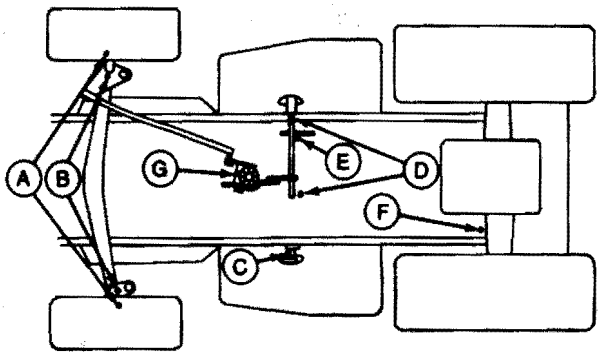
SERVICE INTERVALS

Lubricating Grease Fittings

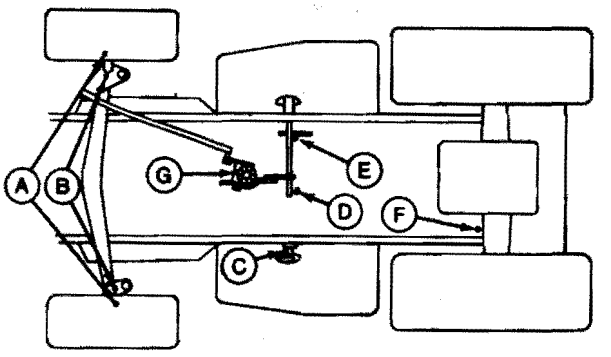
Grease tractor grease fittings in Spring and Fall Season. Tractor grease fitting locations are as follows:



M14459N

A—Front Wheel Hubs
B—Front Axle Spindles
C—Brake Pedal Shaft
D—Clutch Pedal Shaft
E—Primary Lift Shaft
F—Rear Brake Shaft
G—Steering Gear*

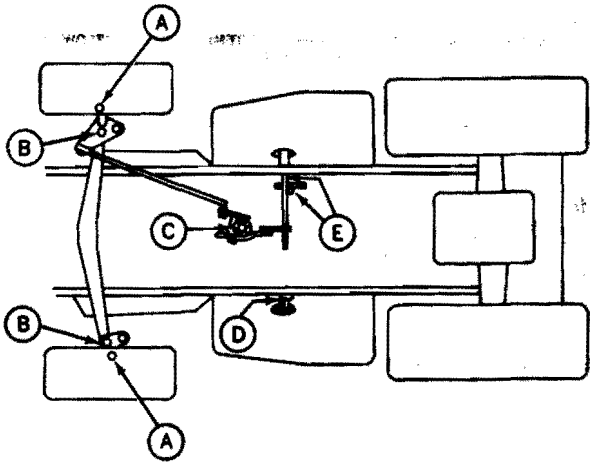
Fig. 1-Grease Fitting Locations (Serial No. 30,001-55,000)



M14460N

A—Front Wheel Hubs
B—Front Axle Spindles
C—Brake Pedal Shaft
D—Clutch Pedal Shaft
E—Primary Lift Shaft
F—Rear Brake Shaft
G—Steering Gear*

Fig. 2-Grease Fitting Locations (Serial No. 55,001-95,001)



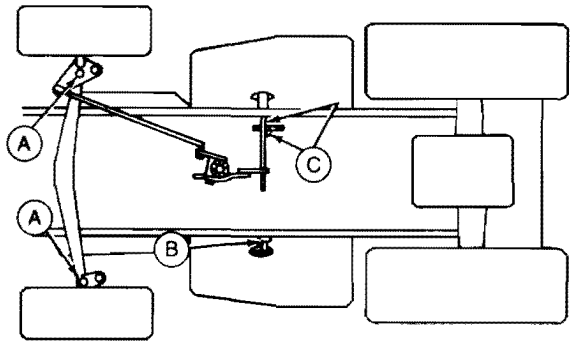
M23340

A—Front Wheel Hubs
B—Front Axle Spindles
C—Steering Gear (See "IMPORTANT" below)
D—Brake Pedal Shaft
E—Primary Lift Shaft (2)

Fig. 3-Grease Fitting Locations (Serial No. 95,001-)

IMPORTANT: Do not overlubricate steering column fitting. Only 3 to 4 strokes with a hand grease gun are necessary. Do not use a high-pressure grease gun on this fitting.

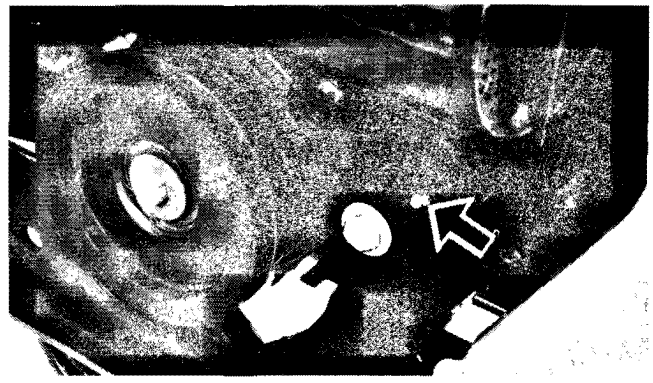
LUBRICATING GREASE FITTINGS—Continued



M28401

A—Front Axle Spindles
B—Brake Pedal Shaft
C—Primary Lift Shaft

Fig. 4-Grease Fitting Locations (Serial No. 109,001-)



M28544

Fig. 5-Hanger Spacer Fitting on 200 Series Tractors (Serial No. 190,001-)

Group 20
TUNE-UP AND ADJUSTMENTS

PURPOSE OF TUNE-UP AND ADJUSTMENTS

Generally, the customer complaint will reveal which system or component requires checking. However, when dealing with the entire tractor, it is recommended that the step-by-step procedures outlined on the following pages be used.

VISUAL INSPECTION

Much can be learned about the general condition of the tractor by a thorough visual inspection. For convenience, remove the side panels and hood.

Check the engine, transaxle and hydraulic system (if so equipped) for evidence of oil leakage.

Inspect battery for excessive corrosion, cracked case, proper installation and cable connections. Note general condition of wiring harness. Be sure the harness is not oil-soaked and that it is not frayed or damaged.

ENGINE TUNE-UP

Engine tune-up is making minor repairs and adjustments in an orderly sequence to improve the overall efficiency and operation of the engine.

Tune-up includes checking, adjusting and servicing the electrical, ignition, air intake, fuel and lubrication systems.

TRACTOR ADJUSTMENTS

Adjusting tractor components insures that engine horsepower will be utilized in the most efficient manner.

Adjustments to be made on the tractor include: Checking or changing transaxle lubricant, lubricating grease fittings, checking PTO clutch and brake, tractor brakes, belts and equipment.

TUNE-UP GUIDE

The following guide offers an orderly sequence for servicing a tractor that has been running well.

Also use this guide to explain to your customers what a tune-up includes. Be sure to obtain customer permission before performing these services.

1. Clean Engine Shrouds and Cooling Fins
2. Clean or Replace Air Filter Element
3. Clean Fuel Strainer
4. Check and Clean Engine Crankcase Breather
5. Check Spark Plug Gap
6. Check Ignition Breaker Points and Engine Timing
7. Adjust Carburetor
8. Check Engine Speed
9. Change Engine Crankcase Oil
10. Check or Change Transaxle Lubricant
11. Lubricate Grease Fittings
12. Repack PTO Clutch Bearing
13. Service Battery
14. Check Tire Pressure
15. Check Operation and Condition of:
    (A) Lights
    (B) Lift System
    (C) Steering
    (D) Brakes (PTO Clutch and Tractor)
    (E) Belts and Equipment

TUNE-UP AND ADJUSTMENTS

1. Clean Engine Shrouds and Cooling Fins

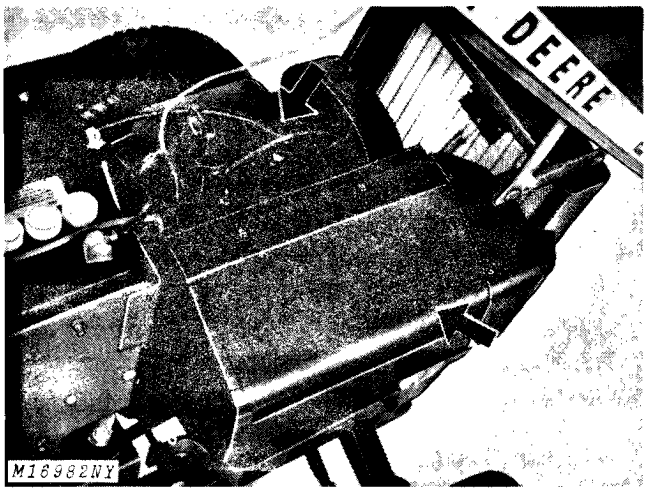


Fig. 1-Engine Shrouds (210 Tractor Illustrated)

Remove engine shrouds, Fig. 1. Blow out cooling fins with compressed air. Be sure all dirt and debris are removed from the engine.

2. Clean or Replace Air Filter Element

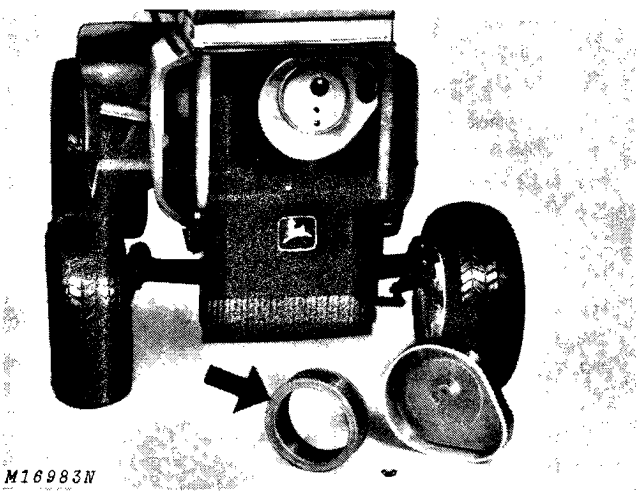


Fig. 2-Air Filter Element (210 Tractor Illustrated)

Remove the air filter element, Fig. 2. Tap the filter lightly against a flat surface and brush out dust. Do not clean filter with a liquid cleaner or compressed air.

Replace filter if it is bent, crushed, damaged or extremely dirty.

3. Clean Fuel Strainer

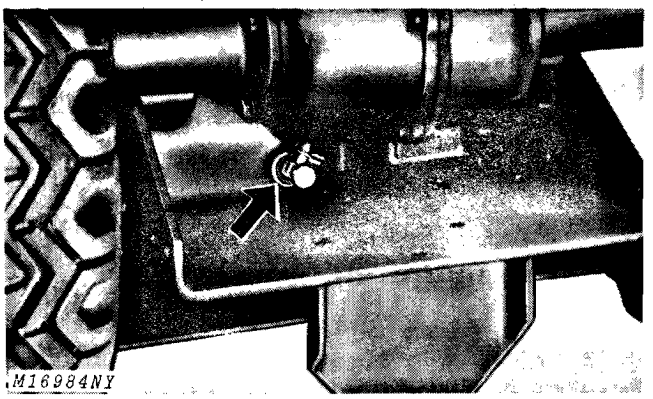


Fig. 3-Fuel Shut-Off Valve

Close the fuel shut-off valve, under fuel tank, Fig. 3. Disconnect hose from valve. Attach a 12-inch length of 1/4-inch hose and drain fuel tank into a clean container.

Remove hose from valve. Unscrew shut-off valve with strainer from fuel tank. Thoroughly clean all particles from strainer.

Install shut-off valve and strainer assembly. Close the valve, connect the hose, and fill fuel tank.

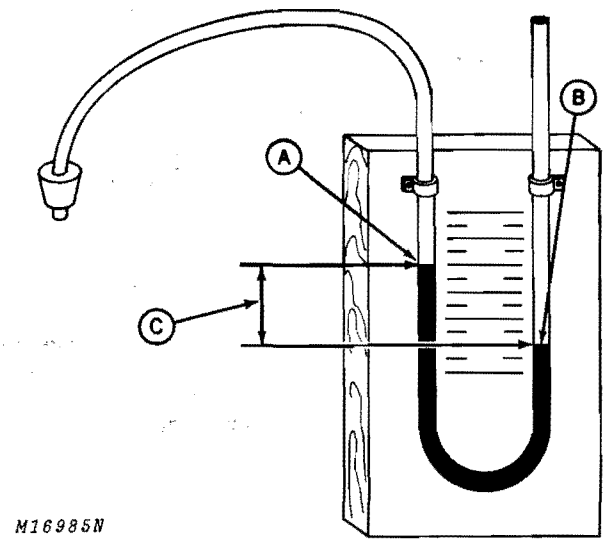
4. Check and Clean Engine Crankcase Breather

A clogged crankcase breather can cause positive pressure to build up in the crankcase.

Check crankcase vacuum with a U-tube water manometer.

An engine in good condition and operating at normal temperatures will show a 5 to 10-inch water column on the manometer.

An engine in good condition and operating at normal engine temperatures will show a 5 to 10-inch water column of vacuum or negative pressure on the manometer, (see Fig. 4).



A—Negative Pressure **B—Positive Pressure**
C—Difference Between Columns

Fig. 4-U-Tube Water Manometer

When using manometer, Fig. 4, place stopper into oil fill hole (other end open to atmosphere) and measure difference between columns (C).

If water column is higher in tube connected to engine, vacuum or negative pressure (A) is indicated. If the higher column is on the atmospheric side of manometer, positive pressure (B) is present.

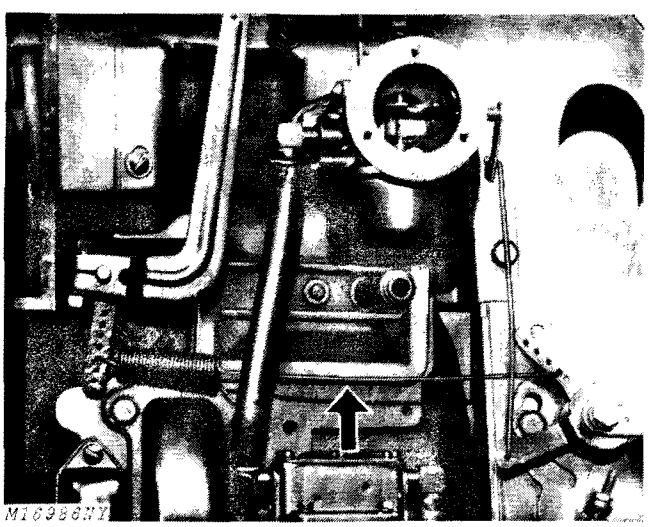


Fig. 5-Engine Crankcase Breather
(210 Tractor Illustrated)

Disassemble breather assembly, Fig. 5, and clean it thoroughly. Reinstall breather assembly and recheck pressure.

5. Check Spark Plug Gap

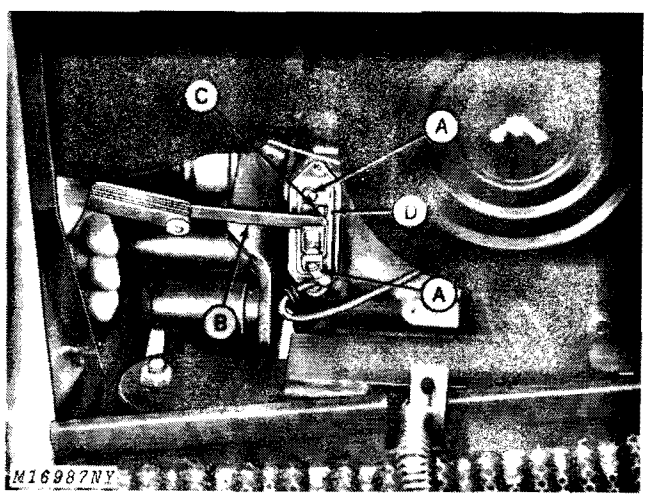
Remove spark plug, check condition and reset gap, page 10-10-1.

Good operating conditions are indicated if plug has light gray or tan appearance. A dead white appearance could indicate overheating. A black (carbon) appearance may indicate an "over-rich" fuel mixture, clogged air cleaner or improper carburetor adjustment.

Do not service a plug in poor condition. Install a new plug and torque it to 18 to 22 ft-lbs (24 to 30 Nm). See page 10-10-1.

6. Check Ignition Breaker Points and Engine Timing

Replace badly burned or pitted breaker points. If points are oxidized, rub a piece of coarse cloth across the surfaces. Clean dirty or oily points with a cloth, but make sure no particles of lint are left between the surfaces.



A—Retaining Screws **C—Locking Screw**
B—Feeler Gauge **D—V-Slot**

Fig. 6-Replacing and Adjusting Points

To replace points, remove retaining screws (A), Fig. 6. Be sure lock washers are in place when installing new points.

To adjust breaker points, rotate engine until "T" mark on flywheel lines up with indicator, Fig. 8. Use feeler gauge (B, Fig. 6) to measure gap for 0.020-inch (0.508 mm) clearance when points are fully open.