

LAWN AND GARDEN TRACTOR

REPAIR MANUAL

Section

INTRODUCTION

General	(
Safety	;
Tractor Identification	
Tractor Specifications	(

SECTION I

GENERAL

This manual contains service and maintenance for the Ford 10, 12, 14, 16 and 19.5 H.P. tractors.

MODELS INCLUDED

1. LGT 100 TRACTOR 10 H.P. Gear

2. LGT 120 TRACTOR 12 H.P. Gear

3. LGT 125 TRACTOR 12 H.P. Hydro

4. LGT 145 TRACTOR 14 H.P. Hydro

5. LGT 165 TRACTOR 16 H.P. Hydro

6. LGT 195 TRACTOR 19.5 H.P. Hydro

This manual is divided into sections. Some sections are divided into subsections. The subsections pertain to a certain component or operating system relative to the section title.

All sections of this manual should be carefully studied by the serviceman prior to beginning work on the tractor. In addition to this manual, the operator's manual should also be studied to insure familiarity with all operating procedures and controls.

SAFETY

This notation, followed by the word WARNING, signifies important precautionary measures which, if not properly followed, could result in personal injury or death.

Read these safety rules and follow them closely. Failure to obey these rules could result in loss of control of machine, severe personal injury or death to yourself or bystanders.



WARNING

Always store gasoline or flammable solvents used for cleaning in a proper container. Always dispose of used flammable solvent in a proper manner. NEVER discard flammable solvents in a barrel or bin used for ordinary scrap material.



WARNING

Do not start or run the engine in an enclosed area. Exhaust fumes can kill.



MARNING

Be certain that engine and exhaust assemblies are not hot before cleaning ANY part of the tractor using a flammable solvent.



WARNING

Never let shop rags, used for cleaning, lay around to become fire hazards.



WARNING

Always keep work area clean and free of oil, grease, and water. Some of these may be spilled on the floor during normal disassembly procedures. Clean this up as soon as possible to prevent accidents.



WARNING

Always disconnect spark plug wire before servicing to prevent accidental starting.



WARNING

Always wear safety glasses when working in the shop area. Do not confuse ordinary prescription glasses (even with tempered lenses) or sunglasses with shop safety glasses.



Be certain that any part being removed is properly supported or held to prevent injury or damage.



WARNING

Be certain that the work bench or support being used is strong enough. The weight of the part plus the force applied to it during assembly or disassembly may put a great strain on the bench or support.



WARNING

If test running is required, read the operator's manual carefully. Be thoroughly familiar with the controls and proper use of the equipment. Know how to stop the unit.



WARNING

Use jack stands or blocks to hold up the unit in any potentially dangerous positions required for access. Do not rely only on a jack for support.



WARNING

Be sure all tools and cleaning materials are removed before starting unit.



WARNING

Be sure all parts are securely fastened before starting the machine.



WARNING

Never operate without guards, plates, or other safety protective devices in place.



WARNING

If the unit should start to vibrate abnormally, stop the engine and check immediately for the cause.



WARNING

Stop engine and disengage PTO whenever you leave the operating platform to make any repairs, adjustments, or inspections.



WARNING

Take all possible precautions when leaving the vehicle unattended. Shift into neutral; set parking brake and stop the engine.



WARNING

When cleaning, repairing, or inspecting, make certain tractor and all moving parts have stopped.



WARNING

Never operate machine at high transport speeds on slippery surfaces. Use care when backing.



WARNING

Disengage PTO when transporting or not in use.



WARNING

Never operate without good visibility or light.



WARNING

Do not put hands or feet near rotating parts.



WARNING

Never store machine with fuel in the fuel tank inside a building where open flame or sparks are present. Allow engine to cool before storing in any enclosure

CAUTION

This symbol identifies procedures or practices that if not followed, could result in mechanical damage leading to personal injury.

CAUTION

Always refer to operator's manual for important details if tractor is to be stored for an extended period.

Always be certain that internal components are kept clean and free of chemicals and contaminants.

Always use the proper tool for the work being done. Where a specific tool is specified in the manual, always use THAT tool.

Do not overload machine capacity.

Use only attachments and accessories approved by manufacturers.

NOTE

Metric equivalents are included throughout the manual. They are found adjacent to the English measure, eg. 7 gallons (26.5L).

Throughout this manual, reference will be made to, "right hand of tractor, left hand of tractor, etc." This is determined by sitting in the operator's seat facing forward.

TRACTOR IDENTIFICATION

TRACTOR SERIAL NUMBER. The tractor serial number is located on the tractor frame, figure 1, 10, 12, 14, 16 H.P., figure 2, 19.5 H.P.



Figure 1 (10, 12, 14 & 16 H.P.) Location of Tractor Serial Number

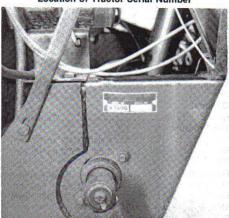


Figure 2 (19.5 H.P.)
Location of Tractor Serial Number

ENGINE SERIAL NUMBER. The engine serial number is located on the engine shroud, figure 3, 10, 12, 14, 16 H.P. figure 4, 19.5 H.P.

ENGINE SERIAL NUMBER. The engine serial number is located on the engine shroud, figure 2.



Figure 3 (10, 12, 14 & 16 H.P.) Location of Engine Serial Number



Figure 4 (19.5 H.P. Tractor)
Location of Engine Serial Number

TRANSMISSION SERIAL NUMBER. The transmission serial number is located on the transmission cover, figure 5.



Figure 5 (Typical)
Location of Transmission Serial Number

TRACTOR SPECIFICATIONS

10 H.D. TDACTOR (Coor)	40.115
10 H.P. TRACTOR (Gear)	12 H.P. TRACTOR (Gear)
Engine	Engine
Manufacturer Kohler	Manufacturer Kohler
Model Number K241AQS Spec no. 4674O-D	Model Number K301AQS Spec. no. 47606-D
Cylinder 1	Cylinder 1
Type4-cycle — air cooled	Type4 cycle — air cooled
Bore 3 1/4" (82.5 mm)	Bore 3 3/8" (85.7 mm)
Stroke	Stroke
Displacement23.9 cu. in. (390 cc)	Displacement29.07 cu. in. (475 cc)
Horsepower (at 3600 rpm) 10.6 (7.8 kw)	Horsepower (at 3600 rpm) 12 (8.9 kw)
Power Train	Power Train
Transaxle Peerless model 2306A	Transaxle Peerless model 2306A
Brakes Rear wheel - drum & band	Brakes Rear wheel — drum & band
Electrical System	Electrical System
Battery	Battery
Ignition	Ignition
Spark Plug Champion H-10	Spark Plug Champion H-10
Champion RH-10 (resistor)	Champion RH-10 (resistor)
Spark Plug Gap	Spark Plug Gap
Breaker Point Gap 0.20" (0.508mm)	Breaker Point Gap
Charging Capacity	Charging Capacity
Capacities	Capacities
Fuel Tank 3 gal. (11.36 l)	_* _*
Crankcase	Fuel Tank
Transaxle	Transayla
Ground Speeds (at 3200 engine rpm with	Transaxle
standard tires)	Ground Speeds (at 3200 engine rpm with standard tires)
1st	1st
2nd	2nd
3rd	
4th6.51 mph	3rd4.42 mph
Reverse	4th
Tires	Reverse
Standard	Tires
Front 16x6.50x8	Standard
	Front
Rear	Rear 23x8.50x12
Optional Seas Form	Optional
Rear Bar Type	Rear Bar Type
Tire Pressure	Tire Pressure
Front	Front 8 psi (0.562 kg/sq. cm)
Rear 8 psi (0.562 kg/sq. cm)	Rear 8 psi (0.562 kg/sq. cm)
PTO	PTO
Front std Engine speed	Front std Engine speed
Front opt	Front opt
Rear opt3300 rpm	Rear opt3300 rpm
Hitch, Rear	Hitch, Rear
Std. — Fixed Drawbar Uses 3/4" Hitch Pin	Std. — Fixed Drawbar Uses 3/4" Hitch Pin
Opt. — Sleeve	Opt. — Sleeve

TRACTOR SPECIFICATIONS (CON'T)

12 LI D. TDACTOR (Hydro)	14 H.P. TRACTOR (Hydro)
12 H.P. TRACTOR (Hydro) Engine	Engine
Manufacturer Kohler	Manufacturer Kohler
Model Number K301AQS Spec. no. 47606-D	Model Number K321AQS Spec. no. 60244-D
Cylinder 1	Cylinder 1
Type 4-cycle — air cooled	Type 4-cycle — air cooled
Bore	Bore 3 1/2" (88.9 mm)
Stroke 3 1/4" (82.5mm)	Stroke 3 1/4" (82.5 mm)
Displacement29.07 cu. in. (475 cc)	Displacement
Horsepower (at 3600 rpm) 12.0 (8.9 kw)	Horsepower (at 3600 rpm) 14.0 (10.4 kw)
Power Train	Power Train
Transaxle 2500 Peerless	Transaxle 2500 Peerless
Hydrostatic UnitModel 11 Eaton	Hydrostatic UnitModel 11 Eaton
Brakes Rear wheel — drum & band	Brakes Rear wheel — drum & band
Electrical System	Electrical System
Battery 12 volt (22 amp) (BC1)	Battery 12 volt (22 amp) (BC1)
IgnitionBattery coil	IgnitionBattery coil
Spark Plug Champion H-10	Spark Plug Champion H-10
Champion RH-10 (resistor)	Champion RH-10 (resistor)
Spark Plug Gap	Spark Plug Gap
Breaker Point Gap	Breaker Point Gap
Charging Capacity15 amps	Charging Capacity15 amps
Capacities	Capacities
Fuel Tank	Fuel Tank
Crankcase	Crankcase
Hydrostatic Transmission — Transaxle (Common Sump) 4 gts. (3.8 I)	Hydrostatic Transmission — Transaxle (Common Sump) 4 qts. (3.8 l)
Ground Speeds (at 3200 engine rpm with	Ground Speeds (at 3200 engine rpm with
standard tires)	standard tires)
Low Range 0-4.5 mph	Low Range 0-4.4 mph
High Range0-6.5 mph	High Range
Reverse 0-3.2 mph	Reverse 0-3.2 mph
Tires	Tires
Standard	Standard
Front 16x6.50x8	Front
Rear	Rear
Optional	Optional
Rear Bar Type	Rear Bar Type
Tire Pressure	Tire Pressure
Front	Front 8 psi (0.562 kg/sq. cm)
Rear 8 psi (0.562 kg/sq. cm)	Rear 8 psi (0.562 kg/sq. cm)
PTO	PTO
Front std Engine speed	Front std Engine speed
Front opt	Front opt
Rear opt Engine speed	Rear opt Engine speed
Hitch, Rear	Hitch, Rear
Std. — Fixed Drawbar — Uses 3/4" Hitch Pin	Std. — Fixed Drawbar, Use 3/4" Hitch Pin
Opt. — Sleeve	Opt. — Sleeve
Opt. — Category: "O" 3 pt. Hitch	Opt. — Category "O" 3 pt. Hitch

16 H.P. TRACTOR (Hydro) Engine	19.5 H.P. TRACTOR (Hydro)	
Manufacturer Kohler	Engine Manufacturer	
Model Number K341AQS	Manufacturer Kohler	
Cylinder	Model Number K5325 Cylinder 2	
Type4-cycle — air cooled		
Bore	Type	
Stroke	Stroke	
Displacement35.89 cu. in. (588 cc)	Displacement	
Horsepower (at 3600 rpm) 16 (11.9 kw)	Horsepower (at 3600 rpm) 19 1/2 (14.726 kw)	
Power Train	Power Train	
Transaxle 2500 Peerless	Transaxle	
Hydrostatic UnitModel 11 Eaton	Hydrostatic UnitModel 11 Eaton	
Brakes Rear wheel — drum & band	Brakes Rear wheel — drum & band	
Electrical System	- 1	
Battery	Electrical System	
IgnitionBattery coil	Battery	
Spark Plug Champion H-10	Ignition Battery coil	
Champion RH-10 (resistor)	Spark Plug Champion H-10	
Spark Plug Gap	Champion RH-10 (resistor)	
Breaker Point Gap	Spark Plug Gap	
Charging Capacity15 amps	Breaker Point Gap	
Capacities	3 5 , , , , , , , , , , , , , , , , , ,	
Fuel Tank 5 gal. (18.9 l)	Capacities	
Crankcase 1 1/2 qts. (1.42 I)	Fuel Tank 7 gal. (26.51.)	j.
Hydrostatic Unit —	Crankcase	
Transaxle (Common Sump) 4 qts. (3.8 I)	Hydrostatic Unit —	
	Transaxle (Common Sump) 6 qts. (5.7 I)	
Ground Speeds (at 3200 engine rpm with standard tires)		
Low Ránge 0-4.4 mph	Ground Speeds (at 3200 engine rpm with	
High Range 0-6.5 mph	standard tires)	
Reverse 0-3.2 mph	Low Range 0-5.2 mph	
Time	High Range	
Tires	Reverse 0-4.8 mph	
Standard Front 10.050.0		
Front	Tires	
Rear	Standard	
Optional Pear Par Type	Front 20x8.0x10	
Rear Bar Type	Rear 29x12.0x15	
	Optional	
Front	Front 10-12 p.s.i.	
Rear 8 psi (0.562 kg/sq. cm)	Rear 8-10 p.s.i.	
PTO		
Front std Engine speed	PTO	
Front opt	Front std Engine speed	
Rear opt Engine speed	Rear opt2000 rpm Rear opt540 rpm	
Hitch, Rear	The second secon	
Std. — Fixed Drawbar — Uses 3/4" Hitch Pin	Hitch, Rear	
Opt. — Sleeve	Std. — Fixed Drawbar — Uses 3/4" Hitch Pin	
Opt. — Category "O" 3 Pt. Hitch	Opt. — Category "O" 3 Pt. Hitch	
3		
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TORQUE CHART Tolerance ± 10%

SIZE	SAE	GRADE #2	SAE	GRADE #5	SAE G	RADE #8
8-32	19	In./Lbs.	30	In./Lbs.	41	In./Lbs.
8-36	20	In./Lbs.	31	In./Lbs.	43	In./Lbs.
10-24	27	In./Lbs.	43	In./Lbs.	60	In./Lbs.
10-32	31	In./Lbs.	49	In./Lbs.	68	In./Lbs.
1/4-20	66	In./Lbs.	8	Ft./Lbs.	12	Ft./Lbs.
1/4-28	76	In./Lbs.	10	Ft./Lbs.	14	Ft./Lbs.
5/16-18	11	Ft./Lbs.	17	Ft./Lbs.	25	Ft./Lbs.
5/16-24	12	Ft./Lbs.	19	Ft./Lbs.	25	Ft./Lbs.
3/8-16	20	Ft./Lbs.	30	Ft./Lbs.	45	Ft./Lbs.
3/8-24	23	Ft./Lbs.	35	Ft./Lbs.	50	Ft./Lbs.
7/16-14	30	Ft./Lbs.	50	Ft./Lbs.	70	Ft./Lbs.
			55			
7/16-20	35	Ft./Lbs.	55	Ft./Lbs.	80	Ft./Lbs.
1/2-13	50	Ft./Lbs.	75	Ft./Lbs.	110	Ft./Lbs.
1/2-20	55	Ft./Lbs.	90	Ft./Lbs.	120	Ft./Lbs.
9/16-18	65	Ft./Lbs.	110	Ft./Lbs.	150	Ft./Lbs.
9/16-20	75	Ft./Lbs.	120	Ft./Lbs.	170	Ft./Lbs.
5/8-11	90	Ft./Lbs.	150	Ft./Lbs.	220	Ft./Lbs.
5/8-18	-	Ft./Lbs.		Ft./Lbs.	240	Ft./Lbs.
5/0-10	100	FL/LDS.	100	FL/LDS.	240	FI./LDS.
3/4-10	160	Ft./Lbs.	260	Ft./Lbs.	386	Ft./Lbs.
3/4-16	180	Ft./Lbs.	300	Ft./Lbs.	420	Ft./Lbs.
7/8-9	140	Ft./Lbs.	400	Ft./Lbs.	600	Ft./Lbs.
7/8-14	155	Ft./Lbs.		Ft./Lbs.	660	Ft./Lbs.
1-8	220	Ft./Lbs.	580	Ft./Lbs.	900	Ft./Lbs.
1-12		Ft./Lbs.		Ft./Lbs.		Ft./Lbs.
1-14	240	1 L/LUS.	940	1 L/LDS.	1,000	I L/LUS.

NOTES:

- These torque values are to be for all tractor hardware excluding: locknuts, self-tapping screws, thread forming screws, and sheet metal screws.

 Unless otherwise noted, all torque values must meet this specification.

BOLT HEAD MARKING

S.A.E. GRADE:





Standard Tires 20 x 8.00-10 front tires		Optional 18 x 8.50 - 8	
8 psi (0.562 kg/sq cm) 470 10 psi (0.703 kg/sq cm) 535	l lbs. (181.4 kg) l lbs. (213.2 kg) i lbs. (242.7 kg) i lbs. (270.0 kg)	6 psi (0.422 kg/sq cm) 8 psi (0.562 kg/sq cm) 10 psi (0.703 kg/sq cm) 12 psi (0.843 kg/sq cm)	380 lbs. (172.4 kg) 450 lbs. (204.1 kg) 515 lbs. (233.6 kg) 570 lbs. (258.5 kg)
29 x 12.00-15 rea	r tires	26 x 12.00 - 12	2 rear tires
10 psi (0.703 kg/sq cm) 1185	lbs. (358.3 kg) lbs. (537.5 kg) lbs. (682.6 kg)	6 psi (0.422 kg/sq cm) 8 psi (0.562 kg/sq cm) 10 psi (0.703 kg/sq cm) 12 psi (0.843 kg/sq cm)	880 lbs. (399.1 kg) 1040 lbs. (471.7 kg) 1185 lbs. (537.5 kg) 1320 lbs. (598.7 kg)

Maximum load includes weight of tractor, operator, attachments, wheel weights, tire fluid, etc.

Notes:	_
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Section

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LUBRICATION AND MAINTENANCE

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SECTION 2 LUBRICATION AND MAINTENANCE

FUEL AND LUBRICANT

FUEL. The engines perform best when the following recommendations are followed:

CAUTION

Handle gasoline with care - it is highly flammable. Do not fill fuel tank with engine running or if engine is hot. Do not smoke while filling fuel tank.

Prior to filling fuel tank wipe dirt from around filler neck and fuel tank cap. Dirt allowed to enter the tank may cause hard starting and poor performance.

Fill the fuel tank with fresh clean 85 octane (minimum) regular grade gasoline. Leaded or unleaded may be used.

CAUTION

DO NOT MIX OIL WITH GASOLINE.

LUBRICANTS. Proper use of approved lubricants is the best way of ensuring proper service from the tractor. Use only lubricants specified in this manual and within the intervals specified.

ENGINE LUBRICATING OIL. Oils meeting the requirements of the American Petroleum Institute's (API) Service Classification SC, CC, SD, or SE are to be used. Oil viscosity (weight) is selected according to the anticipated ambient temperature. The temperature (viscosity) recommendations are:

Temperature	Oil Viscosity
40°F (44. C) & up	SAE 30
0°F (-17, 8 C) to 40°F (4.4 C)	SAE 10W - 30
0°F (-17, 8 C) & below	*SAE 5W - 20

*Increased oil consumption may be experienced when SAE 5W - 20 oil is used. Check oil more frequently.

TRANSAXLE - Non-hydro gear model, SAE 90 oil HYDROSTATIC TRANSMISSION AND TRANSAXLE. The following fluids are approved by the manufacturer and are used as factory fills.

- 1. Texaco Transhydral #2209
- 2. Ford Motor Co. #M-2C41-A

The following fluids in descending order of preference, are also acceptable.

- 1. International Harvester Hy Tran
- Automotive Automatic Transmission fluid type "B"
- 10W detergent engine oil, no service grade is specified.
- 20W detergent engine oil, no service grade is specified.



Do not mix fluids. Do not use Type "A" Automatic Transmission Fluid. The use of Type "A" and/or intermixing of fluids may cause severe damage to the hydrostatic unit and WILL void the warranty.

LUBE FITTINGS. Use a good quality chassis grease.

ENGINE LUBRICATION

Crankcase (oil change) 10, 12, 14, 16 HP Tractors

Break-in 5 hrs.
Normal Conditions *30 hrs.

Crankcase (oil change) 19.5 HP Tractor

Break-in 5 hrs.
Normal Conditions *50 hrs.

Engine Oil Filter 19.5 HP Tractor

Break-in 5 hrs.
Normal Conditions *100 hrs. (every other oil

*Extreme dusty and dirty conditions require more frequent changes.

change)

CHECKING ENGINE OIL

Check the oil level using the dipstick located at the side of the engine. For accurate readings, the oil level should be checked approximately 15 minutes after the engine is shut off. Maintain the oil level as near the FULL mark as possible at all times.

To check the oil level of the engine, proceed as follows:

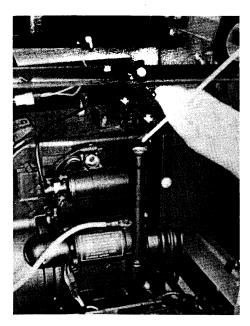


Figure 1 (10, 12, 14 & 16 H.P.) Checking Engine Oil Level



Figure 2 (19.5 H.P.) Checking Engine Oil Level

 Park tractor on a level surface, set parking brake, stop engine and raise hood. Install dipstick fully prior to taking reading. An inaccurate reading may lead to overfilling and possible engine seal damage.

Wipe dust and dirt from around dipstick. Oil must be between marks on dipstick.

CHANGING ENGINE OIL

Engine should be at operating temperature (after engine has run 5 minutes or more) when oil is drained. When hot, the oil will drain faster removing dirt and other foreign material held in suspension.

To change engine oil, proceed as follows:

- Park tractor on a level surface, set parking brake, stop engine and raise hood.
- 2. Remove dipstick, *figure 1* 10, 12, 14 & 16 H.P., *figure 2* 19.5 H.P..
- Remove side panel.
- Remove drain plug located at front of engine, figure 3 10, 12, 14 & 16 H.P., figure 4 19.5 H.P.
- Drain oil into a suitable container. Replace plug after all oil is drained out.

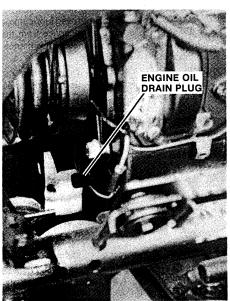


Figure 3 (10, 12, 14 & 16 H.P.) Engine Oil Drain Plug Location

 Fill crankcase through dipstick opening with oil of the correct viscosity and grade. Fill until oil level is within safe range on dipstick (see Engine Crankcase Capacity Chart below).

ENGINE CRANKCASE CAPACITY

Engine Horse Power	Without Filter	With Filter
10	1½ qts. (1.42 l.)	NA
12	1½ qts. (1.42 l.)	NA
14	1½ qts. (1.42 l.)	NA
16	1½ qts. (1.42 l.)	NA
19.5	3 qts. (2.8 l.)	31/2 qts. (3.3 l.)

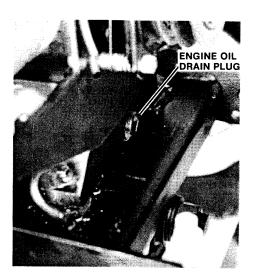


Figure 4 (19.5 H.P.) Engine Oil Drain Plug Location

CHANGING ENGINE OIL FILTER (19.5 H.P. Tractor Only)

The engine oil filter change interval should be every 100 hours or every other engine oil change at 50 hour intervals

To change the oil filter, proceed as follows:

- Drain engine crankcase oil (see Changing Engine Oil, page 14).
- 2. Remove R.H. side panel, figure 5.
- Remove filter by turning it counterclockwise. Discard old filter.

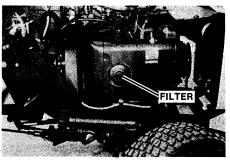


Figure 5 (19.5 H.P.)
Engine Oil Filter Location

- Clean filter adapter and wipe up any oil spilled on crankcase.
- Lightly grease seal of new filter. Install new filter.

NOTE

Do not over tighten, seal may be damaged and future removal extremely difficult.

Replace drain plug and fill crankcase with oil (see Changing Engine Oil, page 14).

CHECKING TRANSAXLE FLUID

The fluid level of the transmission should be checked only when the fluid is **COLD**. It should be checked prior to initial start and maintained with checks at eight hour intervals. With the tractor level, check the transaxle fluid as follows:

HYDROSTATIC MODELS

1. Check oil level by removing plug A, figure 6.

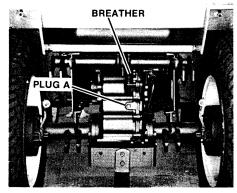


Figure 6 (Hydrostatic Models) Checking Fluid Level In Transaxle

When fluid is at the proper level it will begin to dribble out. If fluid is required, remove breather, figure 6, and plug A. Add fluid through breather hole until fluid begins to dribble out through hole from plug A. Use Texaco Transhydral #2209 or Ford Motor Co. #M-2C41-A.

NOTE

Do not overfill.

2. Replace plug A and breather.

GEAR MODELS

- Check oil level by removing plug A. When oil is at proper level it will be even with bottom edge of this hole. If oil is required, add SAE-90 oil until proper level is met. Use a pump or funnel with a flexible spout to add oil.
- 2. Replace plug A.

CHANGING HYDRAULIC OIL FILTER (Hydrostatic Models Only)

The hydraulic oil filter change interval should be every 100 hours. The filter is located on the hydrostatic transmission beneath the tractor.

To change hydraulic oil filter, proceed as follows:

- Park tractor on a level surface, set parking brake and stop engine.
- 2. Remove and discard old filter.
- 3. Fill new filter with fresh fluid prior to installation.
- 4. Install new filter.
- Check transmission fluid level (Refer to Checking Transmission Fluid Level, page 15) and add fluid as required.

CHANGING TRANSMISSION FLUID

1. Park tractor on a level surface; set parking brake and stop engine.

HYDROSTATIC MODELS

- 2. Remove breather, figure 6.
- 3. Remove drain plug, figure 7.
- 4. Drain fluid into a container.
- Replace drain plug.
- 6. Remove plug A, figure 6.
- Fill with 4 quarts (3.81), (6 quarts for 19.5 H.P.) of Texaco Transhydral #2209 or Ford Motor Co. #M-2C41-A.
- 8. Replace plug A and breather, start engine.

NOTE

Keep tractor in neutral and operate hydraulic lift (if tractor is so equipped) several times. This insures that the entire system is filled. Run engine approximately 1 minute.

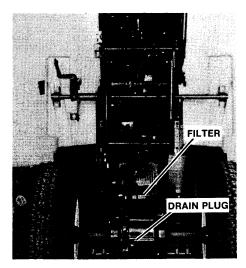


Figure 7 Underside View (10, 12, 14 & 16 H.P.)

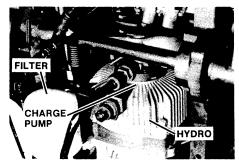
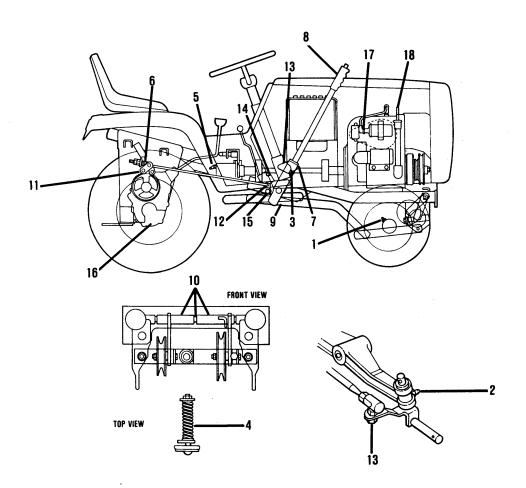


Figure 8 Underside View (19.5 H.P.)

 Stop engine and recheck fluid level. Add fluid as required to bring up to proper level. Refer to Checking Transmission Fluid Level, page 15.

GEAR MODELS

- 1. Remove plug A.
- 2. Remove drain plug.
- 3. Drain oil into a container.
- 4. Replace drain plug.
- Fill with 2 quarts (1.9 I) SAE 90 oil. Refer to Checking Transmission Fluid Level, page 15.
- 6. Replace plug A.



LUBRICATION CHART 10 & 12 H.P. GEAR TRACTOR

	LUBRICATION INTERVAL				
REF.	PART NAME	LUBRICANT	30 HOURS	60 HOURS	REMARKS
1	Grease Fittings (2) Front Wheels	Chassis Grease	• •	60 HOURS	Fill slowly with grease gun until grease begins to seep out
2	Grease Fittings (2) Each End of Front Axle	Chassis Grease	•		Fill slowly with grease gun until grease begins to seep out
3	Grease Fitting (1) Steering Gear	SAE 90 Oil	•		Fill slowly with grease gun until grease begins to seep out
4	Front Power Take-Off	Chassis Grease	•		Apply around tension springs
5	Grease Fitting (1) Right Angle Gear Box	Chassis Grease	•		Fill slowly with grease gun until grease begins to seep out
6	Brake Adjusting Spring	Chassis Grease	•		Apply around spring
7	Lift Quadrant	Chassis Grease	•		Apply generously
8	Implement Lift Handle	SAE 30 Oil	•		Spring and rod inside handle
9	Implement Lift Linkage	SAE 30 Oil		•	All sliding surfaces, slotted holes and pivot points
10	Idler and Spring Tension Arms and Pivot Rod	SAE 30 Oil		•	All connection points
11	Brake Links and Pins	SAE 30 Oil		•	Caution - do not get oil between brake drum and brake band
12	Brake Rod Pivot	SAE 30 Oil		•	Linkage pivot points
13	Steering Linkage	SAE 30 Oil		•	Outboard bearing and linkage pivot points
14	Parking Brake Lock	SAE 30 Oil		•	Linkage pivot points
15	Clutch and Brake Pivot Shaft	SAE 30 Oil		•	Linkage pivot points
16	4-Speed Transaxle	SAE 90 Oil	•		Fill to required level
17	Engine Air Filter Dry Type			•	Remove element after 60 hours and tap lightly on flat surface to remove loose dirf. Replace after 120 hours (more frequently under extremely dirty or dusty conditions).
18	Engine Crankcase Oil Change	Per Mfg. Rec.	•		See operators manual

Lubricate your tractor on a definite schedule. The rear axle bearings are prepacked and sealed at the factory and need no further lubrication. Apply a few drops of SAE 30 Oil as required to other moving parts not listed above.

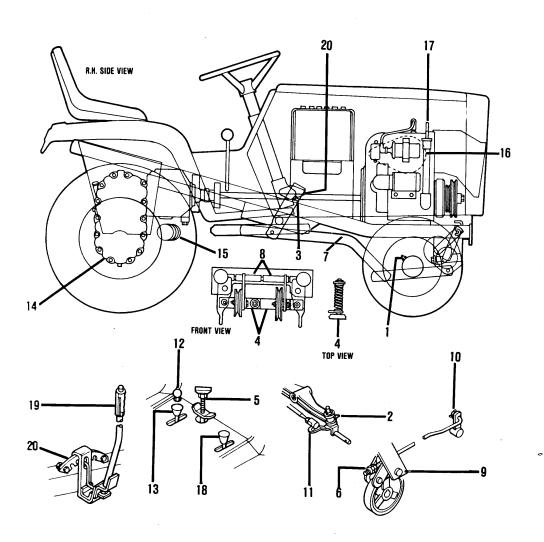
Lubricant: SAE 30 Oil

Sources: Sunray DX; Mobil Oil

Chassis Grease - Pressure Gun Grease Sources: Sunray DX #671; Gulf Supreme #0

SAE 90 Oil

Sources: Elco Gear Safety; Exxon Gear Oil "LC"; Mobil Mobilube "46"; Texaco Gear Lube "HD-90".



LUBRICATION CHART 12, 14 & 16 H.P. HYDRO TRACTOR

			LUBRICATIO	N INTERVAL	
REF.	PART NAME	LUBRICANT	30 HOURS	60 HOURS	REMARKS
1	Grease Fittings (2) Front Wheels	Chassis Grease	•		Fill slowly with grease gun until grease begins to seep out
2	Grease Fittings (2) Each end of front axle	Chassis Grease	•		Fill slowly with grease gun until grease begins to seep out
3	Grease Fitting (1) Steering Gear	SAE 90 Oil	•		Fill slowly with grease gun until grease begins to seep out
4	Front Power Take-Off	Chassis Grease	•		Apply around tension springs
5	Depth Control	Chassis Grease	•		Apply full length of threads
6	Brake Adjusting Spring and Pivot Points	Chassis Grease	•		
7	Implement Lift Linkage	SAE 30 Oil		•	All sliding surfaces, slotted holes and pivot points
8	Idler and Spring Tension Arms	SAE 30 Oil		•	All connection points
9	Brake Links and Pins	SAE 30 Oil		•	Caution - Do not get oil between brake drum and brake band
10	Brake Rod Pivot	SAE 30 Oil		•	Linkage pivot points
11	Steering Linkage	SAE 30 Oil		•	Outboard bearing and linkage pivot points
12	Parking Brake Lock	SAE 30 Oil		•	Linkage pivot points
13	Hydraulic Lift Lever	SAE 30 Oil		•	Linkage pivot points
14	Hydrostatic Transmission	Hydraulic Oil	•		Check Daily
15	Oil Filter (Hydrostatic Transmission)				Change after first 10 hours of operation. No further changes necessary unless system becomes contaminated through oil level checks, refill, or teardown.
16	Engine Air Filter Dry Type			•	Remove element after 60 hours and tap lightly on flat surface to remove loose dirt. Replace after 120 hours (more frequently under extremely dirty or dusty conditions).
17	Engine Crankcase Oil Change	Per Mfg. Rec.	•		See operators manual
18	Speed Range Lever	SAE 30 Oil	•		Linkage pivot points
19	Implement Lift Handle (12 H.P. Model Only)	SAE 30 Oil	•		Spring and rod inside handle
20	Quadrant (12 H.P. Model Only)	Chassis Grease	•		Apply generously

Lubricate your tractor on a definite schedule. The rear axle bearings are prepacked and sealed at the factory and need no further lubrication. Apply a few drops of SAE 30 Oil as required to other moving parts not listed above.

Lubricant: SAE 30 Oil.

Sources: Sunray DX; Mobil Oil

Chassis Grease - Pressure Gun Grease Sources: Sunray DX #671; Gulf Supreme #0

Hydraulic Oil, **Sources:** Texaco Transhydral #2209, Ford Motor Co. #M-2041-A, Texaco Torque Fluid C3 1821 Formulation No. TL-9039.

SAE 90, **Sources:** Elco Gear Safety; Exxon Gear Oil "LC"; Mobil Mobilube "46"; Texaco Gear Lube "HD-90".

