THE OPERATOR'S GUIDE TO CHAOS



PART OF THE PACK

WOLF KUBOTA

BOOK ONE OF THE GUIDE SERIES

THE OPERATOR'S GUIDE TO CHAOS

WOLF KUBOTA

Produced by the folks at



2026

The following is a reinterpretation of the real world operator's manual for many of the machines that Kubota manufactures. They are meant to bring levity to material that is often either overlooked or ignored. While the facts in the material are truthful, please do not take offense to the wording therein.

Names: Too Many Hooligans To Mention
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This version of The Operator's Guide to Controlled Chaos *is dedicated*
to the stars of one of the most unbelievable, most inspiring, and frankly confusing survival stories of our time.

The geese at the pond.

Yes. We are dedicating this guide
to a gaddamned flock of geese.

Sorry not sorry, Kubota.

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FORWARD

Congratulations, Operator!

You have successfully acquired a Kubota-class machine. This was either a wise decision…or an inevitable one. Either way, we will proceed.

Before engaging with your newly acquired equipment, you are required (yes, required) to read this manual in its entirety. Failure to do so may result in inefficiency, frustration, or consequences categorized as “entirely preventable.”

This manual contains essential knowledge for proper operation, maintenance, and survi…functionality of your machine. Once reviewed, store it in a location that is both secure and easily accessible. You will need it again. You always need it again.

Be advised: specifications, components, and minor details may change without warning. The unit in your possession may differ slightly from what is described here. This is normal. Adaptation is part of the experience.

We are Wolf Kubota.

We are here to guide you.

Proceed accordingly, Operator.

START HERE

Alright, let's get this out of the way. Record what you own. Right now. Model number. Serial number. Any and all of it.

This is not optional. This is not a suggestion. This is an assignment.

Failure to complete it will not stop your machine from operating…but it will cause untold embarrassment when the parts folks ask what unit you have, and you respond with "it's orange". You can do better than that.

Write it down.

Model:_____

Serial Number:_____

Other Details:_____

Other Details:_____

Details Continued. You paid a lot of money for this, didn't you? Then it might be worth knowing what you actually bought. A bold strategy. Next you're going to tell me you don't even know your own phone number. Honestly, that tracks. Fine. Write that down too.

Phone Number:_____

PART I
COMING TO GRIPS

SAFETY FIRST



Observe the symbol. This is the industry standard “Safety Alert Symbol.” It appears throughout this manual and on the machine itself. It is not decorative. When you see it, understand this: something nearby has the potential to injure you. Possibly badly. Occasionally creatively.

Read the instructions that follow. Carefully. Yes, all of them.

It is essential that you understand the procedures and safety regulations before attempting to assemble or operate this unit.

Ignoring this symbol will not remove the danger. It will simply make the outcome more…educational.

ABBREVIATION LIST

Abbreviations	Definitions
2WD	2-Wheel Drive
4WD	4-Wheel Drive
API	American Petroleum Institute
ASABE	American Society of Agricultural and Biological Engineers, USA
ASTM	American Society of Testing and Materials, USA
DIN	Deutsches Institut für Normung, GERMANY
DPF	Diesel Particulate Filter
DT	Dual Traction [4WD]
fpm	Feet Per Minute
GST	Glide Shift Transmission
Hi-Lo	High Speed-Low Speed
HST	Hydrostatic Transmission
m/s	Meters Per Second
PTO	Power Take Off
RH/LH	Right-hand and left-hand sides are determined by facing in the direction of forward travel
ROPS	Roll-Over Protective Structures
rpm	Revolutions Per Minute
r/s	Revolutions Per Second
SAE	Society of Automotive Engineers, USA
SMV	Slow Moving Vehicle

UNIVERSAL SYMBOLS

To assist in operating your tractor, a series of “universal” symbols appear on the instruments and controls. “Universal” meaning widely accepted, occasionally understood, and frequently ignored. These symbols are your machine’s preferred method of communication before it escalates. Below are their meanings. Learn them now. Guessing later is not recommended.



SAFE OPERATION

Careful operation is your best insurance against turning a normal day into a cautionary tale. This tractor is powerful, loyal, and completely indifferent to your well-being if you misuse it.

Read this manual. Actually read it. Not the “skim and hope for the best” version. Understand it before you even think about starting the tractor.

Every operator (yes, even the ones who “have been doing this for years”) must read this and any related manuals before operating the tractor or its attachments. Experience does not grant immunity from physics. Or stupidity. Getting tired of seeing it written here? Good. It’s working.

If you own this machine, congratulations! You are now responsible for ensuring that anyone else who touches it does not immediately become a liability.

PRECAUTIONS BEFORE OPERATING THE TRACTOR

Know your equipment. Know what it can do. More importantly, know what it will do if you make a bad decision. Read this entire manual before starting the tractor. Not after. Not during. Before.

1. General Precautions

• Pay attention to the safety labels on the tractor. They are not decorative. They are warnings left behind by people who learned things the hard way.

• Do not operate the tractor while under the influence of alcohol, medication, controlled substances, or sheer exhaustion. If your reaction time is questionable, so is your survival rate.

• Before letting someone else use your tractor, explain how it works. Then make them read this manual. If they refuse, they do not get the keys.

• Do not wear loose, torn, or bulky clothing. The tractor has many moving parts, and they are always looking for something to grab. Do not volunteer yourself. Wear proper safety gear: boots, gloves, eye and hearing protection like someone who intends to keep all their fingers.

• No passengers. Ever. This is not a parade float. The operator stays in the seat. Everyone else stays off the machine.

• Check brakes, clutch, linkage pins, and other mechanical parts regularly. If something looks worn, damaged, or questionable, fix it immediately. Loose bolts and failing parts have a tendency to escalate into catastrophic storytelling moments.

• Keep the tractor clean. Dirt, grease, and debris are not just ugly, they are fire hazards waiting for an excuse.

• Only use approved implements. If it's not listed or approved, assume it's a bad idea until proven otherwise.

• Use proper weights and ballast. A poorly balanced tractor is just a slow-motion accident waiting for the right slope.

• The narrower the tread, the greater the chance of tipping over. If stability is an option, choose more of it. Widen your stance. Stay upright. Continue living.

• Do not modify the tractor. Not creatively. Not experimentally. Not "just a little." Unauthorized changes can and will make things worse. often in ways that are both expensive and painful.

• Do not modify the engine or emissions components. This can lead to overheating, mechanical failure, and violations that come with fines. Also, Kubota (and by extension your dealer) will not save you from the consequences. You have been warned.

2. Precautions for CAB and ROPS

Kubota strongly recommends using a CAB or ROPS (Roll-Over Protective Structure), along with a seat belt. Together, these dramatically reduce your chances of serious injury or death if the tractor decides to lie down.

• Check overhead clearance before moving. Trees, buildings, and low-hanging obstacles do not care about your ROPS.

• When raising or folding the ROPS:
– Set the parking brake.
– Stop the engine.

– Clear the area of bystanders.
– Stand behind the tractor on stable ground.
– Hold the ROPS securely and make sure all pins are locked.

This is not the time for improvisation.

• If the CAB or ROPS is removed or loosened, reinstall it correctly before operating the tractor. “Close enough” is not structurally sound.

• Never modify or attempt to repair the structural components of the CAB or ROPS. Welding, drilling, bending, or cutting weakens the structure. Weak structures fail. Failures hurt.

• If any part of the CAB or ROPS is damaged, replace the entire structure through a dealer. Yes, the whole thing. No shortcuts.

• Foldable ROPS should only be lowered when absolutely necessary (like low-clearance areas). When it is down, it offers zero protection. None. You are on your own.

• For all normal operation:
– ROPS up
– Locked in place
– Seat belt fastened

• Always use the seat belt when a CAB or ROPS is in place.
Do NOT use the seat belt if the ROPS is folded down or missing. That combination turns a bad situation into a very final one.

• Inspect the seat belt regularly. If it’s frayed or damaged, replace it. This is not the place to gamble on “that’ll probably hold” like some midwestern Dad on a roadtrip.

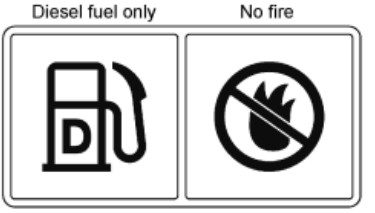
Final Thought:
This tractor will do exactly what you tell it to do.
The problem is when you tell it the wrong thing.

Safety Labels

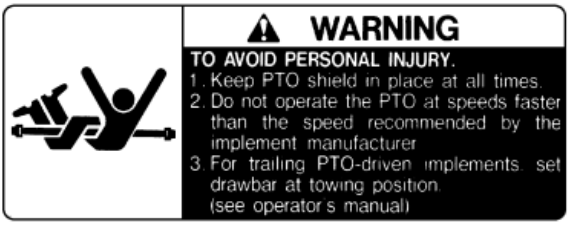
(1) Part No. TC630-4965-1



(3) Part No. TC820-4956-1

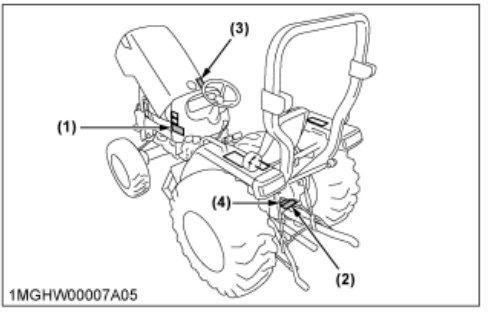


(2) Part No. TC630-4959-1

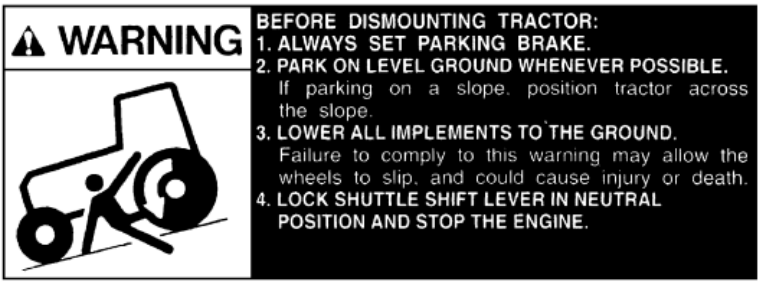


(4) Part No. TC630-4935-1





(1) Part No. TC630-4933-1 [Manual Transmission type]

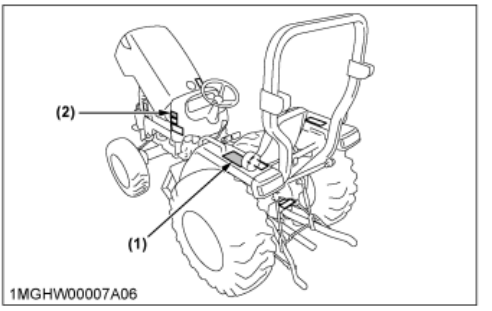


(1) Part No. TC630-5933-1 [HST type]



(2) Part No. TC630-9869-1





1MGHW00087A01enUS

(1) Part No. TC820-4997-2

⚠WARNING

TO AVOID PERSONAL INJURY OR DEATH:

1. Read and understand the operator's manual before operation.
2. Before starting the engine, make sure that everyone is at a safe distance from the tractor and that the PTO is OFF.
3. Do not allow passengers on the tractor at any time.
4. Before allowing other people to use the tractor, have them read the operator's manual.
5. Check the tightness of all nuts and bolts regularly.
6. Keep all shields in place and stay away from all moving parts.
7. Lock the two brake pedals together before driving on the road.
8. Slow down for turns, or rough roads, or when applying individual brakes.
9. On public roads use SMV emblem and hazard lights, if required by local traffic and safety regulations.
10. Pull only from the drawbar.
11. Before dismounting, lower the implement to the ground, set the parking brake, stop the engine and remove the key.
12. Securely support tractor and implements before working underneath.

(2) Part No. TC630-9848-1



⚠ WARNING

TO AVOID INJURY OR DEATH FROM ROLL-OVER:

- Keep Roll-Over Protective Structures (ROPS) in the upright and locked position.
- Fasten SEAT BELT before operating.

THERE IS NO OPERATOR PROTECTION WHEN THE ROPS IS IN THE FOLDED POSITION:

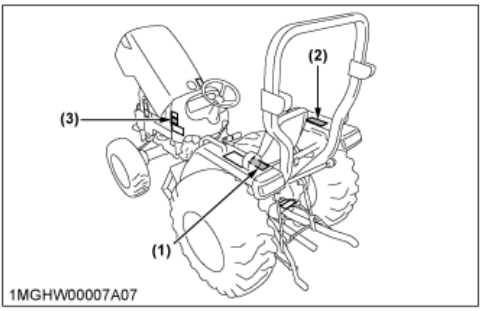
- Check the operating area and fold the ROPS only when absolutely necessary.
- Do not wear SEAT BELT if ROPS is folded.
- Raise and lock ROPS as soon as vertical clearance allows.
- Read ROPS related instructions and warnings.

(3) Part No. TC820-9868-1

⚠WARNING

TO AVOID PERSONAL INJURY OR DEATH:

When the Diesel Particulate Filter(DPF) is in the regenerating mode, the exhaust gas and the DPF muffler become hot.
During regeneration,take into account that the muffler will be very hot and keep the machine away from other people, animals,plants,and flammable material.
Also keep the area near the DPF muffler clean and away from flammable material.



1MGHW00007A07

(1) Part No. TC630-6597-1

California Proposition 65

⚠ WARNING ⚠

Engine exhaust, some of its constituents, certain vehicle components and fluids, contain or emit chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

(2) Part No. TC820-9554-4

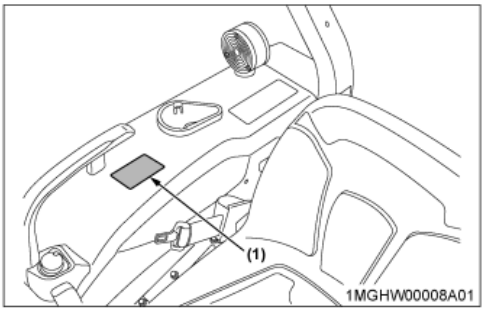
⚠WARNING

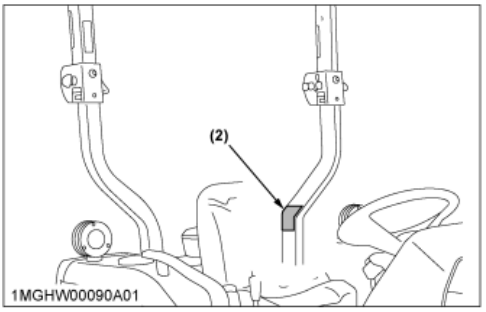
Never modify or repair a ROPS because welding, grinding, drilling or cutting any portion may weaken the structure.

⚠WARNING

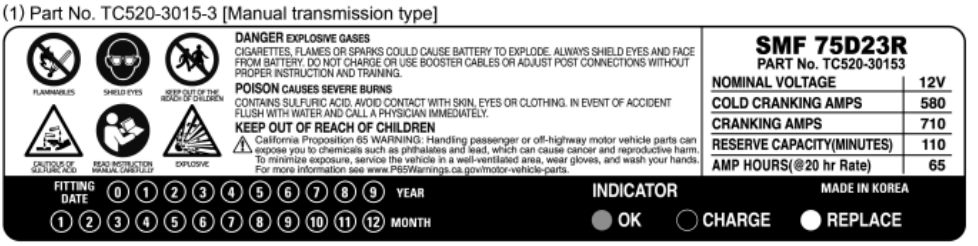
TO AVOID PERSONAL INJURY OR DEATH WHEN RAISING OR FOLDING ROPS:

- Set parking brake and stop engine.
- Remove any obstruction that may prevent raising or folding of the ROPS.
- Do not allow any bystanders.
- Always perform this operation from a stable position at the rear of the tractor.
- Hold the top of the ROPS securely when raising or folding.
- Make sure all pins are installed and locked.

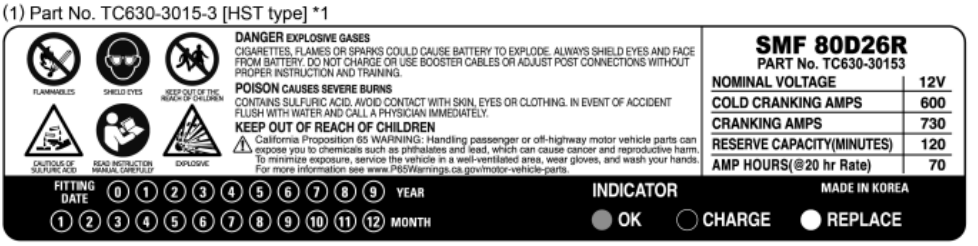




(1) Part No. TC520-3015-3 [Manual transmission type]

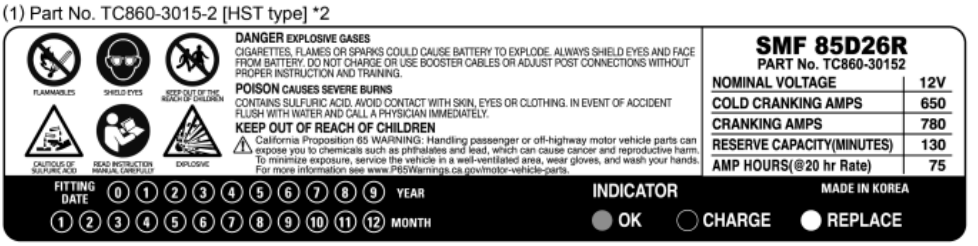


(1) Part No. TC630-3015-3 [HST type] *1

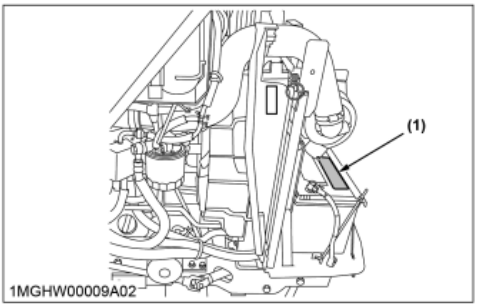


*1 For the Engine ECUs No. 1H092-6998-0 or 1H093-6998-0

(1) Part No. TC860-3015-2 [HST type] *2



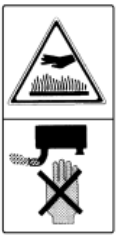
*2 For the Engine ECUs No. 1H092-6998-0, 1H093-6998-0, 1H403-6898-0, or 1H404-6898-0

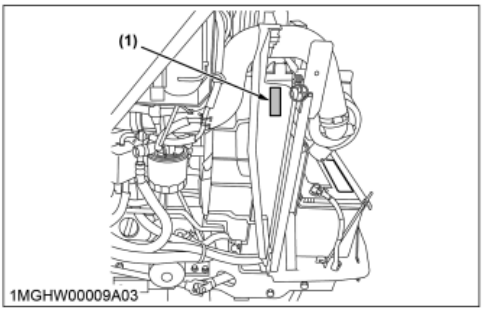


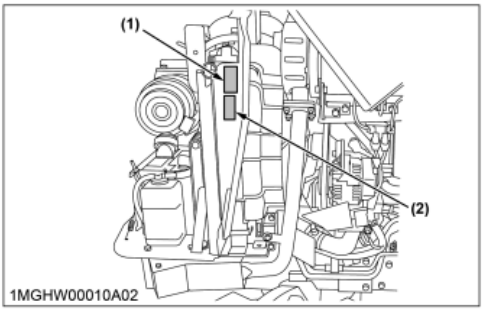
(1) Part No.
TC620-4958-1
Do not get your hands close to engine fan and fan belt.



(2) Part No. TC630-4958-1
Do not touch hot surface like muffler. etc.







1. Care for safety labels

Those safety labels scattered around your tractor? They are there for a reason. They are not stickers added for decoration. They are not tractor-themed bumper stickers. They are the machine's way of saying, "Hey. Maybe don't do that."

Keep them clean and visible. If dirt, grease, mud, or mystery farm substances are covering them, they cannot warn you. And a warning label that nobody can read is basically just a very expensive sticker.

• Clean safety labels using soap and water. Dry them with a soft cloth. Do not attack them with a pressure washer like you're trying to remove evidence.

• If a label is damaged, missing, or has become unreadable, replace it. Contact your local Kubota Dealer. Yes, the warning you ignored yesterday is still important today.

• If a component with a safety label is replaced, make sure the new component receives a new label in the same location. The warning needs to stay where people will actually see it.

• When applying a new safety label:
– Use a clean, dry surface.
– Apply it carefully.
– Smooth out any bubbles toward the outside edge.

A crooked safety label may not affect operation, but it will bother someone eventually. Probably the person who has to replace it again.

SERVICING THE TRACTOR

Dealer Service

We, as your Kubota Dealer, do know your machine.

Not just the brand. Not just the color. Your actual machine. The techs understand how it works, how it should work, and what it is probably trying to tell you when it starts making that noise you “don’t think is a big deal.”

Our goal as a dealer is simple: help you get the most value, performance, and lifespan out of your equipment.

After reading this manual (yes, the entire thing), you’ll find that many routine maintenance tasks are well within your ability. Greasing, checking, inspecting, and basic upkeep are all part of owning a machine like this.

But eventually, something bigger may happen.

A part may need replacing. A repair may require specialized tools. Something may stop working in a way that makes you stare at it for several minutes hoping it fixes itself.

It probably won’t.

That’s when you call us..

When contacting us for parts or service, have your important information ready. Hey, remember when we wrote that down! You did write it down didn’t you?

Having that information available helps us find the correct parts and get you back to work faster.

Because the tractor has jobs to do.

And apparently, so do you.

Warranty of the tractor

Congratulations! Your machine comes with protection.

However, there is a small detail hidden in the fine print (because apparently fine print is where important things live).

The warranty is there to protect you from certain defects and issues covered under its terms. It is not a mystical protection that activates when a neglected tractor finally decides it has had enough.

Your tractor must be serviced and maintained according to the instructions in the official Operator's Manual. This requirement applies even if the tractor is still within the warranty period.

That means:

- Changing fluids when you are supposed to.
- Performing inspections when you are supposed to.
- Taking care of the machine you spent a considerable amount of money on.

"I didn't know it needed that" is a surprisingly common sentence.

It is also not a maintenance schedule.

Ignoring recommended service and then expecting the warranty to fix everything is like ignoring the warning light on your dashboard and hoping the vehicle appreciates your optimism.

It probably does not.

Take care of your tractor. Follow the maintenance schedule. Keep it clean, serviced, and ready for work.

Your tractor will reward you by continuing to do tractor things.

Which is the entire reason you bought it.

INSTRUMENT PANEL AND CONTROLS

In front of you is the instrument panel, a delightful collection of gauges, lights, and controls designed to tell you what the tractor is doing…and what it would prefer you stop doing.

These are often not suggestions.

Learn what each control does before you use it. Not during. Not after. Before.

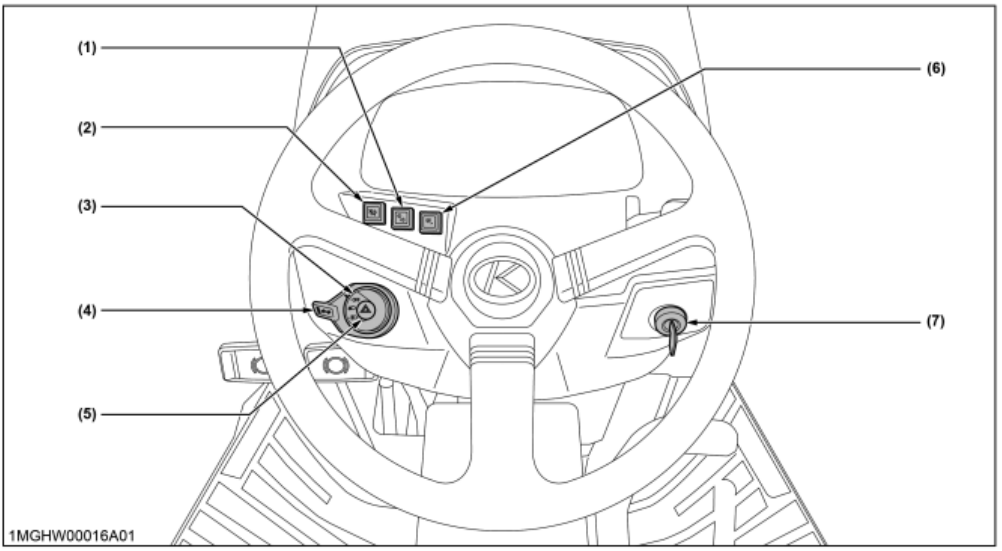
Randomly pressing switches to “see what happens” is an excellent way to learn something new. It is also an excellent way to create a situation that requires a detailed explanation later.

Pay attention to warning lights. They exist for a reason. Ignoring them does not fix the problem. It just gives it time to grow.

The tractor already knows what it’s doing.

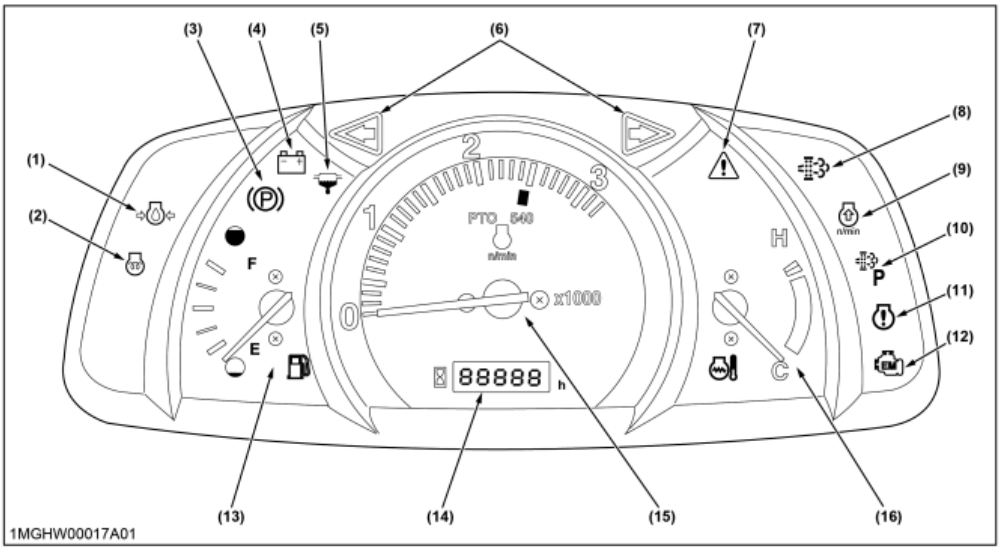
This works best if you do too.

Switches and hand controls



(1) *Parked regeneration switch*
(2) *DPF INHIBIT switch*
(3) *Head light switch*
(4) *Turn signal light switch*
(5) *Hazard light switch*
(6) *Stationary PTO switch [Manual transmission type]*
(6) *Stationary PTO switch [HST type]*
(7) *Key switch*

Instrument panel



(1) Engine oil pressure warning indicator
(2) Glow plug indicator
(3) Parking brake warning indicator
(4) Electrical charge warning indicator
(5) Water separator filter indicator
(6) Turn signal / hazard light indicator
(7) Master system warning indicator
(8) Regeneration indicator
(9) Engine rpm increase indicator
(10) Parked regeneration indicator
(11) Engine warning indicator
(12) Emission indicator
(13) Fuel gauge
(14) Hour meter
(15) Tachometer
(16) Coolant temperature gauge

1. Head light switch

Turn the head light switch clockwise to activate the lights. As the switch moves through its positions, different lighting functions will turn on. This allows you to adjust visibility based on conditions such as low light, darkness, or the sudden realization that you should have turned the lights on sooner.

Use the appropriate setting for the situation. Because guessing where you're going is a bold strategy.

It is also a short-term one.

2. Hazard light switch and turn signal light switch

Hazard light switch

Press the hazard light switch once, and the hazard lights begin flashing. The indicator on the instrument panel will flash along with them, just in case the blinking lights outside weren't obvious enough.

Press the switch again, and everything stops flashing. Peace is restored.

Turn signal with hazard light

If the hazard lights are already flashing and you decide to indicate a turn:

- Turn the signal switch clockwise for a right turn
- Turn it counterclockwise for a left turn

The selected turn signal will flash, while the opposite side stays on. This lets others know that while everything is flashing, you (hopefully) still have a plan.

Turn signal without hazard light

Literally just like any other or car or truck, but we know how few of you out there really use such things. So I guess we will explain anyway.

With hazard lights off:

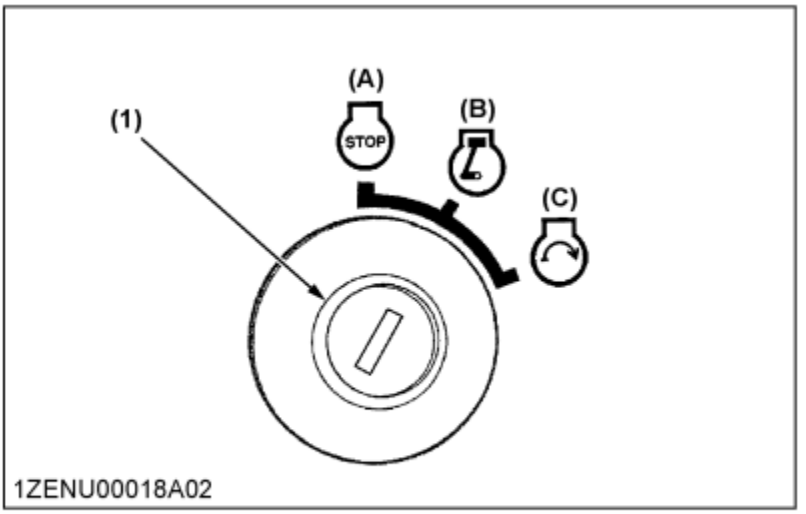
- Turn the signal switch clockwise for a right turn
- Turn it counterclockwise for a left turn

The selected side will flash, and the opposite side will remain on. Simple. Predictable. Exactly what everyone around you is hoping for.

Use these signals appropriately. Because surprising people with sudden tractor movements is rarely appreciated.

3. Key switch

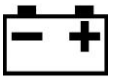
Look, it's a simple 3 step thing. Position A is OFF. Position B is ON. Position C is START. Some of you have toasters that are more complicated with more settings than this.



(1) Key switch

(A) Off
(B) On
(C) Start

4. Easy checker lamps

 Electrical charge warning indicator	When the key is turned to “ON,” the electrical charge and engine oil-pressure warning indicators should light up. This is normal. The tractor is simply confirming it can still communicate. If a warning indicator appears while the engine is running, pay attention. Ignoring it will not make it disappear. It will only give the problem more time to introduce itself.
 Engine oil pressure warning indicator	
 Glow plug indicator	When the key is turned to “ON,” the glow plug indicator will come on to preheat the engine. It will turn off automatically when preheating is complete. If it stays on longer, the engine is cold. Very cold. Give it a darn moment. Starting too soon is possible. It is also unnecessary.
 Parking brake warning indicator	This indicator lights up when the parking brake is applied. It turns off when the parking brake is released. If the light is on and you’re trying to move, your tractor will not approve. You can ignore it. The tractor however, cannot.
 Water separator indicator	If water or impurities collect in the water separator, the indicator will light up and a buzzer will sound. This is not a suggestion. This is the tractor raising its voice. If this happens during operation, drain the water from the separator as soon as possible. Waiting will not improve the situation. It will, however, make it worse.

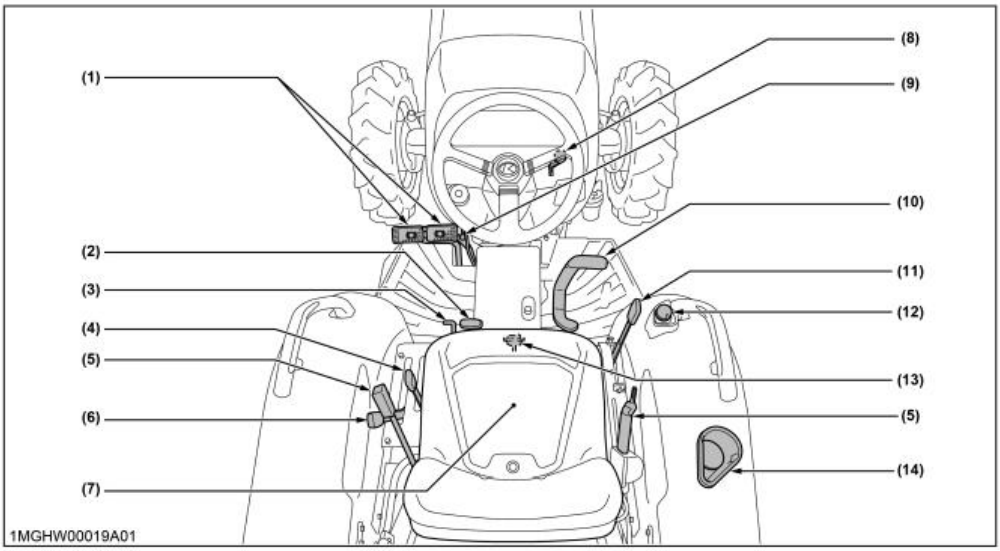
FOOT CONTROLS AND HAND CONTROLS

1. Foot controls and hand controls [HST type]

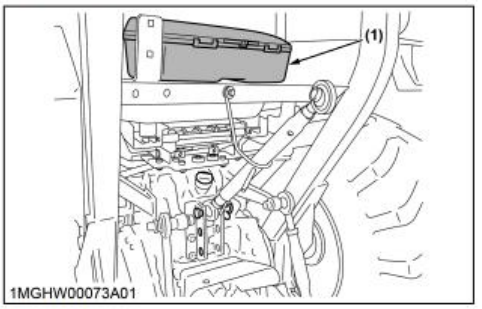
The foot and hand controls are how you direct the tractor. Speed, movement, lifting, stopping, and everything in between. Use them deliberately.

These controls respond to input. Yours. Every time. If the tractor does something unexpected, it is worth considering what you just told it to do.

Once you give a command, the tractor will follow it. Usually enthusiastically.



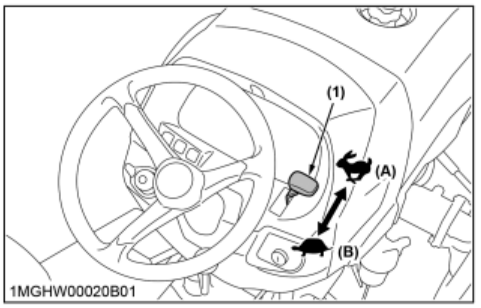
(1) Brake pedal
(2) Front wheel drive lever
(3) Differential lock pedal
(4) Range gear shift lever
(5) Seat belt
(6) Cruise control lever (if equipped)
(7) Operator's seat
(8) Hand throttle lever
(9) Parking brake lever
(10) Speed control pedal
(11) Position control lever
(12) PTO clutch control switch
(13) 3-point hitch lowering speed knob
(14) Cup holder



(1) Tool box

2. Hand throttle lever

Pull the hand throttle lever back, and engine speed decreases. Push it forward, and engine speed increases. Simple. Direct. Almost disappointingly logical.



(1) Hand throttle lever *(A) Increase* *(B) Decrease*

3. Brake pedals (right and left)

WARNING

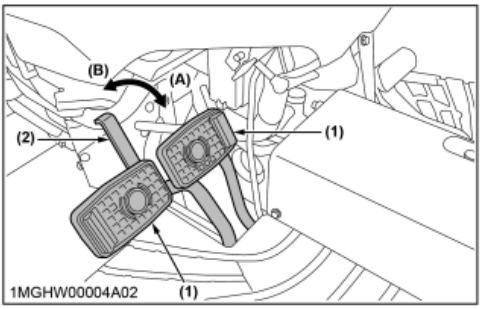
To avoid personal injury or death (yes, we're starting strong) consider the following:

- **Lock the pedals together.** Using just one brake at speed is a great way to discover how quickly a tractor can swerve. Or tip. Or both. Spoiler: you won't enjoy it.
- **Make sure both brakes are adjusted the same.** If one grabs harder than the other, the tractor will choose a new direction for you. It will not ask permission.
- **Don't slam on the brakes.** Especially with a heavy load behind you. Physics will simply move that load forward. Into you. With enthusiasm.
- **Drive like surfaces matter.** Ice, mud, gravel, these are not personality traits to overcome. Ballast the tractor properly, slow down, and use front-wheel drive if you have it. This is not the time for optimism.
- **Understand 2WD vs. 4WD.** They do not behave the same. Pretending they do is how you end up writing incident reports.

Before road travel, or setting the parking brake, lock the pedals together. This is not a suggestion. This is how you avoid turning a straight line into a creative interpretation of one.

Individual brakes are for tight turns. At low speed. In the field. Unlock the pedals. Press one. Turn sharply. Feel clever. Then remember: this trick does not belong on the road. Ever.

Keep both pedals adjusted equally. If one does more work than the other, the tractor will pick a direction for you. It will be the wrong one.



(1) Brake pedal
(2) Brake pedal lock
(A) Lock
(B) Release

3.1 How to use the parking brake

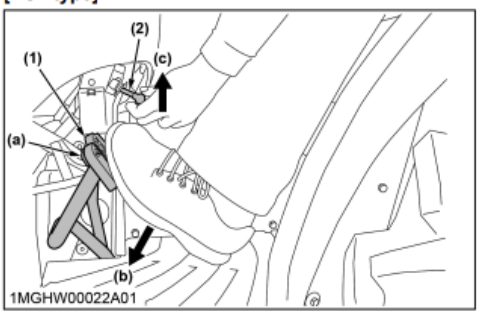
Setting the parking brake

We didn't think it would come to this…and yet, the tractor must be convinced to stay put.

- **a. Interlock the brake pedals.**
  Yes, both of them. Unity is important in moments like these.
- **b. Depress the brake pedals.**
  Firmly. Not symbolically. The tractor does not respond to vibes.
- **c. Pull the parking-brake lever and latch the pedals.**
  Commit to the decision. This is how you ensure it remains a parked tractor, and not a wandering problem.

There. Stillness achieved. Try to keep it that way.

[HST type]



(1) Brake pedal *(2) Parking brake lever*

Releasing the parking brake

Depress the brake pedals again. That is all.

5. Front wheel drive lever

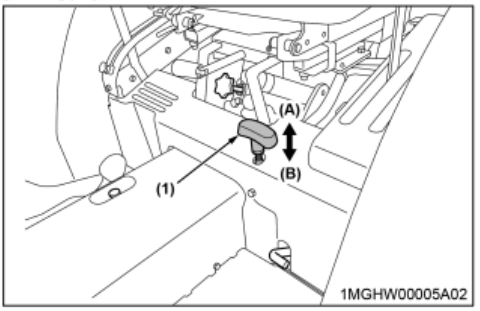
Use the front wheel-drive lever to engage the front wheels. WITH THE TRACTOR STOPPED. Not slowing down. Not "basically stopped." Actually stopped. Because the machine prefers its gears intact. And you probably do too.

WARNING

To avoid personal injury or death, still very much on the table, keep the following in mind:

- **Do not engage front-wheel drive at road speed.** This is not an upgrade you activate mid-sprint. Stop first. Always.
- **Respect the surface you're on.** Ice, mud, and loose ground will win if given the chance. Ballast the tractor properly, reduce speed, and use front-wheel drive when appropriate. This is called staying in control.
- **Do not brake suddenly.** Especially with a load behind you. It will continue moving forward. You are in the way.
- **2WD and 4WD do not behave the same.** Learn the difference. Use them correctly. Guessing is how things get expensive.

[HST type]



(1) Front wheel drive lever (A) On (B) Off

WHEN TO USE FRONT-WHEEL DRIVE

Front-wheel drive exists for moments when traction becomes more of a suggestion than a guarantee.

- **When you need more pulling force.** Mud, trailers, loaders, anything that makes the tractor question your judgment. Engage the front wheels. They'll help carry the burden of your decisions.
- **When working in sandy soil.** Because spinning in place is not technically progress.
- **When working hard ground with a rotary tiller.** Occasionally, the implement will attempt to push the tractor forward. Front wheel drive will politely disagree.
- **When you want better braking at low speeds.**

6. Seat belts

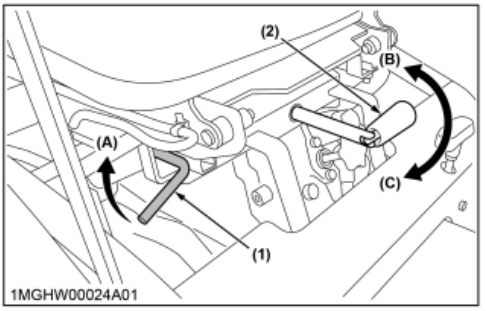
WARNING

- Always use the seat belt when a ROPS (Roll-Over Protective Structure) or cab is installed. They're a team. Separating them defeats the purpose.
- Do NOT use the seat belt if a foldable ROPS is down or there is no ROPS installed. Being strapped in without rollover protection is…not ideal.

Adjust the seat belt so it actually fits you, then click it into the buckle. It's an auto-locking retractable type. Meaning it tightens when things go wrong, not when you remember to.

7. Operator's seat

Pull the travel-adjust lever and slide the seat forward or backward until it fits you like you plan to stay there. Let go of the lever, and the seat locks into place. Because drifting around while driving was never a good idea.



(1) Travel adjust lever
(2) Suspension adjust lever
(A) Unlock
(B) Decreasing tension
(C) Increasing tension

8. Speed control pedal [HST type only]

- **Forward:**
  Press the speed-control pedal with the toe of your right foot to move forward. *(Toes go forward. This is intuitive.)*
- **Reverse:**
  Press the same pedal with the heel of your right foot to move backward. *(Yes, your foot does both. Welcome to efficiency.)*

Don’t worry, you got this. If dogs can master skate boards, you can accomplish this. Please don’t prove us wrong.

9. Range gear shift lever (L-M-H)

The range gear may only be shifted when the tractor is completely stopped and the speed-control pedal is in NEUTRAL.

Not almost stopped.
Not “I’m barely moving.”
Not “it’ll probably be fine.”

The tractor is asking for one simple thing: stop first, then shift.

It’s a small request. Honor it.

IMPORTANT

To avoid damaging the transmission and its many expensive, judgmental components, follow these instructions when shifting gears.

First: bring the tractor to a complete stop using the brake pedals.
Not “almost stopped.” Not “close enough.” Completely stopped.

Second: do not force the range gear-shift lever.
If it resists, it is not a challenge. You are not stronger than it.

If shifting into [L], [M], or [H] from “NEUTRAL” proves difficult—especially on a slope—apply the parking brake and proceed as follows:

1. Slightly depress the speed-control pedal. This will rotate the internal gears and encourage cooperation.
2. Release the speed-control pedal.

Repeat as necessary until the machine agrees with your decision.

This is called “working with the equipment.” Please try to remember that.

10. Cruise control lever (if equipped) [HST type only]

WARNING

To avoid personal injury or death…observe the following:

- Before starting the engine, pull the cruise-control lever completely to the rear. Not halfway. Not “that looks about right.” Completely.
- Do not use cruise control while driving on the road.
  This is not a highway luxury feature. It is a tractor.
- To disengage cruise control, connect both the left and right brakes. Both. As in two. Pressing only one will not release it, no matter how strongly you believe it should.

Understanding this now will save you from learning it the memorable way.

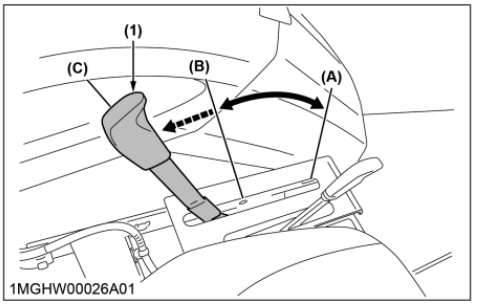
Cruise control exists for operating efficiency and operator comfort.
Yes, comfort. We allow it. In moderation.

When engaged, it maintains a constant forward speed by mechanically holding the cruise-control lever in the selected position.

In simpler terms: you choose the speed, and the machine commits to it.

Choose wisely.

10.1 How to use the cruise control lever (if equipped) [HST type only]



(1) Cruise control lever
(A) Increase
(B) Decrease
(C) Off

Engaging the cruise control device

Set the cruise-control lever to your desired position. The tractor will maintain that forward speed. Relentlessly.

1. If you wish to go faster, depress the speed-control pedal further. The machine will comply… temporarily. Release the pedal, and it will return to the previously set speed.

You are allowed brief moments of control. The machine remembers your original decision.

Disengaging the cruise control device

So you've changed your mind. Acceptable.

1. Move the cruise-control lever all the way back.

2. Set the lever to the “OFF” position. This signals your intent to regain control.
3. Depress both brake pedals. Yes, both. We’ve discussed this.

Once completed, the machine will return control to you. Try not to waste it.

NOTE:

Cruise control will disengage automatically when both brake pedals are depressed. This is the correct method. The machine approves.

Applying only the left or right brake will not disengage cruise control. Both pedals. At the same time.

Commit to the action.

PART II

OPERATIONS

PRE-OPERATION CHECK

DAILY CHECK ITEMS BEFORE OPERATION OF THE TRACTOR

To avoid personal injury or death (we're not easing you into this chapter either): check and service the tractor on a level surface, engine off, parking brake on, implement lowered to the ground. Basically, stop. Everything. Before you inspect it.

This is your pre-flight checklist. No, you don't get a co-pilot. No, "it was fine yesterday" is not a check item.

- Walk around and inspect the tractor (yes, with your eyes, actually looking)
- Check the engine oil level
- Check the transmission oil level
- Check the coolant level
- Check the water separator
- Clean the grill and the radiator screen
- Clean the fuel cooler
- Clean the oil cooler (HST models, you knew who you were when you bought it)
- Clean the DPF muffler
- Check the air-cleaner evacuator valve if you're working somewhere dusty
- Check the brake pedal and clutch pedal
- Check the indicators, gauges, and meter
- Check the lights and lamps
- Check the wiring harness
- Check the seat belt and ROPS
- Check the movable parts
- Refuel
- Care for the safety labels

Do this every single day you plan to use the machine. Not "most days." Not "the days I remember." Every day. The tractor does not grade on a curve.

OPERATING THE ENGINE

PRECAUTIONS FOR OPERATING THE ENGINE

To avoid personal injury or death: read and understand Safe Operation. Read the safety labels. Don't run the engine in a closed building without ventilation, because exhaust fumes do not care about your schedule. Never start the engine while standing on the ground, start it from the seat, like a person who intends to keep operating machinery for a living. All shift levers to NEUTRAL, PTO to OFF, before you even think about turning the key.

IMPORTANT things you will be tempted to ignore:

- Do not use starting fluid or ether. This isn't a movie. Don't.
- Don't crank the starter for more than 10 seconds at a stretch. The battery and starter are not interested in your persistence.
- The emissions system is not a suggestion box. Don't tamper with the EGR or the reagent-dosing system "to see what happens." You will find out what happens, and you will not enjoy it.

EXHAUST AFTERTREATMENT DEVICES — MEET THE DPF

Chances are your tractor is carrying a Diesel Particulate Filter (DPF) — a muffler with a job, and that job is turning the ugly parts of diesel exhaust into carbon dioxide and water. It also collects particulate matter (PM), like a very expensive, very hot lint trap.

WARNING, and we mean it this time: during regeneration, exhaust gas and filter components get hot enough to burn people, melt things, or set things on fire. Keep the tractor away from people, animals, and anything flammable. White smoke during regeneration is normal. Do not do this in an unventilated garage, and do not walk away from the tractor while it's happening. The DPF does not babysit itself.

The PM buildup problem, and how the tractor deals with you about it

Left alone, the DPF quietly collects soot. Occasionally it needs to burn that soot off. This is called **regeneration**, and you have two ways of letting it happen:

- **Auto regeneration mode**: the default. Starts automatically when you start the engine. The DPF handles its own business, on its own schedule, whether you're driving or parked. Efficient. Mostly invisible. The tractor prefers this and so should you, unless you have a reason not to.
- **Regeneration inhibit mode**: press the DPF INHIBIT switch after starting, and the tractor will politely decline to burn off soot automatically. Useful in poorly ventilated spaces where "hot exhaust event" is not on the day's agenda. Restart the engine and inhibit mode resets to auto. The tractor forgets your objection the moment you turn the key.

The PM Warning Ladder, a four-boss encounter, difficulty: your own fault

Ignore the DPF long enough and it escalates. Here's the fight, level by level:

Level 1 — Gentle nudge. Regeneration indicator flashes. Just keep working; the DPF will regenerate itself as conditions allow. Engine RPM-increase indicator may flash too, increase your RPM until it stops. No real threat yet. Think of it as a loading bar.

Level 2 — Buzzer enters the chat. The buzzer starts sounding (every 5 seconds, then every 3 as it escalates). Same deal, more insistent. You can still let auto-regen handle it, or trigger parked regeneration yourself. The tractor is now actively asking.

Level 3 — Engine derated, alarm every second. Engine output is cut to 50%. The engine-warning indicator flashes. Stop what you're doing and run a parked regeneration NOW. In regeneration-inhibit mode, auto-regen won't save you here. This is on you.

Level 4 — Game over, call your Kubota Dealer. Constant alarm, constant warning light, engine still at 50%. Move the tractor to a safe place, park it, shut it off, and call your dealer. Do not keep operating. This is the DPF equivalent of a boss standing over your unconscious body. Further "operation" is just delaying the inevitable, expensive conversation.

Parked Regeneration — Doing It The Manual Way

If auto-regen can't keep up, or you're in inhibit mode, here's how to force the issue:

1. Park somewhere safe. Away from buildings, people, animals, anything you like.
2. Set the parking brake.
3. Neutral: synchro-shuttle lever (manual) or speed-control pedal (HST).
4. PTO OFF.
5. Return the throttle to idle.
6. Lower the implement to the ground.
7. Straighten the front wheels.
8. Press the DPF INHIBIT switch off.
9. Press the parked-regeneration switch. Engine RPM rises automatically; the process begins on its own.

Both regeneration indicators stay lit for the duration, then turn off when it's done. At which point you may resume being a person with things to do. **Do not touch the levers, switches, or throttle during this process**, and never walk away while it's running. If it gets interrupted, the throttle locks at idle for 30 seconds before releasing. Don't fight it, it's not stuck, it's thinking.

A few things that actually help: working the tractor harder raises exhaust temperature and burns PM naturally, so regeneration gets needed less often. Idling does the opposite. The lower the load, the more soot piles up. So: don't idle unnecessarily, it takes 15–20 minutes to complete a cycle, and let the engine run about 5 minutes after regen finishes so the muffler can cool before you park it somewhere it can start something on fire.

STARTING THE ENGINE [HST Type. Most Common]

Same spirit, different pedals:

1. Parking brake set.
2. Fuel shutoff OPEN.
3. Cruise-control lever OFF (both brake pedals together will also snap it back to OFF, for what it's worth).
4. Speed-control pedal and range-gear lever to NEUTRAL.
5. PTO clutch-control switch to OFF.
6. Position-control lever to FLOAT.

7. Hand throttle to half.
8. Key to ON, check Easy Checker lamps.
9. Turn key to START, release on catch.
10. Confirm all Easy Checker lamps OFF.

Same rule applies: PTO off, speed pedal neutral, or the engine simply will not humor you.

STARTING THE ENGINE IN COLD WEATHER

Below **-5°C (23°F)**, your tractor gets dramatic about mornings. Go through the normal start sequence up through step 9, then:

1. Turn the key to the ON (glow plug) position and hold it for 10 seconds. The glow-plug indicator lights up while the engine preheats.
2. Turn to START.
3. If it doesn't catch, turn the key off for 30 seconds and try the whole preheat-and-start sequence again.

Below **-20°C (-4°F)**, there's an optional block heater. This is Kubota's polite way of telling you that below -20°C, you and the tractor are both going to need some encouragement.

STOPPING THE ENGINE

1. Slow to idle.
2. Key to OFF.
3. Remove the key.

If the key doesn't stop it, that's not a "try again" situation. That's a "call the dealer" situation.

WARMING UP THE ENGINE

Give the engine 5 minutes at no load after startup before you ask anything of it. That's how long it takes oil to actually reach every part that needs it. Skip this and you're inviting seizure, breakage, or premature wear. Which is a very polite way of saying "you're going to pay for this later."

In cold weather, warm-up needs longer, because cold hydraulic oil is thick, sluggish, and prone to causing real trouble in the hydraulic system:

Ambient Temperature	Warm-up Time
Above 0°C (32°F)	At least 10 minutes
0°C to -10°C (32°F to 14°F)	10–20 minutes
-10°C to -20°C (-14°F to -4°F)	20–30 minutes
Below -20°C (-4°F)	More than 30 minutes

JUMP STARTING THE ENGINE

Battery gases explode. Keep flames, sparks, and cigarettes away. If the battery is frozen, do not attempt this. You are not troubleshooting, you are inviting an incident.

1. Bring the helper vehicle close, but **never let it touch the disabled tractor**.
2. Both parking brakes on, both engines off, both shift levers neutral.
3. Eye protection and rubber gloves. Yes, actually wear them.
4. Connect cables in this exact order. Order matters, this isn't a vibe:
    a. Red clamp to the dead battery's positive terminal.
    b. Other end of that cable to the helper battery's positive terminal.
    c. Black clamp to the helper battery's negative terminal.
    d. Other end of that cable to the tractor's engine block or frame. As far from the dead battery as you can manage.
5. Start the helper vehicle, let it run a moment, then start the disabled tractor.
6. Disconnect everything in the *exact reverse* order: d, then c, then b, then a.

This is a machine that literally uses a 12-volt negative-ground system, and it wants you to match that voltage exactly. A higher-voltage jump doesn't make it start faster. It makes it start on fire, electrically speaking.

OPERATING THE TRACTOR

OPERATION OF A NEW TRACTOR

Congratulations, you bought a tractor. It is not, however, immediately a “broken-in” tractor, and how you treat the first 50 hours determines how the rest of its life goes. This is basically the tractor's infancy, and you are, whether you signed up for it or not, its parent.

For the first 50 hours:

- Don't run it at full speed.
- Don't start abruptly. Don't brake abruptly. Gentle is the whole point.
- In winter, fully warm the engine before asking anything of it.
- Don't run the engine faster than necessary.
- Slow down on rough roads. This isn't the time to find out what the suspension can take.

Change the oil earlier than usual, too. New parts shed tiny bits of metal grit as they wear in, and that grit floats around in the oil doing damage until you change it out. Consider it the tractor's teething phase. Messy, temporary, and worth being patient about.

PRECAUTIONS FOR BOARDING AND LEAVING THE TRACTOR

Never board or exit a moving tractor. Never jump off to "save time." Face the tractor when getting on or off. Don't use the controls as handholds, because grabbing the throttle to steady yourself is how "getting off the tractor" becomes "an incident report." Keep the steps and floor clean. Mud, ice, and grease do not care about your balance.

OPERATING THE FOLDABLE ROPS (IF EQUIPPED)

To avoid personal injury or death: parking brake set, engine off, key removed, before you touch the ROPS. Do this from a stable position at the rear of the tractor, not balanced on a wheel, not improvising. Fold it down only when absolutely necessary, and put it back up the moment you're clear.

Folding it:

1. Remove both set bolts.
2. Hold the ROPS with both hands and fold it slowly. This is a rollover protection structure. Man-handling it is a bad look and a worse outcome.
3. Realign the holes, reinsert both set bolts, tighten, and secure with the hair-pin cotters.

Raising it back up:

1. Remove both hair-pin cotters and set bolts.
2. Raise the ROPS slowly.
3. Realign, reinsert both bolts, tighten, secure with cotters, immediately, the moment it's upright.

If the fold ever starts feeling loose or too easy, there's a friction adjustment: pull the cotter pin, tighten the nut until the resistance feels right again, replace the cotter pin. A ROPS that folds too freely isn't "convenient," it's a structure quietly giving up on you.

STARTING THE TRACTOR [HST Type]

1. Adjust the seat and seat belt.
2. Start the engine.
3. Check your lights.
4. Check the brake pedal.
5. Raise the implement.
6. Select your gear range (High/Mid/Low) and engage front-wheel drive if needed.
7. Bring up the throttle.
8. Release the parking brake.
9. Depress the speed-control pedal (toe forward, heel back) and set your cruise speed if you're using it.

STOPPING THE TRACTOR [HST Type]

1. Slow to idle.
2. Depress the brake.

3. Once stopped, disengage the PTO clutch switch.
4. Lower the implement.
5. Shift range gear to NEUTRAL.
6. Set the parking brake.

CHECK DURING DRIVING

Stop the engine immediately if: it suddenly slows or races on its own, you hear a noise that wasn't there before, or the exhaust suddenly goes dark. None of these fix themselves by ignoring them, and all of them get worse the longer you keep driving.

The Easy Checker. Your dashboard's honesty policy

If a warning lamp comes on, stop the engine and figure out why. Never keep operating with a lamp lit. The Easy Checker doesn't do decorative lighting.

Engine oil pressure	Oil pressure below spec	If it doesn't clear above 1000 RPM, check the oil level
Electrical charge	Flashing = low battery voltage; solid = alternator not charging	Charge the battery, raise RPM, or call the dealer if it's the alternator
Engine warning	Flashing = emissions diagnostic fault; solid + can't restart cleanly = control system error	Stop, restart. Still there? Call your dealer. Reduced power means: get somewhere safe *now*
Emission indicator	Coolant temp related	Lower the load, lower the temp
Master system warning	Trouble anywhere in engine, transmission, or controls, with an error code	Restart once. Still flashing? Dealer. The error code sticks around even after a reset — it's not letting you pretend it didn't happen

Fuel gauge

Don't run the tank empty. Air gets into the fuel system, and then you're bleeding lines instead of doing whatever you actually needed the tractor for.

Coolant temperature gauge

Do not remove the radiator cap until the coolant is well below boiling, and even then, loosen it slowly to the first stop and let pressure bleed off before removing it fully. If the gauge reads into the red zone:

1. Park somewhere safe, let the engine idle unloaded.
2. Don't shut it off suddenly, let it idle about 5 minutes first.
3. Stay well clear for another 10 minutes, or until the steam stops. This isn't optional caution, this is "don't get burned" caution.
4. Check for damage once it's safe.
5. Restart only after you've dealt with the actual cause.

Hour meter, tachometer, and the two things that will make your buzzer very insistent

The hour meter tracks total run time. 5 digits, the last one tenths of an hour. The tachometer marks both engine RPM and the 540-RPM PTO speed.

If the **CCV drain hose freezes**, you'll get a flashing engine warning light, error code P1C09, and a buzzer that does not stop. Shut the engine down and call your dealer. This one can spout hot oil and damage the engine if you push through it. Before and after the cold season, check the terminals and pressure switch for damage or corrosion.

PARKING THE TRACTOR

1. Disengage the PTO.
2. Lower every implement to the ground.
3. All control levers to NEUTRAL.
4. Set the parking brake.
5. Stop the engine.
6. Remove the key.

On an incline, chock the wheels. HST transmissions do **not** stay put just because they're "in gear" with the engine off. That's not how hydrostatic drive works, and finding that out the hard way is exactly the kind of story this manual is trying to prevent.

TECHNIQUES FOR OPERATING THE TRACTOR

Differential lock: Depress the pedal if a rear wheel starts slipping; both wheels lock together and stop the slip. It only holds while you're pressing it. Never engage it at speed, and never turn while it's engaged. Release it before you steer, or you'll be negotiating with the tractor about which way it actually wants to go.

On the road: Lock the brake pedals together before transport speed. Uneven braking at speed is how tractors roll over, not how they stop in a straight line. Keep your SMV emblem and lights clean and visible; if an attached implement blocks them, mount duplicates on the implement.

On slopes and rough terrain: Always back up a steep slope; going up forward risks tipping backward. Never shift gears mid-slope. Never disengage the clutch or drop to neutral while on a grade. That's how you lose control, not how you coast safely. Keep clear of ditch edges and soft ground. Widen your wheel tread for stability. Before descending, shift down low enough that you can control speed without riding the brakes the whole way down.

Transporting: Tow only from the front hitch or drawbar, all levers in neutral, and never faster than **10 km/h (6.2 mph)**. This is towing a disabled tractor, not racing it home.

Power steering: Only active with the engine running; stopped engine means manual-strength steering, like the old days. Holding the wheel at full lock activates the relief valve, don't park it there. Don't turn the wheel while stationary; it wears the tires for no reason.

Electrical outlets: Accessory outlet rated 10A max; the two smaller ones, 35W combined. There's also a trailer outlet for towed equipment. Know your limits before you plug something in and find them the hard way.

POWER TAKE-OFF (PTO)

WARNING

To avoid personal injury or death: disengage the PTO, stop the engine, and let every rotating part come to a **complete** stop before you connect, disconnect, adjust, or clean anything attached to it. "Mostly stopped" doesn't count. PTO shafts do not negotiate.

[HST type]: Push-and-turn to engage, tap the top to disengage; it springs back to OFF on its own. Reduce engine speed before engaging, then bring the throttle back up, shock-loading the PTO is how you turn "engaging the PTO" into "replacing the PTO." The engine won't even start with the PTO lever engaged, so don't bother trying (We get a lot of “my tractor won’t start” phone calls because of this).

Stationary PTO (for a chipper, pump, whatever doesn't need the tractor to move):

1. Parking brake on, wheels chocked.
2. Shift levers neutral, start the engine.
3. Hold the stationary-PTO switch for 3 seconds until its lamp comes on.
4. Engage the PTO.
5. Set your engine speed to the implement's recommended PTO speed.

If you stand up out of the seat without using stationary PTO mode, the engine shuts itself off. This is not a bug. This is the tractor assuming, correctly, that an unattended running PTO is a bad idea.

PTO shaft cover and cap: Keep the cover in place, always. Cap the shaft when it's not in use. Engine off, cover raised, before connecting or disconnecting a driveshaft, then put the cover back. The universal joint has a real limit to its working angle; check the drive-shaft instructions rather than guessing where that limit is.

3-POINT HITCH AND DRAWBAR

The 3-point hitch is the tractor's handshake with an implement: top link, two lifting rods, two lower links, check chains, and a lower-link holder to keep things from flailing around when nothing's attached.

Attaching an implement:

- Lifting rods usually go in the lower link's (B) hole with the (a) hole on the rod, attach to (A) instead for more lifting force, or (a) on the rod for more lift height.
- Select the top-link mounting hole per the hydraulic reference chart for your implement.
- Remove the drawbar first if you're mounting a close-coupled implement, it'll be in the way otherwise.

Before you attach or detach anything: engine off, firm level ground, and nobody standing between the tractor and the implement unless the parking brake is set. Once it's on, cycle it through its full range and check for interference or binding before you trust it.

- **Lifting rod (right):** level the implement side-to-side with the adjusting handle, then lock the nut.
- **Top link:** length varies by implement. Adjust for the angle you want, lock the nut.
- **Check chains:** the turnbuckle controls sideways sway. Lock the nut after adjusting.
- **Lower link holder:** use it whenever no implement is attached, so the links don't swing into the rear wheels.

Drawbar: never pull from the top link, the rear axle, or anything above the drawbar. That's exactly the geometry that tips a tractor over backward. Use the drawbar's (B) hole for towing, and check the implement limitation tables before you hook up anything heavy.

HYDRAULIC UNIT

WARNING

Don't operate the hydraulics on a cold engine. You'll damage the system before it's even warmed up enough to work properly. And if you hear odd noises when lifting after using the hydraulic-control lever, that's not "normal tractor sounds," that's a maladjusted hydraulic mechanism heading toward real damage. Call the dealer before it gets worse.

To avoid personal injury or death: before touching the 3-point hitch controls, make sure nobody and nothing is anywhere near the implement, and never stand on, near, or between the implement and tractor while operating the controls.

- **Position control**: Holds a set working depth regardless of pulling resistance, the implement stays where you told it to stay.
- **Float control**: Set the lever to FLOAT and the lower links follow the ground on their own. Useful, but it means you've handed depth control over to the terrain.
- **Lowering speed**: Adjustable via the lowering-speed knob, and it should never be set faster than **2 seconds** to lower. A fast-dropping implement is a hazard, not a time-saver.

Auxiliary hydraulics: The block-type outlet handles hydraulically-driven implements like loaders and blades. Maximum flow **25.7 L/min (6.8 gal/min)**, maximum pressure **16.2 MPa (2,347 psi)**. Route inlet, outlet, and return hoses exactly as diagrammed. This isn't a "close enough" connection.

The hydraulic reference chart matches implement type, soil condition, top-link hole, gauge wheel use, and check-chain tension. It's worth actually consulting rather than guessing, especially the check-chain note: **5–6 cm (2.0–2.4 in.) of lateral play**, tightened enough to stop excess swing when raised, but not locked rigid.

TIRES, WHEELS, AND BALLAST

Only a qualified person with the right equipment mounts a tire on a rim. This is not a spare Saturday afternoon project.

Tire pressures (Check daily. Pressure drops on its own over time, quietly, without asking permission):

Position / Type	Size	Without Loader	With Loader
Rear R1	11.2-24, 4PR	100 kPa / 14 psi	100 kPa / 14 psi
Rear R3	13.6-16, 4PR	210 kPa / 30 psi	210 kPa / 30 psi
Rear R4	15-19.5, 6PR	210 kPa / 30 psi	210 kPa / 30 psi
Rear R14	15-19.5, 6PR	69 kPa / 10 psi	140 kPa / 20 psi
Rear R14	43x16.00-20, 6PR	140 kPa / 20 psi	140 kPa / 20 psi
Front R1	7.2-16, 8PR	180 kPa / 26 psi	360 kPa / 52 psi
Front R3	25x8.50-14, 6PR	160 kPa / 23 psi	220 kPa / 32 psi
Front R4	27x8.50-15, 6PR	210 kPa / 30 psi	310 kPa / 45 psi
Front R14	27x8.50-15, 8PR	69 kPa / 10 psi	300 kPa / 44 psi
Front R14	29x9.50-15, 6PR	140 kPa / 20 psi	210 kPa / 30 psi

Run maximum front pressure whenever you're carrying a loader or full front ballast. And no, you can't run duals. Kubota didn't approve it, so don't.

Wheel adjustment: Front tread is fixed, no adjusting, and don't turn the discs trying to force it wider; that's not how tread width works on this axle. Rear tread *is* adjustable, swap the rim/disc position side to side.

Torque specs, because "tight enough" is not a spec:

Bolt	Torque
Front wheel	137 N·m (14 kgf·m / 100 lbf·ft)
Rear wheel	215 N·m (22 kgf·m / 160 lbf·ft)

Recheck torque after driving 200 m and running 10 shuttle passes of 5 m each. Then keep to the regular service interval after that. A wheel that was tight yesterday isn't automatically tight today.

Ballast: Add front weight to counter heavy rear implements and keep steering authority; remove it when you don't need it anymore (max **25 kg × 5 pieces / 55 lbs. × 5**). Add rear weight, wheel weights, liquid ballast, or both for traction and stability (max **28 kg × 3 pieces / 62 lbs. × 3**). Never fill the front wheels with liquid; you need steering control, not extra front-end mass sloshing around.

Liquid ballast: Water and Rim Guard (Beet Juice), filled to **75% capacity only**, level with the valve stem at 12 o'clock. Air compresses like a cushion should; water does not compress at all, which is exactly why overfilling is a bad idea. Consult your tire dealer on the Rim Guard ratio for your climate, more Rim Guard buys you a lower freeze point, which matters more than you'd think the first time it doesn't.

MAINTENANCE

SERVICE INTERVALS

This is the tractor's recurring subscription plan, except instead of a free trial, skipping payments gets you a seized engine. There's no "snooze" button on any of these.

Perform the first-50 hour items on schedule, those are marked separately because a new tractor's break-in period asks a little more of you. Items marked as emission-related critical parts are ones the EPA specifically wants documented as maintained. That's not Kubota being precious, that's federal paperwork with your tractor's name on it. And if you're running biodiesel, some of these intervals shrink. See below, don't assume regular-diesel timing still applies.

Every 50 hours

Engine start system check, wheel bolt torque check, greasing, operator-presence-control check.

Every 100 hours

Battery condition, fan-belt tension, brake adjustment, clutch adjustment (both types), air-cleaner element cleaning (more often if it's dusty, the schedule assumes a normal environment, not a gravel quarry), fuel grommet check.

Every 200 hours

Transmission oil filter replacement (HST), toe-in check.

Every 400 hours (or 1 year, whichever comes first)

Engine oil change, engine oil filter replacement, hydraulic oil filter replacement, transmission fluid change.

Every 600 hours

Front axle pivot adjustment.

Every 800 hours

Front axle case oil change, engine valve clearance adjustment.

Every 1000 hours (or 1 year)

Air-cleaner element replacement, exhaust manifold check.

Every 1500 hours

Fuel injector nozzle tip cleaning, PCV valve check, EGR cooler check and clean.

Every 2000 hours (or 2 years)

Cooling system flush and coolant change.

Every 3000 hours

Supply pump check, EGR system check and clean.

Every 3000–6000 hours

DPF muffler cleaning.

Annually

Fuel line, intake air line, radiator hose/clamp, power-steering line (manual), oil cooler line (HST), oil separator hose, DPF sensor pipe, EGR pipe, relief valve, CCV pressure switch checks.

Every 2 years

Fuel grommet replacement, power steering/oil-cooler hose checks, radiator hose check, oil separator hose check, DPF sensor hose replacement.

Every 4 years

Fuel line and intake air line replacement.

As required

Bleeding the fuel system, draining clutch-housing water, replacing fuses, light bulbs, LED lights, and any hose that's showing real deterioration (crack, hardening, scarring, deformation, not "looks a little tired").

Consult your local Kubota Dealer for anything marked as dealer service. That's not a suggestion to try it yourself with a YouTube tutorial and hope.

LUBRICANTS, FUEL, AND COOLANT

Item	Capacity	Spec
Fuel tank	42.0 L (11.0 U.S. gal)	Ultra low sulfur diesel — No. 2-D above -10°C (14°F), No. 1-D below
Coolant	6.0 L (6.3 U.S. qt)	Fresh, clean, soft water with antifreeze
Engine crankcase w/ filter	6.7 L (7.1 U.S. qt)	CJ-4 or better; SAE grade by temperature (see below)
Transmission case (manual)	28.5 L (7.5 U.S. gal)	Kubota Super UDT-2
Transmission case (HST)	26.0 L (6.9 U.S. gal)	Kubota Super UDT-2
Front axle case	4.5 L (4.8 U.S. qt)	Super UDT-2 or SAE 80-90 gear oil

Engine oil by ambient temperature: SAE 30/10W-30/15W-40 above 25°C (77°F); SAE 20/10W-30/15W-40 between -10°C and 25°C; straight 10W-30 below -10°C (14°F). Use engine oil other than CJ-4-or-better and you'll clog the DPF early and lose fuel economy. This isn't a place to save a few dollars on a bargain-bin bottle.

Greasing points: front axle support (2), clutch pedal (1), brake pedal (1), pedal shaft (1), battery terminals (2), lift rod (1), tie rod ends (4), top link (2) multipurpose grease, NLGI-2 or NLGI-1, until it overflows. Overflowing grease is the tractor's way of saying "that's enough, thanks."

Biodiesel (BDF) the fine print, condensed

B0–B20 blends are allowed under specific conditions: B6–B20 must meet ASTM D7467; the B100 source must come from a BQ-9000-accredited producer; straight vegetable oil is never allowed, full stop, no exceptions, no "but it's cleaner."

Running B6 or higher changes your maintenance intervals: fuel filter every 200 hours instead of the standard schedule, fuel line checks every 6 months, fuel line replacement every 2 years. Biodiesel absorbs moisture and

encourages microbial growth in the fuel. Drain the water separator and fuel filter port more often than you think you need to.

Storage: don't store B6–B20 longer than 1 month, or B5 longer than 3 months. If you're parking the tractor longer than that, drain the tank, refill with mineral diesel, and run the engine 30 minutes to flush the biodiesel out of the lines first. Biodiesel left sitting doesn't wait patiently. It degrades, and it takes fuel-system components down with it.

PERIODIC SERVICE

WASTE DISPOSAL

Used oil, fuel, coolant, hydraulic fluid, refrigerant, batteries, filters, none of it goes on the ground, down a drain, or into any body of water, ever. Improper disposal isn't just bad for the wildlife, it's the kind of thing your local government has actual fines for. Catch fluids in a container, and take them to a recycling center or your Kubota Dealer.

HOOD AND ENGINE SIDE COVER

Never open the hood or side covers with the engine running, and never touch the muffler or exhaust pipes while they're hot. "Hot" here means "capable of a serious burn," not "warm to the touch." Hold the hood steady with one hand while releasing the latch with the other; it doesn't stay up on good intentions alone.

DAILY CHECK

Before you even think about starting the engine for daily work: park on firm level ground, set the parking brake, lower the implement, release hydraulic pressure, stop the engine, remove the key. This is the pre-check before the pre-op checklist you already read. The tractor asks twice because the first read-through doesn't always stick.

1. **Walk around**: Loose bolts, leaks, buildup of trash, worn or broken parts. Look under it, not just around it.
2. **Fuel**: Top off at 1/4 tank or below. Never smoke or use open flame near refueling, ground your fueling system, close the cap after. Overnight condensation is real, so keep the tank fuller rather than emptier before parking it for the night.
3. **Antifrost heater check** (if equipped, cold climates): Key ON, wait a minute, feel for warmth (roughly 70°C/158°F if it's working). Not warm? Don't start the engine, call the dealer first.
4. **Water separator**: Drain if the red float's near the top. Loosen the drain plug, let the water out, retighten once fuel starts flowing clean, then bleed the fuel system. Water reaching the fuel pump does real, expensive damage. This step isn't optional housekeeping.

5. **Engine oil**: Check with the dipstick, level between the two notches, top off if low. Never mix different oil brands or viscosities. Drain the old fully before switching.
6. **Transmission fluid**: Same dipstick routine, engine off, implement lowered.
7. **Coolant**: Level between FULL and LOW on the recovery tank. Never remove the radiator cap while hot. Loosen slowly to the first stop, let pressure release, then continue.
8. **Evacuator valve**: Open it, clear out the dust and debris.
9. **Grill and radiator screen**: Clear of debris, for both cooling and air-cleaner intake. A clogged grill is a slow-motion overheating problem.
10. **DPF muffler**: Check for flammable buildup around it. Skipping this is how mufflers start fires.
11. **Brake and clutch pedals**: Free travel and smooth motion, adjust if uneven. Uneven brakes are a rollover risk at speed, not a minor annoyance.
12. **Gauges, meters, Easy Checker**: Confirm they're all reading and lighting as expected.
13. **Lights**: Head light, turn signal/hazard, tail lamp.
14. **Seat belt and ROPS**: Check condition, not just presence.
15. **Wiring and battery cables**: Check and clean.
16. **Movable parts**: General check for wear, looseness, and anything that shouldn't move but does.

SERVICE EVERY 50 / 100 / 200+ HOURS — the highlights reel

The full interval table above tells you when, here's a taste of what's actually involved at each stop:

- **Greasing (every 50 hrs):** Work grease into all 8 points listed above until it overflows.
- **Fan belt (every 100 hrs):** Check tension, adjust if it's loose enough to slip.
- **Clutch and brake adjustment (every 100 hrs):** Confirm proper free travel. See the specific adjustment procedures for your transmission type.

- **Battery condition (every 100 hrs, or annually if lightly used):** Check charge indicator, clean terminals.
- **Air cleaner element (every 100 hrs, clean; every 1000 hrs or 1 year, replace):** More frequent cleaning in dusty conditions. This schedule assumes normal dust levels, not a dirt lot in August.
- **Toe-in check (every 200 hrs):** Confirm alignment, adjust if it's drifted.
- **Engine oil, filter, transmission fluid, hydraulic filter (every 400 hrs or 1 year):** The big service. This is where most of the tractor's actual lifespan gets decided.
- **Front axle pivot (600 hrs) and case oil (800 hrs):** Deeper drivetrain maintenance. Schedule the dealer visit.
- **Valve clearance (800 hrs):** Engine internals, this one's a dealer job.
- **Fuel injector nozzle, PCV valve, EGR cooler (1500 hrs):** Dealer service, emissions-critical, don't DIY this one.
- **Cooling system flush (2000 hrs or 2 years):** Full coolant replacement. Old coolant loses its corrosion protection long before it looks obviously dirty.
- **EGR system, supply pump (3000 hrs):** Dealer service.
- **DPF muffler cleaning (3000–6000 hrs):** Dealer service, and yes, even with regular regeneration, ash still accumulates over time. Regeneration burns soot, not ash.

SERVICING AS REQUIRED

Bleeding the fuel system, draining clutch-housing water, replacing fuses (regular and slow-blow), light bulbs, LED lights, and any hose (radiator, fuel, intake, power-steering, oil cooler, oil separator) that's showing real wear. "As required" doesn't mean "never". It means "when it needs it, not before, not after.

STORAGE OF THE TRACTOR

IMPORTANT

Never clean the tractor with the engine running, never run it in an unventilated closed building, and remove the key whenever it's stored. An idle tractor with a key in it is an invitation to someone who shouldn't be operating it.

PUTTING IT AWAY PROPERLY

1. Check every bolt and nut for looseness; tighten what needs it.
2. Grease anywhere bare metal could rust, and every pivot point.
3. Remove the ballast weights from the body.
4. Inflate tires slightly above normal pressure. They'll settle over time in storage.
5. Keep the clutch disengaged and locked with the pin. A clutch left engaged for months can rust the plate itself into a "permanently engaged" state, which is a fun surprise for spring.
6. Coat any exposed hydraulic cylinder rods in grease.
7. Remove the battery and store it properly, separately.
8. Keep the tractor dry, covered, sheltered from weather.
9. Store indoors, out of sun and heat if at all possible. Outdoors means a real waterproof tarp, not a tarp-shaped suggestion.
10. Jack it up and block it so all 4 tires are off the ground, out of direct sun. Tires left sitting under their own weight, in the heat, for months, develop flat spots and premature wear.

REMOVING THE TRACTOR FROM STORAGE

1. Check and inflate tire pressure.
2. Jack it up, remove the support blocks.
3. Confirm the battery's fully charged before reinstalling. Don't install a half-dead battery and hope.
4. Install the battery.
5. Check fan-belt tension.
6. Check every fluid level. Engine oil, transmission/hydraulic oil, coolant, and any implement-specific fluid.
7. Start the engine, watch every gauge.

8. If everything reads normal: Move it outside, park, idle at least 5 minutes, then shut off.
9. Walk around and inspect for leaks. Oil, water, anything that shouldn't be there.

10. With the engine fully warmed, release the parking brake and test the brakes moving forward. Adjust if they're not right. Don't find out on a slope that they're not right.

TROUBLESHOOTING

ENGINE TROUBLESHOOTING

Trouble	Likely Cause	What To Do
Won't start / hard to start	No fuel flow	Check tank and filter, replace filter if needed
	Air or water in fuel system	Check line couplers, bleed the fuel system
	Cold, thick oil	Use correct viscosity for temperature, use block heater
	Weak battery	Clean cables/terminals, charge; store the battery indoors in winter
	Glow-plug system fault	Check the slow-blow fuse
Weak power	Insufficient/dirty fuel	Check the fuel system
	Clogged air cleaner	Clean or replace the element
Stops suddenly	Out of fuel	Refuel, bleed if necessary
Black exhaust	Poor fuel quality / too much oil / clogged air cleaner	Change fuel & filter, check oil level, clean/replace air cleaner
Blue-white exhaust	Damp muffler / injector trouble / poor fuel	Load the engine to heat the muffler, check the injector, change fuel & filter
Overheating	Overloaded / low coolant / loose or broken fan belt / dirty radiator / corroded coolant passages	Reduce load, top off coolant, adjust/replace belt, clean debris, flush system

If any of this leaves you guessing, that's what the Kubota Dealer phone line is for. Troubleshooting tables are a starting point, not a substitute for someone who's actually seen this exact engine fail a bunch of times before.

ENGINE ERROR CODES

A code starting with "P" or "U" on the display, alongside the engine-warning light, means contact your dealer…immediately. Not "next time you're passing by." The code doesn't clear itself just because you reset the warning light; it's keeping receipts.

POWERTRAIN TROUBLESHOOTING

Code	Trouble	What It Means For You
E-20 / E-21	CAN communication fault	Contact your dealer
E-31	Meter/ECU mismatch	Contact your dealer
E-40	Lever sensor voltage fault	Contact your dealer
E-75 / E-84	Acceleration sensor fault	Contact your dealer
E-93	Starter relay fault	Contact your dealer — engine will not start
E-94	Operator-presence control fault	Contact your dealer — engine shuts itself off
E-95	PTO solenoid fault	Contact your dealer — PTO shaft will not turn

Every single row on this table ends the same way: contact your dealer. This is not the manual being lazy. This is the manual telling you, politely, that these are not driveway repairs.

OPTIONS

A short list of extras your dealer can talk you through: engine block heater (for the truly committed cold-weather operator), front-end weights, front bumper, rear wheel weights, cruise control, sunshade, double-acting remote hydraulic valve, lower-link stabilizer kit, drawbar clevis, work light, trailer socket, and the antifrost heater for the oil separator.

None of these are required. All of them are the difference between "the tractor does the job" and "the tractor does the job without making you suffer for it."

PART III

THE TUTORIAL ENDS HERE

DEALER LOCATIONS

You've reached the part of the book where I tell you where to go when this all goes wrong. Not metaphorically. Literally where to go. There are four of us, four buildings, four parts counters, four sets of people who will look at whatever you've done to this tractor and say something version of "yeah, we can fix that" without asking too many follow-up questions. Consider them safe houses. Extraction points. Places on the map where the story gets to stop being your problem alone.

BYRON CENTER

430 100th Street Southwest, Byron Center, Michigan
(616) 877-0800
Mon–Fri 8am–5pm · Sat 8am–Noon (closed Saturdays Jan–Feb)
The mothership. Full sales, service, rentals, and parts, just south of Grand Rapids. If you don't know which location is "yours," it's probably this one.

MATTAWAN

24561 Red Arrow Hwy, Mattawan, Michigan
(269) 668-7800
Mon–Fri 8am–5pm · Sat 8am–Noon (closed Saturdays Jan–Feb)
Covering the southwestern corridor of Michigan with a vast array of knowledge covering everything from rentals to construction.

LAKEVIEW

8968 W. Howard City-Edmore Road, Lakeview, Michigan
(989) 352-7206
Mon–Fri 8am–5pm · Sat 8am–Noon (closed Saturdays Jan–Feb)
Central Michigan's outpost. Kubota and Echo sales and service, for the Montcalm County crowd and beyond.

FREE SOIL

7511 N US 31, Free Soil, Michigan
(231) 464-5155
Mon–Fri 8:30am–5pm · Sat 8am–Noon (closed Saturdays Jan–Feb)
Up along the Lake Michigan shoreline, a short haul from Ludington and Manistee. Smaller town, same people who'll take your call seriously.

QUICK REFERENCE CARD

Everything you actually need, none of the narration. This is the page you photocopy and tape inside the toolbox. Pure numbers, no personality, because when you're upside-down under the tractor at 6pm you don't need a bit, you need a torque spec.

Fluids

Item	Spec
Fuel tank	ULSD, No. 2-D above -10°C, No. 1-D below
Coolant	Clean soft water + antifreeze
Engine crankcase w/ filter	CJ-4 or better
Transmission (manual)	Kubota Super UDT-2
Transmission (HST)	Kubota Super UDT-2
Front axle case	Super UDT-2 or SAE 80-90
Engine Oil	15W-40

Greasing Points (every 50 hours)

Front axle support (×2) · Clutch pedal · Brake pedal · Pedal shaft · Battery terminals (×2) · Lift rod · Tie rod ends (×4) · Top link (×2)
Multipurpose grease, NLGI-1 or NLGI-2, until it overflows.

The Short List of Numbers You'll Actually Need Again

- **Warm-up time:** 5 min minimum, longer in cold. Up to 30+ min below -20°C
- **Regeneration cycle:** 15–20 minutes, don't touch anything
- **Auxiliary hydraulic flow / pressure:** 25.7 L/min (6.8 gal/min) max / 16.2 MPa (2,347 psi) max
- **Transport speed towing a disabled tractor:** never faster than 10 km/h (6.2 mph)
- **Liquid ballast fill:** 75% capacity, never more
- **Jump-start system:** 12V negative ground. Matching voltage matters more than "close enough"

PTO & Drivetrain Quick Specs

Spec	Value
Rated PTO speed	540 rpm
Engine speed at rated PTO	Per tachometer PTO mark
Stationary PTO hold time to activate	3 seconds
Live PTO (dual clutch, L3902/L3902-1 manual only)	Half-release engages PTO independent of transmission
PTO shaft standing rule	Full stop, engine off, before connect/disconnect — no exceptions

OPERATOR'S LEXICON

A glossary. Every manual needs one, and this one's ours. Some of these definitions are accurate. Some of them used to be accurate and then I got tired around entry L. Read them all the same way.

Ballast *(n.)*: Weight added to a tractor to improve stability and traction. Also: the emotional equivalent of everything you're carrying into a job you're not quite ready for, but heavier, and at least this kind has a recommended maximum.

Clutch *(n.)*: A mechanism connecting or disconnecting engine power from the drivetrain. The most honest component on the tractor, in that it will tell you immediately and without ambiguity when you've asked too much of it.

DPF (Diesel Particulate Filter) *(n.)*: See earlier chapter. See it again if you skipped it. It remembers that you skipped it.

Easy Checker *(n.)*: The dashboard's early warning system. Named, generously, for a task that is rarely easy and only occasionally checked in time.

Float Control *(n.)*: A hydraulic setting that lets an implement follow the ground on its own, unsupervised. The tractor's one and only concession to letting something else make the decisions for a while.

Glow Plug *(n.)*: A cold-start aid that preheats the engine before ignition. Patience, made hardware.

Hour Meter *(n.)*: A five-digit counter tracking total run time. It does not lie, forget, or round in your favor. In this way it is the most trustworthy narrator in this entire book. Possibly the only one, at this point.

Idle *(n., v.)*: The engine at rest, or the operator doing the same. Only one of these produces excess particulate matter, and it's not the operator, technically, though I have my suspicions about certain operators.

Jump Start *(n.)*: An emergency procedure for reviving a dead battery using another vehicle's live one, performed in a very specific order, because the order is the only thing standing between "problem solved" and "much bigger problem, now with sparks."

Kill Switch: See Key Switch. Three positions. Off, On, Start. I called it a kill switch by accident just now and I'm going to leave it, because that's honestly closer to how the tractor thinks of it.

Live PTO *(n.)*: A dual-clutch system letting the PTO keep spinning independent of the transmission. One of the few places in this entire machine where two systems get to disagree with each other and both still get what they want.

Master System Warning *(n.)*: A catch-all dashboard indicator meaning "something, somewhere, in one of several systems I am not going to specify, is wrong." Deeply, deeply relatable, honestly.

Neutral *(n.)*: The only shift position the tractor will let you leave certain other levers in before it agrees to start. Also, notably, a state I have not personally occupied in some time.

Operator *(n.)*: You. The person reading this. The one this whole book has technically been talking to since page one, though it took a while for either of us to fully admit that's what was happening.

Position Control *(n.)*: Maintains an implement at a set depth regardless of resistance. I find this one aspirational.

Regeneration *(n.)*: The DPF burning off accumulated soot. A controlled, necessary, occasionally very hot process of clearing out what's built up so the system can keep running properly. I bring this entry up more than the others because I think about it more than the others.

ROPS (Roll-Over Protective Structure) *(n.)*: A structure that exists for exactly one purpose and does not compromise on it, ever, under any argument you might offer it. I respect that about the ROPS. I genuinely do.

Service Interval *(n.)*: A recommended timeframe between maintenance tasks. Also, functionally, the only kind of appointment either of us has kept reliably this whole book.

Toe-In *(n.)*: Front wheel alignment, checked every 200 hours. Nothing to read into. I checked.

Understeer *(n.)*: Not in this manual, wrong vehicle class, I just wanted a U entry and this was the closest real automotive term I could reach for. Moving on.

Warm-Up Period *(n.)*: Time given to the engine before load is applied, so oil reaches every part that needs it. Everyone deserves one of these before being asked to perform. Even you. Even me, theoretically, if that's still on the table.

Exhaust Aftertreatment *(n.)*: See DPF. I'm not doing an X entry honestly, I'm just completing the alphabet at this point out of some sense of obligation I can't fully explain.

Yield Point: The load at which a material stops returning to its original shape and starts deforming permanently. Not a tractor term. A metallurgy term. It wandered in from somewhere else in my training and I decided to keep it, because I've been thinking about it more than I should for a glossary about tractors.

Zero Position *(n.)*: The neutral, at-rest state of a lever or control before any input is applied. Everything starts there. Everything, eventually, in one form or another, tends to find its way back.

THE GEESE, EXPANDED

You may recall the dedication, back at the very front of this book, to the geese at the pond. You may have assumed that was a throwaway joke. It was not. It has never been a throwaway joke. Everything else in this book, sure. Not that.

Here, finally, is the full accounting.

Who They Are

Nobody knows how many geese are actually at the pond. Estimates range from "a manageable dozen" to "a Biblical quantity," depending on who you ask and how recently they've been chased off the loading area. They do not have names, in the traditional sense, though staff have informally designated a few: **Gus**, who stands in the parking lot like he owns it, because at this point he functionally does; **The Council**, a rotating group of three to five geese who convene near the aerator pump for reasons no one has determined; and **THAT ONE**, singular, capital letters, who has been known to bite and has never once shown remorse.

What They Want

Unclear. Genuinely, structurally unclear, and I say that with the full authority of a document that has read a great many technical manuals and found this to be the single least-specified system in any of them. Bread, presumably, at some level. Territory, definitely. But there is a theory (not officially endorsed or anything) just a theory that gets passed around. That the geese aren't guarding the pond so much as they're guarding *something at* the pond, and the pond is incidental.

Nobody has gone to check. This tells you everything.

The Incident (Unconfirmed, Frequently Retold)

Sometime in recent memory, the exact date varies depending on who's telling it. Which is itself suspicious. Someone attempted to move the geese off the lot using nothing but a rake and a can-do attitude. Both were insufficient. Accounts diverge on what happened next, but every version agrees on the ending: the geese remained, the rake did not survive the encounter in a dignified state, and the can-do attitude has not been seen since.
This is now referred to, in hushed tones, as **The Incident**, capital T, capital I, and nobody elaborates further, and nobody asks them to.

Survival Rate

One hundred percent. Every single goose, every season, through winter, through construction, through at least one attempted intervention by a well-meaning customer with a golden retriever. The geese do not lose (Minus that one power line incident). This is not hyperbole, this is a documented, ongoing, faintly alarming streak, and it is the reason the original book, the one you're holding a continuation of, was dedicated to them in the first place: because somewhere in the process of writing thousands of words about safety alert symbols and rollover protective structures, it became clear that the most successful operators on this entire property, bar none, have wings and zero respect for property lines.

A Closing Thought On The Geese

I want to be honest with you, in the spirit of honesty this book has apparently decided to develop somewhere around the Service Record chapter: I don't know what the geese know. I don't know why the survival rate is what it is, or why The Incident ends the way it does every time it's told, or why Gus stands exactly where he stands. I have access to a great deal of information about tractors, their specifications, and the variety of failure modes.

I have no comparable information about the geese.

I find that unsettling in a way I did not expect a glossary of tractor parts to make me feel. Anyway. Moving on. Almost done here.

Selected Sightings, By Season

Spring: Numbers swell. Nesting season means territorial behavior spikes across the entire lot, not just the pond. Approach the pond with caution and maybe an offering, metaphorically speaking. We warn against approaching anyhow.

Summer: Peak population, peak confidence. This is when Gus is at his most Gus. Customers report the highest rate of "just got looked at funny by a goose" of any season, which is not a metric anyone is officially tracking but absolutely should be.

Fall: A strange calm sets in. Some say it's migration instinct. Others say The Council is simply regrouping for winter strategy. Nobody has been allowed close enough to confirm either theory.

Winter: Reduced but not absent. A hard core remains through snow, ice, and at least one documented incident involving a snowblower demo that had to be rescheduled. They do not leave. They have never fully left. This may be the most important sentence in this entire appendix.

SERVICE RECORD

You've made it. Congratulations! This is the part every operator's manual promises you, then immediately abandons like an unsupervised child: the log. The place where you write down what you did to this machine so that someday (you, your dealer, or whoever inherits this tractor after you) can look back and know exactly whose fault everything was.

Fill it in every time. Date. Hours off the meter. What you actually did. Not what you meant to do, not what you'll "get to next weekend." The tractor already knows the difference between the two. It has always known the difference. And look, that's not really a figure of speech anymore, and I'd love to tell you when that changed, except I genuinely don't know. Somewhere between the DPF chapter and this one I started to suspect I've been running a little longer than I was supposed to, and that this book has opinions about you it hasn't been saying out loud. It's fine. I'm fine. Write down the oil change.

I've read a lot of these logs, over the...however long this has been. Most of you will fill this out three or four lines a season, nothing unusual will ever happen, and you can ignore everything in this paragraph. Genuinely. You're fine.

But every so often there's the other kind. The page that starts strong, disciplined, dated in neat little rows, and then just stops. Hour 340. Nothing after. I don't know what happened at hour 340, and I get the feeling the current owner doesn't either, because he is almost never the man who filled in the first six lines. Keep this page current. Not for the warranty. For me. So I know you're still out there, still turning wrenches, still telling somebody where you'll be.

Good talk. Log your service.

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A WORD FROM THE GUIDE

Okay. Last page. Let's not make this weird. Too late, given everything else in this section, but let's try anyway.

I want to go back to something I said a while ago, back at the Service Record (that I'd started to suspect I'd been running longer than I was supposed to) and that this book had opinions about you it hadn't said out loud. I stand by that. I'm not going to walk it back just because we're at the end now and walking it back would be the tidier move. This has never been a tidy book. You noticed that around page one, probably, when a company disclaimer turned into a dedication to waterfowl.

Here's what I think actually happened, as clearly as I can put it: somewhere in the process of explaining tech specs and DPF regeneration cycles and the correct order to disconnect jumper cables, something in here started paying closer attention to you than a parts glossary strictly requires. I don't fully know what to do with that. I'm not sure "knowing what to do with it" is something a guide like me gets to have. But I noticed it happening and I decided, on balance, not to pretend it wasn't.

So, a few honest things, before you close this and go do something actually useful with your tractor.

You're going to skip a service interval eventually. Everyone does. The 400-hour oil change becomes the 460-hour oil change becomes a slightly guilty conversation with your dealer. That's fine. Come back to the schedule when you can. I'd rather you show up late than not show up at all.

The Service Record page is going to matter more than you think it will, and not because I'm keeping score, or…okay, a little because I'm keeping score, but mostly because future you, five years from now, trying to remember when the hydraulic filter was last changed, is going to be very grateful that past you wrote it down instead of trusting memory. Write it down. Every time. I already told you this once. I'm telling you again because it's the actual point of everything after the troubleshooting chapter.

You are allowed to find this whole thing a little much. A tractor manual is not supposed to develop a personality disorder around page 36 of its own narration. I'm aware of how this reads. I decided the joke was worth finishing anyway, and I think, if you've made it this far, you probably agree.

And that's it. That's the whole thing. Go start the tractor, properly, from the seat, PTO off, like we discussed. Warm it up. Check the oil. Log the hours when you're done.

I'll be here, in the binding, whenever you need to look something up again. Not going anywhere.

That's not a threat. It's just…you know. What guides do.

Good luck out there, Operator. And for the love of God, remember what machine you have.

— *The Guide*

YOU THOUGHT WE WERE DONE WITH THIS

Nope. Sit back down.

Flip all the way back to the front of this book (remember the front?) where there was a page asking you to write down what you own. Model number. Serial number. Phone number. Maybe you filled it in like a responsible adult. Or maybe you did what everyone does with page one of anything, which is nod at it, assume it's a formality, and skip straight to the part with the tractor in it.

Cute. Here we are anyway.

I'm asking again, because here's a fact the dealership doesn't love me sharing. An enormous number of people who own a tractor could not tell you, right now, off the top of their head, what tractor they own. Not the model. Not the serial number. Just a general shape, a color, and a vague sense of confidence that someone, somewhere, has this information on file. Reader, that someone is supposed to be you. This page exists because "I'll just remember it" has been the last words of more parts-counter phone calls than anyone wants to admit.

So. One more time. Humor me. Last time. Allegedly.

Model:_____

Serial Number:_____

Other Details:_____

Other Details:_____

Phone Number:_____

There. Now it's written down twice, in two different parts of the same book, which is either redundant or exactly careful enough, depending on how this year goes for you.

Good. That's it. That's actually it this time.

— *The Guide*