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504

Operation Manual



4WD Diesel Tractor

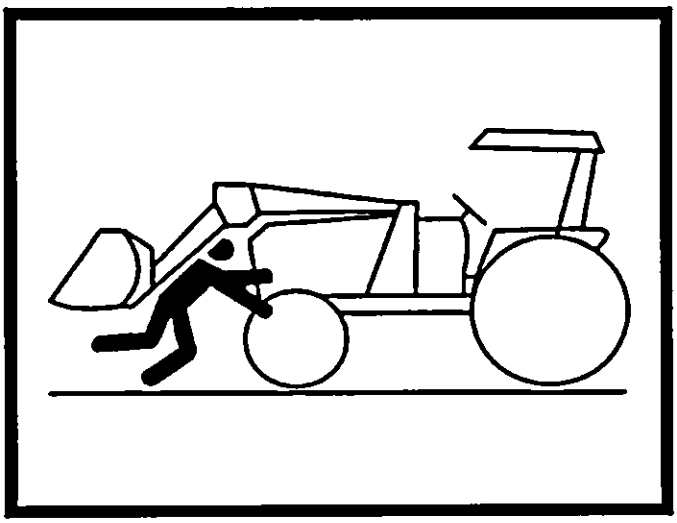
TYTAN International

5225 Meeker Drive - P.O. Box 1249
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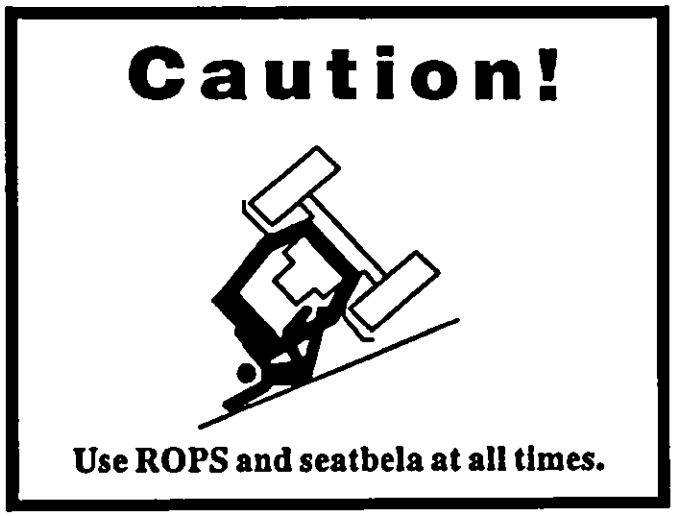
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WARNING!

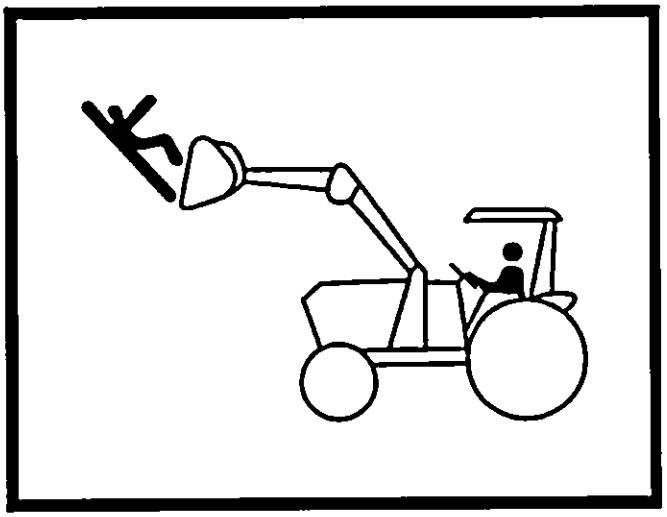
PLEASE HEED THE WARNINGS BELOW FOR YOUR SAFETY!



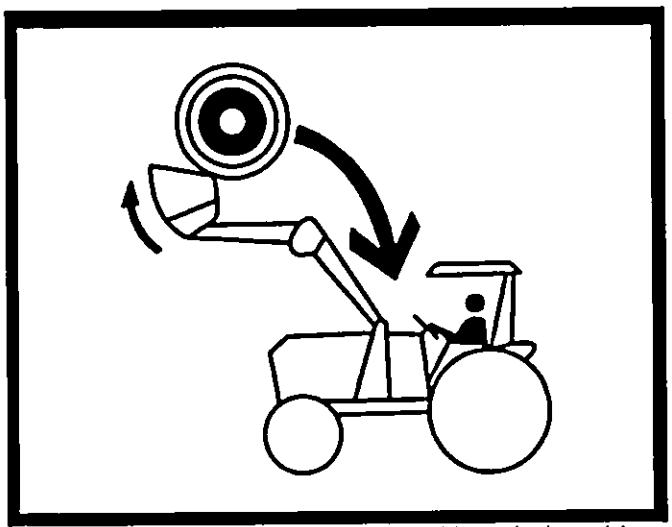
Leave the front loader in the down position when getting off tractor. Do not crawl under the front loader when in the up position.



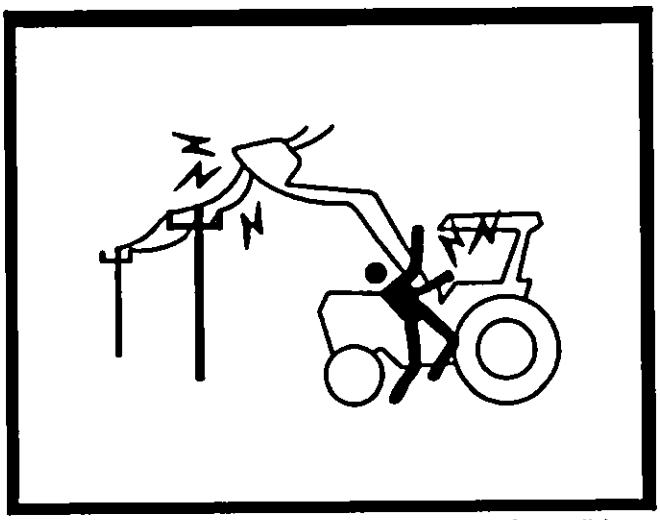
Stay away from steep locations.



Do not ride in, or on a front loader.



Do not carry items in up position without being able to see levelness of the bucket.



Do not travel with bucket in up position if possible, or you may hit live wires.

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Introduction

Congratulations!

You have just purchased a 4WD Diesel Tractor that has many applications and that will do lots of work for you. This tractor is famous with Farmers in China for its high quality & durability. The Weifang Tractor factory prides itself in being the leader in China, using only the highest quality parts and materials.

The Manufacturer, Weifang Tractor Factory was opened in 1958 to produce tractors that could last for over 20 years of heavy non stop use on its farms that work two shifts a day in most cases. That translates too many thousands of hours of usage.

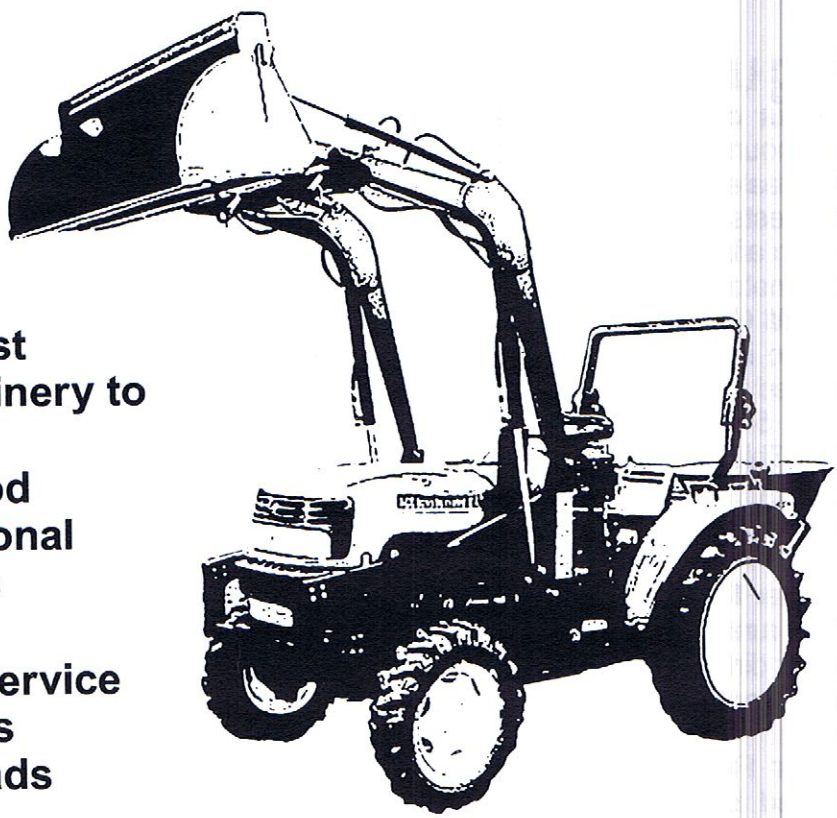
The engines and tractor were designed to be easily serviced in the field and to be very frugal on fuel. Weifang Tractor factory employs over 4000 employees and uses the most modern computerized machinery to make its tractors.

This tractor requires a good understanding of its operational functions, limitations and its maintenance needs.

The owner is required to service this equipment routinely. It is important that the owner reads and understands all of the information's in this manual & on his warranty card.

The Tractor owner needs to know that these parts are easily supplied and will never see any hardship in getting parts as long as they keep the information's printed on the Parts manual.

We wish you best wishes for many years of satisfied usage. Please study this manual thoroughly & seek help from your dealer if anything is unclear!



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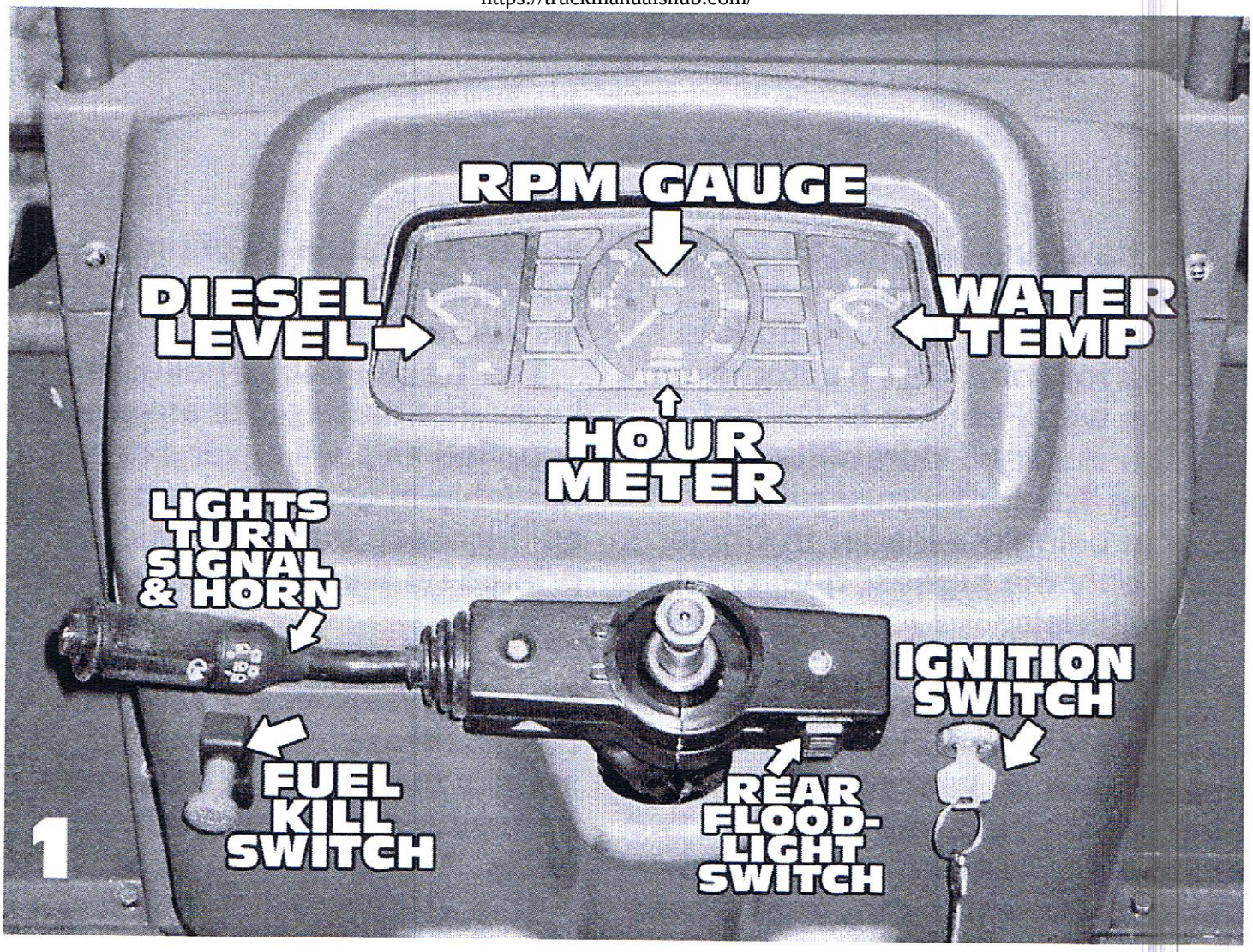


Figure 1

Hour meter – your tractor traditionally may have 8-14 hours on it from the factory & dealership testing. The dealership is required to perform certain dealer prep tests that run the hour meter. Do not leave your key on after using the tractor or you will also run the hour meter.

RPM Gauge - Operator must discuss with dealer or read implement instructions to verify PTO speed required for the implement he is using. Rule of thumb is that 540 RPM is what is required in 95% of your uses. This tractor is equipped with 540 and 720. Also operator should be aware to not go over 1800 RPMs for any long duration during the "break in" time of 50 hours.

Water Temperature - should run about 80 degrees. When running in a dry grass or hay field with lots of dust or dirt, your temperature may rise because of a build up on the radiator screen. Keep it clean of debris & dirt.

Rear Flood light - is halogen and should be adjusted to focus on the tasks you are performing. Make sure it is tightened and doesn't loosen & shake.

Turn Signals, Running lights & Horn - The turn signals are to let others know your intentions and must be used on the road. Running lights are front headlights and rear tail lights which must be on in night use & on the road. Horn is to notify others of your presence.

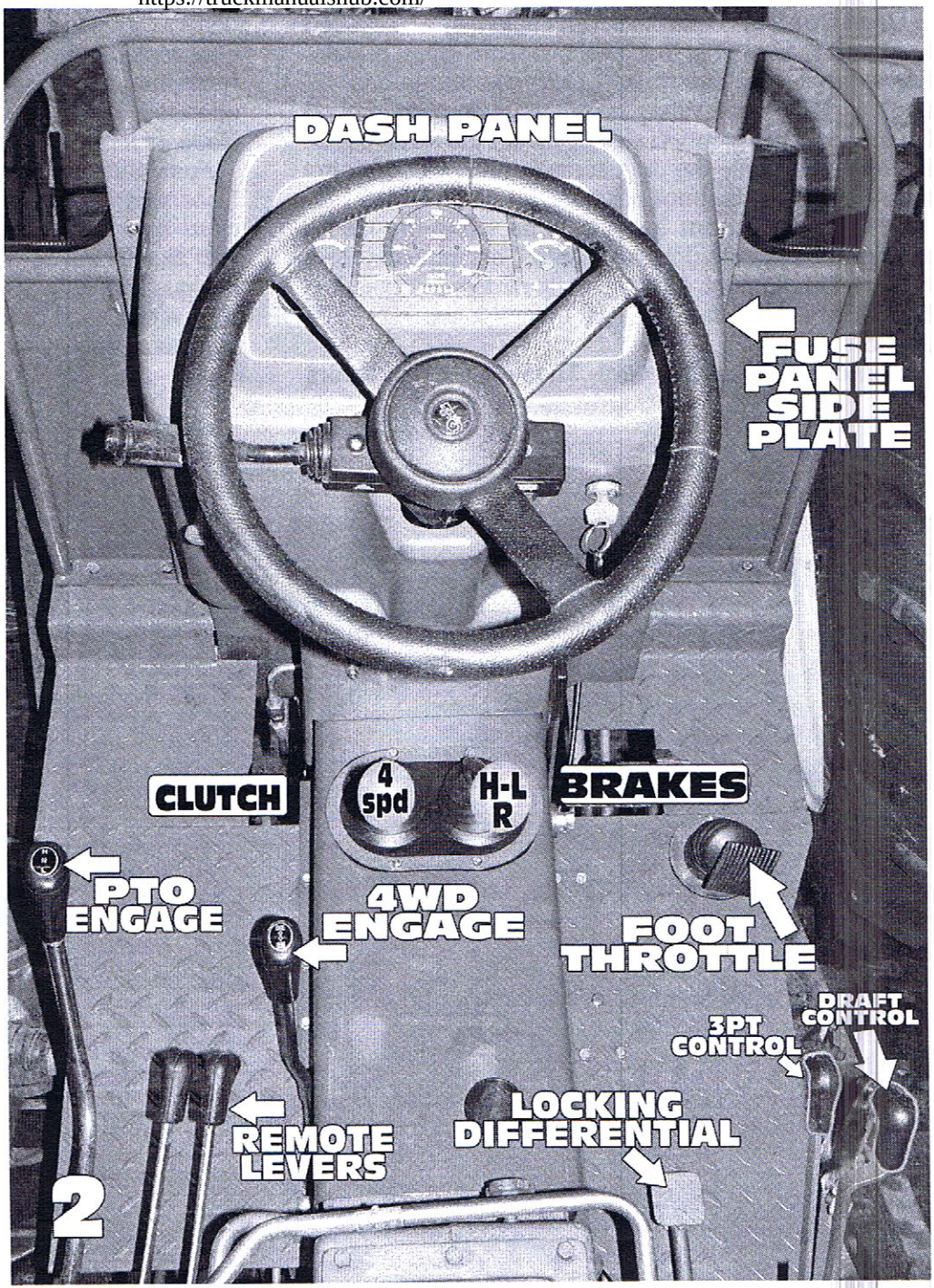
Diesel Level is your fuel level - Use diesel #2 in most year round weather. If you are in harsh winter conditions, then you may want to use Diesel #1.

Ignition Key switch - Please make every effort to turn this to the off position when shutting the tractor down. This key is spring loaded and shall be turned to the right on starting and then spring back to the "run" position.

Shut off – please note the red pull lever on the lower left of the grey dash material. This is a "pull type" kill switch. It is to be pulled out to kill the fuel and make sure it moves freely back in, when you release it. The engine will not start when this is in the out position.

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Figure 2



Two Stage clutch –This means when you depress the clutch to the half way mark (which you will feel with your foot), that will stop the ground speed of your tractor. Pressing it further to the floor will stop the PTO rotation. You must depress the clutch pedal all the way to the floor in order to have smooth engagement of the PTO lever. If there is any noise or roughness in that engagement with the clutch all the way to the floor, then that means there may need to be a clutch adjustment made.

Brakes- there are twin brake pedals that have a flip over pin connecting them. They can be depressed individually for aid in steering, but it isn't suggested.. Tractor Brakes are not designed to endure long periods of heavy use. Going down steep hills with heavy implements or traveling on the road at top speeds while braking should be limited or eliminated.

There is a lever by your right foot and inside ankle that is the lever to lock & unlock your parking brakes.

Foot & Hand throttle – The foot throttle is handy to use for various uses (but will not give you steady RPM on a bumpy terrain), however in field use, the hand throttle gives you a constant RPM while in motion. The hand throttle has an adjustment nut that can be tightened or loosened to adjust tension This hand throttle is located on your right & mounted on the fender..

Gear shift lever- the gear pattern is seen on the top of the shifting lever. The key here is to be sure you fully engage into your gears and to fully disengage. Otherwise if those gears are not moved to the proper positions, it is possible to jam them. The gears start out rather stiff when new but get much smoother after 75 hours.

2WD-4WD lever – This lever is one you don't want to move accidentally when in operation, so it is designed with a slight catch to it. Other wards pull it out towards the fender just slightly before attempting to slide it into position when you are in a stopped position..

High, low & reverse lever- this is the lever which determines your operation plan.. The normal user has no need to use high gear. The 1st gear low is great for tilling and 4th low is great for bush hogging a field of grass. Shift gears at low RPM and make sure you put firmly into the gear range you choose.

Locking Differential – this is operates similar to Posi-traction. It locks both rear wheels for getting out of the toughest of conditions. It operates in addition to 4WD or 2WD. It must be slipped into gear only when in the stopped position or by double clutching. Once in, it will stay in automatically without being held in until you are free of the stuck position.

Position Control - is the raise & lower lever for your 3 pt implements. This lowers your implements by moving lever forward from the neutral position and raises them when moving the lever to the back position. This lever is operational only if the lever next to it, the draft control lever is in the back position during use.

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Draft Control is used to set an implement at a desired level and to keep it at that level over up & down ground. For example if a user puts a plow into the ground 12" and starts usage. While going all over (with ground fluctuations) the plow will stay at exactly the same depth. In order to operate the draft control, the Position control lever must be in far back position.

PTO Engagement lever is to be left in the center position at all times unless you are planning use with a PTO run implement. Moving the lever forward puts it in 540 RPM and to the rear past neutral is the 720 RPM speed.

Remote Hydraulic levers- These left & right levers control the usage of four remote ports that operate which ever implement you connect them to. They must stay in a neutral position or non flow position when not being operated. These are used to connect a backhoe, angling blade, or log splitter etc

Fuse Side Panel - is where you must trade out old fuses when your electrical system fails you. Fuses are rated and its important that you replace burnt fuses with exactly the same as you remove. A blown fuse is designed to warn you of a problem. A blown fuse can be a wiring short or even just a bad fuse. If the problem continues, notify your dealer promptly.

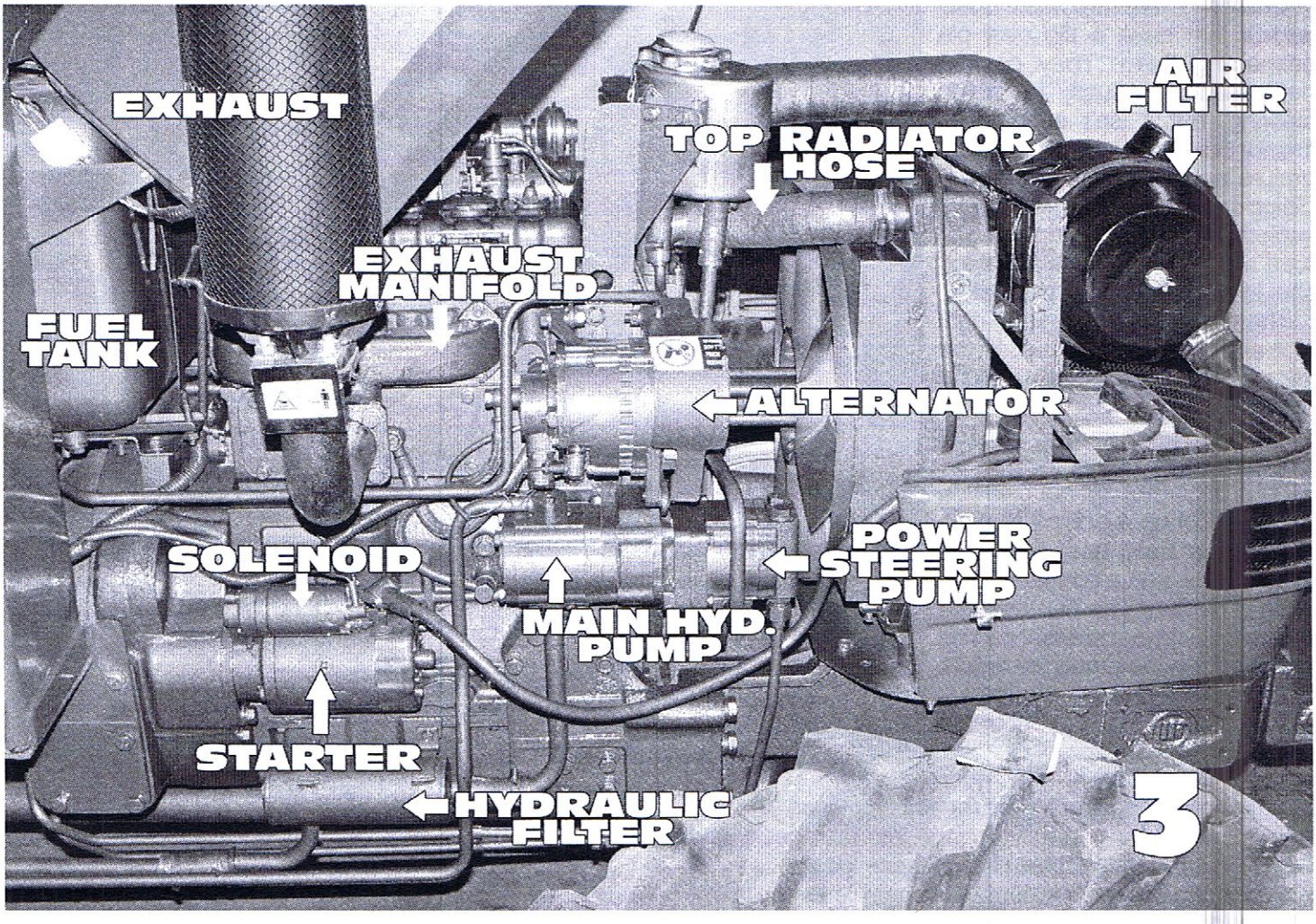


Figure 3

Starter is the item that turns the engine over to start. This item should never be power washed. Connections to the battery and starter must always be very clean for good contact. Going through brush etc sometimes grabs and moves wires. Make sure the three attaching wires never touch each other and have space between each other, so as to not spark. The #504 uses a Model QD153 starter.

Alternator is a JFW B15 and is the item that generates the electricity. It is crucial to have the belt snug but not too tight.

Solenoid – Is the top portion of a starter that controls the flow of electricity. Make sure you do not hit this with a pressure washer. Some times these can stick & develop a white rust that

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needs to be cleaned off and then lubricated with a silicone.

Main Hydraulic pump – this is the one that supplies the front loader, 3 point, and remotes. This pump handles quite a lot of pressures from the oil and actually this is far more then anything in a car etc. You cannot disconnect any pump hoses etc without turning off the engine and knowing what exactly you are doing, or you shall "dead end "the pump. That will cause it to break and can be deducted by the dealer. Talk with your dealer for proper instruction on disconnecting any hydraulic hoses as it can be very dangerous. This pump is run off of the engine directly and considered a live hydraulic pump. The 504 has a model CBN1-E316 hydraulic pump.

Power Steering Pump - This item independently supplies oil to the power steering at a controlled rate. Always make sure you are not low on power steering oil. The power steering pump is a model #2WCB-0806/B .

Hydraulic Oil filter – this is a metal enclosed filter that is super easy to clean. The interior filter is metal and you just clean it every 200-300 hours of use, except when new. When new, it will be cleaned at the Major Service at 75 hours.

Fuel Tank - The important thing with a diesel tractor is to try and avoid running out of diesel. Run off the top of the tank. Use diesel #2 in year round mild conditions. If the weather is harsh in winters, then use diesel #1 at that time.

Air Filter - change this every 200 hours if needed. If you are in highly dusty situations, then you need to check on a more routine basis. This can be a cause of the engine over heating if the fuse is plugged.

Exhaust Manifold - is the tube that runs exhaust air to the exhaust muffler.

Top Radiator hose - this is a hose secured with screw clamps. Occasionally these clamps are not fully tightened and can leak. Tighten securely. If that doesn't solve the issue, it may very well need the hose to be better situated before tightening.

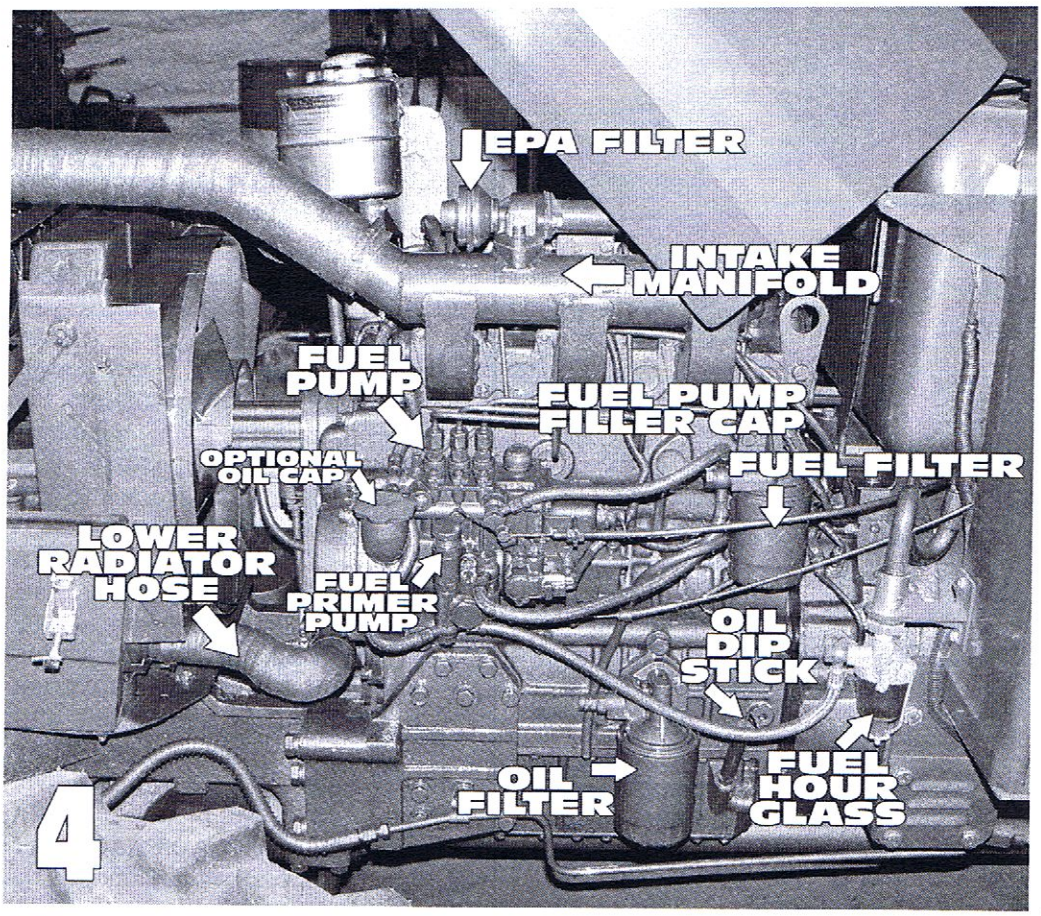


Figure 4

Oil filter – The Tytan #504 takes a JX85100C spin on oil filter. You should change your oil after 10-15 hours initially when engine is warm. From that point on it should be every 50 hours of use unless your use is non stop day after day. Then it can go to 100 hours.

Primer pump - this is a device to prime your fuel lines in the situation that you run your tractor out of fuel. It is screwed down and can be unscrewed in which case it pops up from being spring loaded. By pressing it up and down you can slowly feel the pressure of the fuel coming back into prime. When done, press it down hard and screw it back down. You may also choose to crack an injection line fitting to bleed out air. You must get this done sometimes or this will keep the tractor from starting.

Fuel pump – This is designed very similar to the Bosch type pump and controls fuel pumping through your system evenly. If you get too much air in your system, you may be required to open the small hex nut above the primer pump slightly. That will allow air to first be pumped out, with the primer pump. When fuel

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starts coming out without air, then tighten the hex nut. It should be tightened lightly so not to damage a tiny "O" ring under the nut.

Oil dip stick - is provided to check your engine oil. Close attention should be paid to these at all times. The suggested oil is 15-40 in a diesel type. Change your first oil at about 8 hours.

Fuel filter – The 3105R engine that is equipped with the #504 tractor & takes the CX7085 fuel filter. It is an easy spin on type.

Fuel Hour glass bowl - this is a place that also screens your fuel and collects sediment and things that shouldn't be in your fuel. You can visually inspect this. If sediment builds up, then take it off by turning the turning nut on the bottom. Be careful to not lose any parts.

Fuel Pump filler cap - This takes engine oil and has a dip stick next to it to check levels. It also has a drain at bottom of fuel pump with plastic black sleeve on it. The rule of thumb here is that the fuel pump is to be ½ full. Without monitoring this, your fuel pump may burn up without enough oil.

Intake Manifold - This comes from the air cleaner and puts fresh air into the engine.

EPA Filter - this is an expensive device that controls the emissions of your tractor. By law it cannot be touch or modified.

Optional Oil fill cap - this is a place to also deposit or fill your engine to oil level needs. There is one also on the top of the engine. Make sure the cap it on at all times.

Lower radiator - hose is secured by clamps that should be tight. Routine observation should be made to make sure there are no leaks. If so, the hose clamps may need tightening. The hose also may need repositioning before tightening. Note also that there is a

Small lever (petcock) - below the hose on the radiator. This is to drain the radiator. Warning - this lever must also be watched, as tall grass or brush may catch it and start draining without your knowledge... This radiator hose is also a place that a water heater can be installed.

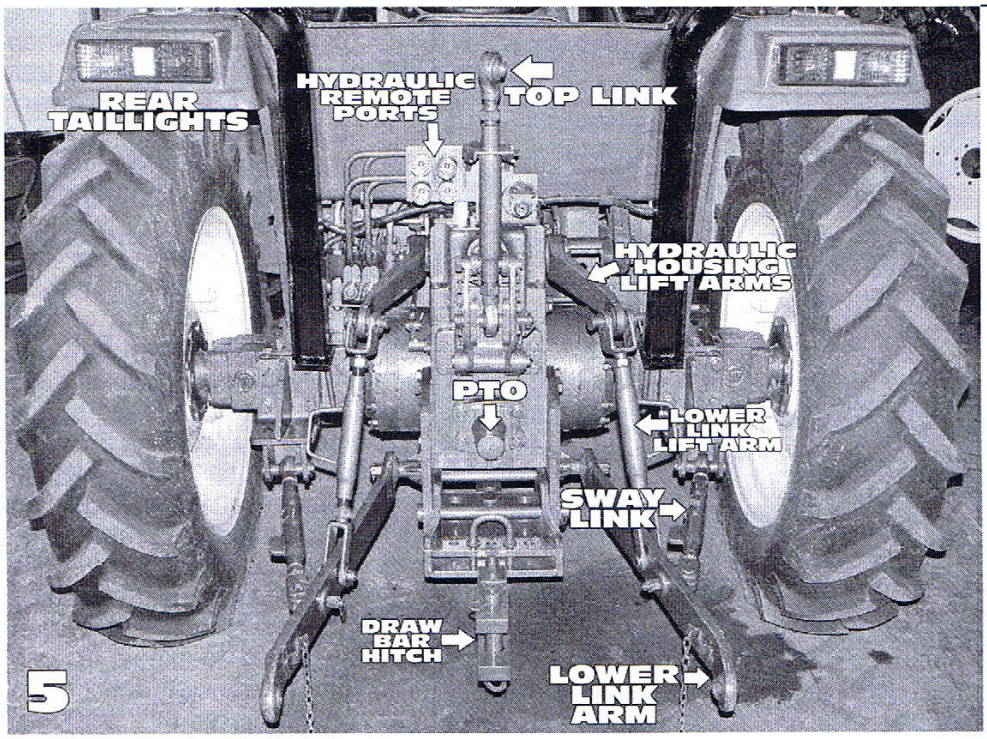


Figure 5

Lower Link Arms – The left & right link arms are the bars with rotating balls with holes in the ends of them that you attach the ears of your 3 pt implement to. The ears on the implements used on this equipment are Category I in size. Likewise, so are the holes in these lower links.

Top Link - The top adjustable arm that attaches to the top or third attaching portion of your 3 pt on the implement. The top link is responsible for properly adjusting most implements on how they are to angle or face. Make sure once your adjustments are made that you lock them with the tightening nut. Usually the front 3 pt structure should be adjusted so that it is at 90 degrees to the ground.

Lower link lift arms – these help make sure your implement is evenly leveled or in some cases you may want the reverse. There is both a left and right. Adjusting one affects the other as you will see. You may want a road blade to tilt and thus is of a turn buckle type design. Make sure once you have your desired adjustment, that you lock that positioning by tightening the nut at the top.

Hydraulic housing Lift arms – these are the arms that have the power from the hydraulic housing. They move up and down to lift your implements. They are very stout. Always inspect that the pins to the lower link lift arms are always secure.

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PTO - the Power take off is the male driver from the tractor that attaches to your implements via a shaft and rotates, to generate power to your implements like a mower or tiller. It is of a standard 6 spine type that is universal. Implement shafts are made to lock onto this PTO shaft from the tractor. Have the dealer show you how this lock works on the various implements you use. Never operate this PTO when you are off the tractor. The Standard PTO speed is 540 RPM or revolutions per minute. Over 90% of the implements you will use are to be used at 540 speeds ONLY.

Hydraulic Remotes - These are the ports on the rear of the tractor & are controlled by a lever that will push hydraulic fluid to the port you want to use. When using a log splitter for example, one is the pressure line out and other is the return line in. The two ports may switch function depending on the postponement of the Hydraulic remotes lever. The lever is configured to operate Left-Neutral-Reverse.

Draw bar hitch - This hitch is ideal for pulling trailers pr farm equipment. It is removable with simple pins. One is under the tractor.

Sway Links have a left and right . They are to be adjusted when you attach your implement. You want your implement to have some room to sway but not too much. About 2-3 "each direction is acceptable. When adjusting these, you should also carefully and slowly get on the tractor to operate the position control lever by lifting it with the implement attached. In the highest position, make sure there is no binding of the sway links or of the top link hitting anything on the up swing. There is an interaction of all these elements to get a good positioning of your implement.

Tail lights these lights are to tell others of your movement as well as to act as running lights. Occasionally a bulb may burn out and they may easily be replaced with

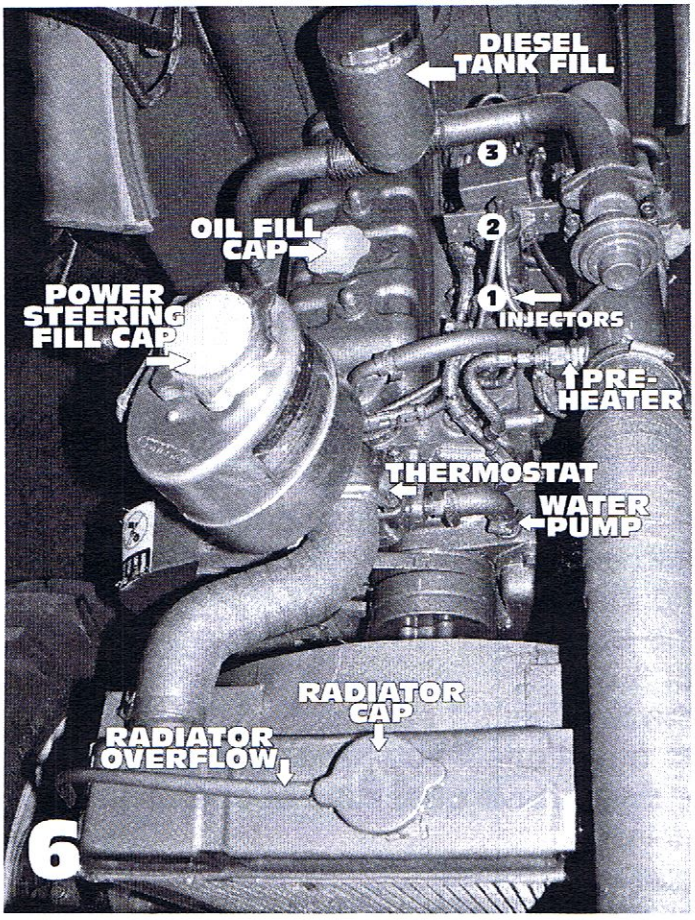


Figure 6

Diesel tank fill cap - is seen in this picture with hood up but actually is reached by an entrance from the hood. Always use only fresh clean fuel .Keep in mind fuel doesn't have a long shelf life anymore.

Injectors are items 1-2-3. These are the nozzles that distribute fuel into your engine.

Pre-heater element - is the item that by turning your key switch to the right, just short of turning over the engine, you will heat the air going into your engine. In cold weather, this is very beneficial for starting. You should use approximately 20-25 seconds before turning over the engine.

Radiator - should be about ½" below the base of the neck of where the cap attaches. The Radiator is equipped with an additional protective screen that is connected with 4 ea small bolts. Screen checking should be daily when in heavy dray grass. Maybe even during use if dust/dirt is excessive. A plugged up radiator will cause overheating. Make sure your radiator fluid checks out to match your climate needs.

Overflow hose – it is not uncommon to see a small amount of water seeping from this when the engine is extremely worked or if you are on an incline. Just keep your eye on the radiator level after seeing it seep.

Water pump is an important item that is often over greased. When you pump grease into the zeros on the water pump, make sure you quite when you feel the least resistance. By pumping the grease too hard will blow the seal easily. The water pump should be greased just a little, about every 25-50 hours depending on frequency of use.

Oil fill – this takes 15-40 diesel grade. Check your oil levels routinely.

Injectors – these are the items that fire on your fuel. If they are plugged with dirty fuel, your engine will fire very roughly. When your tractor is new, make sure diesel conditioner that mentions cleaning injectors, is used in your fuel per the suggested mix. Use same at various times throughout your usage of this tractor. If you are in cold winter and your engine is having trouble firing, it may be the fuel is jelled up. Some winter areas it is suggested to use diesel #1. Otherwise use Diesel # 2. Smoking is another symptom of a bad injector. Injectors can also be cleaned or replaced by a skilled mechanic. Lines to and from the injectors should also be checked routinely for fuel leaks.

Power Steering Fluid – needs to be checked via the dip stick off the top of the tank. This takes power steering fluid only. If your steering becomes hard, then usually it's the fluid being low. Be careful to observe lines going to

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and from the power steering tank

Thermostat - this is what measures your engine water temperatures. It is an easily replaced element and very common in size.

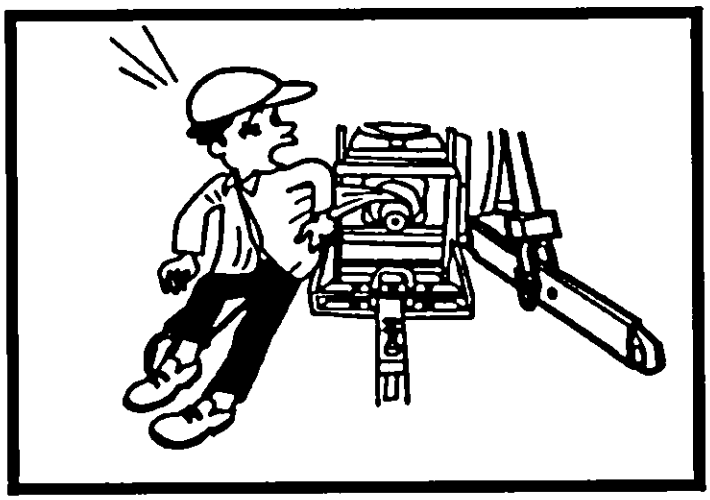
Commandments

- Implements should always be put in down position when not in use
- Keep your tractor away from dangerous sloped areas & pot holes
- Fasten seat belts always when you are operating the equipment.
- Do not use high pressure washers on the starter or electrical areas
- Do not take on extra riders or allow inexperienced users on the tractor or implements
- Do not exceed the capabilities of tractor & implements or use other then for manufacturer's intended use.
- Do routine maintenance & checks. Tighten things when needed. See your dealer if you need instruction on this. Do NOT over grease water pump!
- Do not loan this tractor or have it used in Commercial use.
- Make sure all fluids are changed routinely and up to required levels.
- Keep the PTO in the off position when you get off the tractor
- Use primarily in low gear range unless traveling
- Have the 4WD engaged when needed. Do not use FWD on pavement!
- Do not force levers. Inquire about proper engagement.
- Learn carefully about the proper set up of each implement you own.
- Do not jerk stumps or uses dangerous to you and the machine
- If fuses continue to blow, then get problem resolved ASAP
- Make sure you get the important 75 hour service done by a TYTAN qualified dealer
- Does not use the equipment for uses greater then the machines design abilities, such as "full suspension" of the tractor when using the 3 pt type attach backhoe? If in doubt on your needs, get the frame mounted system.
- Don't grind on the starter continuously if the tractor will not start after a short time. If it's cold, get a heater to heat engine, fuel & oil.
- ALWAYS turn your key off first, then pull the red fuel kill switch.
- Read your warranty carefully and generate questions if you have them.
- Get additional instruction from your dealer if you have questions or operation, maintenance and use of the tractor are unclear.
- Park your tractor under cover always and on flat ground.
- Lubricate your tractor zerks routinely as needed .
- Do not modify your tractor, as you will void warranty!
- Wear goggles when in conditions that are possibly dangerous to your eyes.
- Wear leather gloves or equivalent, when using the tractor in rough areas
- Do not drink alcohol or take any type drugs while operating your tractor.
- Do not lift your implements while on an inclined areas & also do not go sideways on hillsides.
- REMEMBER to keep your dealer as your best friend and you will always be helped with open arms. Your dealer can always help you if the relationship is good.

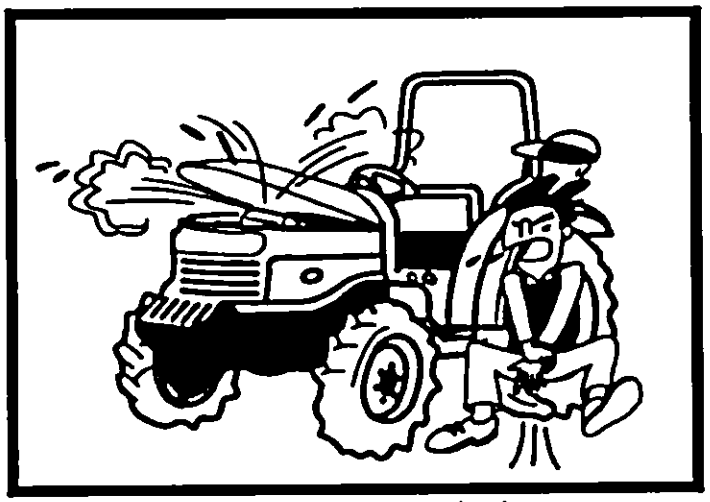
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WARNING!

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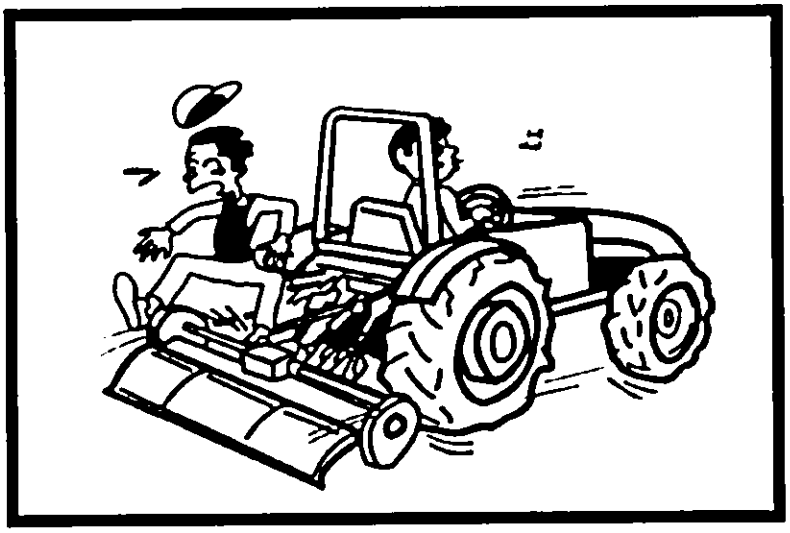


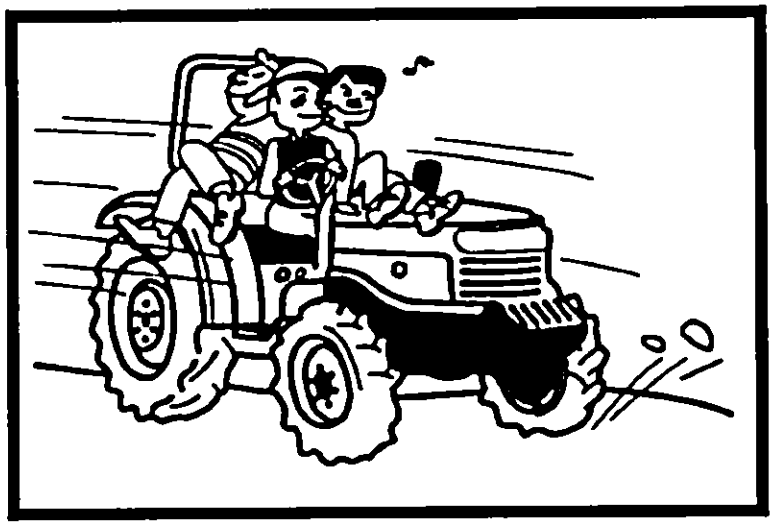
Disengage PTO before getting off tractor.



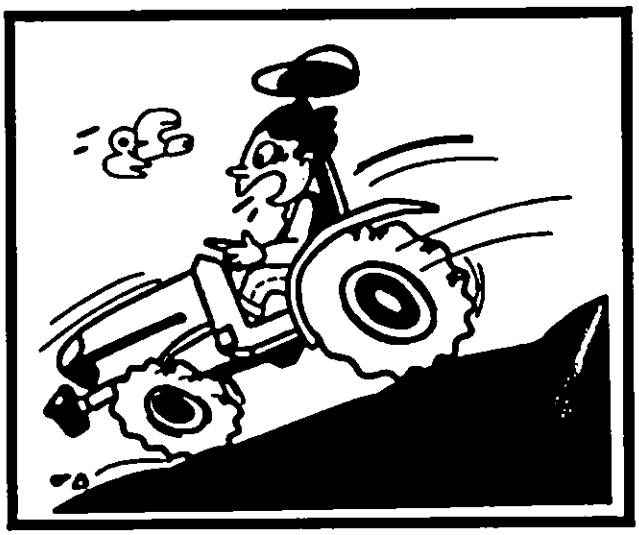
Don't open radiator cap when engine is warm.

Do not allow anyone to ride on, or be near a moving PTO implement.





Don't take extra riders.



Be at a slow, controlled speed going downhill.
Do not take your tractor up or down steep inclines.