purple. <**When fuel turns to blue or purple**> *Now I need to test and see how strong the additive package is.*
4. **Add one drop at a time of Titrant A and agitate until it reaches the original color. Record result.**

   When it turns back to its original color that tells me how strong the package is. <**Read the chart with the DCA test kit**>
5. **Pour fuel in waste container and rinse beaker with extra fuel.**

   Now, we're going to test the additives.
6. **Add 10 mL of fuel to the beaker.**
7. **Add 2 drops of competitor product.**

   Now I have the cleaner as well as the fuel.
8. **Add 5 drops of Indicator B and agitate.**
9. **Add one drop at a time of Titrant A and agitate until it reaches the original color. Record number of drops required.**
10. **Pour fuel in waste container and rinse beaker with extra fuel.**
11. **Add 10 mL of fuel to the beaker.**

    This time, I'll try some BG 44K®/BG 244.® This one is our shock treatment product, you use this in 20–40 gallons/75–151 liters of diesel fuel with one quart/liter of BG 244.®
12. **Add 2 drops of BG 244.®**
13. **Add 5 drops of Indicator B and agitate.**

    As soon as I start to put it in there you start to get a color change. It's a nice blue color. Nitrogen shows you how strong it is, how much cleaning ability it has.
14. **Add 15 drops, one drop at a time, of Titrant A and agitate.**

We've definitely strengthened this rather dramatically. When I read the chart for 15 drops, it says "10–15 drops: cleans the entire fuel system, cleans the fuel injectors in 250–1,500 miles/400–2,400 km, cleans intake ports and valves in 2,500–7,500 miles/4,000–12,000 km."

15. Add 15 more drops, one drop at a time, of Titrant A and agitate. Read results.

30 drops, quite impressive! And, it's still nice and blue. The chart only goes as far as 16-plus drops. It says, "Keeps entire fuel system clean, gives rapid clean-up of the entire fuel system." When you say entire, you're saying everywhere there is carbon. Don't forget this type of chemistry does not burn, it passes through the combustion chamber, will go down and clean the sensors and catalytic converter. So, we're doing a complete clean-up.

16. Add more drops until it reaches the original color and record results. Compare to other fuel system cleaners.

We believe in additives. Polyetheramine chemistry is the only chemistry that cleans the entire fuel system from the pump and tank right through the catalytic converter.

Many people are interested in going green. First, we're going to clean up your system. When you have a clean system, it's like you have a brand new car. When you use less fuel, you waste less fuel, that means there are fewer hydrocarbons out of the tailpipe, and less carbon monoxide. The car burns at a lower temperature, so less nitrogen oxide, NO_X.

The biggest thing, at the moment, is carbon dioxide. This comes from the fuel itself. The more fuel I use, the more carbon dioxide that is produced. Every gallon of fuel releases 20 pounds of carbon dioxide, during the combustion process. If I can clean your engine up and give you more miles per gallon, I'm going to reduce 20 pounds of carbon dioxide output for every gallon you've saved. It's slightly higher with diesel than it is with gasoline.

We want your car running as clean as we possibly can.

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