

KEEP THIS IN THE GLOVEBOX

THE DIESEL TRUCK QUICK CHECK

Twelve things to look at once a month on a Power Stroke, Cummins or Duramax — plus a pre-tow page.
What good looks like, what bad looks like, and what to do about it.

Fifteen minutes, once a month.

Engine off, engine cold, flat ground.

Almost no tools.

Gauge, flashlight, rag, drain pan, short hose.

Nothing here opens a pressurized system.

But read the three rules first.

THREE RULES YOU DON'T BREAK

NEVER OPEN A FUEL LINE

Diesel injection runs at 26,000 to 36,000 psi. A pinhole spray goes through skin and is a surgical emergency, not a cut. Leave every fuel line and injector alone. If fuel ever breaks your skin, go straight to an emergency room and say it is a **high-pressure injection injury** — even a pinprick. Hours matter.

NEVER OPEN A HOT COOLING SYSTEM

It is pressurized and above boiling. It comes out as steam. Wait until the engine is cool enough to touch. Ford 6.7L owners: there are two separate systems.

NEVER USE STARTING FLUID

Ether ignites before the injection timing on a glow-plug or grid-heater engine. It breaks pistons and bends rods. Use the block heater instead.

WHAT THE COLORS MEAN

ALL GOOD

Nothing to do. Write down what you saw so you can compare next month.

FIX IT SOON

Not an emergency. Schedule it, or fix it yourself in the next week or two.

STOP NOW

Don't drive it. Call a diesel shop or a tow before you go anywhere.

STOP DRIVING AND CALL FOR HELP IF...

- You can smell fuel, or you find a wet fuel leak
- The brake pedal sinks or feels soft
- The red oil pressure or coolant temperature light comes on
- Steam or smoke comes from under the hood
- Coolant keeps disappearing with no puddle underneath
- Any tire has a bulge, or shows cords or wire
- You hear grinding when you brake
- The check engine light is **flashing**
- You smell exhaust in the cab, or feel dizzy — windows down, pull over, get out

MONTHLY TICK SHEET

☐	01 Drain the water separator	☐	07 Batteries and terminals
☐	02 Engine oil level and look	☐	08 Dash messages and lights
☐	03 Coolant (both bottles on a Ford)	☐	09 Tire pressures, all six if dually
☐	04 DEF level	☐	10 Tread depth and sidewalls
☐	05-06 Regen behavior, cooler boots	☐	11-12 All lights, drips underneath

Engine: _____ Year: ____ PSI f ____ r ____ Oil: _____ Qty: ____ qt Shop: _____

WILL C. VOGEL

Quick Guide — companion to *The Diesel Truck Owner's Handbook*

FUEL & FLUIDS

Engine off, engine cold. Four checks, and the first one is the most valuable in this guide.

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01 DRAIN THE WATER SEPARATOR



Water sinks to the bottom of the fuel filter housing. There is a drain at the bottom. Open it, let a little out, close it.

- **Ford:** frame rail, hand-turn the plug. **Ram:** engine-mounted housing, driver side. **GM:** passenger side — hose on, bleed screw cracked first.
- Do it at every oil change, and any time you fuel at an unfamiliar or rural pump.
- Prime after: **Ford** key ON 30 s, OFF, three times. **Ram** cycle to RUN 10–12 times. **GM** hand primer until fuel runs clear.

OK Clean fuel comes out, no water layer. Close it up.

SOON Water comes out most times you drain. Your fuel source or your cap seal is letting water in.

STOP Water In Fuel light on. Stop at the next safe opportunity and drain it — do not keep towing or running the highway. Water wrecks a five-figure injection system.

02 ENGINE OIL



Pull the dipstick, wipe it, push it all the way back in, then pull it and read the tip. Your engine holds 10 to 15 quarts, so a quart low looks like nothing.

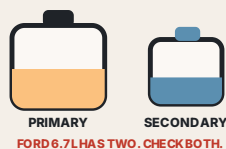
- Between the marks. Dark is normal on a diesel — it goes black fast and that is fine.
- Oil **above** full on a truck that does short trips usually means fuel dilution from regens.
- Never use FA-4 oil. It looks identical on the shelf and none of these engines take it.

OK Between the marks, black and slippery.

SOON Low: top up half a quart at a time through the filler cap on the engine, never down the dipstick tube. A level that slowly climbs means fuel dilution — shorten your oil interval.

STOP Milky or creamy oil, or the red oil pressure light on while driving. Shut it off.

03 COOLANT



Read the level through the plastic. Do not open anything. If you own a Ford 6.7L there are **two** tanks with two separate levels — check both.

- Never mix coolant types. Ram HOAT and OAT together turn to gel.
- A sealed system should not use coolant. A falling level means a leak somewhere.
- Coolant vanishing with no puddle can mean an EGR cooler. Get it looked at.

OK Both tanks between MIN and MAX, cold, and the fluid is bright.

SOON Slightly low, or rusty and cloudy: book a cooling system check.

STOP Empty, or the temperature gauge climbing. Pull over and let it cool fully.

04 DEF



The blue cap. Diesel Exhaust Fluid is not an additive and never goes in the fuel tank. Fill it from a sealed jug, with a funnel that has never touched fuel or oil.

- **No DEF tank at all** on 2008–2010 Fords, 2007–2012 Rams, or 2007–2010 Duramax. Skip this check.
- Budget roughly a gallon every 800 to 1,200 miles, more when towing.
- It freezes at 12°F. That is normal and harmless — the truck heats the tank. **Never add anything to stop it freezing.**
- Jugs keep about a year. Store them cool and out of the sun.

OK Gauge or message shows plenty of range left.

SOON Low warning: add at least **2 gallons**. A splash may not lift the sensor enough to clear it.

STOP Anything but DEF in the tank — fuel, oil, or tap water. Do not run the engine. Get it drained. (A countdown is not a stop: add 2 gallons and it clears.)

05 THE EXHAUST FILTER



Your truck burns its own soot off, on its own. That is a regeneration. Idle rises, the fan roars, the exhaust smells hot and fuel economy dips for a while. Nothing is wrong.

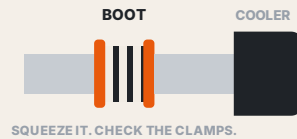
- **Keep driving above 30 mph** until it finishes. Shutting off part-way through, again and again, is how owners ruin a filter.
- Short trips are the enemy. One 20 to 30 minute highway run a week fixes most of it.
- Never park or idle over dry grass during a regen. The exhaust is hot enough to start a fire.

OK Regens happen, finish, and you barely notice.

SOON Regens noticeably more often than every hundred miles, or a filter-full message: take a long highway drive first, then get it scanned if it stays.

STOP Filter full **with power reduced**. Driving will not clear it now. Stop towing and book a shop.

06 COOLER BOOTS



Squeeze the big rubber boots between the turbo, the charge air cooler and the intake, and check the clamps are tight. Do it before you tow.

- Heat and oil mist harden them. They split or blow off under boost — exactly when you are pulling a trailer.
- Symptoms: sudden power loss with a whoosh, black smoke, a check engine light.
- Oil pooled inside the cooler means a turbo seal or heavy blow-by. Get that looked at.

OK Boots firm and springy, clamps tight, no oil.

SOON Hard, cracked or oil-soaked boots. Cheap to replace, and much cheaper than being stranded with a trailer.

STOP A boot off or split. The truck runs badly and makes black smoke. Do not tow on it — fix it first.

07 BATTERIES



You have two, and they work as a pair. Look at all four posts for crusty buildup and try to wiggle each cable clamp. Glasses on, rings off, no tools across the posts.

- A Cummins grid heater pulls 100 to 200 amps before the starter even turns. Weak batteries show up here first.
- Replace **both together, matched**. One old battery drags the new one down.
- Expect three to five years, less in heat. Write the date on them.
- Check recalls by VIN at [nhtsa.gov](https://www.nhtsa.gov) — free. Some Rams have live fire-risk recalls.

OK Clean posts, tight clamps, flat sides, and cranking is quick and even.

SOON Crust on a post, or slow lazy cranking on a cold morning. Get both load-tested individually, free at most parts stores.

STOP A swollen or split case, or a rotten-egg smell. Do not jump-start it.

08 DASH MESSAGES



Turn the key to ON without starting. Every lamp lights up. Take a photo — that is every warning your truck can show you.

- Red means stop. Amber means schedule it. Green or blue just means switched on.
- A DEF or exhaust-filter countdown **is your window**. It is telling you how long you have.
- Free code reads at most parts stores. A code names a circuit, not a part to buy.

OK All lamps come on at key-on, then go out once running.

SOON A steady amber light, or a countdown that has started. Act while the number is still big.

STOP Any red light while driving, or a flashing check engine light. Pull over safely and shut it off.

THE REST OF THE TRUCK

Heavy truck, heavy loads. These four are where weight bites you.

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09 TIRE PRESSURE



Check them cold, against the door jamb sticker. The placard number is set for the truck at full rated weight, so it is high — often 60 to 80 psi.

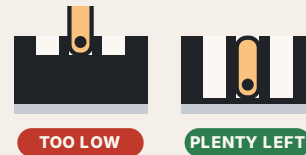
- Run placard pressure when loaded or towing. Empty, many owners run the rears lower — but only from a load and inflation table, never by feel.
- Dually? The **inner** rear tires are the ones everyone forgets. A soft inner silently overloads its outer mate.
- Reset to placard before the next tow, every time.

OK All within a couple of PSI of your chosen figure, caps back on.

SOON One tire always lower than the rest: get it checked for a slow leak before you hitch up.

STOP Flat, or a tire that looks squashed under load. Call roadside assistance.

10 TREAD AND SIDEWALLS



Penny in a groove, head down. The tread should cover the top of his head. Then run a gloved hand around both sides of every tire.

- Check the outside, middle and inside of each tire — towing wears the edges unevenly.
- Truck tires often **age out before they wear out**. Last four digits of the DOT code are week and year; six to ten years is the usual window.
- A bulge means the internal cords have broken. That tire can let go at speed.

OK Head covered, smooth rubber, nothing embedded.

SOON Getting close, or past about six years old: start pricing tires before your next trip.

STOP A bulge, a deep cut, cords showing, or head fully visible on the penny.

11 ALL THE LIGHTS



Park facing a wall at dusk and walk right around the truck. Then back up towards it and check the brake and reverse lights in your mirror.

- Don't forget the trailer connector, the bed and cargo lights, and the plate light.
- A turn signal that **blinks fast** means a bulb on that side has blown.
- If you tow, test the trailer lights and the brake controller before every trip.

OK Every lamp lights up, both sides equally bright.

SOON A blown bulb or a foggy headlight. Bulbs are cheap and usually clip in from behind.

STOP No brake lights, or no trailer brakes. Do not tow.

12 DRIPS UNDERNEATH



Slide cardboard under it overnight. In the morning look at where the drips landed, not just what color they are.

- Front and center is usually engine oil (dark and slick) or coolant (bright and sweet-smelling).
- Clear water behind the engine on the passenger side after using the A/C is **normal**.
- Any smell of diesel is different — treat a fuel leak as urgent, not as a drip to watch.

OK Dry cardboard, or clear water only.

SOON A small dark spot that comes back each night: book a leak check.

STOP A puddle, any fuel smell, or any wet patch near a wheel.

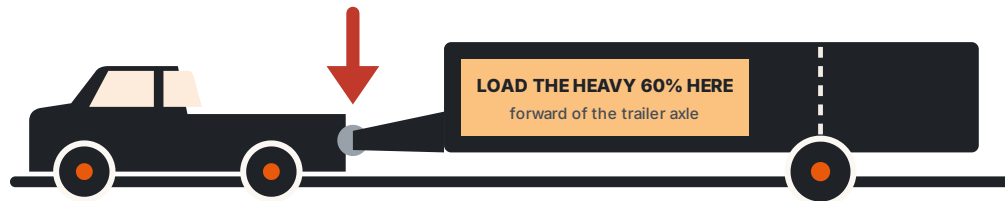
TURN OVER FOR THE PRE-TOW PAGE • THE FULL EXPLANATIONS ARE IN THE DIESEL TRUCK OWNER'S HANDBOOK

BEFORE YOU HOOK UP

Five minutes with a trailer behind you is worth an hour without one. Do this every single time.

WHERE THE WEIGHT SITS DECIDES WHETHER IT SWAYS

TONGUE WEIGHT



10–15% of the loaded trailer weight belongs on the ball.

Too little there is what starts a sway.

THE WALK-AROUND – EVERY TIME

- ☐ **Coupler** seated all the way onto the ball, latch closed, pin or lock through it
- ☐ **Safety chains crossed** under the tongue — slack enough to turn lock to lock, not enough to drag
- ☐ **Breakaway cable** on the receiver or frame. Never the chains, the hitch pin, or the ball mount. Battery charged
- ☐ **Spring bars** on the same chain links as last time, if you run a weight-distributing hitch
- ☐ **Jack fully up** and locked, chocks out and stowed
- ☐ **Every light:** running, brake, both turn signals, reverse, plate
- ☐ **Trailer brakes tested** with the manual lever before you leave the lot
- ☐ **Truck tires at full placard pressure.** If you aired down for running empty, this is the step people forget
- ☐ **Trailer ST tires** at the maximum cold pressure molded into the sidewall
- ☐ **Lug nuts torqued** with a wrench, not an impact gun. Re-torque after the first 25 to 50 miles
- ☐ **Back of your hand on each hub.** All the same temperature. The hot one is the one about to fail
- ☐ **Cargo strapped,** heavy items low and centered, roughly **60% forward** of the trailer axles
- ☐ **Mirrors out** far enough to see past the trailer, both sides
- ☐ **Stop and re-check everything** after the first few miles, then again after 20 or 30

SET THE GAIN – FOR TODAY'S LOAD

- 01** Flat, dry, empty road. Get up to about **25 mph**.
- 02** Pull the **manual lever only**. Keep your foot off the brake pedal.
- 03** Raise the gain until the trailer brakes firmly, just short of locking up, then back it off a touch.
- 04** Re-set it **every time the load changes**. A setting that suited an empty trailer will not stop a loaded one.

YOUR NUMBERS – WRITE THEM IN ONCE

From the two labels on the driver's door jamb. Payload counts your factory options — it does **not** count you, your passengers, your tools, or the tongue weight.

GVWR _____ GCWR _____

Front GAWR _____ Rear GAWR _____

Payload on the sticker _____

Scaled weight, loaded as I travel _____

Payload left = GVWR – scaled weight _____

Where tongue weight should land. GM's HD towing supplement says **10–15%** of the loaded trailer on a bumper pull, **15–25%** for a fifth wheel or gooseneck. Ford's guide uses 10% and 15% as rating assumptions rather than targets, so the brands do not put it quite the same way. Pin weight lands on your rear axle — check rear GAWR too.

IF IT STARTS TO SWAY

Ease off the throttle. Do not stab it, and do not stand on the truck's brakes — braking with the truck can make the swing worse.

Hands still, wheel straight. Do not try to steer it back.

If you have a manual lever, use it. The trailer brakes alone pull the rig straight from behind. Then slow right down, pull over, and fix the load — almost always too little weight on the tongue, or cargo behind the trailer axles.

That lever technique is what towing instructors teach. Your owner's manual may only say ease off and pull over. Know both.

LONG GRADES AND HEAT

Pick the low gear before the hill, not halfway down. Once the brakes are hot, a downshift is too late.

Exhaust brake and TOW/HAUL on — but off on ice, snow, wet leaves or gravel. Ram's manual warns against it on slippery roads because it slows you through the rear wheels only.

Short firm applications, then release completely and let the rotors cool while speed builds back. Riding the pedal down is what cooks brakes.

What overheats a working truck is the stack: hot air, plus a long grade, plus a load near your maximum, plus altitude. Any one is fine. All four together is not. Drop a gear and slow down *before* the gauge climbs.