

# ヤンマートラクター YANMAR TRACTOR

OPERATING INSTRUCTIONS



MODEL

**F235 / F235D**

2018

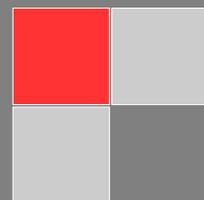
## YANMAR F235 / F235D

### Compact Tractor Operation Instructions

Front loaders  
Mowers  
Winter accessories  
Ground accessories  
Plowing accessories  
[www.kpmalotractory.eu](http://www.kpmalotractory.eu)



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KP malotractory  
05.06.2018  
10.10.2020 English revised



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# 1 - DESCRIPTION OF MACHINE

Yanmar F235 is a two-wheel drive tractor with a permanent driven rear axle. Certain controls on the tractor allow the both rear tires to operate together or independently.

Yanmar F235D is a four-wheel drive tractor with a permanently driven rear axle and a selectable front-wheel drive.

These two models are especially suitable for work in agriculture, horticulture, forestry, arboriculture and viticulture. It is also suitable for use in the modification of park areas and golf courses or the maintenance of solid areas or roads with turf tires. The service is provided by one operator, the driver.

# 1 - DESCRIPTION OF MACHINE

	Drive type	4X4 Selectable
DIMENSIONS	Overall length (mm)	2300mm
	Overall width (mm)	1300mm
	Overall height (mm)	1500mm
	Front axle drive length (mm)	
	Front track (mm)	980mm
	Rear track (mm)	1050mm
	Chassis clearance (mm)	
	Total weight (kg)	1280 kg
MOTOR	Manufacture	Yanmar, Japan; 3TNB84-RB
	Cooling	Liquid cooled
	Horsepower	17.5 kW / 23.5Hp
	Governed Hp	22HP @ 2500rpm
	Number of cylinders	3
	Bore/Stroke	84 x 88 mm, 3.31x3.46 inches
	Displacement	1.5L, 89.3ci
	Fuel tank capacity	20L, 5-1/4Gal
	Decompressor	YES
	Glow Plugs	YES
	Battery	12VDC
WHEELS	Front	7-14
	Rear	9.5-24
TRANSMISSION	Selection	Manual
	Reduction	YES, double
	Number of Speeds	9 Forward, 3 Reverse
	Forward (km / h)	1.01 – 28.88
	Reverse (km / h)	1.41 – 14.00
	Rear differential lock	YES, assignable under load
Turning radius when applying the brake (m)		1.9
PTO	Rear PTO Speed (rpm)	571,785,1200,1400 /2600
	PTO diameter (mm)	35, 6 grooves
Clutch		1 disc, dry
Hydraulics		Rear arms, infinitely adjustable
		Additional control circuit
Brakes		Divided, rear wheels in an oil bath
Hand - foot brake		Yes

## 2 - SAFETY INSTRUCTIONS



# SAFETY INSTRUCTIONS



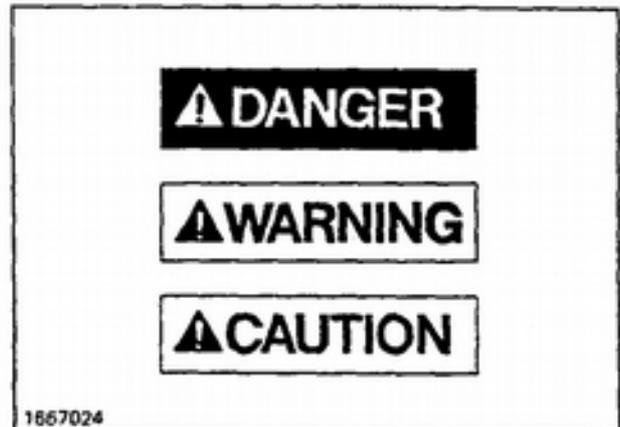
### READ SAFETY SIGNS

1. This is the safety-alert symbol. When you see the symbol on your machine or in this manual, be alert to the possibility of personal injury and carefully read the messages that follow.



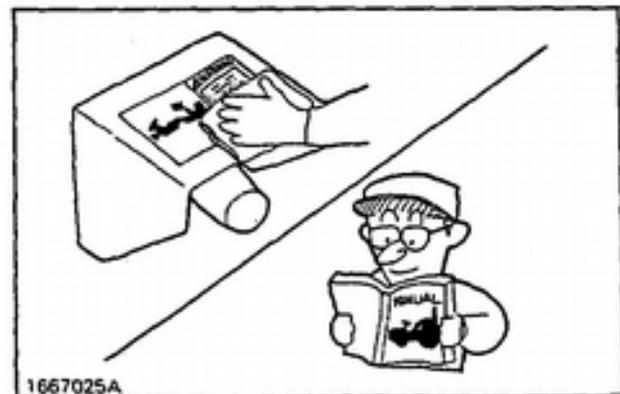
2. The signal words "DANGER" "WARNING" "CAUTION" are used with the safety-alert symbol.

- 1) "DANGER" denotes the extreme hazard which would result in high probability of irreparable injury if proper precautions are not taken.
- 2) "WARNING" denotes the hazard which would result in injury if proper precautions are not taken.
- 3) "CAUTION" denotes the general precautions.



3. Carefully read all safety messages in this manual and safety signs on your machine. Follow recommended precautions to operate machine safely.

Keep safety signs in good readable condition. Replace any missing or damaged safety signs with new safety signs which you can purchase at your YANMAR dealer.



**NOTICE:** Gray market tractors would have symbols and Japanese characters

DANGER ~ 危険

WARNING ~ 警告

CAUTION ~ 注意

## 2 - SAFETY INSTRUCTIONS

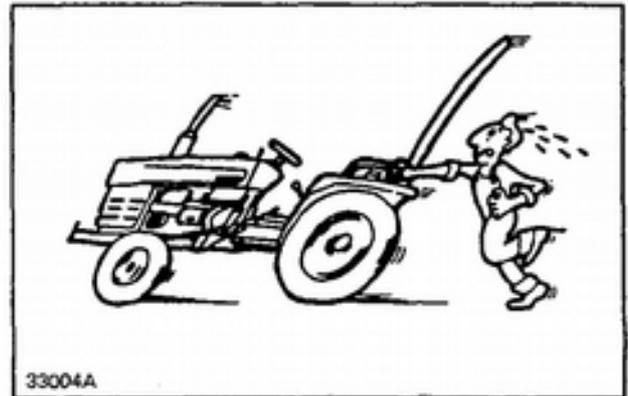
### OPERATING

1. If you operate the engine inside a closed building, be sure there is plenty of ventilation before starting the engine. Exhaust fumes are poisonous. Especially carbon monoxide which is odorless and colorless. You can easily be overcome without realizing it.

While warming up the tractor, always attend the tractor and set the parking brake securely.



2. Start engine only from operator's seat. Do not start engine while standing on ground.
3. Do not start engine by shorting across starter terminals. Tractor will start in gear and move if normal starting circuit is bypassed.



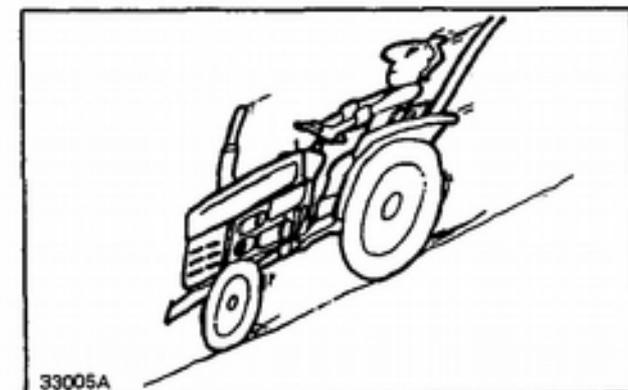
4. Use approved rollover protective structure (ROPS) and seat belt. Overturning a tractor without ROPS can result in death or injury. Always adjust seat belt length to operator's physique and tighten seat belt securely when ROPS is installed. Not using the seat belt on a tractor equipped with ROPS may result in death or injury when tractor overturns.

Do not use seat belt if ROPS is removed from the tractor.



5. Do not allow tractor to coast downhill with clutch disengaged, or with gear in neutral.
6. When operating the tractor on slopes, set wheel tread as wide as possible for maximum stability, reduce engine speed and avoid hard application of brakes and sharp turns.

Stay off hills and slopes which are too steep.



## 2 - SAFETY INSTRUCTIONS

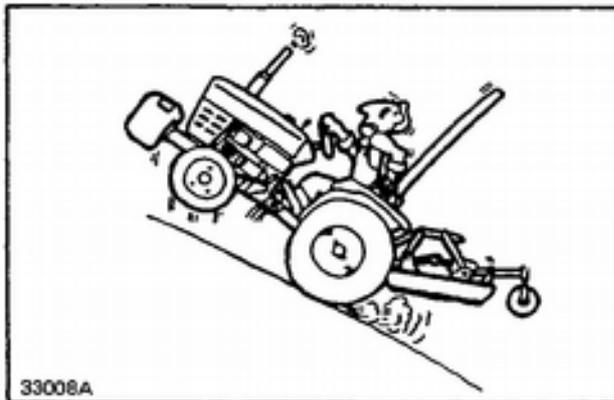
### OPERATING(Continued)



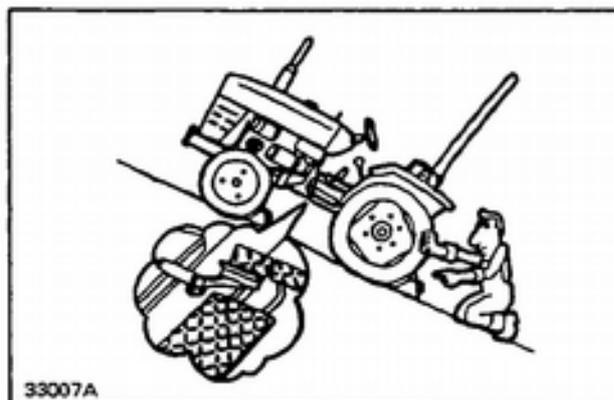
7. Slow down tractor over rough ground and in tall grass and weeds. Rocks, holes, stumps may be hidden in the brush.

Do not let your tractor bounce. You may lose steering control.

Never use the tractor to round up farm animals.

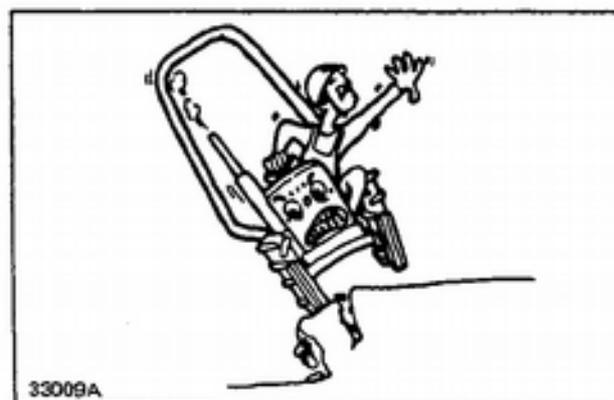


8. When starting tractor on uphill slopes, shift to as low a gear as possible and reduce engine speed to prevent rear overturn.



9. Keep tractor on a firm level surface when parking.

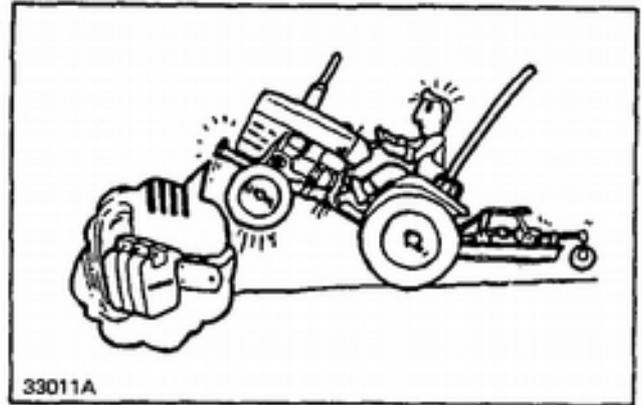
When parking the tractor, couple brake pedals together and set parking brake securely. When parking unavoidably on a slope, position it at right angles to the slope and set parking brake securely and block both front and rear wheels.



10. Do not drive near the edge of a gully or steep embankment — it might cave in.
11. Avoid holes, ditches, etc. which may cause the tractor to tip, especially on hillsides or steep slopes.
12. Driving forward out of ditch or mired conditions or up a steep slope could cause tractor to tip over rearward. If the mud is deep enough it keeps the wheels from turning. The tractor will rotate up and backwards around the axle very quickly. When caught in mired conditions, do not remove implement or ballast weight and always back out.

## 2 - SAFETY INSTRUCTIONS

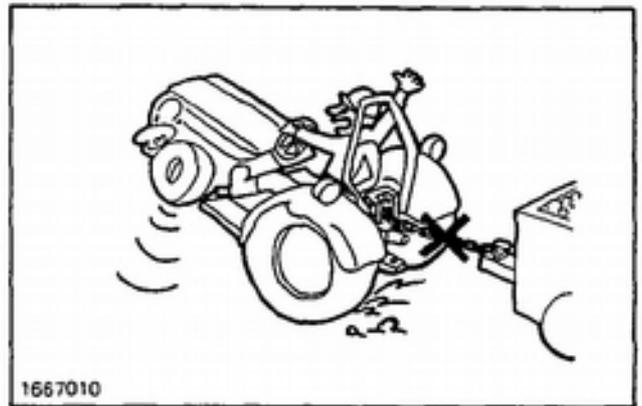
13. When using a heavy implement on 3-point hitch, always install front ballast for stability and steering control.
14. Too large an implement is dangerous for tractor operation. Refer to your implement operator's manual for minimum and maximum horsepower requirement.



15. Do not pull carts etc. from the top link or top link hinge, the rear axle or any point above the drawbar. Doing so could cause the tractor tip over rearward. For pulling, attach carts etc. to the drawbar only.

Use care when pulling loads or using heavy implement.

- 1) Use only approved hitch points.
- 2) Limit loads to those you can safely control.
- 3) Don't turn too sharp, and care when backing.
- 4) Use counterweight or wheel weights when suggested in operator's manual.



16. Take all possible precautions as follows when leaving tractor unattended:
  - a) Disengage PTO.
  - b) Lower implement to ground.
  - c) Shift all shift levers to neutral.
  - d) Latch power shift lock lever. (Power shift transmission only)
  - e) Couple brake pedals together and set parking brake lever.
  - f) Run engine to cool for 2 to 3 minutes at one-third throttle speed and no load.
  - g) Stop engine.
  - h) Cycle hydraulic controls to eliminate residual pressure.
  - i) Remove key.

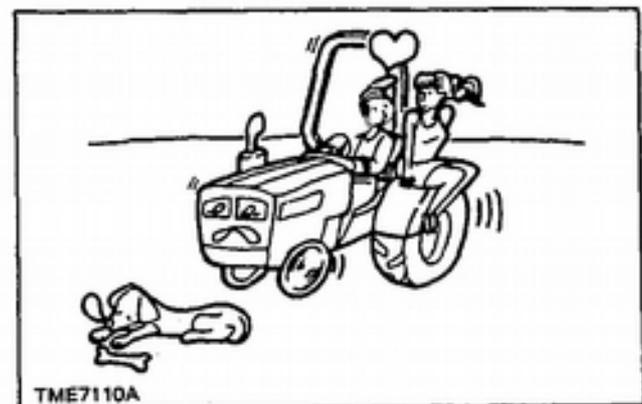
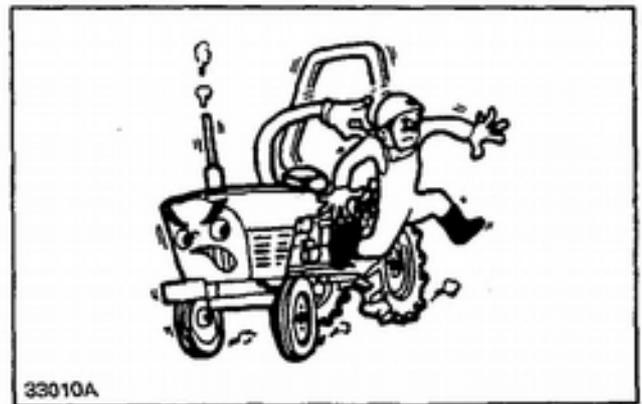
When you leave operator's seat, wait for engine and implement parts to stop moving.

17. Do not permit any person other than operator to ride or board on tractor or implements including wagons.

Never allow children in the tractor cab or allow them to ride on your lap.

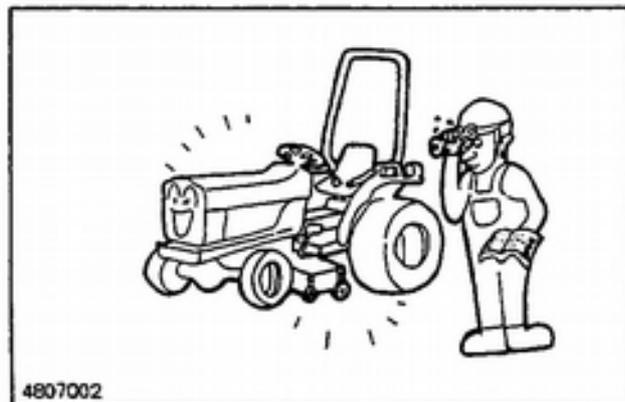
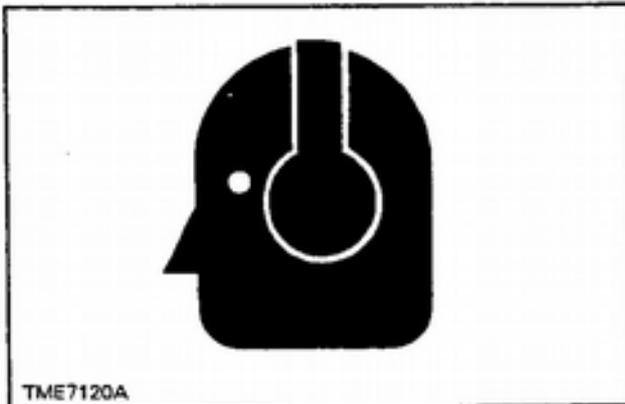
Never allow anyone to stand on the overhead guard or fenders.

Do not "cowboy" or play games with a tractor.



## 2 - SAFETY INSTRUCTIONS

### OPERATING (Continued)



18. Do not try to get on or off a moving tractor or implements. Always use hand rails and steps and face tractor when mounting and dismounting. Never use control levers as a hand hold and never step on foot controls when mounting or dismounting.

Do not get on tractor with wet or greasy hands or muddy shoes.

Do not jump off tractor and be aware of slippery conditions on the ground.

19. Prolonged exposure to loud noise can cause impairment or loss of hearing. Wear a suitable hearing protective device such as earmuffs or earplugs to protect against objectionable and uncomfortable noises.

20. Make sure

- a) Tractor and implement are in good condition and properly adjusted.
- b) Check for bolts loosening, lubricants, damage or inflation pressure of tires, safety shields and devices, steering and braking linkages, hydraulic leaks, etc.. Refer to operator's manuals for more detailed information.
- c) Implements are properly attached and hooked up. Check that the PTO U-joint yoke end locking devices are securely latched on shafts.
- d) Implement PTO RPM ratings match tractor's.
- e) To adjust seat positioning and seat belt length to operator's physique.

## 2 - SAFETY INSTRUCTIONS

### OPERATING(Continued)

21. Avoid loose fitting or baggy clothing with tears, bulging pockets, frayed edges or heavy cuffs. Loose frayed and bulky clothing can easily become wrapped in revolving parts. Wear working clothing and working shoes or boots.

Also you may need:

- Safety helmet
- Safety shoes
- Safety eye protection
- Heavy duty gloves
- Hearing protection
- Reflective clothing
- Respirator or filter mask

Wear whatever safety gear and clothing is necessary for the job.

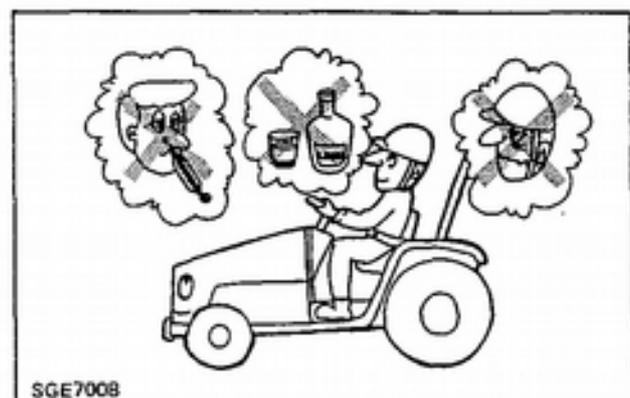
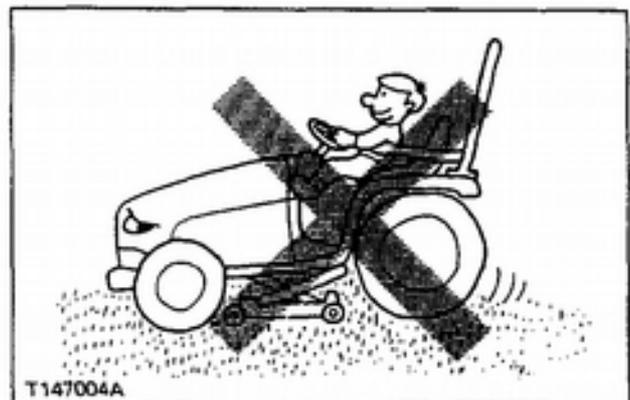
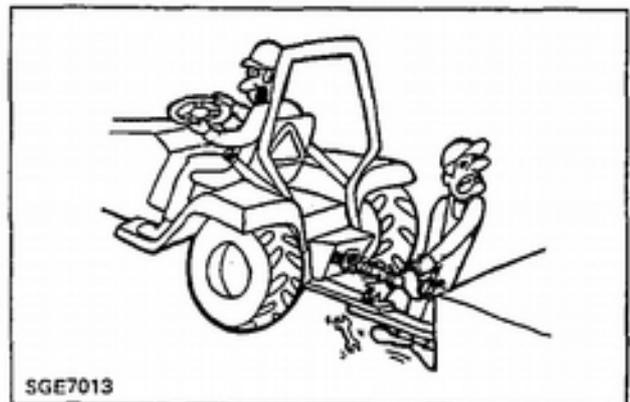
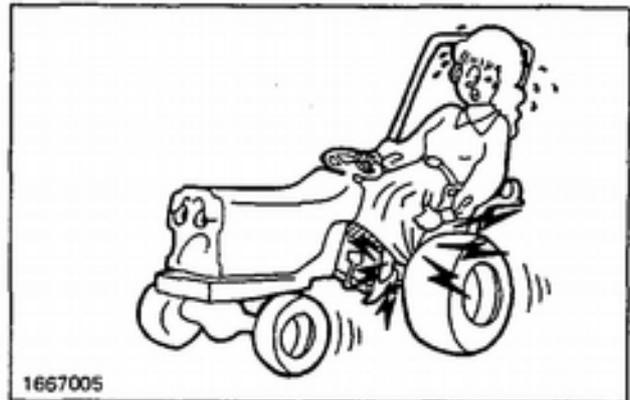
22. Keep hands, feet and clothing away from power-driven parts. Know the pinch and wrap points on your equipment. Keep others away from articulation joints, hitches, drawbar, lift arms, PTO drives, cylinders, etc..

Never stand, or allow anyone else to stand, between the tractor and implement unless the engine is turned off and parking brake is engaged securely.

23. Do not permit anyone unfamiliar with tractor and implement operation to operate the tractor.

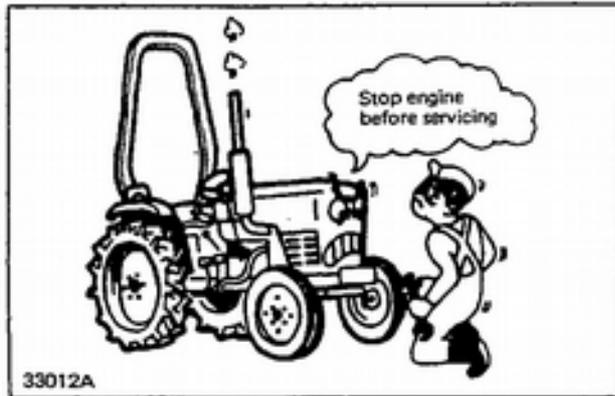
24. Do not operate the tractor when tired, ill, sleepy, drunk, feeling overworked, taking medicines, pregnant, suffering mental disease or other improper conditions.

These conditions impair a person's skill and judgment. When you begin feeling tired during operation, take a 10-minute break to stretch, walk about, lie down or snack. Do not continue if you still feel tired after taking a break.



## 2 - SAFETY INSTRUCTIONS

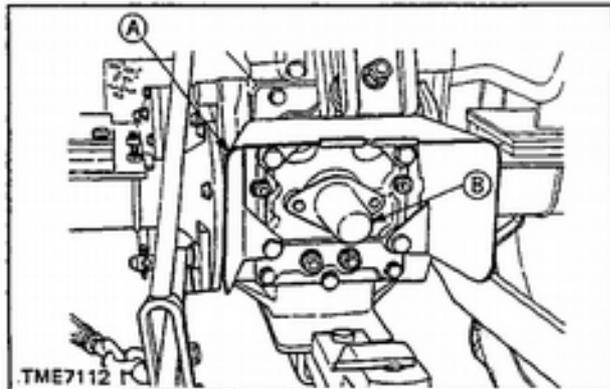
### **STAY CLEAR OF REAR PTO**



1. Stop engine and be sure PTO has stopped before:
  - a) Connecting or disconnecting PTO shaft.
  - b) Making any adjustment to PTO drive train and 3 point hitch.
  - c) Adjusting, cleaning, and servicing PTO driven implements.



2. Make sure the tractor PTO RPM is matched to the implement's required RPM.  
Do not drive or operate implement beyond recommended PTO RPM.

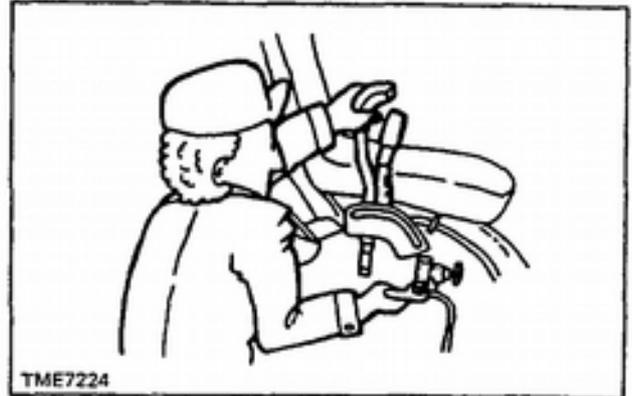


3. PTO master shield (A) should be in place at all times. PTO shaft safety guard (B) should be installed when PTO system is not in use.

## 2 - SAFETY INSTRUCTIONS

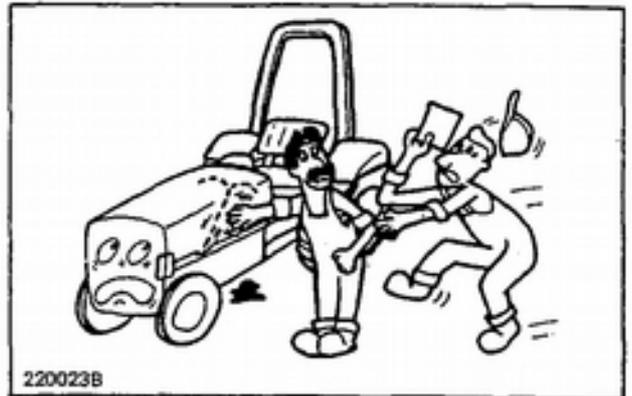
### HIGH PRESSURE FLUIDS

1. Hydraulic oil or diesel fuel escaping under pressure can penetrate skin, causing serious injury. Before disconnecting lines, be sure to relieve all pressure. Before applying pressure, be sure all connections are tight and all components are in good condition.



2. Fluid escaping from very small hole can be almost invisible. Wear safety goggles for eye protection and use a piece of cardboard to check for suspected leaks. Do not use your hands.

If injured by escaping fluid, see doctor at once. Serious infection or other problems can develop if proper medical treatment is not administered immediately.

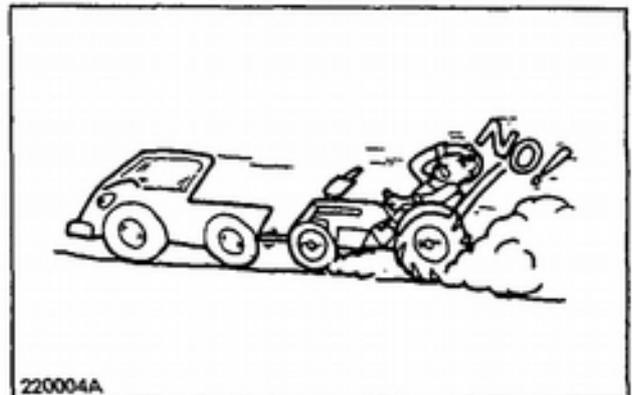


### TRANSPORT

1. Do not tow tractor faster than its maximum travel speed in the highest gear and not more than 25 km/h (16 mph).

Before going down a steep hill, shift to a low gear to control the tractor with little braking. Never coast downhill.

Check local regulations for towing. Towing is illegal in some states.

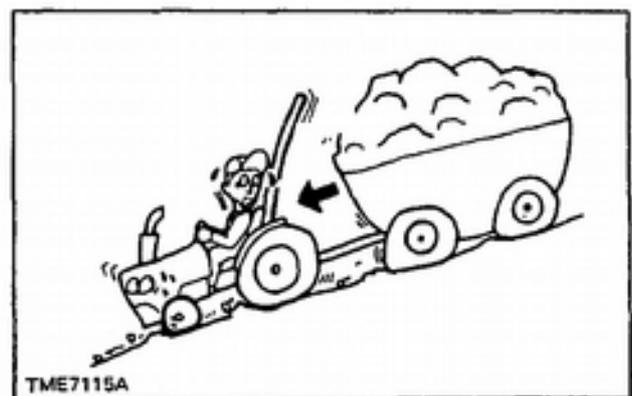


2. A towed load of more than the weight of the tractor should have its own brakes. If it does not, drive slowly and avoid hills and hard applications of brake. It could run away on the down slope and braking could cause the tractor to jackknife around a towed load.

3. Couple brake pedals together and use slow moving vehicle (SMV) emblem and flashing lights for road travel unless prohibited by law.

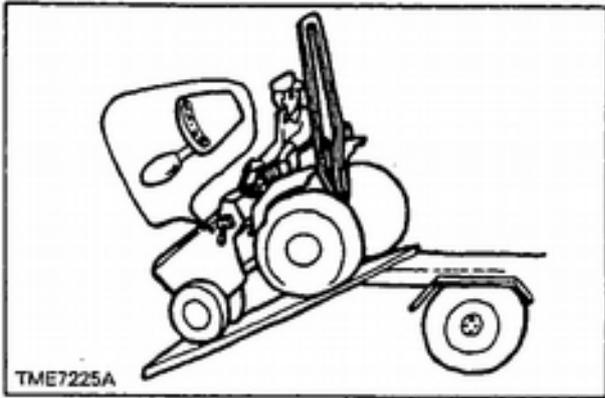
4. Always dim headlights before meeting another vehicle. Keep light adjusted so they will not blind another vehicle.

5. Be sure lighting conforms to local regulations.

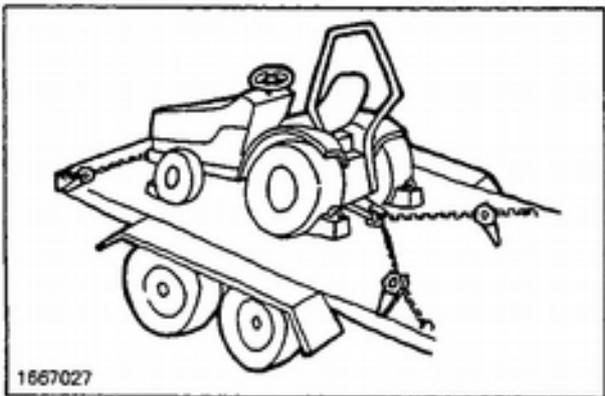


## 2 - SAFETY INSTRUCTIONS

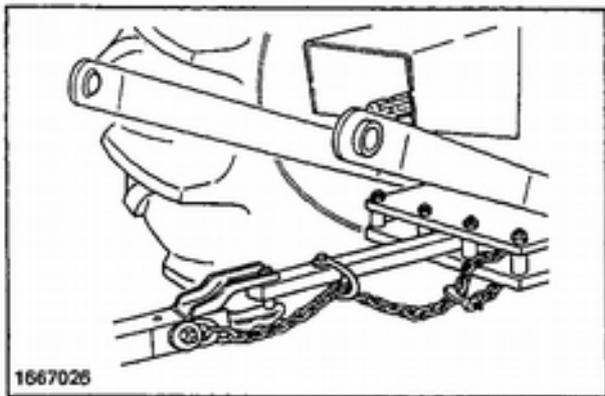
### TRANSPORT (Continued)



6. When loading (or unloading) tractor onto vehicle, use care as follows:
  - a) Use adequate loading ramp on loading dock.
  - b) Use lowest reverse gear when driving up loading ramp.
  - c) Set parking brake and wheel blocks firmly under vehicle wheels.
  - d) Do not try to drive onto trailer from ditch bank.



7. Secure the load with chain binders and be sure they are tight. If chain binders are not available, use rope, wire, blocks, or winch cable. Check load after traveling a few kilometers and every 100km thereafter to make sure ties are not coming loose. Also, check after rough road bumps.



8. A safety chain will help control a drawn implement should it accidentally separate from drawbar while transporting. Using appropriate adapter parts, attach chain to tractor drawbar support or other specified anchor location. Provide only enough slack in chain to permit turning.

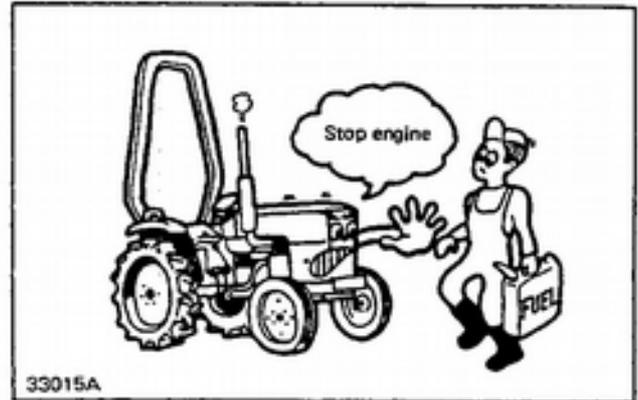
## 2 - SAFETY INSTRUCTIONS

### EXPLOSION OR FIRE

1. Refuel tractor when engine is cool and in well-ventilated area, preferably outside.

Never fill the fuel tank with the engine running.

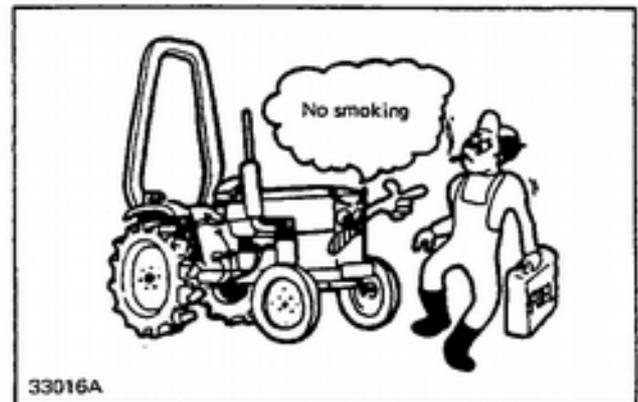
Keep engine free of grass, leaves, or excessive grease.



2. Be sure to use the correct type and grade of fuel.

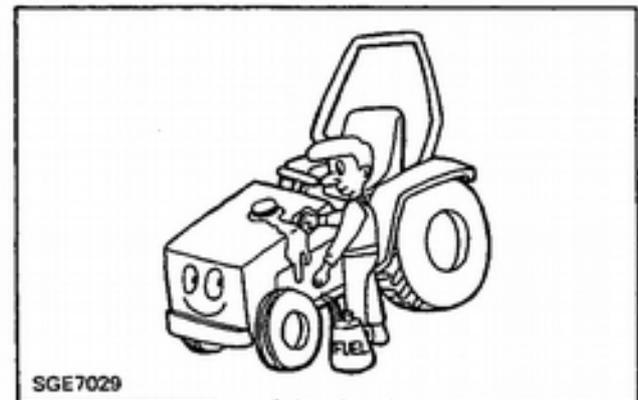
Keep all sparks, flames and smoking materials away while handling fuel.

Ground the fuel funnel or nozzle against the filler neck to prevent sparks and be sure to replace the fuel tank cap.



3. Do not overfill the tank or spill fuel. If fuel is spilled, wipe off immediately.

Install fuel cap securely after refilling.



4. Be sure there is a plenty of ventilation before charging battery. Gas of battery is explosive.

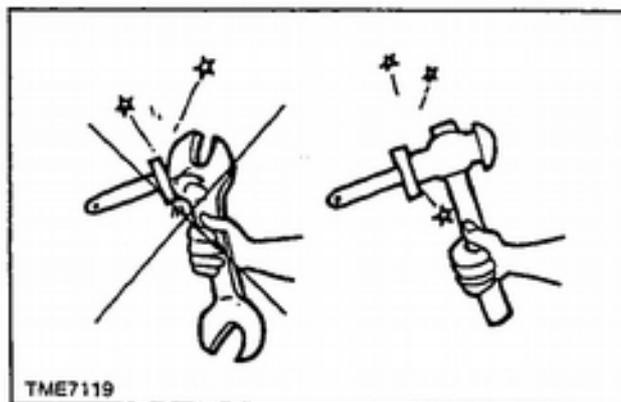
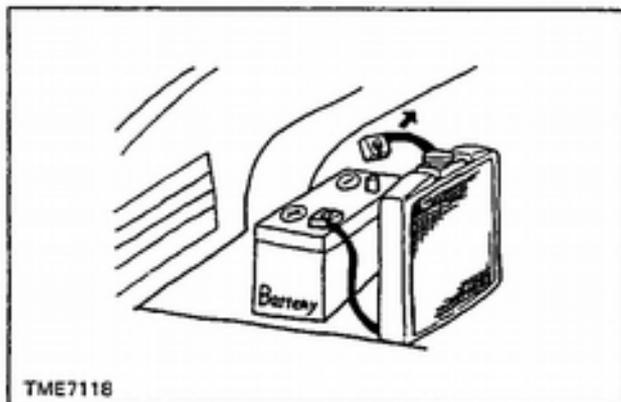
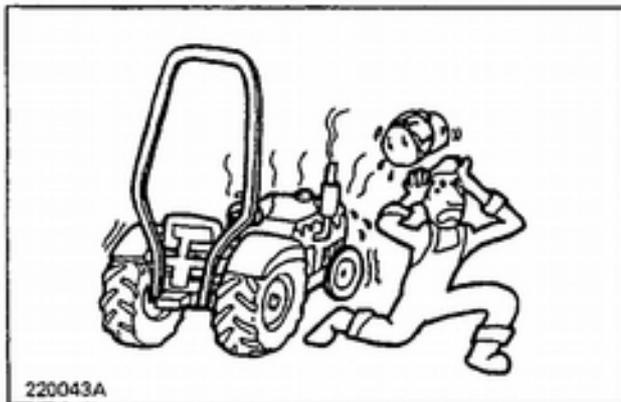
Keep all sparks, flames and smoking materials away from battery. Hydrogen gas from battery-concentration as low as 7 per cent- can explode in presence of spark or open flame and spatter acid.

Use flashlight to check battery electrolyte level and never use open flame.



## 2 - SAFETY INSTRUCTIONS

### SAFETY IN SERVICE (GENERAL)



1. Do not service the tractor and implement while it is in motion or while the engine is running.

2. Remove radiator cap only when coolant temperature is cool. Wait at least one hour to allow coolant to cool down.

Cover radiator cap with a cloth before opening and gradually release pressure before completely removing cap.

3. Disconnect battery ground cable before working on electrical system or working in any area where you might come in contact with electrical components. Disconnect ground cable first and replace at last.

4. Sulfuric acid in battery electrolyte is poisonous. It can destroy clothing and burn skin. Wear eye protection and rubber gloves when filling battery. If you spill acid on yourself, flush skin with water and apply baking soda or lime to neutralize acid. Get medical attention immediately. If acid is swallowed, drink large amounts of water or milk, then drink milk of magnesia, beaten eggs, or vegetable oil. Get medical attention immediately.

5. Use correct tools and equipment.

6. Unauthorized modification to the machine may impair the function and/or safety and effect machine life.

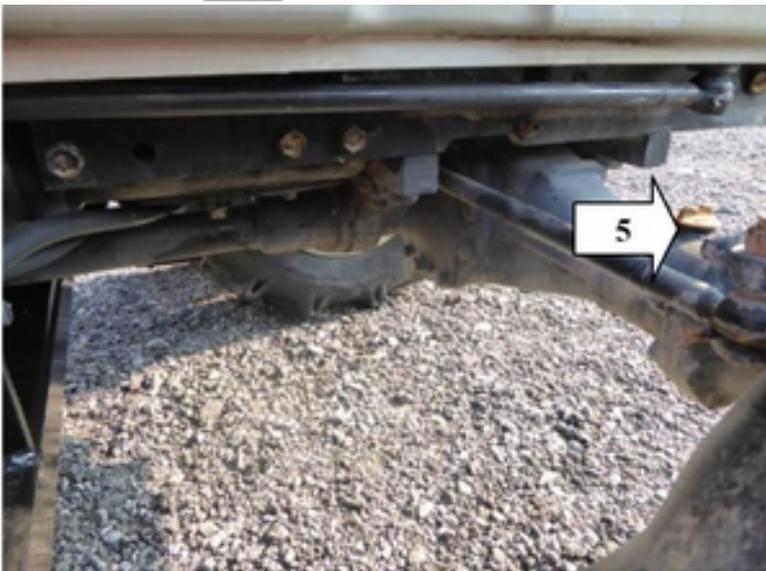
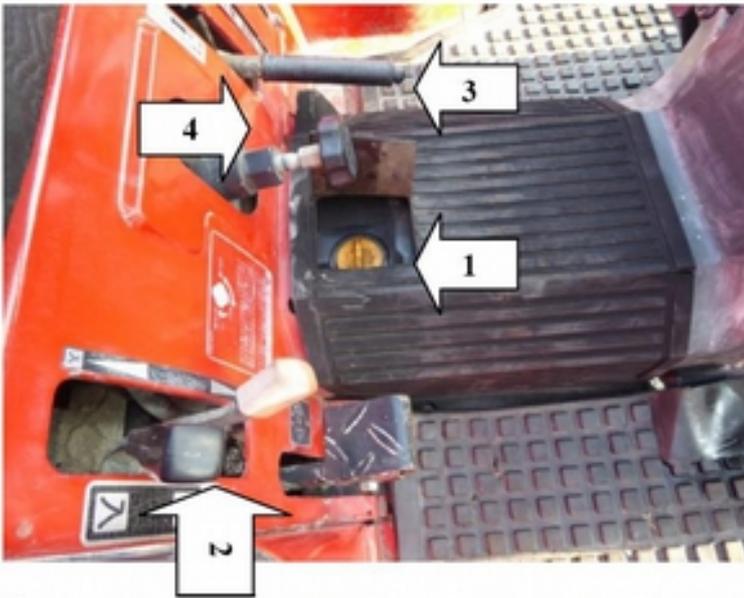
7. Do not use substitute parts that may not meet strength and design requirements or may not fit correctly in original machine.

Do not use repair parts not approved by tractor or implement manufacturer.

8. Always display caution tag to the steering wheel and remove the ignition key until it is completely repaired.

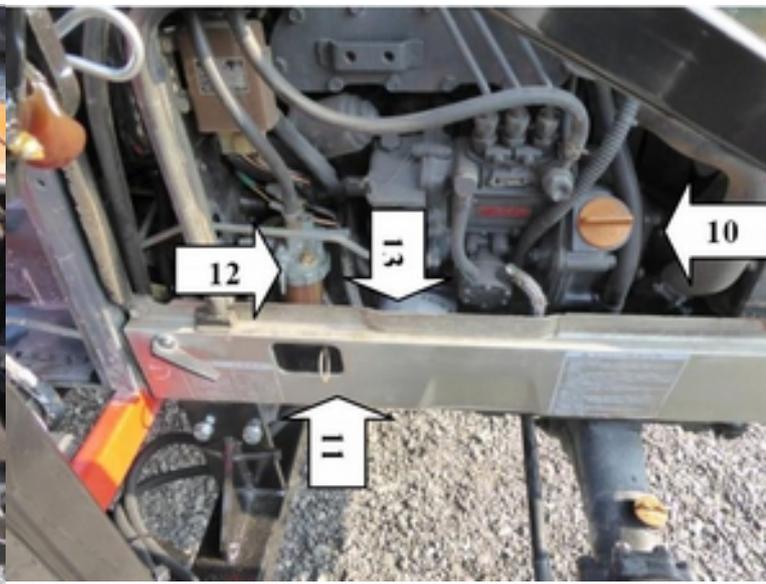
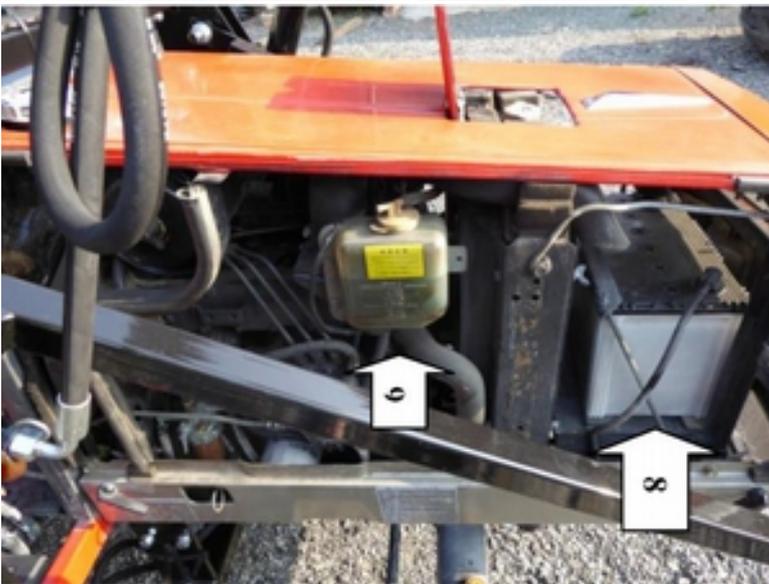
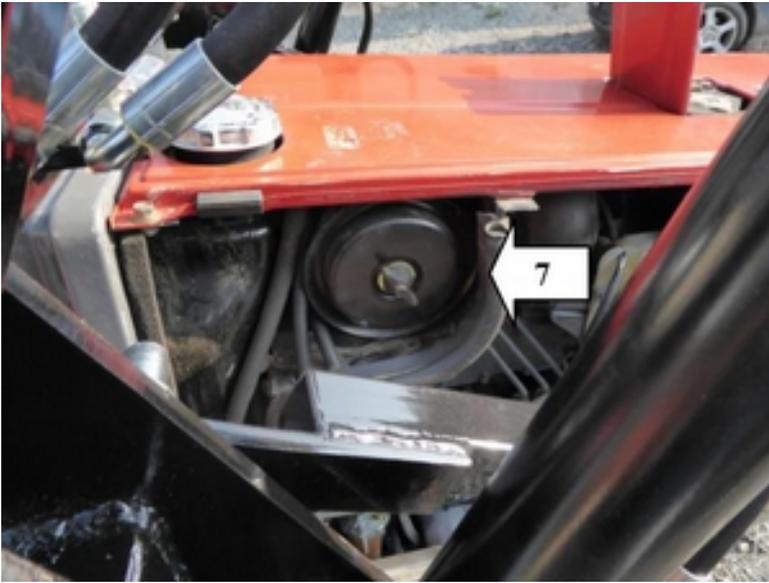
### 3 - MACHINE CONTROLS

1. Hydraulic fill oil dipstick - gearbox
2. Selectable 2WD-4WD
3. Parking brake
4. Hydraulic flow regulator – lift arms
5. Front axle fill and oil dipstick
6. Oil drain plug - engine



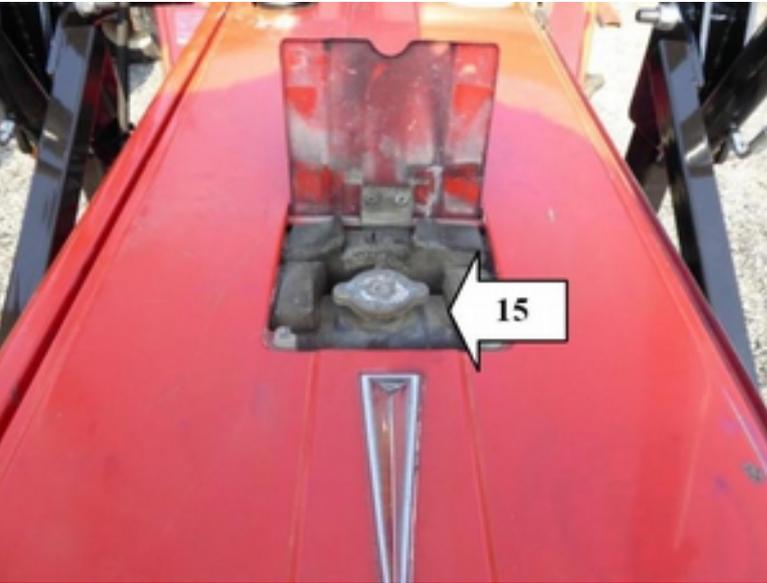
### 3 - MACHINE CONTROLS

7. Air filter – Canister, Cover Twist Access
8. Battery - 12VDC
9. Coolant Reservoir
10. Oil Fill - Engine
11. Oil Dipstick - Engine
12. Fuel Filter – Twist on/off Canister
13. Oil Filter - Engine



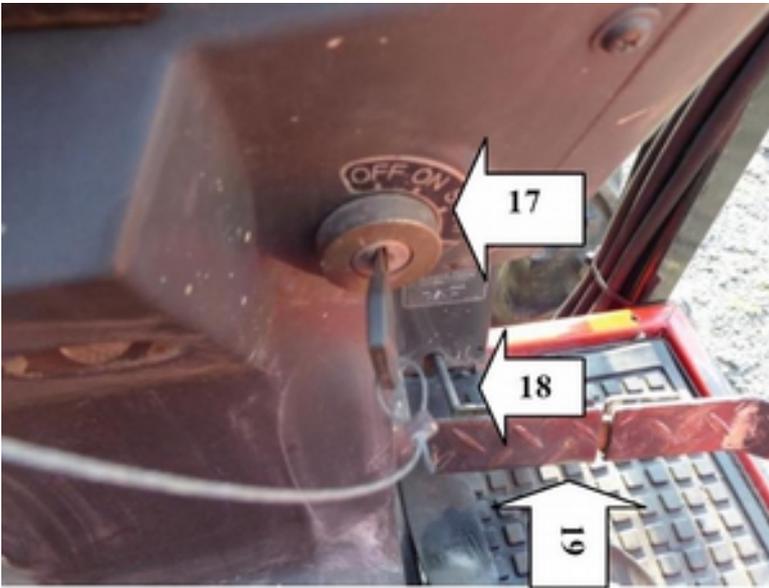
### 3 - MACHINE CONTROLS

- 14. Fuel Fill Cap – Tank Access
- 15. Coolant Fill Cap – Glycol 50/50 pre-mix (non-longlife type)
- 16. Hydraulic Oil Drain Plug – gearbox



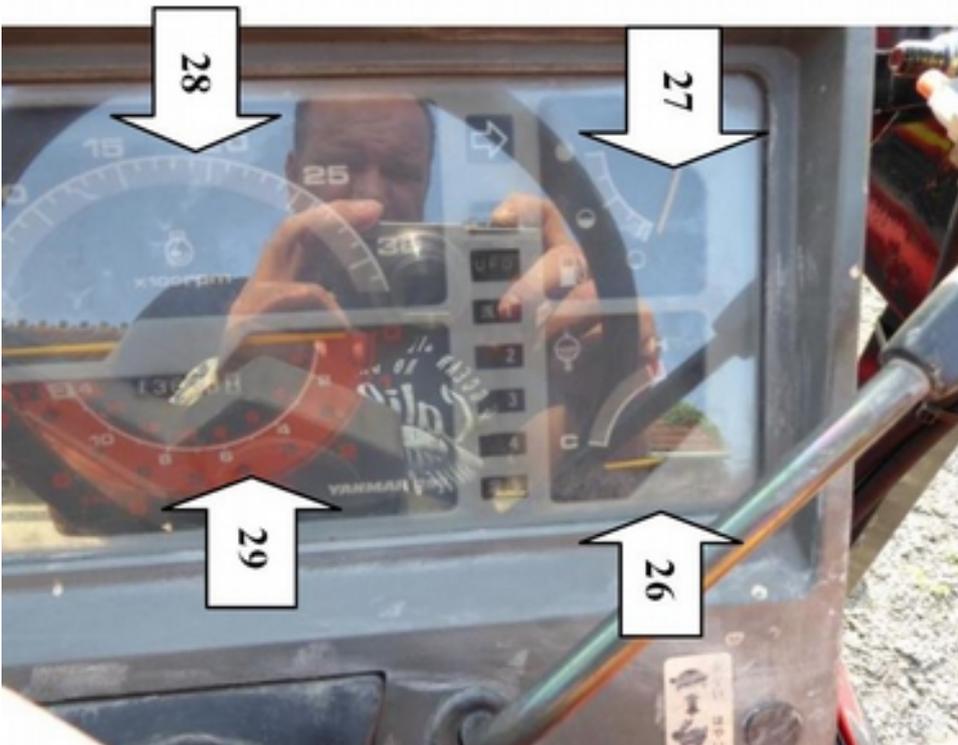
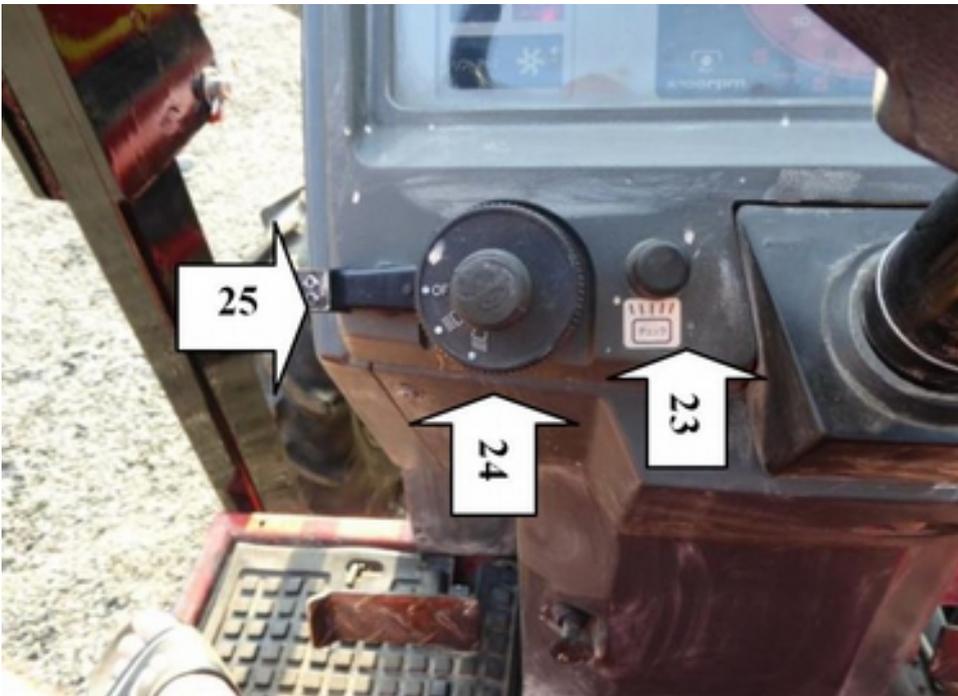
### 3 - MACHINE CONTROLS

- 17. Switch Control – OFF / ON / Start
- 18. Foot Gas Pedal
- 19. Brake Pedal – Divided or Joined
- 20. Clutch Pedal
- 21. Decompressor – Engine Cylinders
- 22. Hand Lever – Gas Throttle



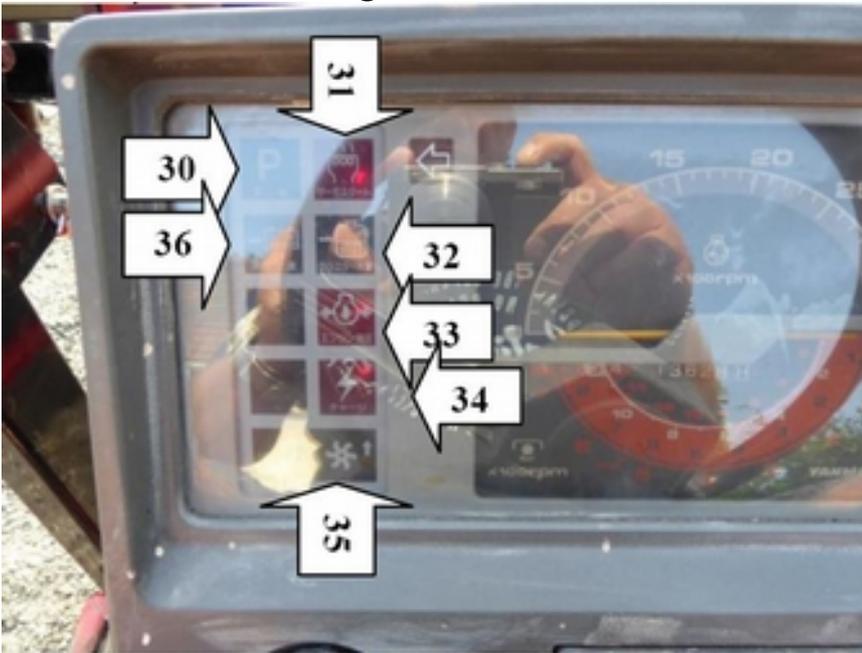
### 3 - MACHINE CONTROLS

- 23. Check Controls - button of lights function
- 24. Headlamp Switch – Off / Low / High
- 25. Turn Signal Switch
- 26. Engine Temperature Gauge
- 27. Fuel Gauge
- 28. Engine RPM X100 Gauge
- 29. PTO Tachometer Gauge



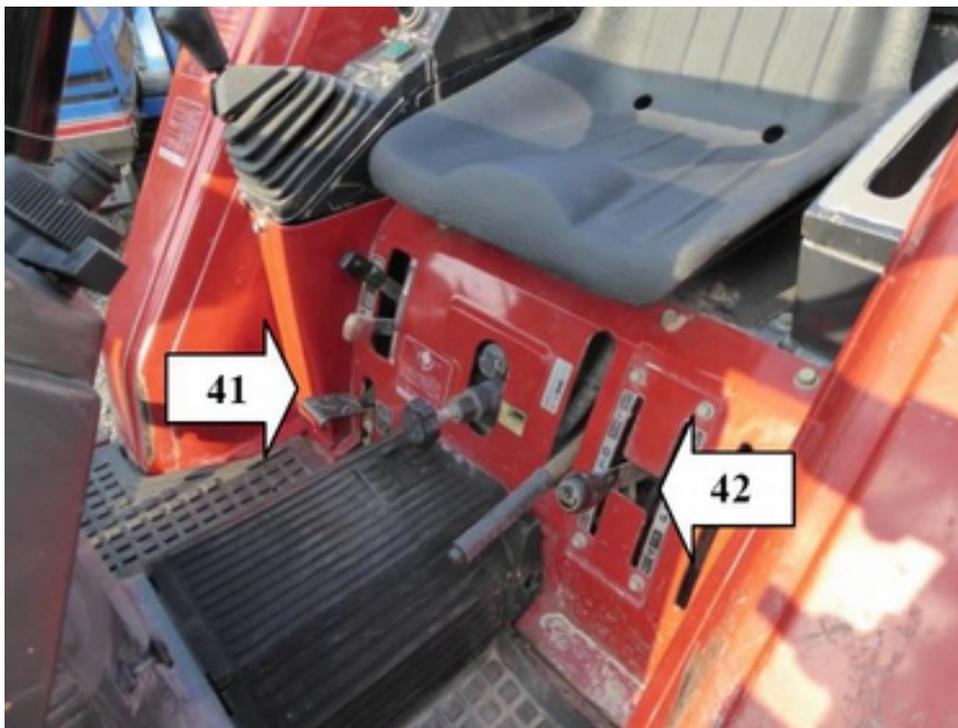
### 3 - MACHINE CONTROLS

- 30. Parking Brake Indicator Lamp
- 31. Glow Plug Lamp
- 32. Coolant Level Indicator Lamp - reservoir
- 33. Engine Oil Warning Indicator Lamp
- 34. Charging Lamp – Alternator / Battery
- 35. PTO ACTIVATED Indicator Lamp
- 36. Battery Status Indicator (if equipped)
- 37. Shift Selector
- 38. Hydraulic Arm Control
- 39. Other Settings and Modes



### 3 - MACHINE CONTROLS

- 40. PowerShift Selector
- 41. Differential Coupler when under load
- 42. PTO Speed Selector (Variable speed per engine RPM input)



# 4 - INSPECTION, MAINTENANCE AND ADJUSTMENTS

## INSPECTION CHECKPOINTS

Before using the compact tractor, inspect the correct amount of fluid levels:

1. Radiator – With a cool engine, unscrew the radiator cap. When the coolant reservoir is between Min and Max, inspect the coolant in the radiator level just touch the bottom of the cap. If the machine has been out of operation for a long extended period of time, inspect the fluid several times during the first start-up. Again, only check when the engine is cool. Warning: Hot engine poses risk of injury from hot water and/or steam.
2. Engine Oil – Dipstick is on the block. Refer to markings on the dipstick. Do not overfill. See Yanmar recommended oil grade chart.
3. Hydraulic Oil – Dipstick is near to the right knee of the driver. Refer to markings on the dipstick. Do not overfill. Check all connections for leaks around the compact tractor. John Deere J20C used for temps above 25F, J20D for temps below 45F.  
Why John Deere? Yanmar compact tractors are siblings with the same spec requirements.
4. Grease Fittings – Most moving joints on the compact tractor are equipped with lubrication fittings in necessary locations. Inspect the compact tractor for leaking, broken, and/or missing fittings. Recommended greasing intervals are every 90 meter hours in general use, shorter intervals every 55 meter hours in difficult conditions. Inspect rubberized caps, boots and covers for oozing, cracks, rips, and/or dry rot. Replace as needed.
5. Oil Pressure Warning Lamp – When the key is switched to ON, the warning lamp must be illuminated until the engine is started. If the lamp is not illuminating, check the bulb or the fault in the signaling of the sensor or wiring. If the warning light comes on or flashes while the engine is running, it indicates a fault in the engine lubrication or a lack of oil. Switch off the machine immediately, check the oil level, filter clogged, wiring and sensor connections. Ag oil filters and diesel truck oil filters are 30-micron thru 38-micron. Any lower micron oil filter will restrict the engine oil flow and clog much sooner. Do not start the engine until the fault has been rectified.

Inspect the mechanical completeness of the compact tractor:

6. Check the completeness and tightening of each wheel's bolts and nuts.
7. Check the brake pedal(s) and calipers.  
Disconnect the brake pedal caliper. The stroke length of the pedals must be the same for the right and left wheels. Remove any difference with the adjusting nuts on the brake rods. Secure the adjusting nuts with locknuts.
8. Check the connected gimbals – check the gimbal mounting and condition, securing with the tool.
9. When parking the compact tractor, keep the shift lever in the neutral position and the parking brake securely locked. This will prevent a binding clutch. Prior to starting, keep the shift lever in the neutral position. After starting, with the engine running take the parking brake off.
10. Check the condition and inflation of the tires.

# 4 - INSPECTION, MAINTENANCE AND ADJUSTMENTS

## INSPECTION CHECKPOINTS

Before using the compact tractor, inspect the Battery and wiring:

11. Keep the battery and wiring clean. Dust and moisture can cause the battery to discharge while the compact tractor is being stored.
12. In the battery cells, due to difficult working conditions, the electrolyte may be lost. Top up with distilled water up to 1 cm above the plates, or according to the battery manufacturer's instructions.
13. The minimum voltage for battery use is 12.3VDC. At lower voltages, trouble-free starting is no longer guaranteed and the battery may be damaged. For long term storage, remove the battery from the compact tractor and use a battery maintainer.
14. Keep the battery contacts/posts clean. Dirty or corroded contacts/posts can damage or spike energy to the gauge cluster.
15. Secure the positive terminal of the battery away from metal objects and parts. Short-circuiting and sparking can cause the battery to explode.
16. Carry out all work on the electrical system with the battery disconnected or removed (except for fuse replacement).

## 5 - OPERATING INSTRUCTIONS

Before putting the compact tractor into operation, check the mechanical completeness;

1. Observe tire inflation.
2. Secure all lynch-pins, hinges, tools, drawbar, implements, weights before setting out.
3. Clutch and brake functionality of the pedals. Note if the brakes are in the divided or combined state.
4. Check the travel gearboxes are both in the N position.
5. Check the oil and coolant levels.
6. Check the amount of fuel. Low fuel and empty tank would allow aeration into the diesel injection pump leading to a no-start condition or a stall out condition away from the garage or storage. Do not ignore this message and become stranded. There is a procedure to undergo to restore fuel to the compact tractor otherwise.
7. Starting the engine -
  - 1- Turn the key to the right position, the lubrication and charging light comes on, with the machine stopped for a long time, first turn the engine with the clutch pedal depressed and the decompressor pulled out.
  - 2- In cold temperatures less than 40F, turn the start switch to the left to the 'glow plug' position for 20 to 40 seconds.
  - 3- depress the clutch and increase the throttle. Turn the start switch to the right (starting position)
  - 4- As the tractor begins to turn over, push in the decompressor to allow the engine to run.
  - 5- In case of particularly low temperature, repeat the glow and then start.NOTE: a strong battery rotates the engine without problems.
8. Choice of travel speeds - the compact tractor has three forward gears and one for reversing per each gear selector in the letter H pattern. The middle of the H pattern is neutral for the gear selector. The gear selector requires gear movements with the clutched pedal pressed all the way down to dis-engaged. Think of the gear selector as the primary range of travel. The lower the gear, the slow the tractor would proceed.
9. With the gear selector picked and the gear selected, the PowerShift works much like an automatic vehicle. PowerShifting between the Reverse / Neutral / Low / Mid / High will not require clutch use. Ideally starting out and when shutting the tractor off, it's best to keep in neutral. This way, the compact tractor will not lurch in movement right away.
10. By understanding the concept of #8 & #9 actions, interaction of all speeds is shifted by the gear selector lever on the right side under the driver's seat and by the PowerShift selector lever on the left side fender by the seat.

## 5 - OPERATING INSTRUCTIONS

Before putting the compact tractor into operation, check the mechanical completeness;

1. Differential lock – Applies only to the rear axle and allows the compact tractor to work at being unstuck in soft ground or snow. The engagement pedal is located behind the heel of the driver's right foot. Do not use on solid ground as the shutter will hammer in the hydraulic gear box. Do not use while turning as the front wheels will not lead the compact tractor in any direction, instead the front wheels will plow the soil before them if turned.
2. Front-wheel drive – use only when driving on unpaved ground, plowing, slippery ground or on a slope. When the front-wheel drive is activated while on a solid surface, the compact tractor is then difficult to control, increases the wear and strain on the front axle parts and also fuel consumption. It is activated by moving the lever at the bottom left in front of the seat to the lower position.
3. Service brake – Applies only to the rear wheels. It is controlled by a combined brake pedal. When the pedal is divided for independent braking of either side of the two rear wheels, it is possible to reduce the turning diameter while applying the brake on the inner wheel of the bend. NOTE: When towing a loaded trailer or other load, the brake pedal must be combined to act on both wheels.
4. Parking the compact tractor – When parking the machine for a short time, secure it with the parking brake in the combined pedal state, shifting the gear selector to neutral, shifting the PowerShift to neutral, and then with the engine switched off. NOTE: On slopes or slippery ground, secure the machine with wheel chocks.
5. Hydraulic arms – The compact tractor is equipped with a device for hydraulic lifting of tools. The two arms with holes are operated by a lever on the right side of the driver's seat. By moving the lever forwards, the arms lower the tool weight and by moving the same lever backwards, the arms are raised. Adjust the stops to turn off the lift or lower at the required height or at a safe slow time with the various lift controls.

## 6 – ADJUSTMENT OF COMPACT TRACTOR PARAMETERS

1. Change of wheel track;
  - 1– Secure the machine with the brake, gear, wedges.
  - 2– Lower the tool to the ground.
  - 3– Use a suitable jack to lift the front axle for which you have previously loosened the wheel nuts.
  - 4– Line the axle.
  - 5– Remove the wheels and swap them together (extension by approx. 15 cm)
  - 6– Secure the front wheels with wheel chocks.
  - 7– Raise the rear of the tractor with a jack and support stands.
  - 8– Swap wheels and tighten wheel bolts.
2. Yanmar compact tractors are equipped with mounts on the rear wheels for additional wheel weights.
3. Yanmar compact tractors have the ability to use suitcase weights that can be placed on the front frame of the compact tractor.

### Maintenance and adjustment of the machine

1. The valve clearances are 0.15-0.1 mm intake and 0.20 mm exhaust valve when the engine is cold.
2. The clutch pedal step is defined by a screw terminal on the clutch rod and its size is given by a template. (The template is available at any service center.)
3. Gearbox and front gearbox
  - 1- Check the amount of fluid in both housings with gauges or inspection screws.
  - 2- When inspecting, check that the fluid is not contaminated by water or impurities and mechanical impurities.
4. Steering play is sometimes caused by the displacement of the entire front axle on the main journal. Check the tightening of the pin and its crown nut.
5. The compact tractor is equipped with an internal, hydraulic arm-lifting system that does not require maintenance. Only check the tightness of the piping from the hydraulic pump and the quality of the gearbox oil fluid. Water or dirt in the oil can damage the hydraulic system.

### Off-season storage.

1. During long-term shutdown (over the winter), check the quality of the oil fluids and the adequacy of the concentration of the antifreeze mixture in the radiator.
2. Drain part of the housing with the drain plugs on the lower rear axle bearing lugs. Water that has condensed in the gearbox during the year remains in these places.
3. Remove the battery and store it in a frost-free place. Check and charge the battery after three weeks.

## 7 - MAINTENANCE INTERVALS

ACTION	METER HOURS	AT THE LATEST	MATERIAL	PART TYPE
Engine oil, change	100	1X every 6 months	Diesel SAE15W-40 Diesel SAE 5W-30	- John Deere Plus-50 - Torq-Gard Supreme
Hydraulics	-	1X every 2 years	J20C or J20D	Hy-gard or equivalent
External differential	560	1X every 2 years	GL-5 80W90	
Front gears	560	1X every 2 years	GL-5 80W90	In case of leakage more often, then reseal
Steering and front axle lube	120	1X every 6 months	Grease	GL5 high temp or equivalent (SAE 85W140)
Brake Adjustment	240	1X every year		
Check V-belt tension	60	1X every 3 months		Deflects 10mm, 3/8-inch when 89N, 20-lbs is applied
Valve clearance adjustment	560	1X every year		
Clutch pedal play adjustment	120	1X every year		
Lubrication of the all grease fittings	60	1X every 6 months		GL5 high temp or equivalent (SAE 85W140)
Battery contacts and switches	120	1X every 6 months		Battery 480CCA @ 12VDC minimum
Glow plug control	240	1X every year		
Charge control	120	1X every 6 months		
Starter contacts and cable terminals	240	4X every year		Preservative and cleaning spray
Air filter	100	1X every year	New filter	119808-12520 JOHN-DEERE CH12767
Fuel filter	50	2X every year	New filter	129100-55650 124450-55700
Fuel bowl with o-ring Fuel bowl only Fuel bowl long		1X 2 year	New fuel bowl	24321-000650 129107-55510 121254-55510
Oil filter		Every change	New filter	129150-35151 JOHN DEERE M801209 M806419
Hydraulic filter		1X every 2 years	New filter	194250-48310