

# Tractor Maintenance

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The Agricultural Engineering branch of the Agricultural Research Council participates in the development and support of farmers country-wide by means of various research projects, service delivery and training of required skills in the following agricultural engineering fields, namely

- Agricultural Mechanization and Equipment
- Precision Agriculture and Automation
- Agricultural Water Resources, Conservation, and Irrigation
- Agricultural Structures and Environmental Engineering
- Renewable Energy
- Post-Harvest and Processing Engineering

Tractor safety and maintenance is one of the training courses presented.

## **Tractor safety:**

Before you start a tractor, you must know the basic safety procedures which are the following:

- The tractor operator should thoroughly review the operator's manual and receive training by sales personnel before operating any newly acquired tractor unit.
- The tractor operator should clean the cab windows at least once a day and more often if necessary.
- The tractor operator should conduct a safety check of the tractor at least once daily and more often if necessary.
- The safety check should cover the

functionality of the brakes, lights, windshield wipers, and steering system among other things.

- Never fuel a tractor if the engine is running. Engine fuels are highly combustible materials.
- Make sure the tractor is engaged in gear when traveling downhill.
- When parking a tractor always engage the hand brake.
- Disconnect the ground wire when servicing batteries.
- Make sure all the tractor gears are disengaged before starting the engine.
- Never allowed a passenger on a tractor.
- Make sure the power take-off is disengaged before connecting a PTO shaft to it.
- The PTO shaft safety cover must always be in place.
- Hitching of an implement must be done correctly and in a safe manner.

## **Tractor maintenance:**

Tractor maintenance is particularly important to make sure the tractor is always in a good working condition for optimum performance and safety.

The following basic daily tractor maintenance must be executed:

- Checking radiator coolant level.
- Check for radiator coolant leaks.
- Check for blocked radiator.
- Check engine oil level
- Check battery water level



- Check tyre pressure
- Check fuel and oil filters, replace when necessary.
- Check air filter regularly and clean or replace when blocked.
- Check fuel level
- Lubricate or grease ball joints on the steering and on the lift arms.

Before and when starting the engine:

1. Check to see that the gear shift lever is in neutral.
2. Set engine revs throttle at idling speed.
3. Depress clutch
4. Turn ignition key and start the engine
5. Check oil pressure warning light.

6. Check battery charging warning light.
7. With the clutch still disengaged choose a suitable gear and engaged.
8. Disengaged handbrake
9. Engaged clutch and start moving.

Thus, is it clear that to safely operate a tractor proper care and maintenance is important.

Always keep safety in mind when operating a tractor!

A complete manual on Tractor performance is available at ARC-Agricultural Engineering. Contact: Elmarie Stoltz at 012 842 4107 or e-mail [stoltze@arc.agric.za](mailto:stoltze@arc.agric.za)