

# **Výukový materiál**

## **zpracovaný v rámci operačního programu**

### **Vzdělávání pro konkurenceschopnost**



INVESTICE DO ROZVOJE VZDĚLÁVÁNÍ

**Registrační číslo: CZ.1.07/1. 5.00/34.0084**

**Šablona: II/2 Inovace a zkvalitnění výuky cizích jazyků na středních školách**

**Sada: 2 AJ**

**Číslo: VY\_22\_INOVACE\_PRO\_2.ROC\_13**

# Technical English



Předmět:	Anglický jazyk
Ročník:	2.OZ
Klíčová slova:	workshop, maintance, tractor
Jméno autora:	Mgr. Jolana Čechová
Adresa školy:	Střední škola zemědělská, Osmeček 47 750 11 Přerov



# Technical English

## How to Maintain a Tractor



- To work well the farm machines and equipment needs to be properly set and maintained.
- A machine is set according to manufacturer's recommendations in the operation handbook called *Operator's Manual*.
- A machine may have been initially set in the workshop but the final adjustment can be made only in the field and during work.



# Technical English

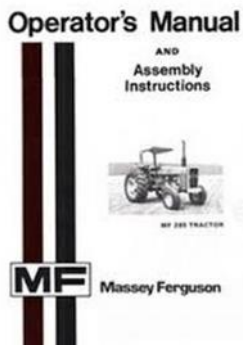
## How to Maintain a Tractor

### 1. Study your owner's (operator's) manual

- The manufacturer has specific instructions for basic care of your equipment.
- They have the expertise to give you the best advice on how to do it.
- If you don't have a manual, get one.
- Here are some items you should find in the

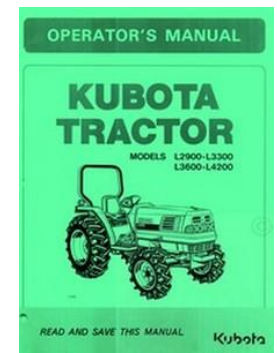
Operator's Manual:





# Technical English

## How to Maintain a Tractor



- a. **Maintenance Schedule.** This will tell you the intervals for routine maintenance, including chassis lubrication, engine, transmission, and hydraulic oil change, filter changes, and other maintenance items.
- b. **Specifications.** This should be a table telling you the type of fluid for the transmission, hydraulic system, brakes, and engine coolant, as well as their capacities. Tire inflation, bolt torques, and other information may be found under specifications or other sections of the manual.
- c. **Location of lubricant points** (grease fittings), fluid check dipsticks or sight glasses, and instructions on cleaning air and fuel filters.
- d. **Basic operating instructions** and other information specific to your tractor.



# Technical English

## How to Maintain a Tractor



## 2. Obtain tools

- Tractor maintenance requires numerous wrenches and other tools in larger sizes than for automobile maintenance.
- Plan to buy or borrow the tools you need.





# Technical English

## How to Maintain a Tractor



### 3. Protect the tractor from the elements

- Most smaller farm (or garden) tractors do not have a cabin to protect the seat, instrument panel, and metal components.
- Store it in a shed or garage.
- Keep rain out of the exhaust system, and cover the seat and instruments.



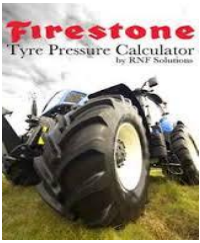
# Technical English

## How to Maintain a Tractor

### 4. Check fluids regularly

- Check the engine oil.
- Check the transmission fluid.
- Check the coolant in the radiator.
- Check the hydraulic oil.
- Check the battery electrolyte.





# Technical English

## How to Maintain a Tractor



### 5. Check tyre inflation

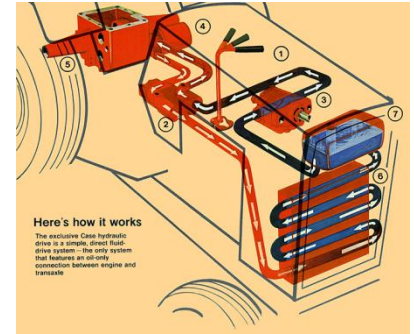
- Because of the shape, low inflation is not always obvious.
- Rear tyres normally have between 12 and 20 PSI inflation pressure.
- The front tyres may have up to 32 PSI.
- The back tyres on farm tractors should be filled with ballast, especially if you are pulling an implement where maximum traction is required.





# Technical English

## How to Maintain a Tractor



### 6. Keep an eye on belts and hoses

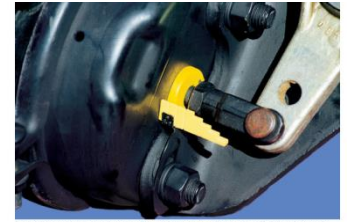
- If your tractor is equipped with a hydraulic system, it has high pressure hoses and/or tubing.
- Failure of this fluid conduit can cause component (hydraulic pump) failure, loss of steering, or other problems.
- If a hose (or belt) appears damaged, worn, or cracked, replace it.
- If fittings or connections are leaking, tighten them or replace the seals.





# Technical English

## How to Maintain a Tractor



Fleet managers are turning to visual brake-stroke indicators to improve brake safety, maintenance and compliance.

### 7. Brakes

- Keep the brake linkages lubricated, make sure the brakes are adjusted equally.
- Many tractors have mechanical brakes, operated by a linkage and cam system.
- These brakes are located on the rear axles, and work independently.
- They may be used to steer the tractor in tight corners or to reverse the direction of travel.
- The brake pedals will interlock for road travel, so that one pedal is not accidentally engaged by itself, causing the tractor to spin while traveling at a high speed.

# Technical English

## How to Maintain a Tractor



### 8. Watch the gauges.

- Keep an eye on the temperature, oil pressure, and tachometer.
- The temperature gauge should be marked with a normal operating range, but any time the indicator says the temperature is over 220 degrees F, the engine is running hot.
- If equipped with a diesel engine, the oil pressure should be between 40 and 60 PSI.
- The tachometer tells how many revolutions per minute the crankshaft is turning.



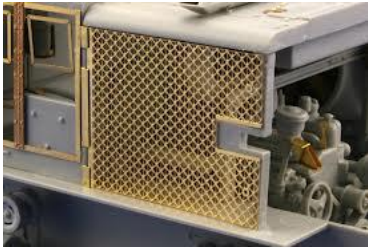
# Technical English

## How to Maintain a Tractor



### 9. Check the filters regularly.

- Check the fuel filter for accumulated water. Most diesel engines have a water separating filter, since diesel fuel attracts moisture.
- Check the air filter often. The filters must be cleaned daily or weekly.
- Clean the air filter with a shop vacuum or with compressed air, never by washing it.
- Replace the air filter when it cannot be cleaned satisfactorily, or if the filter is damaged



# Technical English

## How to Maintain a Tractor



### 10. Check the radiator screen

Tractors are often operated in conditions where debris may accumulate on the radiator, so they usually have a front screen or grill to prevent plant matter, insects, or pollen from clogging the radiator.





# Technical English

## How to Maintain a Tractor



### 11. Lubricate your tractor

- Tractors have many moving parts that require greasing . If you see a part that moves, look for a grease fitting, and grease it.
- Use a grease cartridge pressure gun, clean the fitting, attach the hose, and pump grease until the associated seal begins to expand, or grease is seen oozing out of the attachment you are lubricating.
- Look for grease fittings on steering components, brake and clutch linkages, and three-point hitch pivot points.
- Older tractors require specific lubricants in the gear boxes. Often, the hydraulic system and the transaxle share fluid, and using the wrong fluid can cause serious damage.



# Technical English

## How to Maintain a Tractor



### 12. Do not overload your tractor

- If you are using your tractor for cultivation or mowing, it should have a recommended size attachment for the job you are doing.
- As an example, do not pull an eight foot mower with a 35 horsepower tractor.



English	Czech	English	Czech	English	Czech
properly	správně	associated seal	Spojovací těsnění	debris	Smetí
set	seřídít	oozing out	Pomalů vytékat	pollen	Pyl (smetí rostl. původu)
recommend	doporučit	lubricate	promazat	clogging	ucpání
attachment	příloha	fittings	součástky	radiator	chladič
pull	táhnout	torques	Kroutivá síla	moisture	vlhkost
horsepower	Koňská síla	clutch linkages	Propojení spojky	Replace	nahradit
mower	sekačka	transaxle		gauge	měřidlo
require	vyžadovat	pivot points	Ústřední body	adjusted	nastavený
greasing	mazání	gear	rychlost	Cam	Vačka
grease fitting	Mazací součástky	Damage chassis	Poškození podvozek	interlock	Zapadat do něčeho
hose	hadice	conduit	potrubí	leak	prosakovat
cartridge	náplň	tight	utáhnout	traction	trakce



# Practice 1



1. *Look at the chart bellow, what should you do daily, every 250 hours, every 500 hours or every 750 hours, translate into Czech*

Service	Daily	Every 250 Hours	Every 500 Hours	Every 750 Hours
Check engine oil level	x			
Lubricate rear axle	x			
Check the brakes		x		
Tighten wheel retaining bolts/nuts		x		
Replace fuel filters			x	
Check the air intake hoses			x	
Change transmission/hydraulic oil filter				x



# Practice 2



## 2. *Translate into Czech*

### **Other Service Jobs**

- If the tractor is used to power external hydraulic equipment, check the level of the transmission/hydraulic oil
- If the tractor is used in particularly wet and muddy terrain, apply extra lubrication as follows:
  - Front axle and front-wheel drive shaft
  - Rear axle
  - Three –point hitch
  - Pick-up hitch. The hitch will also need lubricating if it is used frequently

These jobs are described in Service –Every 250 Hours and Service – Every 500 Hours.

*(taken from Operator's Manual 7530 Premium tractors JD)*



# Check your answers



## Practice 1

Daily: kontrola oleje v motoru, promazání zadní osy

250 hours: kontrola brzd, utáhnutí šroubů a matek na kole

500 hours: výměna palivových filtrů, kontrola vzduchových hadic

750 hours: výměna filtru olejového filtru v převodovce nebo hydraulice

## Practice 2

Ostatní servisní práce

- Pokud se traktor používá k pohánění přídatného hydraulického zařízení zkontrolujte hladinu oleje v převodovce/hydraulice
- Pokud se traktor používá v obzvláště vlhkém a blátivém terénu promažte:
  - Přední nápravu a zadní kolovou řídící hřídel, Zadní nápravu, Tažní zařízení, Zvedací zařízení je potřeba promazat pokud se používá často.

Tyto práce jsou popsány v kapitole *Service –Every 250 Hours and Service – Every 500 Hours.*

# Použité zdroje



- Veškeré použité obrázky (kliparty) pocházejí ze sady Microsoft Office 2010.
- Všechny fotografie pochází z archivu autora
- Voráček J., *Zemědělská angličtina*, Profi Press s.r.o., Praha:2004
- John Deer., *Operator's Manual 7530 Premium tractors*
- <http://www.wikihow.com/Maintain-a-Tractor> 11.10.2013

*Autorem materiálu a všech jeho částí, není-li uvedeno jinak, je Mgr. Jolana Čechová  
Financováno z ESF a státního rozpočtu ČR.*