



## RECOMMENDED MAINTENANCE





## MINOR FUEL FUEL SYSTEM SERVICE

## WHY DOES MY VEHICLE NEED A FUEL SYSTEM SERVICE?

- Fuel Injectors deliver fuel to the engine's combustion chamber by spraying a very fine mist that is easily burned up in the combustion process. Over time injectors may get clogged by dirt, gum and varnish from the fuel system. This results in wasted fuel, loss of fuel economy, and decreased performance and engine response.
- Oxygen Sensors continually send information to your vehicle's computer system, allowing the computer to adjust the fuel mixture of gas and oxygen being burned. A fouled oxygen sensor can send improper or delayed information to the computer, which causes poor fuel economy, poor performance and increased emissions.
- Water in the fuel system regularly occurs due to condensation and ethanol blended fuels. Issues like hesitation and misfire, as well as the possibility of corrosion of fuel system components, are often the result of failing to eliminate water from the fuel system.

## **HOW IT ALL WORKS**

Regular use of our specially formulated **Multi-Purpose Fuel Treatment** will ensure trouble free driving by......

- Rapidly cleaning Fuel Injectors to improve fuel atomization (the breaking
  of fuel droplets into a fine mist). Smaller gas atoms burn better, which gives
  you more energy and less unburned fuel out your exhaust. That translates
  into better fuel economy and lower emissions.
- Cleans fouled **Oxygen Sensors**, restoring fuel economy, performance and lowering emissions.
- Chemically changes Water in gasoline into a combustible hydrocarbon which is then harmlessly burned off with the gasoline.



## WHAT WE DO

- Remove deposits from Fuel Injectors, restoring spray pattern.
- Clean up fouled
   Oxygen Sensors,
   restoring proper fuel mixture.
- Eliminate problems caused by water in the fuel system.

# FORE & AFTER







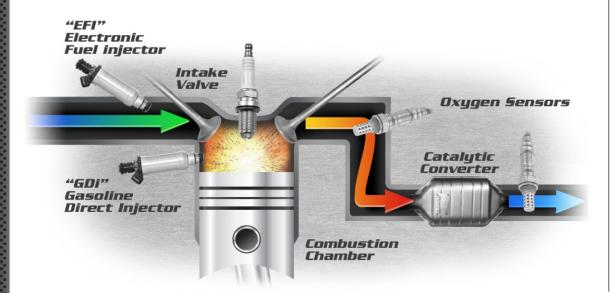
## FUEL SYSTEM DECARBONIZATION

## WHY DOES MY VEHICLE NEED A FUEL SYSTEM SERVICE?

- Fuel injectors spray a fine mist delivering fuel into the engine's combustion chambers. Injectors may get clogged by dirt, gums and varnishes from the fuel.
- All gasoline engines accumulate carbon deposits. This build-up may be accelerated on Gasoline Direct Injection (GDi) designs.
- An incomplete combustion of the fuel will also generate carbon build up behind the valves. This will prevent the valve from seating properly and results in lost engine compression and performance.
- Regular maintenance will restore gas mileage, throttle response and engine performance

## **HOW IT ALL WORKS**

Regular use of our specially formulated cleaning agents will eliminate carbon build-up and restore engine performance.



## WHAT WE DO

- Will remove carbon deposits from intake valves, combustion chambers, Turbo, and O<sub>2</sub> sensors.
- Rapid clean up of fuel tank.
- Removes moisture & condensation.
- Cleans fuel lines & injector tips.

## Fuel Injectors









**Combustion Chamber** 





# FORE & AFTER



## AIR INTAKE/ THROTTLE BODY CLEAN

## WHY DOES MY VEHICLE NEED TO HAVE ITS AIR INTAKE CLEANED?

- Unburned fuel and oil vapours create an oily, sticky residue that is carried up into the air intake system.
- These contaminates accumulate on the throttle blade, and inside the throttle housing, altering and restricting normal low-speed airflow into the intake.
- Varnish and gum deposits may cause a serious air leak by preventing the throttle blade from closing when the driver takes his foot off the gas.
- Deposits may hamper vacuum operated components by clogging vacuum ports inside the intake plenum.
- Deposits can dampen throttle response by coating, with gummy residue, various sensors.

## **HOW IT ALL WORKS**

A specially designed tool atomizes a unique formulation of cleaners into a fine mist, which removes gum and varnish residue in the throttle body and air intake system.



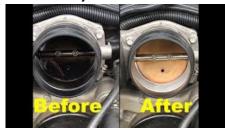
## WHAT WE DO

- Remove gum and varnish from Throttle Body and Air Intake.
- Clean sensors and internal components of Induction System.
- Restore proper air flow for best combustion in the engine.
- Eliminate need for expensive component replacement.

## **MAP Sensor**



Throttle Body





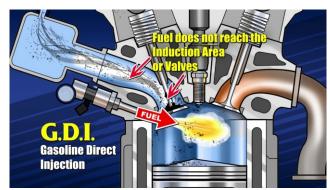
## GAS DIRECT INJECTION (GDI)/INDUCTION SYSTEM CLEAN

## WHY DOES MY GDI EQUIPPED VEHICLE NEED TO HAVE ITS FUEL AND AIR INDUCTION SYSTEM CLEANED?

- Newer engine designs incorporate Gas Direct Injection, GDI fuel systems, where fuel is injected directly into the combustion cylinder. This no longer allows for fuel to wash over intake valves and port areas to help keep them clean.
- Oil vapours from the crankcase create oily, gum and varnish deposits on the back of the valves. In time, a hard carbonaceous buildup is formed. These deposits cause lean/rich running conditions as well as other driveability problems.
- Migration of this sticky residue up into the induction system also hampers proper use of vacuum operated components and sensors.

## **HOW IT ALL WORKS**

A two part cleaning process has been designed to dissolve or break down deposits without disassembling parts of the intake assembly. The cleaner will emulsify these deposits,



including those on the back of the valves, and the rinse will remove the softened deposits without harming downstream components.

## WHAT WE DO

- Remove hard carbonaceous deposits that build up on the back of the valves.
- Clean air intake and induction system components, restoring proper air flow.
- Increase fuel economy, lower emissions and restore power.

# ORE & AFTER

## Air Intake





## **Valves**





## ENGINE CLEANING SOLUTION

## WHY DOES MY VEHICLE NEED AN ENGINE CLEANING SERVICE?

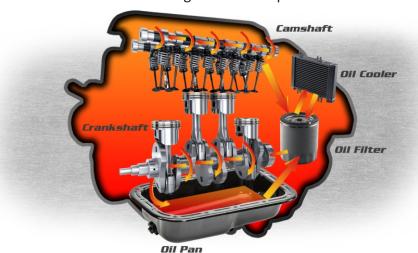
Many conditions can cause the formation of deposits from your engine oil including sludge, varnish & moisture. These deposits can cause increased friction of engine components and decrease or clog oil circulation.

## These include:

- Frequent short distance trips may not allow enough time for moisture to evaporate. Moisture in the oil shows up as a thick white substance
- Driving past the recommended service interval or topping off the oil level can cause oil to thicken forming sludge
- Driving with a low oil level raises the operating temperature and causes varnish build-up

## **HOW IT ALL WORKS**

The entire engine oil lubrication system is cleaned to assure maximum oil circulation. Extracting sludge, varnish, and contaminants allows oil to flow normally reducing engine wear and better lubricating internal components.



## WHAT WE DO

- Cleans internal engine components and oil passages
- Reduces friction and engine wear
- Increases the life and performance of your engine
- Works with gas and diesel engines
- Formulated to work with conventional and synthetic oils

## & AFTER



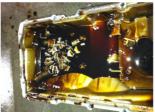


Sludge



Varnish







## **ENGINE**OIL TREATMENT

## WHY DO I NEED TO ADD AN ADDITIONAL OIL TREATMENT TO MY NEW OIL?

Most manufacturers have now extended engine oil changes from 5,000 KM to 8,000, or even 12,000 KM. Engine oil is now being asked to maintain its ability to properly lubricate the engine for up to six months, or more, of average driving. During that time sludge, varnish and other contaminates can begin to increase wear of engine components. Other driving factors that should also be taken into consideration include:

- All the additional hours on the engine that do not show up on the odometer (stop and go traffic).
- Driving under the adverse "extreme driving conditions" most drivers encounter every day (extremes in temperature variation, dusty roads, high humidity).
- Short driving distances when the vehicle does not have a chance to reach operating temperature. This does not allow time for moisture in the crankcase, which is often witnessed as a white sludge around the oil filler cap, to evaporate.

## **HOW IT ALL WORKS**

The addition of our **Oil Treatment will reduce by 85% the oil vapours** that contribute to Intake Valve Deposits and sludge on engine components. It provides additional protection to all engine components from the negative affects of all naturally occurring day-to-day driving conditions, that stretch your motor oil's ability to remain stable for the entire recommended oil change interval.

## **WHAT WE DO**

- Reduces or eliminates white sludge caused by ethanol blended fuels
- Reduces by up to 85% the oil vapours that contribute to Intake Valve Deposits
- Increases the life and performance of your engine
- Formulated to work with conventional and synthetic oils

# FORE & AFTER





With Oil Treatment





## DIESEL SYSTEM CLEANING SOLUTION

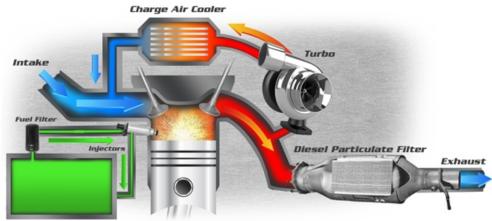
## WHY DOES MY VEHICLE NEED A DIESEL SYSTEM SERVICE?

Diesel systems can experience these common issues:

- EGR System The EGR System recirculates burned exhaust gases back into the combustion chamber. The entire circuit, and EGR valves in particular, get clogged with carbon and soot. This can lead to rough idling, hesitation and loss of power.
- Injectors Deposits from the combustion process can accumulate on the injectors. This can affect fuel economy and engine performance
- Fuel Tank Water from condensation accumulates in the fuel tank. This can lead to the growth of bacteria which over time can clog fuel injectors and fuel filters.
- Diesel Particulate Filters Soot from combustion accumulates in the DPF. Greater soot output increases the frequency of regeneration cycles

## **HOW IT ALL WORKS**

The entire system is cleaned for improved performance. Your engine's power will be restored as emissions decrease. Your vehicle will experience fewer regeneration cycles.



Fuel Tank

## WHAT WE DO

- Removes carbon and soot from the EGR circuit including EGR valve, turbo vanes, and EGR coolers
- Cleans the entire diesel system to restore power and engine performance
- Eliminates water from the fuel tank
- Reduces soot output reducing the frequency of DPF regeneration cycles

## Fuel Injectors





**EGR Valves** 





Turbocharger







## BRAKE FLUID CLEANING SOLUTION

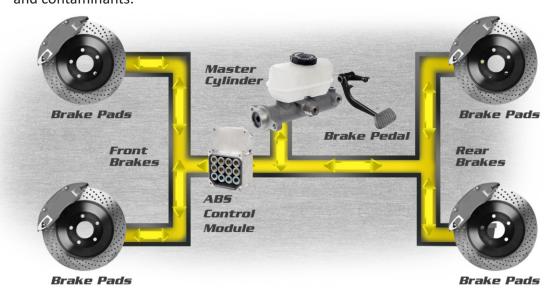
## WHY DOES MY VEHICLE NEED A BRAKE FLUID SYSTEM SERVICE?

Brake Fluid is hygroscopic - it attracts and holds moisture. Excess moisture and heat can lead to fluid oxidation and deterioration. Modern brake systems equipped with Anti-Lock Brakes (ABS) or a Traction Control System are sensitive to this brake fluid breakdown and can lead to system failure. More importantly, your brake system performance may be compromised when you need it the most.

Changing the brake fluid eliminates the moisture and contamination that may be present in your brake fluid system. Manufacturers recommend the brake fluid be replaced periodically to eliminate moisture and contaminants from the system.

## **HOW IT ALL WORKS**

Your brake master cylinder is emptied of old fluid. We then connect our advanced equipment to introduce new TerraClean High Performance Brake Fluid. The entire brake fluid system is bled purging your system of air, moisture and contaminants.



## WHAT WE DO

- Cleans contaminated fluid and corrosion deposits
- Restores braking effectiveness and shortens braking distance
- Anti-Lock Brake and Traction Control Systems will be protected

## New Fluid



## **Moisture Contaminated**



Oxidized





## COOLANT CLEANING SOLUTION

## WHY DOES MY VEHICLE NEED A COOLANT CLEANING SERVICE?

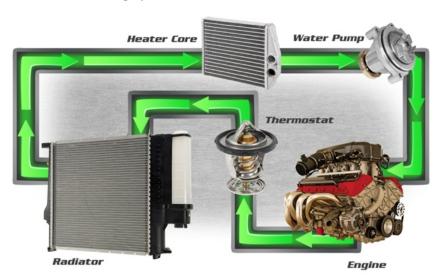
Proper maintenance of your cooling system is vital to keeping your vehicle reliable.

Over time, protective agents in the coolant/anti-freeze will break down and become acidic. This acidic fluid will eat away at the internal components of the cooling system and will appear as black particles in the fluid. The presence of white particles indicates mineral deposits from the coolant/water mixture.

Both of these conditions indicate a serious issue and can be resolved with a complete cooling system fluid exchange.

## **HOW IT ALL WORKS**

The TerraClean cooling system service cleans and treats the entire system, removing the build up of contaminants which can compromise the performance of your vehicle's cooling system.



## WHAT WE DO

- Rust and scale are removed to improve coolant flow, heat transfer and extend component life
- Re- establishes the proper PH levels protecting your vehicle from over-heating and freezing temperatures

## COOLANT CONTAMINATION

If contamination is present a coolant fluid exchange is recommended



## **White Particles**

Presence of scale and lime deposits will eventually clog fluid passages and reduce heat transfer or engine cooling.



## **Black Particles**

Fragments of internal components like seals, head gasket, rubber hoses, water pump and/or coolant fluid additive agents are failing. The fluid has lost its protective properties.



## TRANSMISSION CLEANING SOLUTION

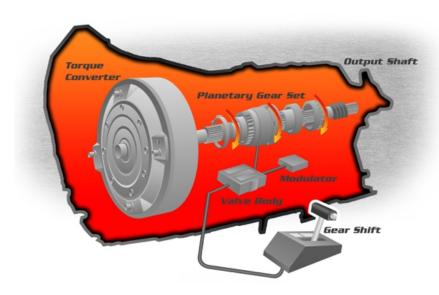
## WHY DOES MY VEHICLE NEED AN AUTOMATIC TRANSMISSION SERVICE?

According to the Automatic Transmission Rebuilders Association, 90% of all transmission failures are caused by overheating due to worn out fluid that should have been replaced.

The transmission is one of the "hottest" spots in your vehicle's drive train. Over the course of time, this heat breaks down the transmission fluid. The deteriorated fluid loses its protective agents and can lead to varnish and sludge build-up which could eventually clog the passageways and valves inside your transmission.

## **HOW IT ALL WORKS**

The TerraClean automatic transmission tune-up service cleans and treats the entire system, removing the build up of contaminants which can compromise the performance of your vehicle's transmission.



## **VHAT WE DO**

- Safely removes harmful sludge, contaminants, and varnish build-up
- Reduces friction and wear
- Revitalizes transmission seals and o-rings
- Restores smooth shifting

# STAND Internal Components Internal Components



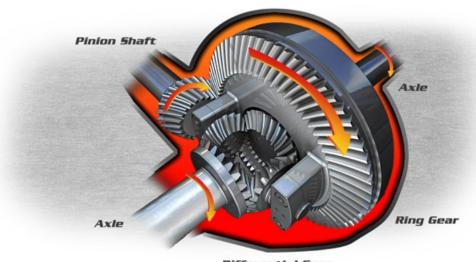
## DIFFERENTIAL CLEANING SOLUTION

## WHY DOES MY VEHICLE NEED A DIFFERENTIAL FLUID SERVICE?

Power is delivered from your vehicle's engine through the transmission and on to the differential to turn the wheels. A differential allows the wheels to rotate at different speeds. This is important when you are turning a corner as the wheels on the inside of the corner must rotate at a slower speed than the wheels on the outside. Just as your engine needs to have its old oil changed, the differential fluid also needs to be changed.

## **HOW IT ALL WORKS**

The TerraClean differential fluid service removes harmful moisture and contaminants from your differential which can compromise durability.



Differential Gear

## WHAT WE DO

- Moisture & contaminants will be cleaned from your differential preventing wear and damage
- Better heat transfer, slowing oxidization and increasing the life of these valuable components
- Protects gears and bearings against the harmful effects of moisture

## Metal Wear



Moisture/Sludge



Breakdown



## Metal Wea



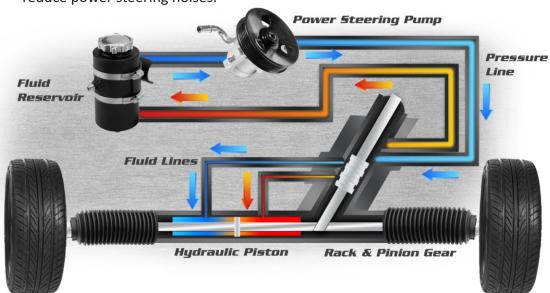
## POWER STEERING CLEANING SOLUTION

## WHY DOES MY VEHICLE NEED A POWER STEERING SYSTEM SERVICE?

The fluid in your power steering system is subjected to extreme heat and pressure. This can cause the fluid to break down and oxidize, decreasing its ability to lubricate the system. The seals and o-rings in the power steering system may dry out and leak and the steering can be come harder and much noisier. Performing regular preventative maintenance on your vehicle's power steering system will ensure lasting performance.

## **HOW IT ALL WORKS**

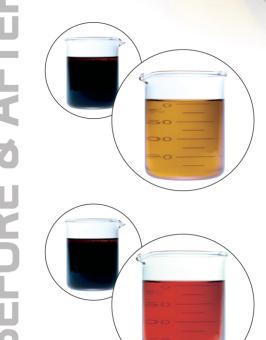
TerraClean's proprietary formula is a safe and powerful cleaner which suspends and removes contaminants in the power steering system helping to extend the life of the power steering components. Old power steering fluid is replaced with fresh TerraClean Power Steering Fluid and Conditioner which helps condition seals and reduce power steering noises.



## WHAT WE DO

- Cleans deposits & removes contaminants from the system giving you quieter operation & reduced steering effort
- Replace with fresh new fluid
- Internal seals in the power steering pump and rack & pinion gear will be reconditioned helping to prevent leakage and noise

## Clear Fluid & Red Fluid





## BATTERY SERVICE CLEANING SOLUTION

## WHY DOES MY VEHICLE NEED A BATTERY SERVICE?

Today's vehicles have many electrical components that depend on consistent electrical voltage to operate normally. Battery corrosion can rob these systems from the voltage needed and can drain a battery even when the vehicle is turned off.

Protect your electrical system by having a TerraClean Battery Service performed today.

Your professional technician will apply TerraClean Battery Terminal Cleaner & Leak Detector to locate and neutralize any acid leaks from your battery. They will install battery protectant pads to top post battery terminals to prevent the build up of corrosion.



## WHAT WE DO

 This service will protect battery cables from contamination and keep your electrical system transmitting the proper voltage.







## VENTILATION CLEANING SOLUTION

## WHY DOES MY VEHICLE NEED A VENTILATION SYSTEM SERVICE?

As moisture becomes trapped in the ventilation system of a vehicle, mold and mildew can grow. Every time you turn on the fan, harmful spores and other microorganisms are blown into the air you and your passengers are breathing. This can be a serious health concern for drivers and their passengers.

This DWD2 Clean Air Service treats mold, mildew and bacteria from the ventilation system and its associated odors. By treating the entire ventilation system of a vehicle and cabin surfaces it will eliminate microorganisms and improve the air quality for the passengers, removing "that musty smell".

## **HOW IT ALL WORKS**

The professional grade foam cleaner improves heating and cooling by passing through the evaporator core and case, thus effectively treating the entire ventilation system by removing mold, mildew and bacteria from circulating in the



## WHAT WE DO

- Treats the entire ventilation system neutralizing mold, mildew and bacteria
- Removes Musty Smell and improves Air Flow
- Creates a healthier environment for driver and passengers

# Bacte





## **FLUID MAINTENANCE SERVICES**

**Battery Service** 

Recommended Every

15,000 Km





**Cooling Service** Recommended Every 40,000 Km



**After** 







**Diesel EGR Service** Recommended Every 40,000 Km

















**Power Steering** Service Recommended Every 40,000 Km





In-Car Air Quality Service Recommended Every Yearly









**Differential Service** Recommended Every 45,000 Km

**Before** 







**Fuel Service** Recommended Every 40.000 Km

Before









**Transmission Service** Recommended Every 50,000 Km

**Before** 





**Brake Service** 

40,000 Km

Unsafe

Recommended Every



