FORD

OPERATOR'S MANUAL

1210

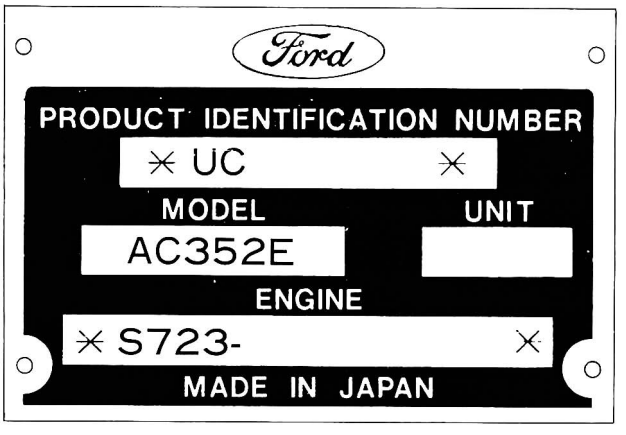

FORD
1210

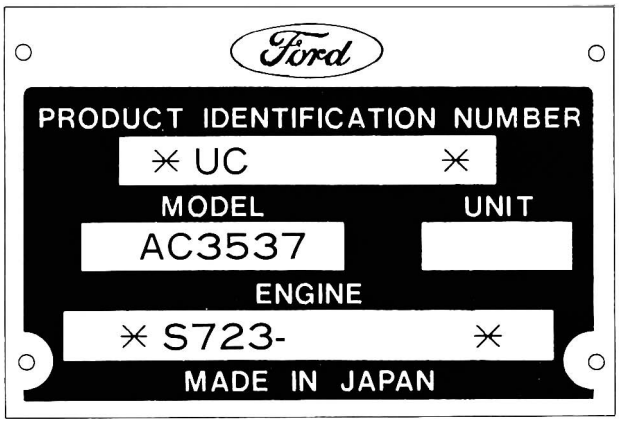
PLEASE READ CAREFULLY:

For a complete list of the pre-delivery service checks performed by your dealer, refer to PRE-DELIVERY SERVICE on the upper portion of page 57 and 59. The copy on page 57 is your record of the service performed, and the copy on page 59 which is to be removed from the manual, is your dealer's. MAKE SURE THAT YOU AND THE DEALER SIGN BOTH COPIES.

After you have operated your tractor for fifty hours, take this manual and your tractor to your dealer. He will then perform the factory recommended 50-HOUR SERVICE as listed on the lower portions of pages 57 and 59 – without charge – except for lubricant, oil, or filters replaced as part of normal maintenance. MAKE SURE THAT YOU AND THE DEALER SIGN BOTH COPIES.

A VEHICLE IDENTIFICATION PLATE is located on the left-hand side of the transmission housing. The numbers on the plate are important should your tractor require future service. For your convenience, have your dealer record the numbers in the appropriate spaces below.





CONTENTS

INTERNATIONAL SYMBOLS

As a guide to the operation of your tractor, various international symbols have been utilized on the instruments and controls. The symbols are shown below with an indication of their meaning.


Engine speed


Hours recorded


Engine water temperature


Lights


Horn


Engine oil pressure


Hazard warning


Axle connect


Axle disconnect


Continuously variable


Increase

Decrease

Diesel fuel


Creeper range


High range


Low range


Alternator charge


Power take-off (on)


Power take-off (off)


"Tortoise," slow or minimum setting

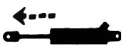

"Hare," fast or maximum setting


Warning

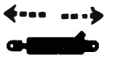
Control lever operating direction


Rock shaft (raised)


Rock shaft (lowered)


Remote cylinder (extended)


Remote cylinder (retracted)


Remote cylinder (float)


Differential lock


Read operators manual

Neutral


Forward


Reverse

SAFETY PRECAUTIONS

The following precautions are suggested to help prevent accidents.

A careful operator is the best operator. Most accidents can be avoided by observing certain precautions. Read and take the following precautions before operating this tractor to help prevent accidents. Equipment should be operated only by those who are responsible and instructed to do so.

THE TRACTOR

1. Read the Operator's Manual carefully before using the tractor. Lack of operating knowledge can lead to accidents.
2. Use an approved Rollbar and Seat Belt for safe operation. Overturning a tractor without a rollbar can result in death or injury. If your tractor is not equipped with a rollbar and seat belt, see your Ford Tractor Equipment Dealer.
3. Always use the seat belt when the rollbar is installed. Do not use the seat belt if the rollbar is removed from the tractor.
4. If a front end loader is to be installed, always use a FOPS canopy to avoid injury from falling objects.
5. Use the handholds and step plates when getting on and off the tractor to prevent falls. Keep steps and platform cleared of mud and debris.
6. Do not permit anyone but the operator to ride on the tractor. There is no safe place for extra riders.
7. Replace all missing illegible, or damaged safety decals. See list of decals on page 51.
8. Keep safety decals clean of dirt and grime.

SERVICING THE TRACTOR

1. The cooling system operates under pressure which is controlled by the radiator cap. It is dangerous to remove the cap while system is hot. Always turn cap slowly to the first stop and allow the pressure to escape before removing the cap entirely.
2. Do not smoke while refueling the tractor, Keep any type of open flame away. Wait for engine to cool before refueling.
3. Keep the tractor in good operating condition for your safety. An improperly maintained tractor can be hazardous.
4. Keep open flame away from battery or cold weather starting aids to prevent fires or explosions. Use jumper cables according to instructions to prevent sparks which could cause explosion.
5. Stop the engine before performing any service on the tractor.
6. Do not attempt to service air conditioning system. It is possible to be severely frostbitten or injured by escaping refrigerant. See your dealer for service.
7. Do not modify or alter or permit anyone else to modify or alter this tractor or any of its components or any tractor function without first consulting a Ford Tractor-Equipment Dealer.
8. The fuel oil in the injection system is under high pressure and can penetrate the skin. Unqualified persons should not remove or attempt to adjust a pump, injector, nozzle or any part of the fuel injection system. Failure to follow these instructions can result in serious injury.

OPERATING THE TRACTOR

1. Apply the parking brake, place the P.T.O. lever in the "OFF" position, the lift control lever in the down position, the remote control valve levers in the neutral position, and the transmission in neutral before starting the tractor.
2. Do not start the engine or operate controls while standing beside the tractor, Always sit in the tractor seat when starting the engine or operating controls.
3. Do not bypass the safety start switch. Consult your Ford Tractor-Equipment Dealer if your safety start controls malfunction. Use jumper cables only in the recommended manner. Improper use can result in tractor runaway.
4. Avoid accidental contact with the gear shift lever while the engine is running. Unexpected tractor movement can result from such contact.
5. Do not get off the tractor while it is in motion.
6. Shut off the engine and apply the parking brake before geting off the tractor.
7. Do not park the tractor on a steep incline.
8. Do not operate the tractor engine in an enclosed building without adequate ventilation. Exhaust fumes can cause death.
9. If power steering or engine ceases operating, stop the tractor immediately.
10. Pull only from the swinging drawbar or the lower link drawbar in the down position. Use only a drawbar pin that locks in place. Pulling from the tractor rear axle or any point above the axle may cause the tractor to upset.
11. If the front end of the tractor tends to rise when heavy implements are attached to the three-point hitch, install front end or front wheel weights. Do not operate the tractor with a light front end.
12. Always set the hydraulic selector lever in position control when attaching equipment and when transporting equipment. Be sure hydraulic couplers are properly mounted and will disconnect safely in case of accidental detachment of implement.
13. Do not leave equipment in the raised opsition.
14. Use the Flasher/Turn Signal Lights and SMV signs when traveling on public roads both day and night unless prohibited by law.
15. Dim tractor lights when meeting a vehicle at night. Be sure the lights are adjusted to prevent blinding an oncoming vehicle operator.

OPERATING THE P.T.O.

1. When operating P.T.O driven equipment, shut off, the engine and wait until the P.T.O. stops before getting off the tractor and disconnecting the equipment.
2. Do not wear loose clothing when operating the power takeoff, or when near rotating equipment.

SAFETY PRECAUTIONS (Continued)

3. When operating stationary P.T.O. driven equipment, always apply the tractor parking brake and block the rear wheels front and back.

4. To avoid injury, do not clean, adjust, unclog or service P.T.O. driven equipment when the tractor engine is running

5. Make sure the P.T.O. master shield is installed at all times and always replace the P.T.O. shield cap when the P.T.O. is not in use.

DRIVING THE TRACTOR

1. Watch where you are going especially at row ends, on roads, around trees and low hanging obstacles.

2. To avoid upsets drive the tractor with care and at speeds compatible with safety, especially when operating over rough ground, when crossing ditches or slopes, and when turning corners.

3. Lock tractor brake pedals together when transporting on roads to provide two wheel braking.

4. Keep the tractor in the same gear when going downhill as used when going uphill. Do not coast or free wheel down hill.

5. Any towed vehicle whose total weight exceeds that of the towing tractor must be equipped with brakes for safe operation.

6. When the tractor is stuck or tires are frozen to the ground, back out to prevent upset.

7. Always check overhead clearance especially when transporting the tractor.

DIESEL FUEL

1. Under no circumstances should gasoline, alcohol or blended fuels be added to diesel fuel. These combinations can create an increased fire or explosive hazard. Such blends are more explosive than pure gasoline in a closed container such as a fuel tank. **Do not use these blends.**

2. Never remove the fuel cap or refuel the tractor with the engine running or hot.

3. Do not smoke while refueling or when standing near fuel.

4. Maintain control of the fuel filler pipe nozzle when filling the tank.

5. Do not fill the fuel tank to capacity. Allow room for expansion.

6. Wipe up spilled fuel immediately.

7. Always tighten the fuel tank cap securely.

8. If the original fuel tank cap is lost replace it with a Ford approved cap. A non-approved, proprietary cap may not be safe.

9. Keep equipment clean and properly maintained.

10. Do not drive equipment neat open fires.

11. Never use fuel for cleaning purposes.

12. Arrange fuel purchases so that winter grade fuels are not held over and used in the spring.

when you see this symbol  it means: ATTENTION BECOME ALERT! YOUR SAFTY IS INVOLVED!

SEAT, LIGHT, AND ENGINE CONTROLS

TRACTOR SEAT

Your Ford 1210 Tractor is equipped with a molded cushion seat as shown in Figure 1. The seat is adjustable to obtain the most comfortable position. It can be moved closer to or farther from the steering wheel by loosening the attaching bolts, and repositioning the seat as desired (Figure 2). Two additional inches of adjustment can be obtained by removing the bolts and relocating in alternate holes in seat attachment plate.

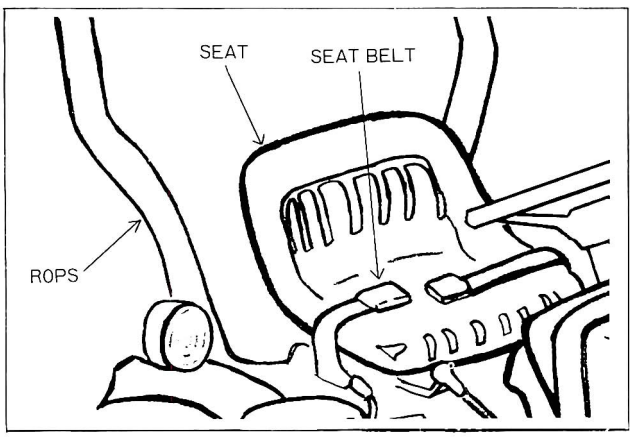


Figure 1 — Tractor Seat, ROPS and Seat Belt

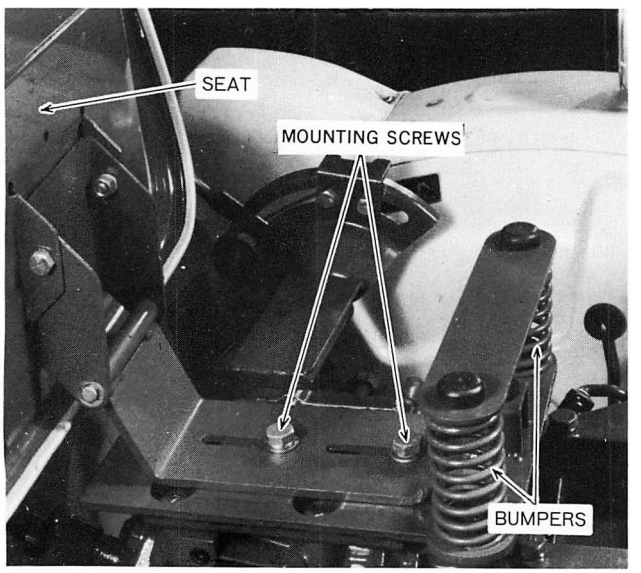


Figure 2 — Tractor Seat Adjustment

ROLLOVER PROTECTIVE STRUCTURE (ROPS)

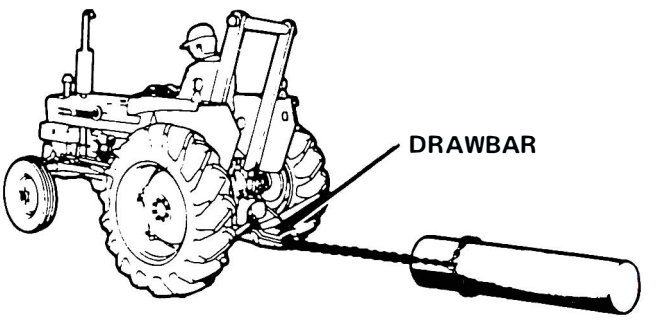
Ford Tractor Operations recommends that you equip your tractor with a Roll Over Protective Structure (ROPS) or safety cab and seat belts. ROPS and safety cabs are effective in reducing injuries during tractor overturn accidents. Overturning a tractor without a ROPS or safety cab can result in serious injury or death.

Roll Over Protective Structure (ROPS), safety cabs and seat belts are available for your Ford tractor. If your tractor is not equipped with a ROPS or safety cab and seat belts see your Ford Tractor Equipment Dealer.

The safety offered by the roll bar and seat belt is minimized if your seat belt is not buckled. Always use your seat belt — they save lives.

WARNING: Always wear the seat belt when the tractor is equipped with a ROPS. DO NOT use the seat belt if the ROPS is removed from the tractor.

WARNING: DO NOT attach chains or ropes to the roll bar for pulling purposes since the tractor can tip backward. Always pull from the tractor drawbar. Be careful when driving through door openings or under low overhead objects. Make sure there is sufficient overhead clearance for the roll bar.



ADJUSTING THE SEAT BELT

To lengthen the belt, tip the buckle end down and pull on the buckle until the ends can be joined.

To shorten the belt, buckle it, then pull on the loose end until the belt is snug.

If the seat belt is to be cleaned, use soap and water. Do not use carbon tetrachloride, naptha, etc., as these will weaken the webbing. For the same reason, do not bleach or redye the webbing. Replace seat belt if worn or damaged.

LIGHTING

FLASHER WARNING LAMP

Your Ford tractor is equipped with flasher warning lamps, Figure 3. The switch for the warning lamps is located on the right side of the instrument panel.

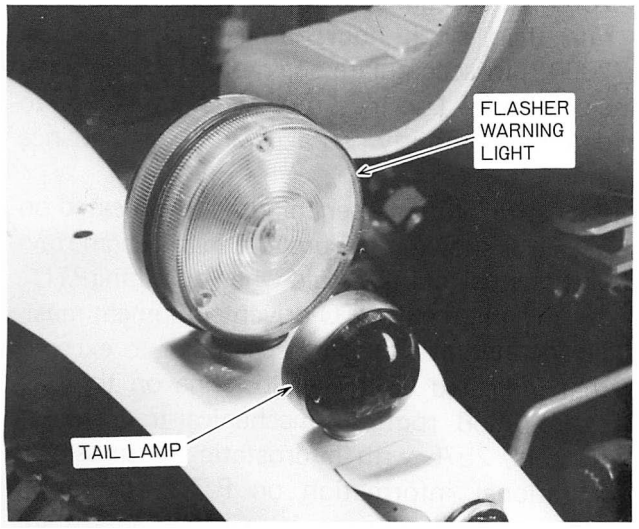


Figure 3 — Flasher Warning and Tail Lamp

The light switch must be in the "ON" position before the flasher will operate.

For your protection, use the flasher warning lamp when traveling on public roads, day or night.

LIGHT SWITCH

The light switch, shown in Figure 4, is a push-pull type switch. Its positions are:

Full in . . . . . Off
Full out . . . . . Headlights, and Tail Lamp

INSTRUMENT PANEL

STARTER SWITCH

The starter switch is shown in Figure 4. Turning the key to the left will activate the cold-start aid. Turning the key to the right to the "on" position will activate the warning lights and instruments. Turning the key further right to the "start" position will start the engine. Upon release, the key will spring return to the "on" position.

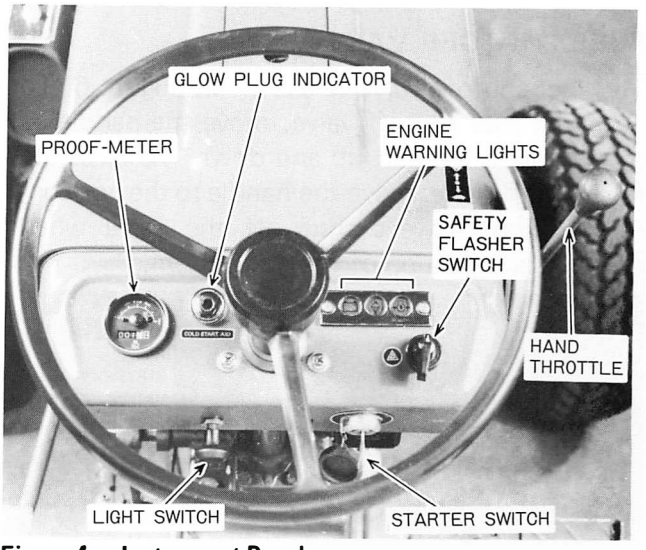


Figure 4 — Instrument Panel

The starting circuit can only be activated when the clutch pedal is fully depressed. Always check to make certain the transmission main shift lever and P. T. O. lever are in neutral before attempting to start the engine. Refer to page 13 for complete starting instructions.

IMPORTANT: The starter switch must remain in the ON position while operating the engine. The warning lights and battery charging system will not function with the switch in the OFF position.

FUEL GAUGE

The fuel gauge is shown in Figure 5. The level of fuel in the gauge indicates the level of fuel in the tank.

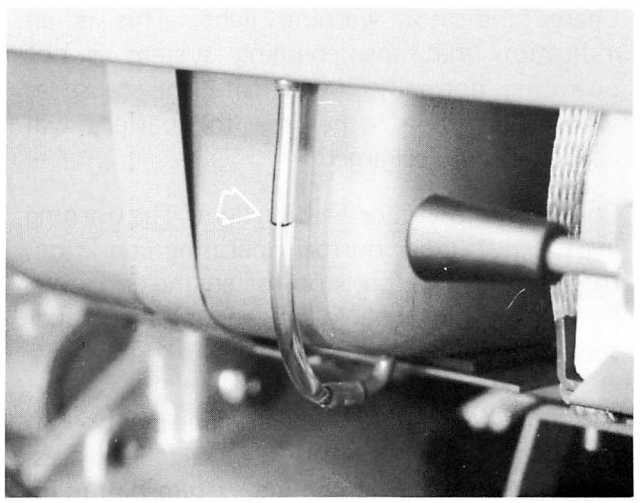


Figure 5 — Fuel Gauge

FUEL SHUTOFF VALVE

The fuel shutoff valve is shown in Figure 6. To open the fuel shutoff valve, move the handle so that it points straight up and down. To close the fuel shutoff valve, move the handle to the horizontal position. Always shut off the valve when servicing any portion of the fuel system.

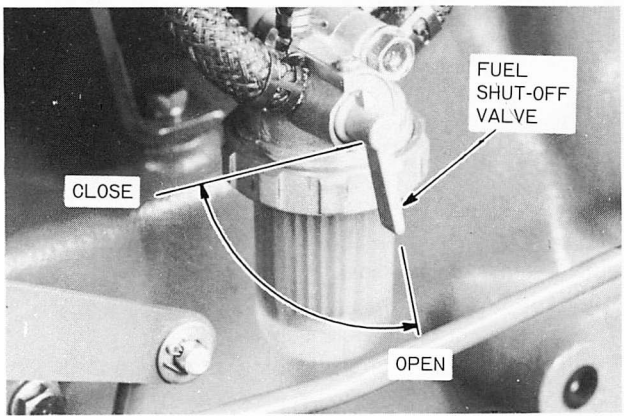


Figure 6 — Fuel Shutoff Valve

WARNING LIGHTS

The engine temperature, oil pressure and charge indicator warning lights are located as shown in Figure 4. When the starter switch is turned "on" the oil pressure and charge lights come on. After the engine has been started, the lights should go out within a few seconds. If they do not go out:

- Engine oil pressure warning light: Stop the engine immediately and investigate the cause. It is important to remember that this light indicates oil pressure only. The operator must regularly check the crankcase for proper oil level.
- Charge indicator warning light: This is an indication that the charging system is not operating normally. Investigate the cause as soon as possible, otherwise the battery will become fully discharged.
- Coolant temperature warning light: The warning light is not under normal operating condition. If the light comes on, stop the engine and investigate. Regularly check the radiator for proper coolant level.

WARNING: When engine is at operating temperature always relieve pressure in the cooling system before removing the radiator cap.

PROOF-METER

The Proof-Meter is located on the left side of the instrument panel, Figure 4. The Proof-Meter indicates:

- The hours and portions of hours your tractor has operated, based on an average engine speed of 2000 rpm. Engine speeds below 2000 rpm accumulate engine hours at a slower rate than clock hours. Engine speeds above 2000 rpm accumulate engine hours faster than clock hours. Use the Proof-Meter as a guide to determine hourly service and maintenance intervals.
- Engine revolutions per minute are indicated on a scale as shown in Figure 4. Use the engine revolutions per minute scale when operating PTO-driven equipment. PTO-driven equipment must be operated at an engine speed not to exceed, that indicated by the yellow line on the rpm scale (2568 rpm on mechanical-transmission tractors, 2575 with hydrostatic transmission). Additional information on P.T.O. operation can be found on page 16. Ground speeds are indicated on a decal attached to the instrument panel. The decal on mechanical transmission tractors shows ground speeds for 3rd, 5th, 7th, 10th and R^1 gears, with engine speeds from 1500 to rated rpm. Additional ground speed information can be found on page 50. The decal on hydrostatic transmission tractors shows ground speed for both ranges.

THROTTLE CONTROLS

HAND THROTTLE AND ENGINE STOP CONTROL

The hand throttle is shown in Figure 4. Push the throttle forward to increase engine rpm. Pull the throttle rearward to decrease engine rpm. Pull the throttle full rearward to stop the engine.

FOOT THROTTLE
(Only mechanical transmission)

The foot throttle, shown in Figure 7, can be used separately, or in conjunction with the hand throttle. With the hand throttle control lever set at a selected engine rpm, the foot throttle can be used to increase engine rpm to its maximum speed. Upon release of the foot throttle, the engine speed will return to the rpm at which the hand throttle has been set, or idle if the hand throttle is not at a pre-set position.

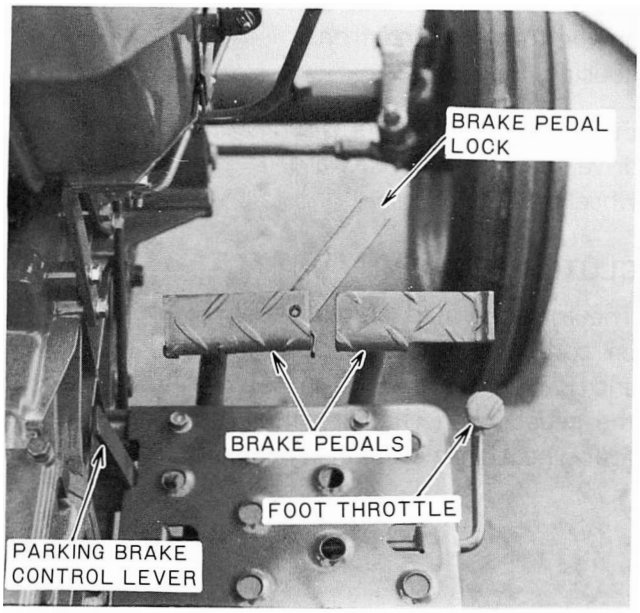


Figure 7 – Hand Throttle and Brake Controls

BRAKE CONTROLS

BRAKE PEDALS

The brake pedals are shown in Figure 7. The right brake pedal is used to brake the right rear wheel. The left pedal is used to brake the left rear wheel. Depress both pedals simultaneously to stop the tractor.

To assist in making sharp turns at slow speeds, depress the right or left brake pedals as required.

WARNING: When operating the tractor at high speeds, never attempt to make sharp turns by using the brakes.

BRAKE PEDAL LOCK

The brake pedal lock, shown in Figure 7, is used to secure the brake pedals together. Lock the pedals together whenever the tractor is operated at high speeds and at any time the tractor is used on the highway.

PARKING BRAKE CONTROL

The parking brake control, shown in Figure 7, is used for locking the brake pedals in the applied position. The parking brake should be applied whenever the tractor is parked.

To apply the Parking brake:

- Lock the brake pedals together with the brake pedal lock.
- Depress both brake pedals.
- Push forward on the parking brake lever. The pawl on the control will engage the teeth on the lefthand brake pedal and will retain the pedals in the applied position.

To release the parking brake:

- Depress the brake pedals to release the pawl.
- Unlock the brake pedals if operating conditicns require independent rear wheel braking action.

DIFFERENTIAL CONTROL

DIFFERENTIAL LOCK PEDAL

The differential lock pedal is shown in Figure 8.

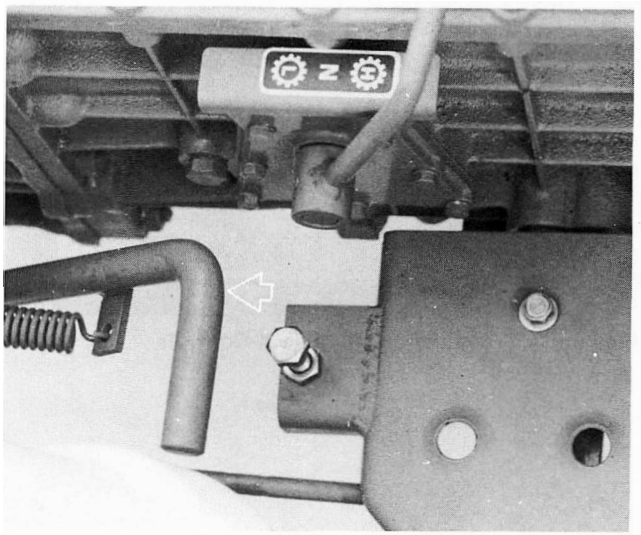


Figure 8 – Differential Lock

Depressing the pedal locks the rear axle shafts together, providing additional traction in wet or loose soil. Refer to page 17 for differential lock operating information.

WARNING: Tractor is very difficult to steer with differential locked.

MECHANICAL TRANSMISSION AND PTO CONTROLS

TRANSMISSION GEARSHIFT LEVERS

The transmission main shift lever and range selector lever are shown in Figure 9. A diagram showing the shift pattern is cast into the transmission cover.

Five forward and one reverse speed are provided for each of the two ranges. This provides a total of 10 forward and 2 reverse speeds.

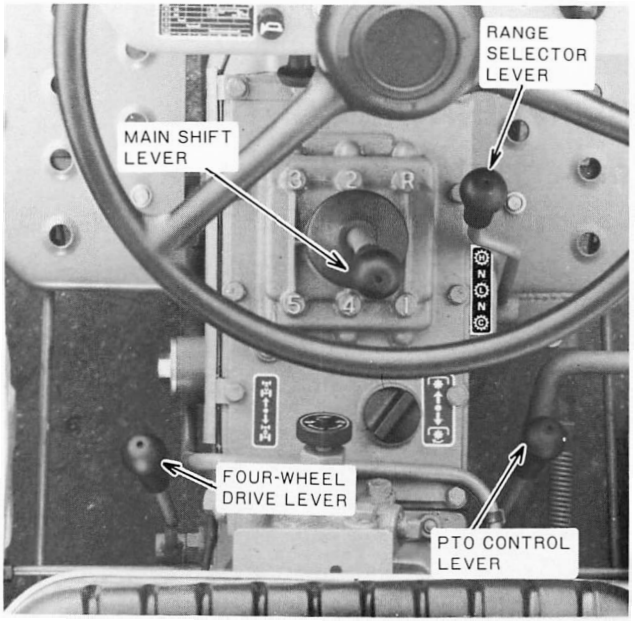


Figure 9 — Transmission and P.T.O. Controls

FOUR-WHEEL DRIVE (OPTIONAL)

The shift lever for the four-wheel drive is located on the top left-hand front of the rear-axle center housing, Figure 9.

Full forward, the lever disengages the four-wheel drive (OFF). Full rearward, it engages the four-wheel drive (ON).

CLUTCH PEDAL

The foot-operated clutch pedal, Figure 10, must be completely depressed to stop forward travel and P.T.O. shaft rotation. Always fully depress the pedal when changing gear ratios or engaging four-wheel drive or creeper range.

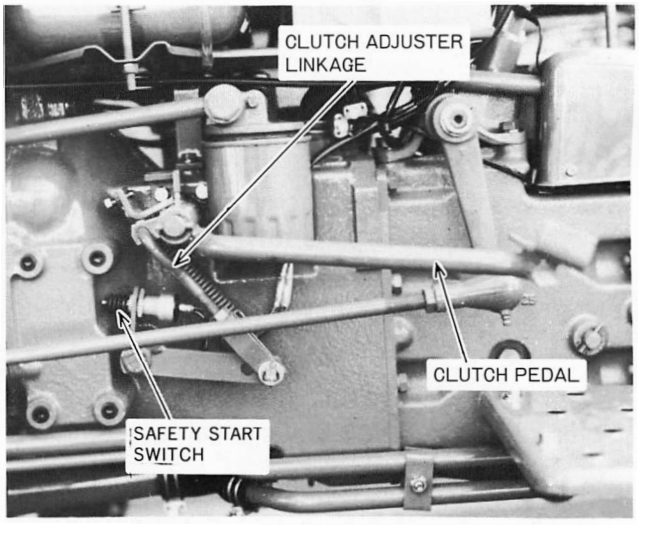


Figure 10 — Clutch Control

CREEPER RANGE (ACCESSORY)

A creeper range accessory with a 5.5:1 ratio is available which provides an additional 5 forward and 1 reverse speeds or a total of 15 forward and 3 reverse speeds. The control is located on the right side of transmission housing as part of the range selector lever. Moving the lever full rearward past low range (L) engages the creeper range (C), Figure 9.

TRANSMISSION P. T. O. CONTROL LEVER

The transmission P.T.O. control lever is shown in Figure 9. The lever engages and disengages the P.T.O. If the tractor engine is running, always depress the clutch pedal fully before moving the lever. Move the lever rearward or up to engage the P.T.O. and forward or down to disengage the P.T.O.

HYDROSTATIC TRANSMISSION –H. S. T. CONTROLS

H.S.T. FOOT PEDAL

The ground speed of tractors equipped with the hydrostatic transmission is continuously variable, from zero to full rated speed in each range. Speed is controlled by the H.S.T. rocker pedal on the right side of the transmission, Figure 11. Depress the forward pad on the pedal for forward travel, to the position that provides the desired ground speed. For reverse travel, depress the rear pad on the pedal.

Releasing the pedal returns the transmission to Neutral, and stops the tractor, unless the H.S.T. speed control lever is in the **"SET"** position.

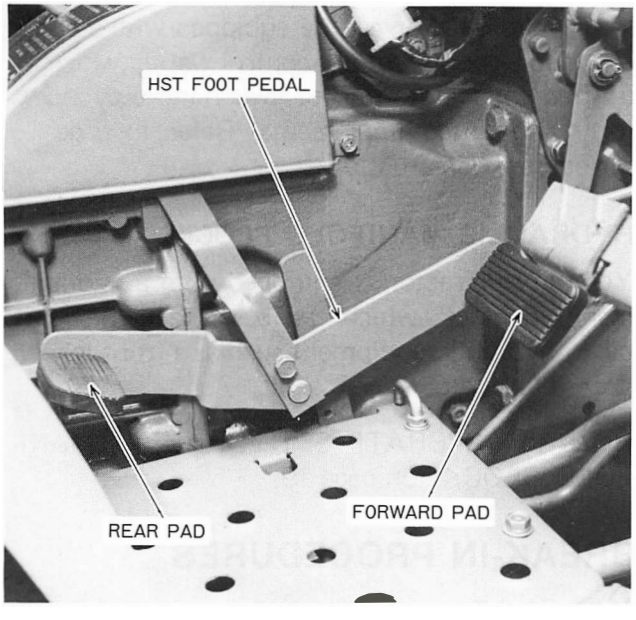


Figure 11 — H.S.T. Foot Pedal

H.S.T. SPEED CONTROL LEVER

The H.S.T. speed control lever, Figure 12, may be used to maintain a constant forward speed when desired. After attaining the desired speed with the forward pedal pad, move the lever to the **"SET"** position, and the tractor will maintain the set speed even if the pedal is released.

Speed may be increased temporarily by depressing the front pedal pad, and will return to the setting when the pedal is released.

To cancel the speed setting or stop the tractor, move the speed control lever to the **"RELEASE"** position. If a higher or lower set speed is desired, release and reset the lever.

The lever does not set speed when operating in reverse, in which case releasing the rear pedal pad returns the transmission to Neutral, stopping the tractor.

In the interest of safety, the lever should not be put in the **"SET"** position when operating at high speed.

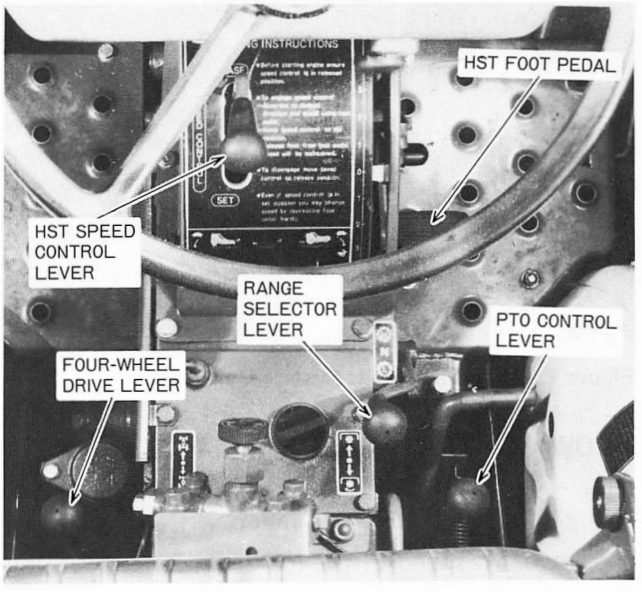


Figure 12 — H.S.T. Controls

H.S.T. SPEED INDICATOR

This indicator, Figure 12, shows the relative position of the H.S.T. foot pedal for reference, but does not indicate actual tractor speed.

H.S.T. RANGE SELECTOR LEVER

The range selector lever, on the right side of the transmission can be shifted when the H.S.T. foot pedal is in the Neutral position, to select High range ("H"), Low range ("L") or Neutral. In "H", forward speed ranges from zero to 9.6 mph, and reverse from zero to 6.2 mph. In "L", forward speed range is zero to 3.6 mph, and the reverse range is zero to 2.3 mph.

HYDRAULIC LIFT SYSTEM CONTROLS

HYDRAULIC LIFT CONTROL LEVER

The hydraulic lift control lever is shown in Figure 13. The lever is located at the right hand side of the seat. To lower the lift arms, push the lever forward. The adjustable stop is provided for returning the lever to a pre-set position in the quadrant. To raise the lift arms, pull lever rearward. The flow control valve must be opened before the hydraulic lift control will function.

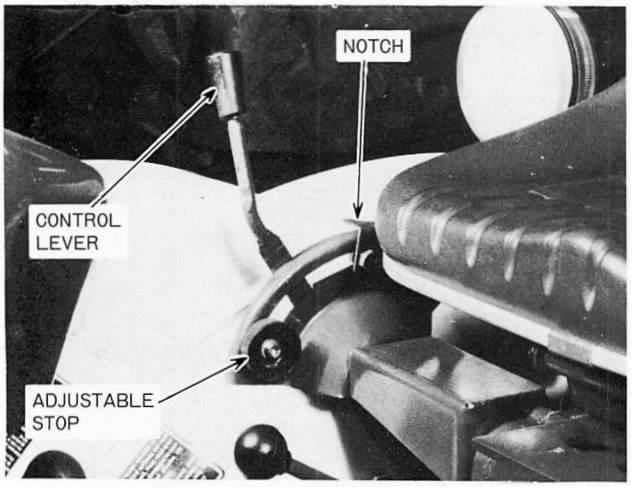


Figure 13 – Hydraulic Lift System Control

FLOW CONTROL VALVE

The flow control valve is shown in Figure 14. Turning the valve "in" (clockwise) will decrease the lowering speed of the lower links, and turning the valve "out" (counterclockwise) will increase the lowering speed of the lower links. Refer to "FLOW CONTROL," page 18, for additional information on operating the flow control valve.

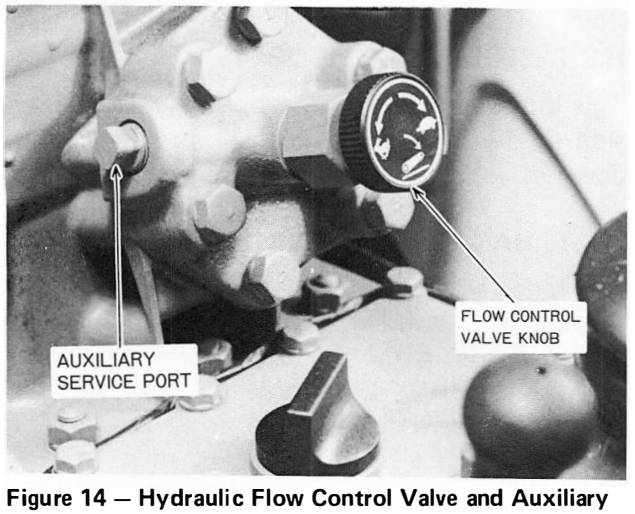


Figure 14 – Hydraulic Flow Control Valve and Auxiliary Service Port

AUXILIARY SERVICE PORT

The auxiliary service port, Figure 14, may be utilized to supply oil to an externally mounted hydraulic cylinder. Oil will be supplied to the cylinder when the lift control lever is placed in the notch at the upper part the quadrant, Figure 13.

IMPORTANT:
The hydraulic control lever should not be positioned in the notch at the top of the quadrant when raising the tractor hydraulic linkage. The lever should be positioned in the notch only when taking hydraulic oil pressure out of the auxiliary service port for external hydraulic cylinders, motors, etc.

REMOTE CONTROL VALVES (OPTIONAL)

Your Ford Tractor can be equipped with a single or double-spool remote control valve, which is utilized to operate one or two remote cylinders for rearmounted implements. Refer to page 18 for operating instructions.

HYDRAULIC MANIFOLD BLOCK

Your Ford Tractor is equipped with a hydraulic manifold block, which can be utilized to supply oil to hydraulic equipment such as a front loader, dozer blade, etc.

Refer to "OPERATING HYDRAULIC MANIFOLD BLOCK" on page 19.

BREAK-IN PROCEDURES

Your Ford Tractor will provide long and dependable service if given proper care during the 50-hour break-in period. During the first 50 hours of operation:

1. Avoid "lugging" the engine. Operating in too high a gear under heavy load may cause engine "lugging", which is indicated when the engine will not respond to a throttle increase.

2. Use the lower gear ratios when pulling heavy loads and avoid continuous operation at constant engine speeds. You will save fuel and minimize engine wear by selecting the correct

gear ratio for a particular operation. Operating the tractor in low gear with a light load and high engine speed will waste fuel.

3. Avoid prolonged operation at either high or low engine speeds without a load on the engine.

4. Check the instruments frequently and keep the radiator and oil reservoirs filled to their recommended levels. Daily checks include:

   - Engine oil level
   - Radiator coolant
   - Air cleaner

STARTING THE ENGINE

A safety starter switch on the tractor allows the starting motor to be used only when the clutch pedal is fully depressed. For safety operation the transmission gear shift levers and P. T. O. lever should be in neutral position prior to starting the engine.

WARNING: Never attempt to start the engine while standing beside the tractor — always sit in the seat when starting the engine.

IMPORTANT: Do not engage the starting motor continuously for more than 30 seconds; doing so may cause starting motor failure.

WARM WEATHER STARTING

To start a cold engine in warm weather or to start an engine that is warm:

1. Depress the clutch pedal fully and move the shift lever to the neutral position.

2. Move the hand throttle forward to a near full open position.

3. Turn the starter switch to the "start" position, Figure 15. When the engine starts, release the key. Check to be sure the warning lights go out. If the engine fails to start after cranking for approximately 10 seconds, refer to the following "COLD WEATHER STARTING" information.

COLD WEATHER STARTING

If the engine fails to start using the preceding warm weather starting procedure or when starting the engine in cold weather:

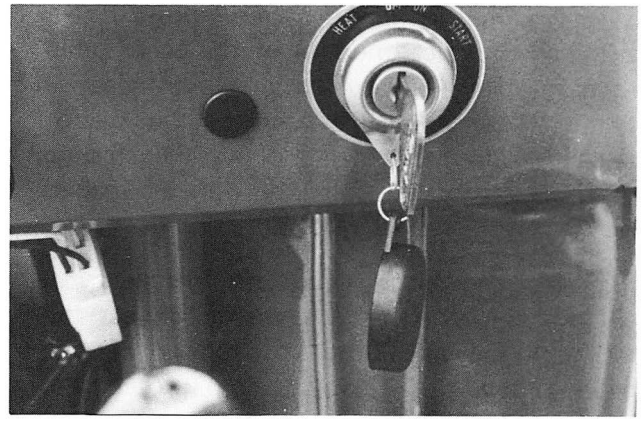


Figure 15 — Starter Switch

1. Depress the clutch pedal fully and move the shift lever to the neutral position.

2. Move the hand throttle forward to the full-open position.

3. Turn the starter switch to "heat" to preheat the precombustion chamber and wait until the cold-start aid indicator on the instrument panel shows red (approximately 20 seconds).

4. Turn the starter switch to the "start" position. When the engine starts, release the key. Check to be sure the warning lights go out.

NOTE: A coolant immersion heater which provides easier starting in temperatures below 0°F (−17.7°C) by warming the engine oil and coolant, is available as a dealer installed option.

WARNING: Do not ues ether with the thermostart starting aid.

STARTING THE TRACTOR WITH JUMPER CABLES

WARNING: Start engine only from operator's seat. If safety start switch is bypassed, engine can start with transmission in gear.

If it is necessary to use jumper cables to start the tractor, follow the instructions below.

1. Shield eyes.

2. Connect one end of the jumper cable to the tractor battery positive (+) terminal and the

other to the auxiliary battery positive (+) terminal. Connect one end of the other cable first to the auxiliary battery (—) negative terminal, and the other end to the tractor starter ground terminal. Follow the starting procedures above after the jumper cables are connected as instructed.

Idle the engine and turn on all electrical equipment (lights, etc.), then disconnect the cables in reverse order of the connecting procedure above. This will help protect the alternator from damage due to extreme load changes.

WARNING: Batteries contain sulfuric acid and produce explosive gases. Follow the instructions below to prevent personal injury.

- Wear eye and skin protection.
- Keep sparks and flame away.
- Always have adequate ventilation while charging or using the battery.
- Follow the battery manufacturer's instructions which are shown on the battery.

STOPPING THE ENGINE

Pull the hand throttle fully rearward past idle position to stop the engine, then turn the starter switch, Figure 15, to the "Off" position.

IMPORTANT: Failure to turn the starter switch to the "Off" position after the engine stops will allow the warning lights to remain on, causing the battery to discharge.

OPERATING THE MECHANICAL AND HYDROSTATIC TRANSMISSIONS, FOUR-WHEEL DRIVE AND PTO

MECHANICAL TRANSMISSION

The transmission operates through the use of a clutch pedal, a main shift lever and a range selector lever. Figure 16 illustrates the pedal and levers involved. Ground speeds for the various gear ratios can be found on page 50. Figure 17 shows the combinations of main shift lever and range selector lever positions to obtain the 10 forward and two reverse speeds.

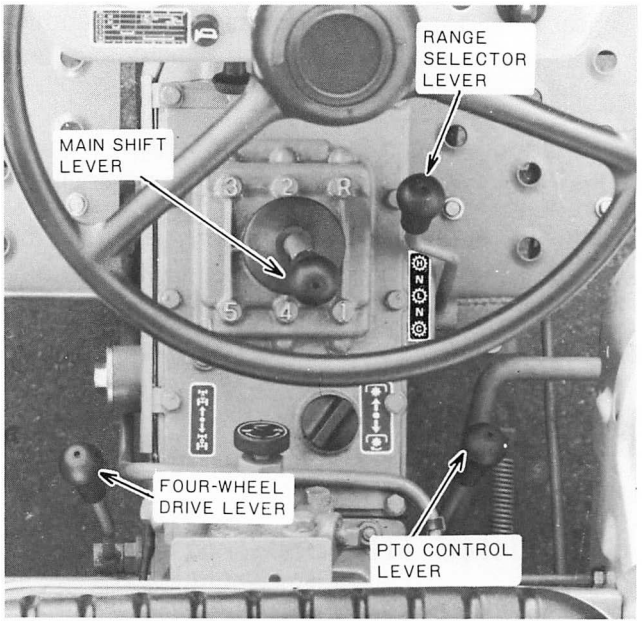


Figure 16 — Transmission Controls and Shift Pattern

SPEED	RANGE	MAIN
1	L	1
2		2
3		3
4		4
5		5
6	H	1
7		2
8		3
9		4
10		5
R^1	L	R
R^2	H	R

Figure 17 — Speed Range Combinations

When in motion, always depress the clutch pedal fully and bring the tractor to a complete stop before moving either gearshift lever. Do not attempt to change gears while the tractor is in motion.

IMPORTANT: Avoid using the clutch pedal as a "footrest" (riding the clutch). Prolonged operation in this manner can cause damage to the clutch components.

To change from one gear ratio to another, or to change ranges:

1. Depress the clutch pedal completely.

2. Bring the tractor to a complete stop.

3. Shift to the desired gear and/or range.

The four-wheel drive is engaged and disengaged through the use of the lever on the top lefthand front of the rear-axle center housing, Figure 16.

To engage the four-wheel drive, depress the clutch pedal fully and move the four-wheel drive lever full rearward. To disengage, move the lever full forward.

IMPORTANT:

The front wheel drive should be used only when additional traction is required while operating in loose soil, wet, slippery conditions or on slopes. For normal operation on firm soil, hard surfaces and roading the unit, front wheel drive should be disengaged to maximize tire and driveline life and fuel economy.

WARNING: Do not operate the tractor in front-wheel drive while driving on roads or at high speeds.

HYDROSTATIC TRANSMISSION

The hydrostatic transmission is controlled by the clutch pedal, HST foot pedal, range selector lever and speed control lever, Figure 18.

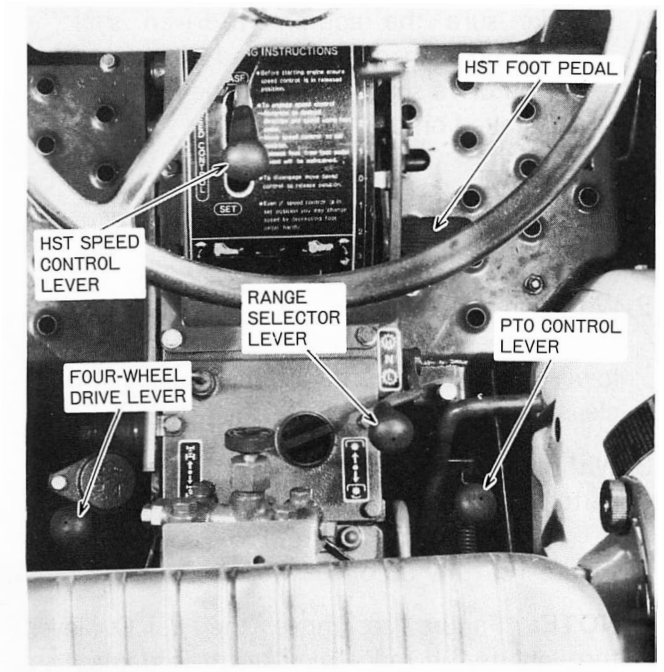


Figure 18 — HST Controls

When operating the range selector lever, place the HST foot pedal in Neutral position or depress the clutch pedal. If it is difficult to engage, slightly depress the foot pedal, and operate the clutch pedal for smooth engagement.

Never engage or disengage the range selector when the tractor is in motion.

With the range selector in "H", ground speed can be varied from zero to maximum by depressing the forward or reverse pads on the rocker pedal until the desired speed is attained. In "L" range, speeds are about 38% of maximum. Maximum speeds in reverse are about two-thirds of maximum forward speeds.

To stop the tractor, release the pedal gradually (except in an emergency). When released, the pedal returns to the Neutral position automatically, stopping the tractor. Sudden release can result in an abrupt, and possibly dangerous, stop.

For prolonged operation at a fixed forward speed, use the forward pedal pad to attain the desired speed, then move the speed control lever to the "Set" position. Speed will remain at the set value when the pedal is released. For temporary speed increases, depress the forward pedal further. When the pedal is released, speed will return to the setting. For temporary speed reductions, depress the rear pedal pad.

To cancel the speed setting or stop the tractor, move the speed control lever to the **"RELEASE"** position.

Independent brake application is possible with the speed control lever in the **"SET"** position, but when applying both brakes together, be sure to disengage the clutch.

Engaging and disengaging front wheel drive with the hydrostatic transmission are the same as with the mechanical transmission.

POWER TAKE-OFF

The power take-off (P.T.O.) in your tractor transfers engine power directly to mounted or pull-type P.T.O. equipment. The standard P.T.O. speed is 540 ± 10 rpm. Most P.T.O. equipment is designed to operate efficiently at this speed. This speed is obtained when engine rpm is as indicated by the P.T.O. symbol on the Proof-Meter rpm scale.

IMPORTANT: Do not exceed the indicated engine speed when operating P.T.O.-driven equipment.

The transmission P.T.O. is controlled through a lever shown in Figure 16. The transmission P.T.O. can be engaged, operated, and disengaged as described under "POWER TAKE-OFF OPERATION."

P.T.O. SHIELD AND CAP

The P.T.O. shield, shown in Figure 19, is standard equipment. The shield is to be used with both mounted and pull-type equipment. The P.T.O. cap should always be installed when the P.T.O. is not in use.

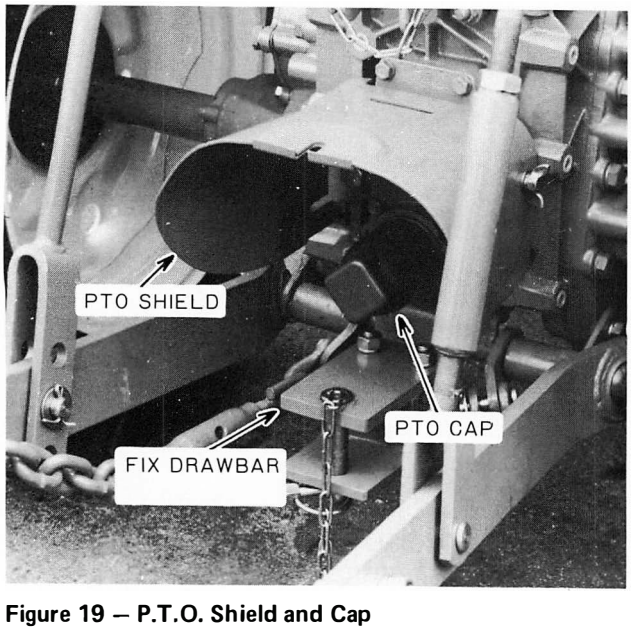


Figure 19 — P.T.O. Shield and Cap

WARNING

- Pull only from drawbar. Pulling from any other point can cause rear overturn.
- Do not operate with unshielded PTO. • Disengage PTO and stop engine before servicing tractor or implements or attaching and detaching implements.
- Position drawbar at 14" from end of PTO shaft to drawbar hole for 540 and 16" for 1000 PTO RPM. • When towing equipment use a safety chain.

FAILURE TO FOLLOW ANY OF THE INSTRUCTIONS ABOVE CAN CAUSE SERIOUS INJURY TO THE OPERATOR OR OTHER PERSONS.

POWER TAKE-OFF OPERATION

WARNING: To reduce the possibility of personal injury comply with the following before attaching or detaching P.T.O. equipment, and before working on or clearing P.T.O. equipment.

1. Attaching the P.T.O.
   - Stop the engine.
   - Depress the clutch pedal completely and move the transmission gearshift lever to the neutral position.
   - Set parking brake.
   - Disengage the P.T.O. with the P.T.O. control lever, Figure 16.
   - Remove the P.T.O. cap.
   - Wait until the P.T.O. shaft stops turning.
   - Attach the mounted or drawn equipment. Make sure the equipment-driven shaft is properly aligned and locked to the tractor P.T.O. drive shaft and that the P.T.O. shield is installed on the tractor.

IMPORTANT: A drawbar extension may be required on some pull type P.T.O. equipment for proper operation.

2. With the P.T.O. disengaged, start the engine. In the case of mounted equipment, raise and lower the equipment to make sure proper clearances exist.

3. With the transmission in neutral, depress the clutch pedal completely, then engage the P.T.O. by moving the P.T.O. control lever, Figure 16, fully up or rearward.

   NOTE: Failure to move the P.T.O. lever through its full range may result in damage to the P.T.O.

4. Check the P.T.O.-driven equipment for proper operation by gradually releasing the clutch pedal and increasing engine rpm.
5. After determining that the equipment is operating properly, depress the clutch pedal and shift to the desired operating gear. Release the pedal gradually to start the P.T.O. and tractor in motion.
6. Control the P.T.O. speed with the throttle, never exceeding the P.T.O. limit on the Proof-Meter. If the tractor movement is too fast for the P.T.O. load, stop the tractor and shift to a lower gear.
7. Disengage the P.T.O. with the P.T.O. control lever when making sharp turns with pull-type equipment and with mounted equipment in the fully raised position.
8. Disconnect the P.T.O.-driven shaft at the tractor P.T.O. shaft before traveling on highways or for any great distance.
9. Reinstall the P.T.O. shaft cap when the P.T.O.-driven equipment is disconnected from the tractor or when the P.T.O. is not being used.

TOWING THE TRACTOR

To tow your tractor, place the transmission gearshift levers in neutral. Do not exceed 8 mph (13 kph). Do not tow your tractor to start it.

If the tractor is to be moved any great distance, use a solid tow bar and pull the tractor at a speed not to exceed 8 mph (13 kph).

WARNING: For safety reasons, towing the tractor on the highway is not recommended. Also, for safety reasons, never attempt to start the engine by towing.

OPERATING THE DIFFERENTIAL LOCK

The differential lock is engaged by depressing the pedal located on the right side of the rear axle center housing, Figure 20. Depressing the pedal locks both final drive pinion gear shafts together, preventing one wheel from rotating independently of the other. The lock should be used to obtain additional traction from the opposite wheel whenever one wheel begins to slip in wet or loose soil.

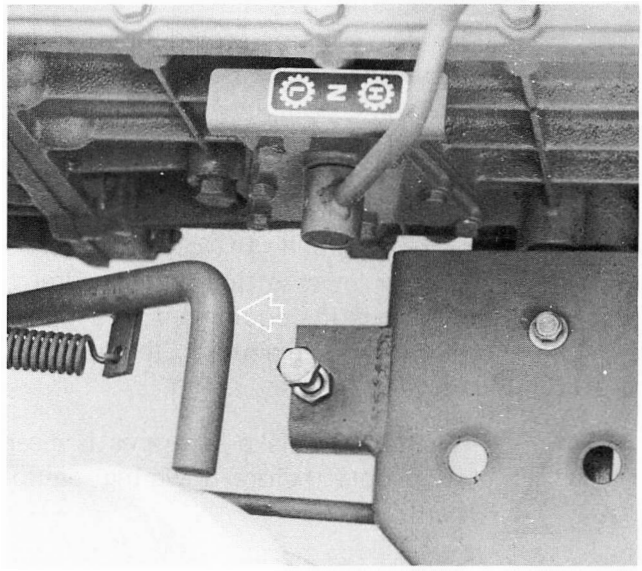


Figure 20 — Differential Lock Pedal

Do not engage the differential lock when driving the tractor on the highway or when ground speed is above 5 mph (8 kph).

WARNING: Do not engage the differential lock when turning the tractor. If the lock is engaged when turning, a loss of steering control will result.

To operate the differential lock, depress and hold down the pedal until the lock is positively engaged. It is best to engage the differential lock while the wheels are turning slowly to minimize shock loads to the drive line. If a wheel spins at high speed, as on ice, reduce engine speed to idle before engaging the lock, or damage may occur. The differential lock is released by releasing the pedal.

NOTE: In some instances the lock may remain engaged after the pedal is released. This may occur if one rear wheel tends to turn at a faster speed than the other. Should this happen, the lock may be disengaged by either of two ways:

- Decrease the drawbar pull by raising or disengaging the implement so that neither wheel tends to slip.

— OR —

- Rapidly apply and release a light braking load to the slipping rear wheel.

OPERATING THE HYDRAULIC LIFT SYSTEM

The hydraulic lift system provides accurate, smooth, and instant hydraulic power for raising a variety of compatible equipment whenever the engine is running. The position control feature of the system maintains the selected height or depth of three point linkage equipment in relation to the tractor. When the hydraulic lift control lever is moved to a higher or lower setting in the quadrant, the system repositions the equipment to a higher or lower position and maintains the selected position, Figure 21.

WARNING: Make sure area is clear of people before lowering equipment.

WARNING: Always lower the hydraulic lift and all hydraulic equipment before stopping the tractor.

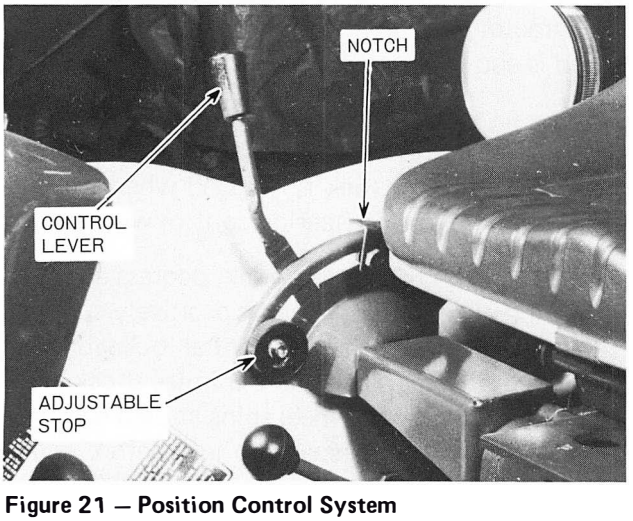


Figure 21 — Position Control System

FLOW CONTROL VALVE

The flow control valve, Figure 22, provides an adjustment to regulate the flow of oil from the lift cylinder, thus slowing or increasing the rate of drop of the lower links. To adjust rate of flow, either turn the flow control valve "in" (clockwise) to decrease the rate of drop or "out" (counterclockwise) to increase the rate of drop. The flow control valve must be opened before hydraulic lift control will function.

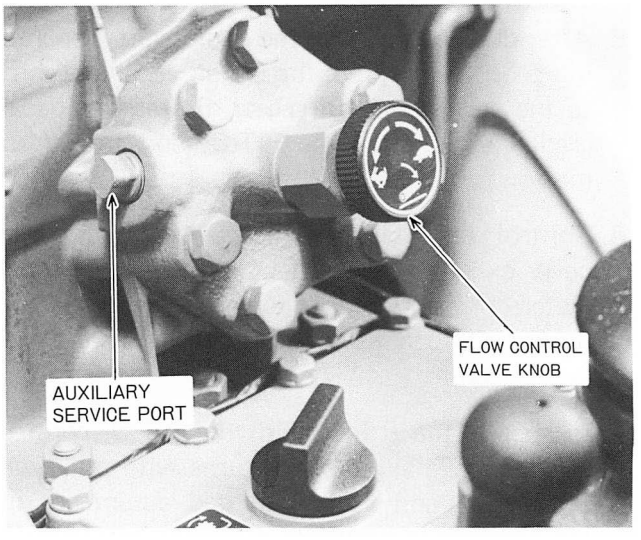


Figure 22 — Flow Control Valve

OPERATING REMOTE CONTROL VALVES (OPTIONAL)

Your Ford Tractor can be equipped with a single or double spool remote control valve. See Figure 23. Pull the control lever rearward to extend the cylinder. Push the control lever forward to retract the cylinder. Release the control lever to stop the cylinder in any position before it is fully extended. The lever returns to neutral automatically.

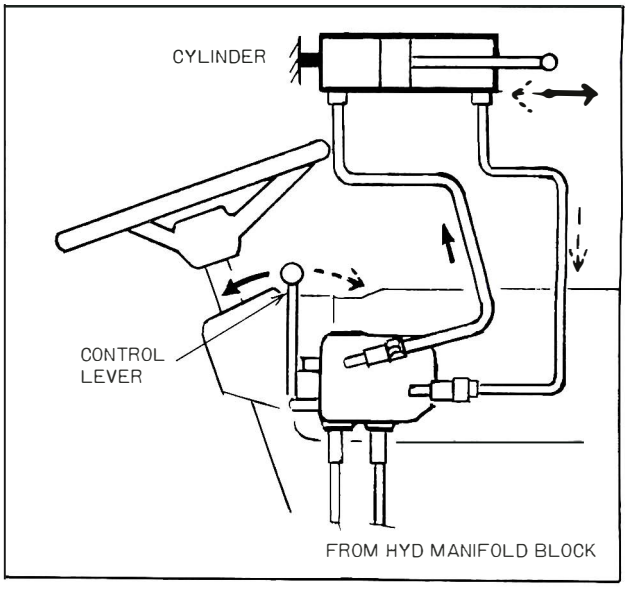


Figure 23 — Remote Control Valve

OPERATING HYDRAULIC MANIFOLD BLOCK

The hydraulic Manifold Block is provided to supply hydraulic oil to equipment such as a front loader, dozer blade, etc. Location of the Block is shown in Figure 24.

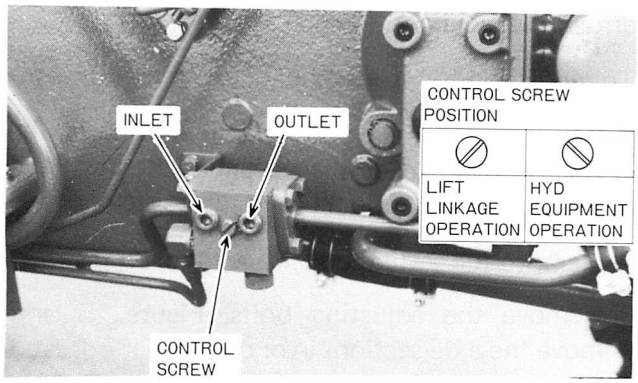


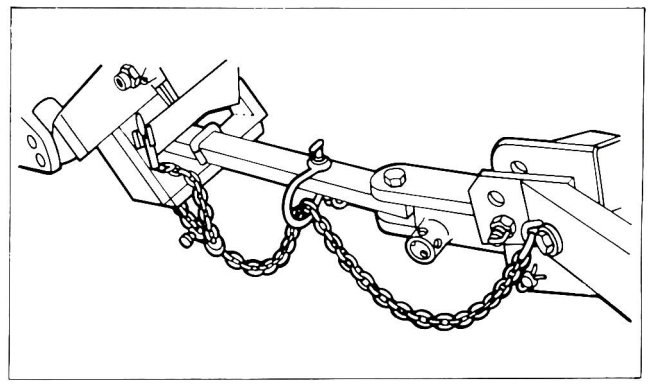
Figure 24 — Hydraulic Manifold Block

DRIVING THE TRACTOR

WARNING: Observe the following precautions when driving the tractor.

- Watch where you are going — especially at row ends, on roads, and around trees.
- Keep the tractor in gear when going down hill. Use a low gear to maintain control with minimum braking.
- If the tractor is stuck, back out to prevent upsetting the unit.
- Always use the drawbar for pull-type work. Do not pull from any other part of the tractor since it may tip backward.
- Keep the lights adjusted so they do not blind the operator of an oncoming vehicle.
- Engage the clutch slowly when driving out of a ditch, gully, or up a steep hillside. Disengage the clutch promptly should the front wheels rise off the ground.
- Reduce speed before turning quickly or applying brakes. Lock the brake pedals together when traveling at high speeds. Brake both wheels simultaneously when making an emergency stop.
- Never apply the differential lock when turning.
- Use extreme caution and avoid hard applications of the tractor brakes when pulling heavy towed loads at road speeds.
- Towed loads that weigh more than twice the weight of the tractor should have brakes. If not, reduce speed and avoid inclines.
- Always sit in the driver's seat while starting or driving the tractor.
- Always use a slow moving vehicle (SMV) emblem and turn on flasher lights when traveling on public roads.

IMPORTANT: When attaching closemounted equipment to the tractor, remove the swinging drawbar. When transporting on the highway, it is recommended that a safety chain with tensile strength equal to the gross weight of the implement be connected between the tractor and the towed implement. This will control the implement in the event the hitch pin is lost.



NOTE: Attaching hardware will need to be procured locally. Check implement assembly or operators manual for attaching hardward specifications, such as bolt size and grade, chain strength, washers, lockwasher, nuts, etc.

After attching the safety chain, make a trial run by driving the tractor to the right and to the left for a short distance to check the safety chain adjustment. If necessary, readjust to eliminate tight or loose chain. Safety chains and suitable hardware are available from your Ford Tractor dealer.

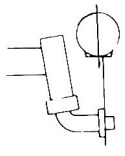
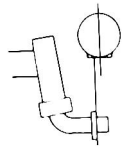
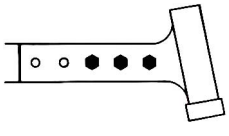
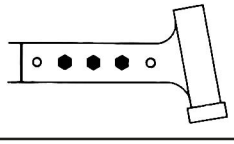
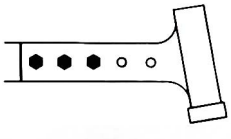
WHEEL TREAD SETTINGS

FRONT WHEEL TREAD SETTINGS

The front wheel tread setting is adjustable from 33.9 to 36.2 in. (86-92 cm) on the standard non-adjustable front axle by reversing the front wheels.

On optional front-wheel drive the tread setting is 34.6 in. (88 cm).

Turf tire tread is 35.8 in. (91 cm) or 39.3 in. (100 cm) on the two wheel drive and 38.6 in. (98 cm) on the front-wheel drive.

WHEEL HUB SETTING POSITION ▶ SIDE AXLE POSITION ▼		
	30.3 INCHES (77. cm) (STD.)	32.3 INCHES (82. cm)
	34.6 INCHES (88. cm)	36.6 INCHES (93. cm)
	39.0 INCHES (99. cm)	40.9 INCHES (104. cm)

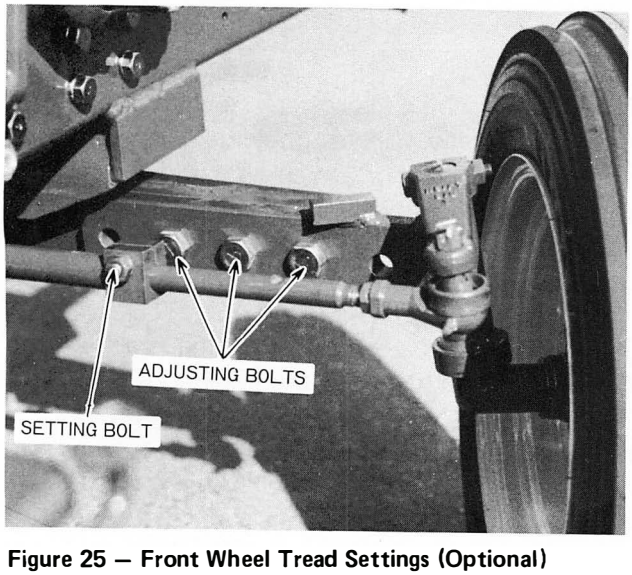


Figure 25 — Front Wheel Tread Settings (Optional)

With the optional adjustable front axle, the tread setting is adjustable from 30.3 to 40.9 inches (77-104 cm) by a combination of repositioning the front axle and reversing the front wheels.

IMPORTANT: It is **not** recommended that the front wheels be set at maximum tread width in rough terrain because of high steering wheel effort and kickback.

To reposition the front axle;

1. Set parking brake and raise the front of the tractor with a jack placed under the center of the front axle. Support with safety stands.
2. Remove the setting bolt from the tie rod.
3. Remove the adjusting bolts, Figure 25, and move the axle sections in or out until the desired setting is obtained, then reinstall the adjusting bolts.
4. Position the front wheels in the straight ahead position, then reinstall the tie rod setting bolt.
5. Check the toe-in as outlined on page 42.

IMPORTANT: Never attempt to widen the tread setting by reversing front wheels on a four-wheel drive system.

NOTE: After changing the front wheel tread setting, the wheel disc to hub bolts should be torqued to 43-54 lbs.ft. (58-73 N.m), side axle adjusting bolts should be torqued to 137-159 lbs.ft. (186-215 N.m) and the tie rod setting bolt should be torqued to 31-41 lbs.ft. (42-55 N.m)

REAR WHEEL TREAD SETTINGS

The rear wheels on the Ford 1210 are adjustable from 35.4 to 41.3 in. (90-105 cm) on the standard nonadjustable rear wheels by switching the rear wheels from side to side. Adjustable rear wheels are available as an option. The optional wheels can be adjusted from 31.1 to 46 inches (78.9-116.8 cm). Tread width settings are made on the adjustable rear wheels by changing the position of the rim with respect to the wheel disc, by changing the position of the wheel disc with respect to the axle, and by interchanging the rear rims. These various positions are shown in Figure 26.

Turf tire tread settings is adjustable from 35.4-41.3 in. (90-105 cm)by switching the rear wheels from side to side.

NOTE: After changing the rear wheel tread setting, the wheel rim-to-disc nuts and the disc-to-axle bolts should be torqued to 69-87 lbs. ft. (93-117 N.m).

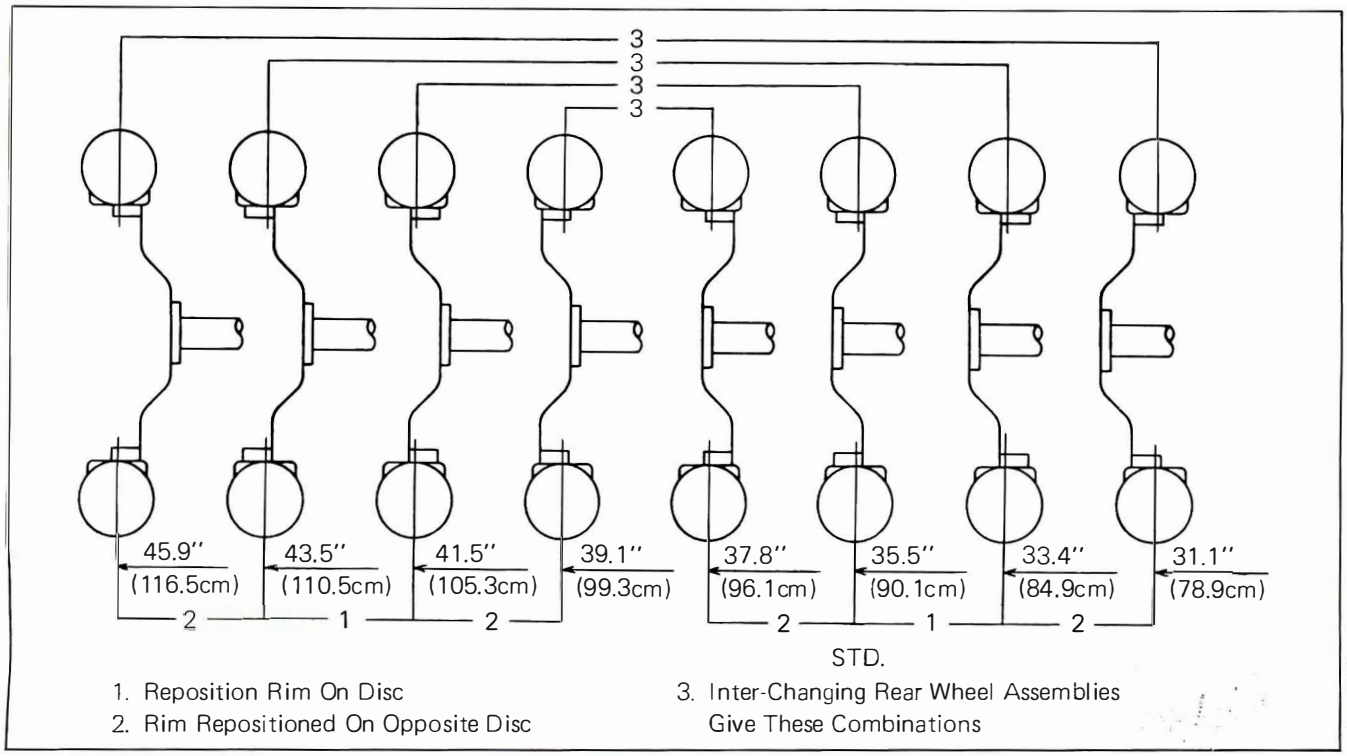


Figure 26 — Rear Wheel Tread Settings

TRACTOR WEIGHTING

To obtain sufficient traction for maximum performance in heavy draft operations and to counterbalance rear-mounted equipment, weight should be added to the tractor in the form of liquid ballast, cast iron weights, as shown in Figure 27 through 29, or a combination of both. Only enough weight should be added to provide good traction and stability.

Adding more weight than is needed results in unnecessary soil compaction and increased rolling resistance and thus higher fuel consumption.

NOTE: When adding weight, adhere to the tire load capacities. Refer to "Tire Pressure" and the "Tire Inflation Versus Permissible Load" table on page 22 and 23.

WEIGHTING LIMITATIONS

The weighting limitations that follow are limitations only; they do not imply that the tractor should be weighted to obtain the weights shown. Use only enough weight to obtain good performance, and do not exceed the tire load capacities.

TOTAL VEHICLE WEIGHT

Do not add weight exceeding the following:

Front End — 99 lbs.
Front Wheels — 66 lbs. (no weights on front wheels of four-wheel drive.)
Rear Wheels — 176 lbs. plus liquid ballast.

LIQUID BALLAST (OPTIONAL)

It is a common practice to add weight to the tractor by filling the rear tires with liquid. A calcium chloride ($CaCl_2$) and water solution is recommended due to its low freezing point and greater density (weight per gallon) than water.

Never exceed the total recommended weight for the tractor. Because special equipment is required to fill the tires, we recommend that you consult your Ford Tractor-Equipment Dealer. Tires should never be filled beyond 75% (tire filled to the valve stem when valve stem is at its highest point at the top of the wheel).

CAST IRON WEIGHTS (OPTIONAL)

Cast iron weights are a factory installed option or are available as accessories from your Ford Tractor-Equipment Dealer. Weights can be mounted on the front wheels, on the front end of the tractor, and on the rear wheels as shown in Figure 27 through 29.

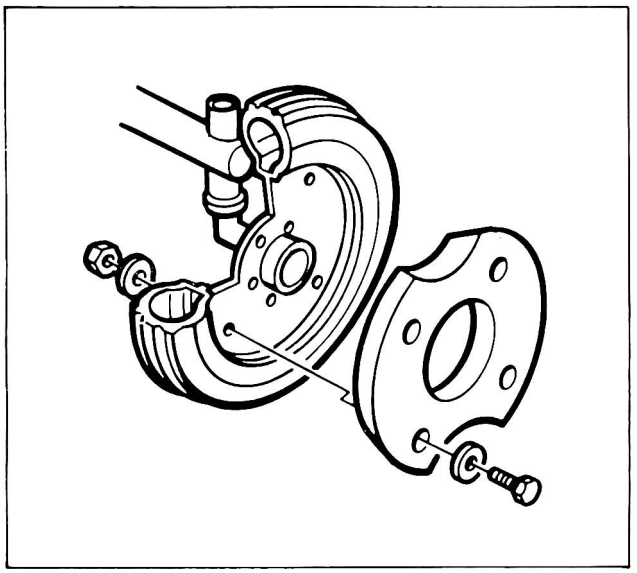


Figure 27 — Front Wheel Weights

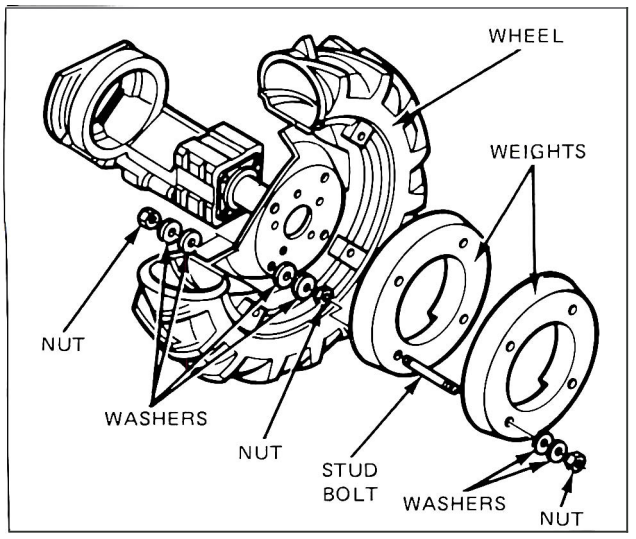


Figure 28 — Rear Wheel Weights

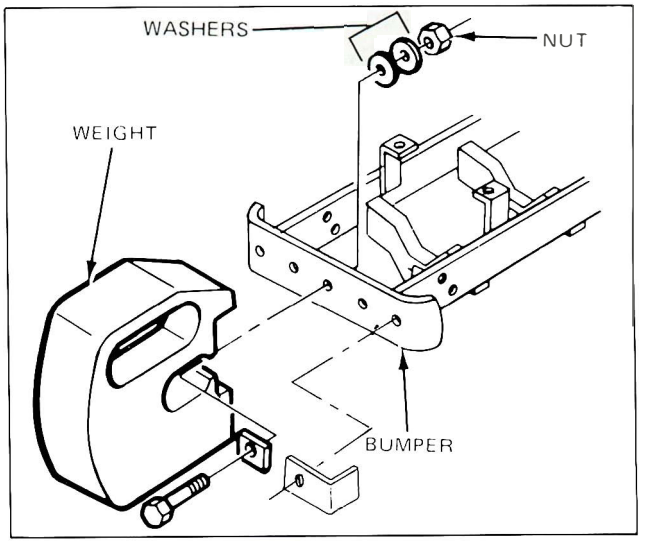


Figure 29 — Front End Weights

TIRE PRESSURE

Tire pressure must be considered when adding weight to the tractor. The following "TIRE INFLATION vs. PERMISSIBLE LOAD" table lists the tire sizes available and shows the maximum load the tires can carry for a given air pressure. Note that the load capacities decrease as inflation pressures decrease, and also that a specific tire pressure is recommended for certain size tires.

TIRES

Inflation and Service

- Upon receiving your tractor, check the air pressure in the tires as indicated in the tables.
- Check tire pressure every 50 hours, or weekly.
- Tire inflation pressure affects the amount of weight which a tire may carry. Locate the tires for your tractor in the "Tire Inflation vs Permissible Load" chart on page 23. Do not over-or-under inflate the tires.
- Do not inflate a tire above the manufacturer's maximum pressure shown on the tire or the maximum pressure shown in the inflation vs permissible load chart, page 23 if the tire is not marked.
- Do not inflate a tire unless the rim is mounted seriously under-inflated until the tire has been inspected for damage by a qualified person.

- When checking tire pressure, inspect the tire for damaged side walls and tread cuts. Neglected damage will lead to early tire failure.

WARNING: Inflating or servicing tires can be dangerous. Trained personnel should be called to service and/or mount tires when possible. In any event to avoid possible serious or fatal injury, follow the safety precautions below:

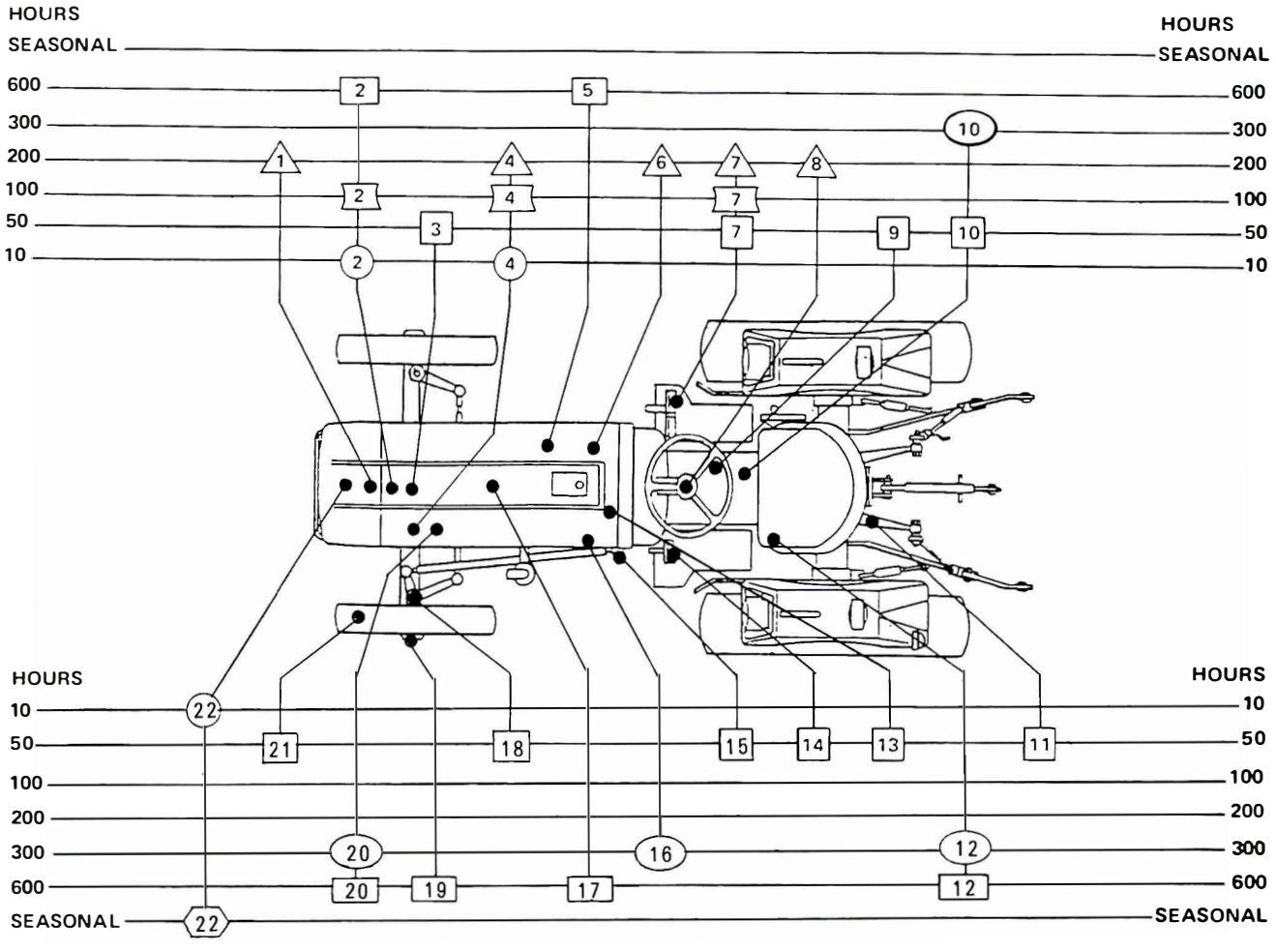
- Be sure the rim is clean and free of rust.
- Lubricate both tire beads and rim flanges with soap solution. Do not ise oil or grease.
- Use a clip-on tire chuck with a remote hose and gauge which allows the operator to stand clear of the tire while inflating it.
- NEVER INFLATE TO OVER 35 psi (2.4 bar) TO SEAT BEADS. If beads have not seated by time pressure reaches 35 psi, deflate the assembly, reposition tire on rim, relubricate both tire beads and rim flages and re-INFLATE. INFLATION BEYOND 35 PSI with unseated beads may break the bead or rim with explosive force sufficient to cause serious injury.
- After seating the beads, adjust inflation pressure to recommend operating pressure.
- Do not inflate a tire unless the rim is mounted on the tractor or is secured so that it will not move if the tire or rim should suddenly fail.
- Do not weld, braze, otherwise repair, or use a damaged rim.
- Never attempt tire repairs on a public road or highway.
- Use jack stands or other suitable blocking to support the tractor while repairing tires.
- Insure jack has adequate capacity to lift your tractor.
- Insure jack is placed on a firm level surface.
- Do not put any part of your body under the tractor or start the engine while the tractor is on the jack.
- Torque lug nuts to specification after reinstalling wheel. Check lug nut torque daily until torque stabilizes.
- Refer to tractor weighting section before adding ballast to the tires.

TIRE INFLATION vs. PERMISSIBLE LOAD

	INFLATION PRESSURES – psi (bar)									
FRONT TIRE SIZE	**6 (.41)**	**8 (.55)**	**10 (.69)**	**12 (.83)**	**14 (.96)**	**16 (1.1)**	**20 (1.4)**	**28 (1.9)**	**32 (2.2)**	**36 (2.5)**
	MAXIMUM PERMISSIBLE LOAD – lbs. (kg)									
4.00-12, F2, 4PR	–	–	–	–	–	–	330 (150)	400 (181)	440 (200)	460 (209)
5- 12 G1, 4PR	–	270 (122)	325 (147)	340 (154)	370 (168)	410 (186)	465 (211)	560 (254)	–	–
20 x 8.00-10, G2, 2PR	450 (204)	510 (231)	570 (259)	–	–	–	–	–	–	–
	INFLATION PRESSURES – psi (bar)									
REAR TIRE SIZE	**12 (.83)**	**14 (.96)**	**16 (1.1)**	**18 (1.2)**	**20 (1.4)**	**22 (1.5)**	**24 (1.7)**	**26 (1.8)**		
	MAXIMUM PERMISSIBLE LOAD – lbs (kg)									
8-16, R1, 4PR	715 (325)	770 (350)	840 (380)	905 (410)	970 (440)	1015 (460)	1045 (475)	–		
29 x 12.00-15 R3, 4PR	1320 (600)	1445 (655)	1560 (705)	1675 (760)	1780 (805)	– –	– –	– –		

NOTE: Do not exceed the maximum load listed. Also, do not under-inflate or over-inflate the tires.

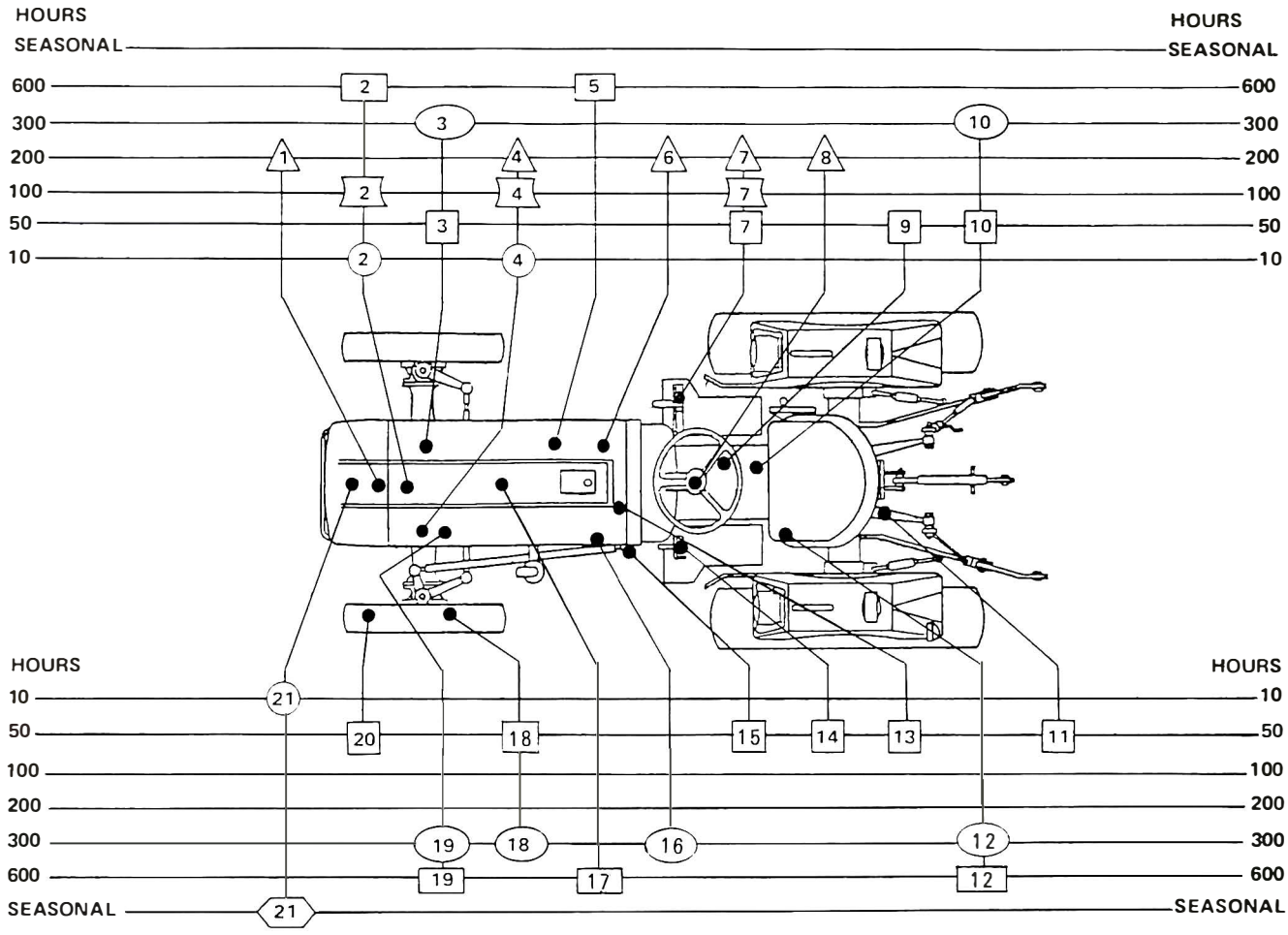
LUBRICATION AND MAINTENANCE CHART — FORD 1210 TWO-WHEEL DRIVE



NO.	LUBRICATION AND MAINTENANCE ITEMS	CHECK	CLEAN	LUBE	CHANGE	ADJUST	SERVICE INTERVALS
4	Engine Oil Level	x					Every (10) Hours
22	Radiator Coolant	x					
2	Air Cleaner	x					
16	H.S.T. Cartridge Filter				x		First 50 Hours
20	Hydraulic Filter	x	x				
10	Transmission and Rear Axle Oil Level	x					Every [50] Hours
6	Fuel Filter	D	R	A	I	N	
13	Battery	x					
21	Tires	x					
14	Clutch and Brake Pedals	x		x		x	
—	Lubrication Fittings						
15	Steering Linkage			x			
3	Pivot Shaft			x			
18	Front Wheel Spindles			x			
11	3 Point Linkage			x			
9	Pedal Shaft	x		x			
6	Fuel Filter		x				Every [100] Hours
2	Air Cleaner		x				
4	Engine Oil				x		

NO.	LUBRICATION AND MAINTENANCE ITEMS	CHECK	CLEAN	LUBE	CHANGE	ADJUST	SERVICE INTERVALS
6	Fuel Filter				x		Every 200 Hours
1	Fan Belt	x				x	
4	Engine Oil Filter				x		
7	Brakes					x	
8	Steering Free-Play					x	
20	Hydraulic Filter	x	x				Every (300) Hours
16	H.S.T. Cartriage Filter				x		
12	H.S.T. Suction Filter		x				
10	Transmission and Rear Axle Oil				x		
18	Front Wheel Bearings	x		x			Every [600] Hours
5	Fuel Injectors	x					
2	Air Cleaner (Disassemble)		x				
17	Valve Clearance	x					
12	H.S.T. Suction Filter				x		
22	Radiator Coolant				x		Seasonal

LUBRICATION AND MAINTENANCE CHART — FORD 1210 FOUR-WHEEL DRIVE



NO.	LUBRICATION AND MAINTENANCE ITEMS	CHECK	CLEAN	LUBE	CHANGE	ADJUST	SERVICE INTERVALS
4	Engine Oil Level	x					Every (10) Hours
21	Radiator Coolant	x					
2	Air Cleaner	x					
16	H.S.T. Cartridge Filter				x		First 50 Hours
19	Hydraulic Filter	x	x				
10	Transmission and Rear Axle Oil Level	x					Every [50] Hours
3	Front Diff. and Front Axle Oil Level	x					
6	Fuel Filter	D	R	A	I	N	
13	Battery	x					
20	Tires	x					
14	Clutch and Brake Pedals	x		x		x	
—	Lubrication Fittings			x			
15	Steering Linkage			x			
11	3-Point Linkage			x			
9	Pedal Shaft	x					
6	Fuel Filter		x				Every [100] Hours
2	Air Cleaner		x				
4	Engine Oil				x		

NO.	LUBRICATION AND MAINTENANCE ITEMS	CHECK	CLEAN	LUBE	CHANGE	ADJUST	SERVICE INTERVALS
6	Fuel Filter				x		Every (200) Hours
1	Fan Belt	x				x	
4	Engine Oil Filter				x		
7	Brakes					x	
8	Steering Free-Play					x	
19	Hydraulic Filter	x	x				Every (300) Hours
16	H.S.T. Cartridge Filter						
12	H.S.T. Suction Filter		x				
10	Transmission and Rear Axle Oil				x		
3	Front Diff. Oil				x		
18	Final Reduction Gear Oil						
5	Fuel Injectors	x					Every [600] Hours
2	Air Cleaner (Disassemble)		x				
17	Valve Clearance	x					
12	H.S.T. Suction Filter				x		
21	Radiator Coolant				x		Seasonal

FUEL AND LUBRICANTS

DIESEL FUEL

Type of fuel to use:

When operating in temperatures above 20°F (–6.7 °C), use diesel fuel oil No. 2 (No. 2D) with a minimum cetane rating of 45. When operating in temperatures below 20°F (–6.7 °C), use diesel fuel oil No. 1 (No. 1D) with a minimum cetane rating of 50.

Fuel represents a major portion of your tractor operating costs; therefore, it is important to use it efficiently. Do not let low price tempt you to use inferior diesel fuel. The initial savings is a false economy when you consider the damage poor fuel can do to your tractor fuel system.

FUEL USAGE SAFETY

Fuel is becoming very expensive and scarce. As a result, many of our customers are trying new fuels or blends to reduce costs and conserve energy. Today's new fuels or blends are frequently more volatile and there is a need to handle them carefully. Furthermore, some of the blends are dangerous and should not be used at all.

The following new or blended fuels are becoming available or are sometimes recommended by certain sources. Our recommendations are as follows:

Dieselol

Under no circumstances should gasoline, alcohol or gasohol be added to diesel fuel. These combinations can create an increased fire hazard and under certain circumstances an explosive hazard. They are more dangerous (explosive) than pure gasoline in a closed container such as fuel tank. Do Not Use These Blends.

In addition, let's review the old recommendations. These are even more important today:

- Never take the cap off or refuel when the engine is running or hot.
- Don't smoke while refueling or anywhere near fuel.

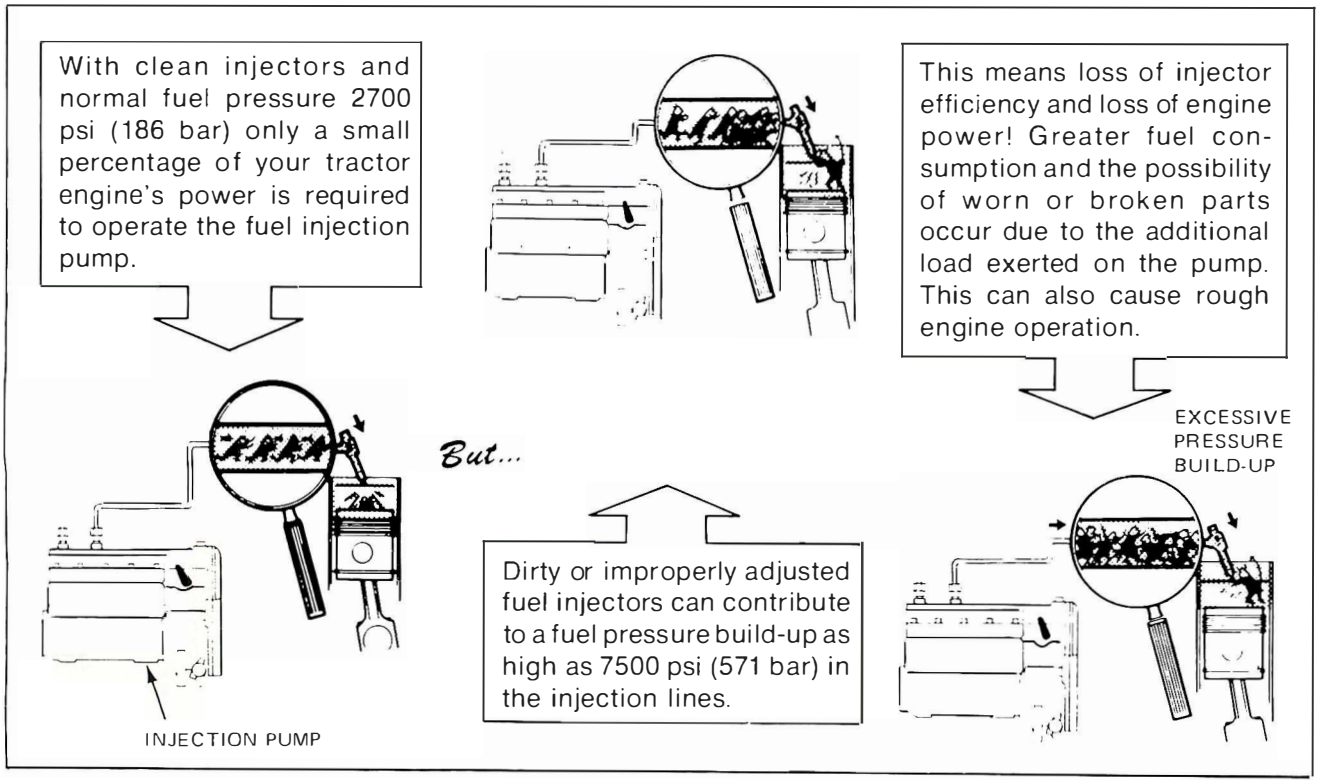


Figure 30 – Dirt vs. Injectors

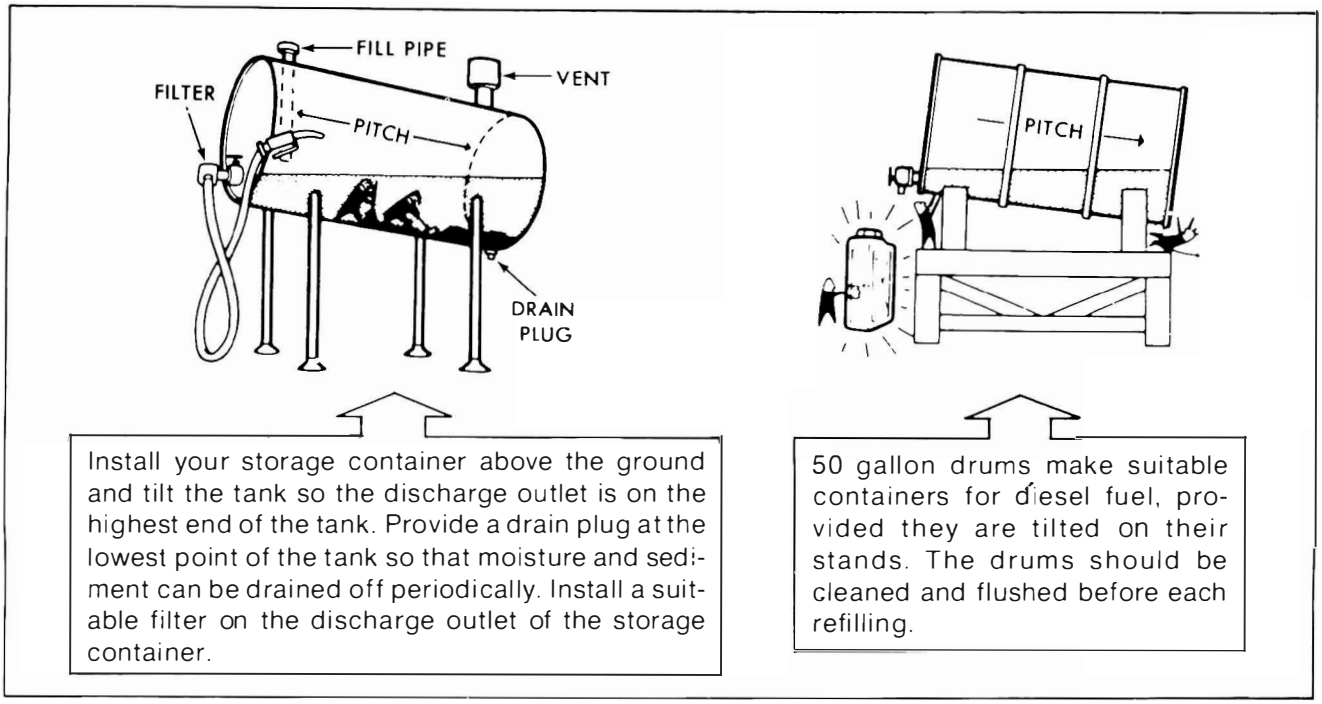


Figure 31 — Diesel Fuel Storage

- When filling the tank, maintain control of the nozzle.
- Don't fill fuel tank to capacity...allow room for expansion.
- Wipe up spills immediately.
- Always tighten the fuel tank cap securely.
- If the original equipment fuel tank cap is lost, always replace it with a Ford approved cap. A will-fit cap may not be safe.
- Keep equipment properly maintained.
- Keep equipment clean — free of trash and oil.
- Don't drive equipment near open fires.
- Never use gasoline for cleaning parts.

NOTE: Use only fuel designated for diesel engines. Some heating fuels contain harmful chemicals that, if used, can seriously affect tractor efficiency and performance. Refer to the "Engine Oil Recommendations" on Page 28 for additional fuel information.

WARNING:

- The fuel oil in the injection system is under high pressure and can penetrate the skin.
- Unqualified persons should not remove, or attempt to adjust a pump, injector, nozzle, or any other part of the fuel injection system.
- Failure to follow this instruction can result in serious injury.

FUEL STORAGE

Extremely small clearances exist between the fuel delivering elements of the fuel injection pump and the fuel delivering elements of the injectors. Therefore, it is of vital importance that precautions be taken to make sure the fuel is kept free of dirt and water, Figure 30.

Diesel fuel should be stored in black iron tanks or containers. Do not store diesel fuel in a galvanized tank, as the zinc coating will react with the fuel and form undesirable compounds that may interfere with the proper operation of the fuel injection pump and injectors.

The most satisfactory arrangement is a bulk storage installation, Figure 31, with either a tank and pump, or a gravity feed installation located high enough for the tractor tank to be filled direct.

The tank should slope downward at the rear to allow sediment to settle away from the take-off point. Whenever the tank is refilled, allow the fuel to settle for 12 hours before using.

A drain valve should be positioned at the lowest point in the tank so the moisture and sediment can be drained periodically. A fuel outlet filter should be used, as shown in Figure 31. Use the largest tank feasible and keep it as full as possible to minimize condensation.

If bulk storage is not possible and the fuel is stored in barrels keep them in a clean, dry place. The barrel in use should be fitted with a fuel outlet filter and a drain tap, and should be supported so it slopes downward 1/2 inch per foot of length away from the tap.

After use, install the cap at the top of the barrel and clean up fuel which may have been spilled. Diesel fuel will not evaporate and thus will collect dust and dirt.

REFUELING THE TRACTOR

If there is no filter on the outlet of the storage tank, filter the fuel through a 100-mesh screen or finer when filling the tractor fuel tank. Keep the tractor tank as full as possible to minimize condensation.

NOTE: It is a good practice to fill the tractor fuel tank with fuel at the end of each day, as this will reduce overnight condensation. Also, any fuel which may have been spilled should be cleaned up.

LUBRICANTS

Type of lubricant to use:

Transmission, Rear Axle,
Hydraulic System, and Power Steering
Oil . . . . . FORD 134

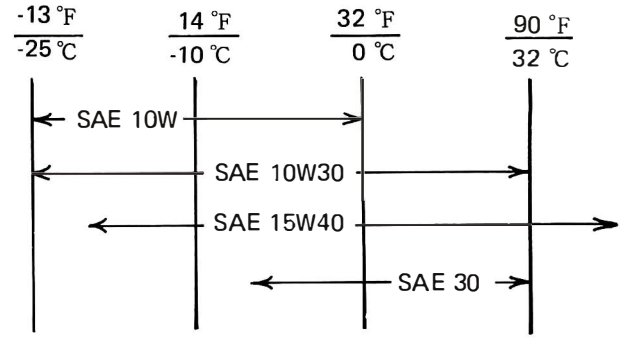
Front Axles . . . . . FORD 134

Engine Crankcase . . . . . FORD 121

Front Wheel Bearings
and All Lubrication
Fittings ITM1C-137-A

NOTE: Ford Tractor engine oil is a super premium, heavy-duty engine oil compounded specifically to meet the rigid requirements of Ford Tractor engines. Ford engine oil exceeds both SF and CD requirements. It is available from your Ford Tractor-Equipment dealer. Use the following chart to determine which SAE Grade engine oil to use:

OUTDOOR TEMPERATURES AND RANGES OF APPLICATION



Should Ford engine oil (Ford 121) not be readily available, use an equivalent oil as determined in the preceding chart.

In areas where prolonged periods of extreme temperatures are encountered, local lubricant practices are acceptable, such as the use of SAE 5W (CC) in extremely cold temperatures or the use of SAE40 (CD) or SAE50 (CD) in extremely high temperatures.

IMPORTANT;
Engine crankacse oil drain intervals should be adjusted downward when disesl fuel sulfur content is above 0.5%.

Consult your dealer for details of Engine Crankcase Oil usage.

LUBRICANT STORAGE

Your Ford Tractor is equipped with lubricant filters to protect vital points from damage caused by dirt which may enter under normal operating conditions. Precautions must, however, be taken by you to prevent lubricant contamination by dirt or water during storage. Service intervals in this section are based on the assumption that only new oil, of the type specified, is used.

Barrels of lubricant should be kept under cover, preferably in a clean, dry place, and should be clearly marked to indicate the lubricant which they contain.

When a barrel is kept in an exposed location, it should be tilted to allow any moisture to run away from the filler cap. Always use a clean container when transferring oil from a barrel to the tractor and make sure that any cap or bung, which has been removed, is installed as soon as possible.

FUEL AND LUBRICANT SERVICE PROCEDURES

ENGINE

Checking Oil Level: Check the engine oil level daily or every 10 hours.

1. With the tractor standing level, and after the engine has been stopped for a period of time, check the oil level with the dipstick, Figure 32.

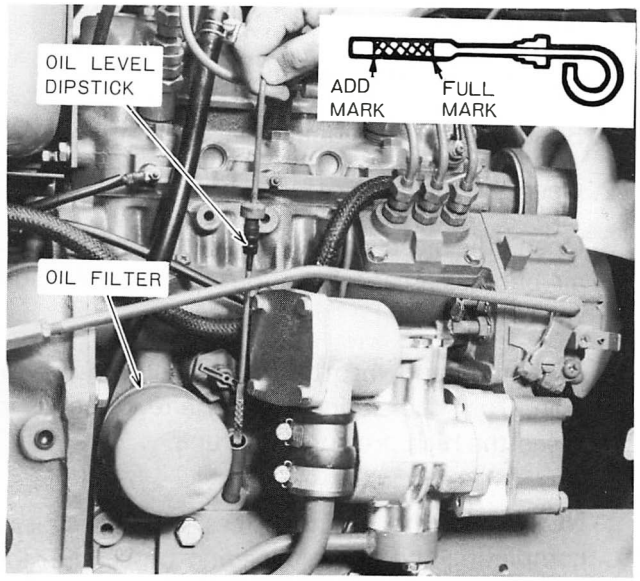


Figure 32 — Engine Oil Level Dipstick and Filter

2. If the oil level is low, remove the filler cap, Figure 33, and add oil to the engine through the filler hole to bring the oil level between the marks on the dipstick. Be careful not to overfill.

3. Install the oil filler cap.

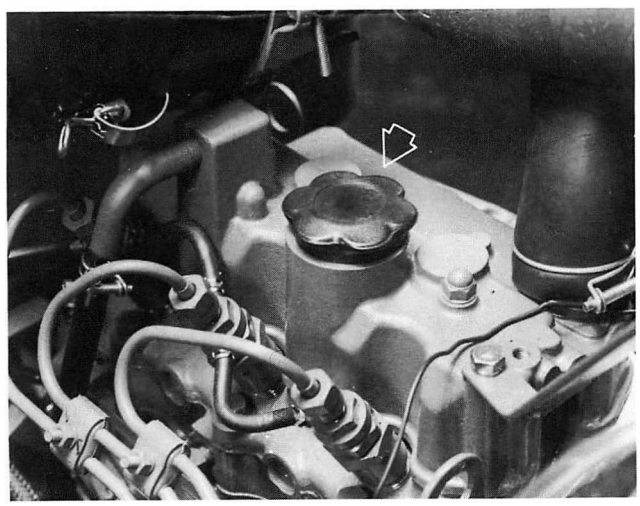


Figure 33 — Engine Oil Filler Cap

Changing Oil and Filter: Change the engine oil every 100 hours and the engine oil filter every 200 hours.

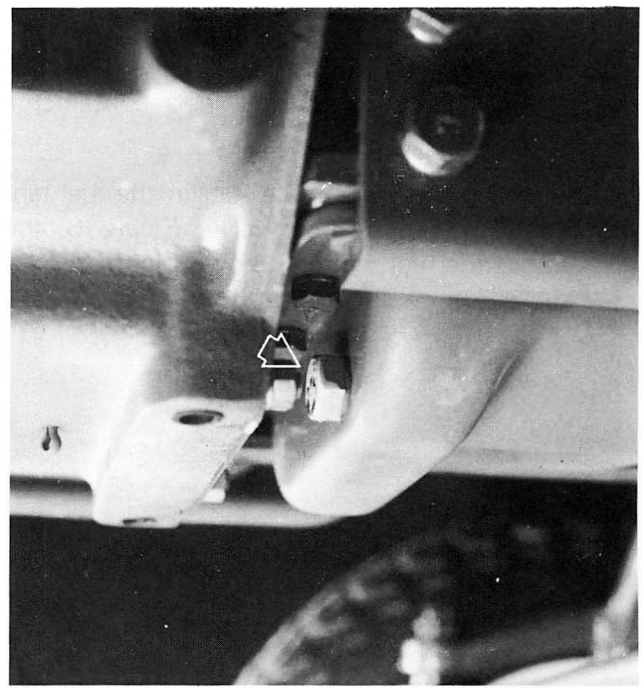


Figure 34 — Engine Oil Drain Plug

NOTE: More frequent engine oil and filter changes are recommended if the tractor is operated for extended periods of time at maximum rated power and speed. Under such conditions, or other types of continued severe operating conditions, the engine oil should be changed at 70 hour intervals and the filter at 140 hour intervals.

1. With the engine off, but at normal operating temperature, drain and discard the engine oil by removing the drain plug, Figure 34. Reinstall the plug after the oil has drained and discard the oil.

2. Unscrew the oil filter, Figure 32, catching the used oil in a suitable container placed below the filter. Discard the filter.

3. Coat the gasket on the new filter with a film of oil. Screw the filter into place until the gasket contacts its mating surface, then turn the filter approximately 3/4 of a turn by hand. Do not overtighten.

4. Add new oil of the type specified, page 27. Start the engine and check the filter for leaks after adding the oil. Be sure the oil is at the proper level.

FUEL FILTER

Draining the Filter: Drain the diesel fuel filter when water is visible in the sediment bowl.

Cleaning the Fuel Filter: Clean the fuel filter every 100 hours by rinsing in a container of clean diesel fuel.

1. Be sure there is adequate fuel in the fuel tank, close the fuel shut-off valve, Figure 6, then remove the fuel sediment bowl, Figure 35.

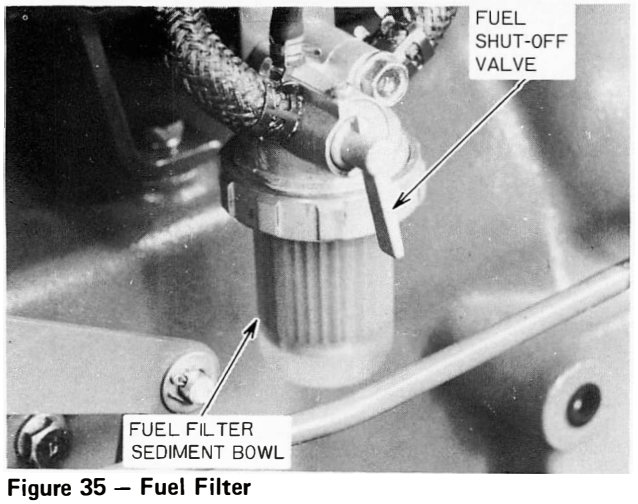


Figure 35 — Fuel Filter

2. Open the fuel shut-off valve until all water has been removed and only fuel flows from the filter.
3. Install the fuel sediment bowl and bleed the system as outlined under "Bleeding the Fuel System."

Changing the Fuel Filter: Change the diesel fuel filter every 200 hours.

1. Close the shut-off valve, Figure 6, Figure 35.
2. Remove the sediment bowl, Figure 35.
3. Open the fuel shut-off valve to drain any remaining water from the tank.
4. Discard the old element and install a new element.
5. Install and securely tighten the sediment bowl.
6. Open the fuel shut-off valve so fuel will flow to the filter.
7. Bleed the injection pump as covered under "Bleeding the Fuel System."

BLEEDING THE FUEL SYSTEM

Bleed the fuel system after it has been drained:

- If a new filter element has been installed,
- If the tractor has run out of fuel,
- If the lines leading to or from the filter have been disconnected,
- If the injection pump has been removed and reinstalled.

Bleed the fuel system as follows:

1. Be sure there is adequate fuel in the fuel tank.
2. Open the fuel shut-off valve.
3. Open the bleed screw (Figure 36) and let the air bubbles escape from the strainer, then close the bleed screw.
4. Push the hand throttle to the high speed position. Turn the engine over for a few seconds to bleed the high pressure fuel tube.

NOTE: If the tractor does not start after completing the above bleeding procedure, the fuel lines to each injector may have to be loosened while cranking the engine to complete bleeding of the system. Tighten lines at injectors after completing bleeding.

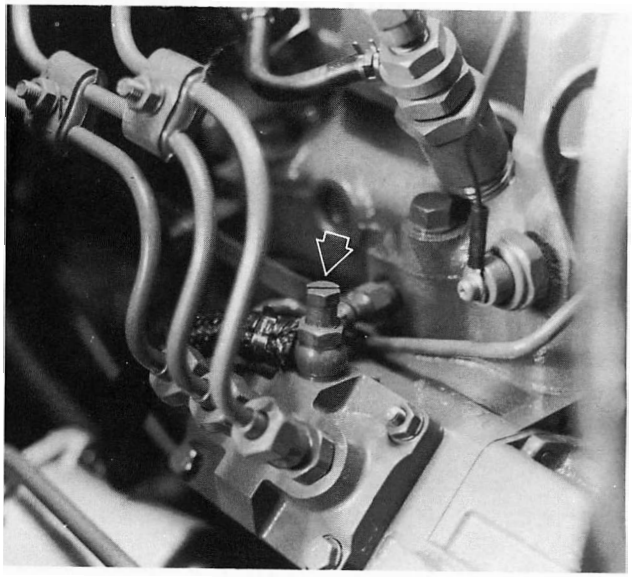


Figure 36 — Fuel System Bleed Screw

AIR CLEANER

Checking Dirt Level: Check the dirt level in the dust pan daily or every 10 hours (Figure 37).

Clean the element every 100 hours of service.

1. Loosen spring clamps and remove dust cap, Figure 37.
2. Remove seal and dust pan from dust cap and clean dust cap, seal and dust pan using a damp lint free cloth, Figure 37.

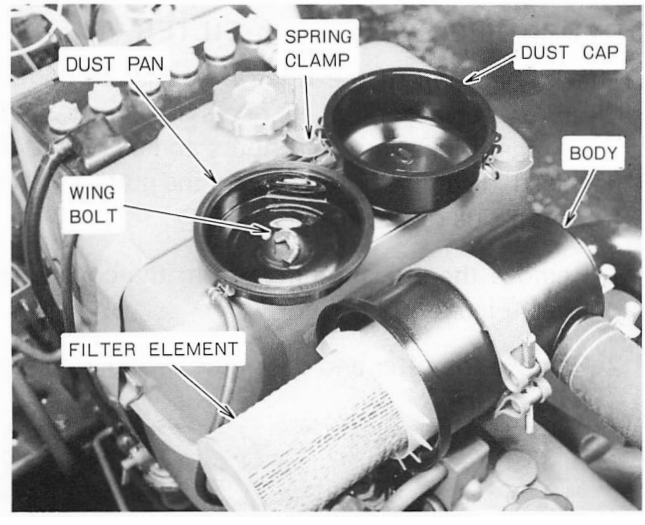


Figure 37 – Air Cleaner – Disassembled

3. Remove wing bolt holding filter element and remove filter element from body.
4. Pat sides of element with palm of hand to remove dust trapped in the pleats.

   IMPORTANT: Tapping element against hard surface or with hard objects may dent or break element end cap seals.

5. Using low air pressure (not over 30 psi, 2.1 bar), blow out remaining dust from inside out opposite normal air flow through the element.

   IMPORTANT: Be careful not to rupture the filter element. Maintain a reasonable distance between the air nozzle and the filter element when directing air up and down the clean air side of the element pleats.

6. Clean the fins and inside of the air cleaner body with a dry cloth.
7. Check with a light bulb inside the element for leaks in paper or bonding of paper to end plate. Replace element if any leaks are found.
8. Reassemble the air cleaner.

WASHING ELEMENT

1. Washing may be necessary to remove soot or oil material.
2. Agitate the element in warm water containing a small amount of non sudsing type detergent.

   IMPORTANT: Do not use water hotter than the hand can stand, as the element will be damaged. Never wash the element with fuel oil, gas or solvent. Do not oil the element.

3. Rinse the element with clean water. Shake excess water from the element and allow it to air dry.

   IMPORTANT: Do not dry element with compressed air, as the air will rupture a wet element. Also, do not install a wet element as the tractor engine will not start with a wet element installed.

4. After drying, check for damage by holding a light bulb inside the element. If an even, fine pattern of light is seen, the element is clean and undamaged. A bright spot of light indicates the element is damaged, and a new element must be installed.

   Change the element after six cleanings or once a year.

TRANSMISSION, REAR AXLE HYDRAULIC SYSTEM

Checking Oil Level: Check the oil level every 50 hours.

1. With the tractor standing level and the engine off, check the oil level with the dipstick, Figure 38.
2. The oil is at the correct level when the oil level is between the mark and the lower end of the dipstick. If low, add new oil of the type specified, page 28. Do not fill beyond the mark on the stick, as the transmission will be overfilled.
3. Install the filler plug and dipstick.

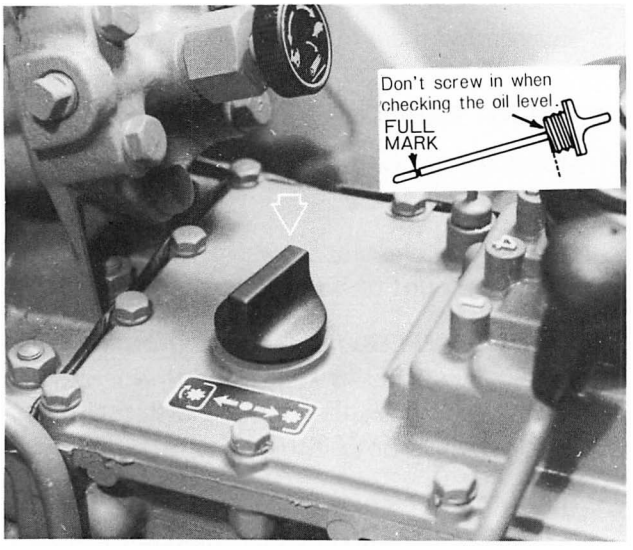


Figure 38 — Transmission, Rear Axle and Hydraulic system Oil Lever Dipstick/Filler Plug

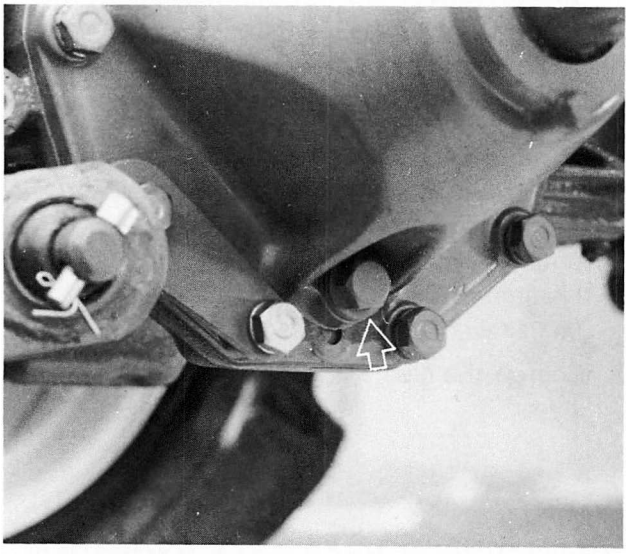


Figure 39 — Transmission, Rear Axle Center Housing and Rear Axle Oil Drain Plugs

Changing Oil: Change the oil every 300 hours.

1. With the oil at normal operating temperature, drain and discard the oil by removing the transmission, rear axle center housing and rear axle drain plugs, Figure 39. Reinstall the plugs after the oil has drained. Discard the oil.
2. Check and if necessary clean or replace the hydraulic oil filter.
3. Remove the filler plug and dipstick, Figure 38, and fill with new oil of the type specified, page 28
4. The transmission is filled to the correct level when the oil level is between the mark and the lower end of the dipstick. Do not fill beyond the mark on the stick, as the transmission will be overfilled.
5. Install the dipstick/filler plug.

   IMPORTANT: The transmission, rear axle and hydraulic system operate from a common oil sump. Special attention must be given to keeping oil clean.

HYDRAULIC SYSTEM OIL FILTER

Check condition of the filter after first 50-hours. Clean or replace filter if necessary. Clean and check the filter every 300 hours and change it if damaged. The filter is located by the pump on the front left side of the engine.

1. Remove the attaching bolt from the cover and filter, Figure 40.
2. Remove the filter and check the O-ring. Replace if damaged.

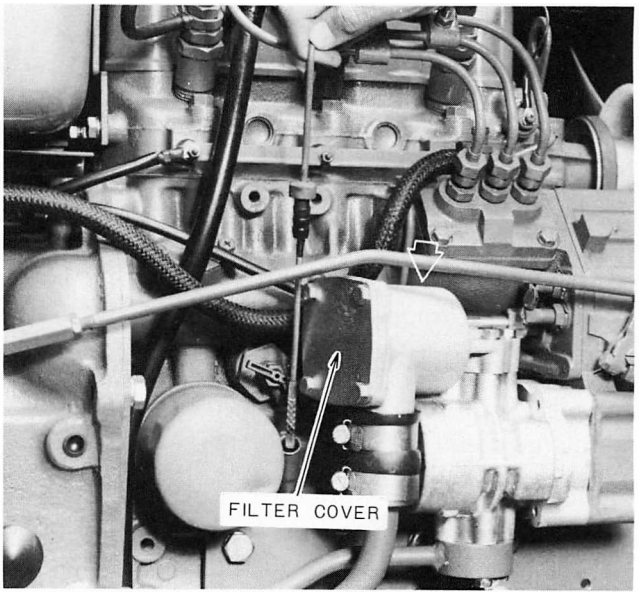


Figure 40 — Hydraulic Oil Filter

   IMPORTANT: Be careful of the rubber gaskets on each end of the filter.

3. Check the O-ring in the filter cover and replace if damaged.
4. Remove the oil filter and install a new one.
5. Assemble the unit reversing the above procedure.

H.S.T. SYSTEM OIL FILTERS

The H.S.T. System is provided with two filters; A suction filter and a cartridge type filter. Change the cartridge type filter after the first 50 hours. Thereafter change it every 300 hours.

Coat the gasket on the new filter with a film of oil. Screw the filter into place until the gasket contacts its mating surface, then turn the filter approximately 3/4 of a turn by hand. Do not over-tighten, Figure 41.

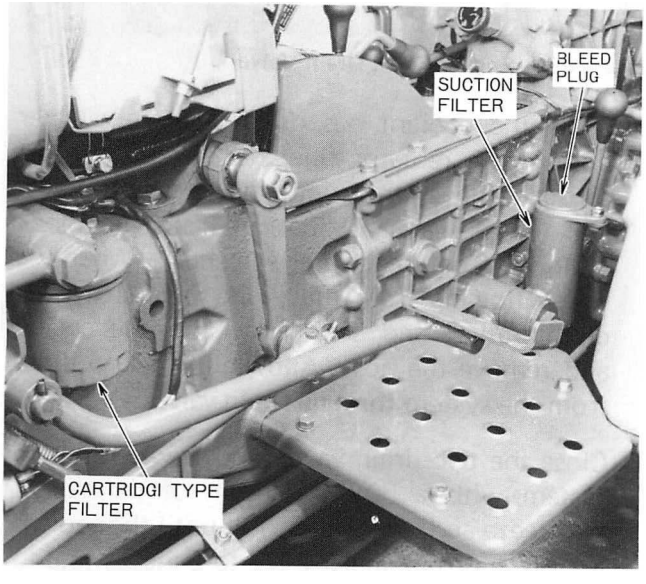


Figure 41 — H.S.T. System Filters

Check the suction filter after first 50 hours and clean or change it if dirty. Thereafter clean the filter at every 300 hours and change the filter at every 600 hours.

IMPORTANT: Bleed the oil system after it has been installed filter and cover. Remove the bleed plug (fig.41) at the top of the filter body cover and let the air escape from the filter body, then installed the plug.

LUBRICATION FITTINGS

The following lubrication points (refer to the Lubrication Chart, page 24 or 25) require the application of a good quality grease every 50 hours.

In extremely dirty conditions, lubrication should be more often. Refer to page 28 for the type of grease that should be used.

- Steering linkage
- Pivot shaft
- Front wheel spindles
- Pedal shaft, Clutch and Brake Pedals
- 3-point linkage
- Front-wheel drive king pins (if so equipped)

1. Wipe away all old grease and dirt from the lubrication fittings to prevent dirt or foreign material from entering the fittings when new grease is applied.
2. Use a high pressure grease gun to force in the new grease until clean grease oozes from the assembly being lubricated.
3. Wipe away any excess grease.

GENERAL MAINTENANCE

COOLING SYSTEM

The cooling system in your Ford Tractor has been filled with one year life antifreeze.

To obtain maximum efficiency and service life from the engine, it must operate at the correct temperature. This is dependent on the cooling system. The system should be kept filled with a 50/50 solution of permanent antifreeze and clear water.

Checking Coolant Level: Check the coolant level daily or every 10 hours. This check should be made when the engine is cold.

1. Remove the radiator cap and visually check the level of the coolant.

WARNING: The cooling system operates under pressure which is controlled by the radiator cap. It is dangerous to remove the cap while the system is hot. Always cover the cap with a thick cloth and turn the cap slowly counterclockwise to the first stop. Allow all pressure to escape before removing the cap completely.

2. If the coolant level is more than 1-1/2 to 2 inches (3.8 to 5 cm) below the bottom of the filler neck, add clean water or antifreeze solution as necessary. If the cooling system already contains antifreeze, add only antifreeze solution of the correct water/antifreeze mixture. Plain water will dilute the solution and weaken its protection.

   IMPORTANT: Alcohol-type antifreeze is not recommended. Do not mix alcohol-type solution with permanent antifreeze.

3. Keep the radiator fins clear of chaff or dirt to allow free passage of air (Figure 44).

Draining and Flushing the Cooling System: Drain and flush the radiator and engine block every 12 months. Refill with a 50/50 mixture of long life (Ford) antifreeze, or equivalent, and clear water.

To Drain the System:

1. Remove the radiator cap and open the drain valve at both the radiator and the engine block. The radiator drain valve is located on the bottom right side of the radiator (Figure 42). The engine block drain valve is located on the left side of the engine. See Figure 43.

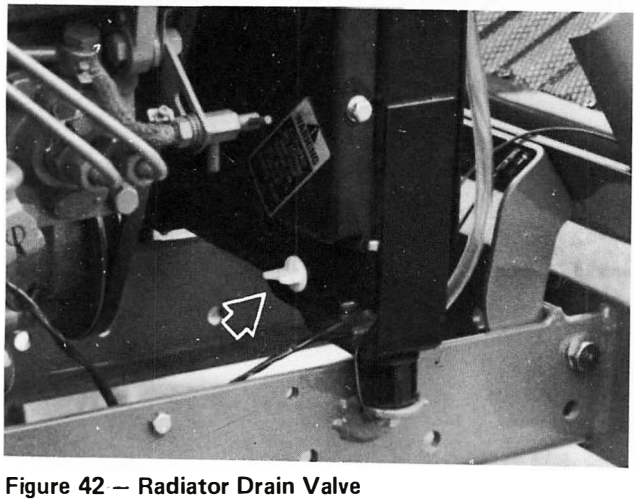


Figure 42 – Radiator Drain Valve

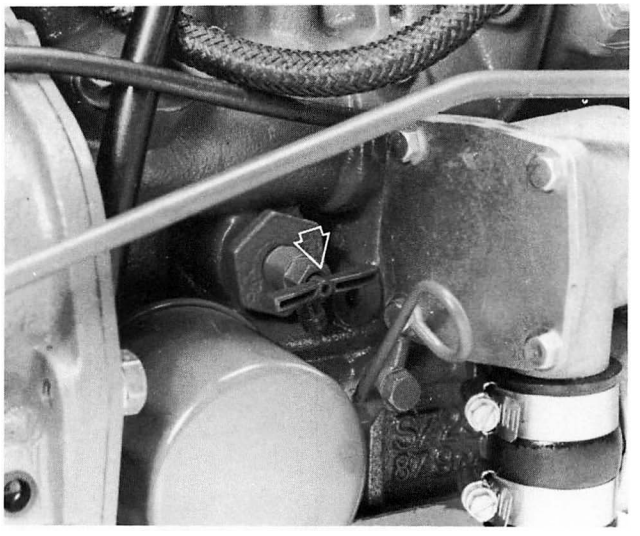


Figure 43 – Engine Block Drain Valve

2. After the coolant has drained, place a water hose in the radiator filler neck and run water through the system with the engine running. Make sure water is flowing from the block drain valve before starting the engine. When the water flowing from the drain valve is free of discoloration and sediment, stop the engine and remove the hose. Allow all water to drain from the system through drain valves.

3. Close the two drain valves and slowly refill the system with a 50/50 solution of permanent antifreeze and clear water. Fill until the coolant level is approximately 1-1/2 to 2 inches (3.8 to 5 cm) below the bottom of the filler neck. Do not fill beyond this level.

   IMPORTANT: Bleed coolant system to make sure that no air pockets remain.

4. Clean the radiator cap and cap seal. Install the cap.

5. Clean the radiator front screen (Figure 44).

6. Run the engine until normal operating temperature is reached, then stop the engine and recheck the coolant level. Add coolant as required.

IMPORTANT: Never run the engine when the cooling system is empty, and do no add cold water or cold antifreeze solution if the engine is hot.

Thermostat: The thermostat is located in the coolant outlet connection in the front of the cylinder head (Figure 45).

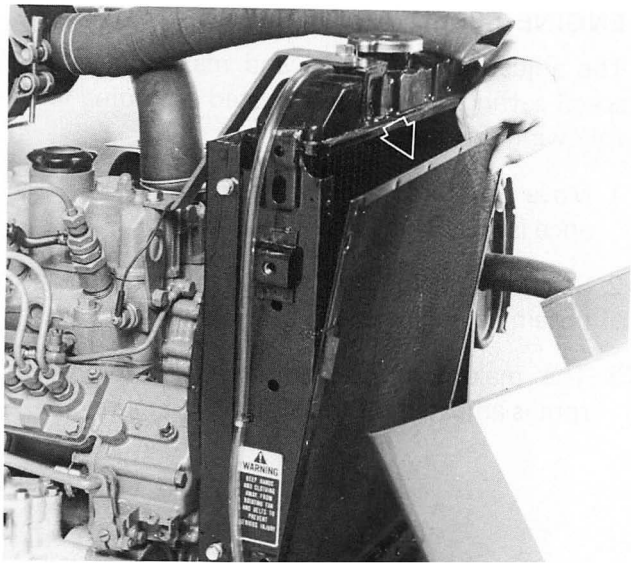


Figure 44 — Radiator Screen

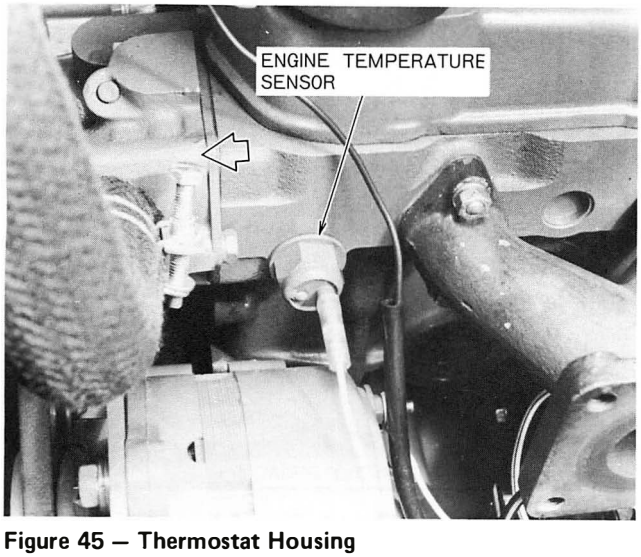


Figure 45 — Thermostat Housing

When the engine is cold, the thermostat, which is a heat sensitive valve, shuts off the flow of coolant to the radiator, thus allowing rapid engine warm up. A recirculating bypass allows the coolant to circulate within the engine whenever the thermostat shuts off flow to the radiator.

IMPORTANT: Do not remove the thermostat in an attempt to improve the cooling. This will cause the engine to run below normal working temperatures, resulting in excessive engine wear.

If it ever becomes necessary to install a new thermostat, it should be positioned in the recess of the water outlet connection so that the heat element (spring end) will be in the cylinder head of the engine.

Fan Belt: A belt-driven fan at the front of the engine draws air through the fins of the radiator to cool the coolant in the radiator. A slipping fan belt will lower the efficiency of the fan, resulting in the engine running too hot. If the belt is too tight, it will shorten the alternator bearing life. A correctly tightened belt will deflect 7/16 to 9/16 inch (10 to 15 mm) when 20 to 25 pounds (9 to 11 kg) thumb pressure is applied midway between the belt pulleys. Check the condition and tension of the fan belt every 200 hours. If the belt shows signs of cracking or fraying, install a new belt.

To Adjust Belt Tension:

1. Loosen the alternator mounting bolts, Figure 46.

WARNING: Never attempt to loosen or tighten the bolts when the engine is running.

2. Pry the alternator away from the engine and tighten the mounting bolts.

3. Recheck belt deflection.

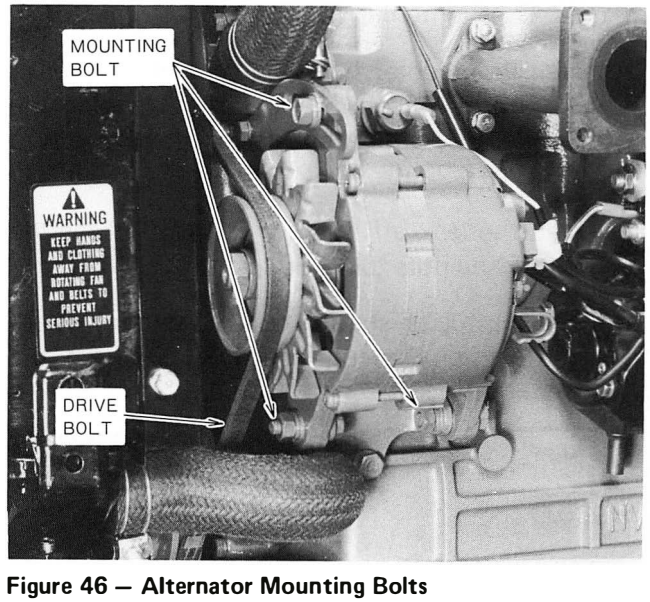


Figure 46 — Alternator Mounting Bolts

FUEL INJECTOR REMOVAL AND INSTALLATION

The injectors should be cleaned, tested, and adjusted every 600 hours. Do not disassemble or adjust the injectors yourself. Remove them from the tractor engine and have them serviced by your Ford Tractor-Equipment Dealer.

To remove the injectors:

1. Clean all loose dirt from around the injectors and lines. Disconnect the leak-off lines from the injectors. See Figure 47.
2. Disconnect the injection pump lines at the pump and injectors. Cover the ends of the lines and the injector inlet and leak-off ports to prevent the entry of dirt.
3. Remove the injectors.
4. Remove and discard the copper injector sealing washers from the injector locating bores. If a spare set of injectors is not immediately available, cover the bores to prevent the entry of dirt.

After the injectors have been serviced, install them as follows:

1. Install a new copper sealing washer in each injector locating bore. Install the injectors and tighten the retaining nut to 43-51 lbs. ft. (58-69 N.m).

   IMPORTANT: Do not overtighten the retaining nuts. Overtightening may distort the injector.
2. Install the injector lines. Finger tighten the fittings at the injectors until after bleeding the fuel system. Tighten the fittings at the injection pump to 18-22 lbs. ft. (24-30 N.m).
3. Install the leak-off line, Figure 47. Tighten the leak-off line nuts to 22-30 lbs. ft. (30-41 N.m).
4. Bleed the fuel system as covered under "Bleeding the Fuel System," page 30. Tighten the injector fittings.

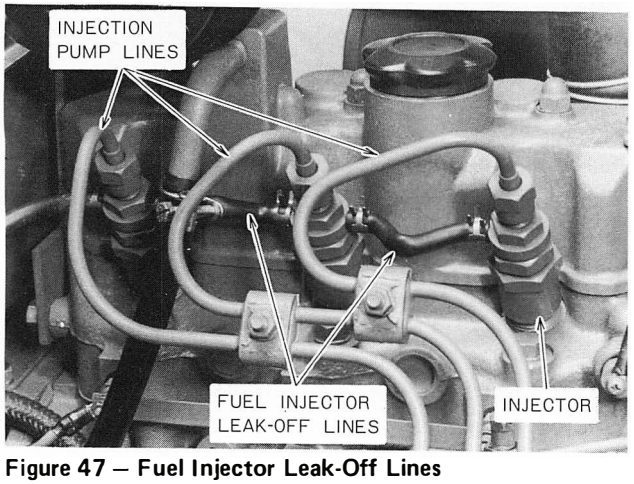


Figure 47 – Fuel Injector Leak-Off Lines

ENGINE SPEED ADJUSTMENT

The adjustments for idle and maximum no-load speed settings should be adjusted according to the following procedures:

1. Move the throttle lever forward until a resistance is felt. This is the idle position.
2. Start the engine and adjust the turnbuckle to obtain an engine speed of 750-850 rpm.
3. The maximum no-load speed of 2750-2800 rpm is adjusted by the stop bolt, Figure 48.

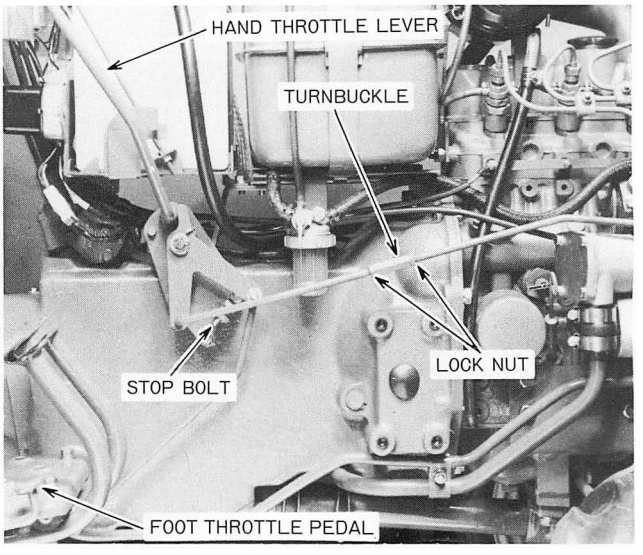


Figure 48 – Idle and Throttle Stop Adjustment

VALVE CLEARANCE (LASH)

Correct Valve clearance is one of the most important factors of good engine performance. Excessive clearance will cause the engine to operate excessively noisy, and insufficient clearance will cause poor performance. Because of this, it is extremely important that care be used when adjusting valve clearance.

Checking and Adjusting Valve Clearance: Check and adjust the valves every 600 hours. The clearance check and adjustment should be made with the engine cold.

1. Remove the valve rocker arm cover.
2. With the engine idling, check the clearance of each valve with a feeler gauge, Figure 49.

   The setting should be:

Intake	.008 (.2 mm)
Exhaust	.008 (.2 mm)

3. If the clearance is incorrect on any valve, turn the adjusting screw at the push rod end of the valve rocker arm either into or out of the arm while checking for correct clearance with the feeler gauge.
4. Install the rocker arm cover. Use a new gasket if the old one is damaged. Tighten the cover bolts evenly.

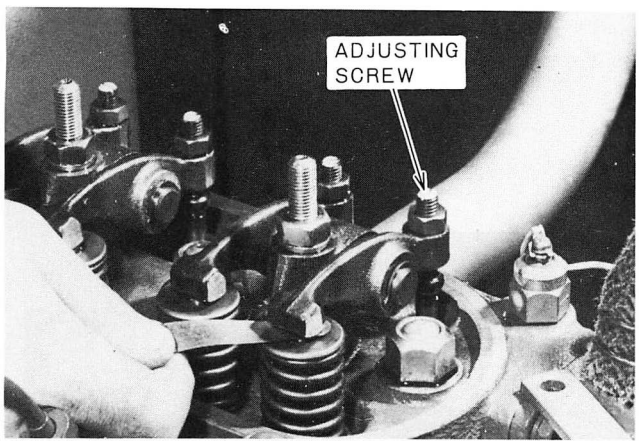


Figure 49 — Checking Valve Clearance

MAINTENANCE AND INSPECTION OF THE ROPS

After the first 20 hours of operation and after every 500 hours of operation or six months, whichever comes first, do the following:

1. Check the torque of the ROPS mounting bolts. If necessary, tighten the bolts to the correct torque. See bolt torques Page 46.
2. Check the operator's seat and the mounting parts for the seat belt. Tighten the bolts to the correct torque. Replace parts that show wear or damage.

POSSIBLE DAMAGE TO THE ROPS

If the machine has rolled over or the ROPS has been in some other type of accident (such as hitting an overhead object during transport) you must replace the ROPS to get the original protection.

After an accident, check for damage to (1) the ROPS, (2) the operator's seat, (3) the seat belt and the seat belt mountings. Before you operate the machine, replace all damaged parts.

IMPORTANT: Do not try to weld or straighten the ROPS.

BATTERY

Keep the battery connections tight and free of corrosion. An ammonia or baking soda-water solution is good for washing the outside surface and terminals of the battery. Make sure the solution does not enter the battery. After cleaning, wash the battery with clean water. Apply a small amount of petroleum jelly to the terminals to protect them from corrosion.

In freezing temperatures, the battery must be maintained in a good state of charge. When a battery is discharged or run down, the electrolyte is weak and may freeze, causing damage to the case. If it becomes necessary to add water (distilled), it should be done just before using the tractor so the charging will mix the water with the electrolyte and prevent the water from freezing.

Determine the battery charge by checking the specific gravity of the electrolyte.

Checking Electrolyte Level: Check the electrolyte level in the battery every 50 hours.

WARNING: When the alternator is charging, an explosive gas is produced inside the battery. Therefore, always check the electrolyte level with the engine stopped. Do not use an exposed flame and do not smoke when checking the battery electrolyte level.

1. Clean the top of the battery, then remove the vent plugs.
2. If the electrolyte level is low, add distilled water. The level is correct when the liquid is 1/4 inch (6.35 mm) above the plates.

   NOTE: Keep distilled water in a clean, well-covered, non-metallic container.
3. Install the vent plug after making sure the vent holes are not blocked. At below freezing temperatures, be sure to run the engine for a period of time, after adding water, so the battery will charge and prevent the water from freezing.

ALTERNATOR

The alternator, Figure 50, is belt-driven from the engine crankshaft pulley. It is important that belt slippage does not occur, otherwise, the charging rate will be affected. Details of belt adjustment are given on page 35.

Other than belt adjustment, the only maintenance required on the alternator is to periodically inspect the terminals and keep them clean and tight. The alternator cooling fan should also be cleaned periodically.

When working on or checking the alternator, comply with the following precautions to prevent alternator damage.

- DO NOT, under any circumstances, short the FIELD terminal of the alternator to ground.
- DO NOT disconnect the voltage regulator while the alternator is operating.
- DO NOT disconnect the alternator output lead or battery cables while the alternator is operating.
- DO NOT remove the alternator from the tractor without first disconnecting the negative (—) battery cable. If the battery is to be removed, disconnect the negative cable first.
- If a battery is being installed, MAKE CERTAIN that the positive (+) cable is connected first and that the negative terminal is connected to ground. Reverse polarity will destroy the rectifier diodes in the alternator.

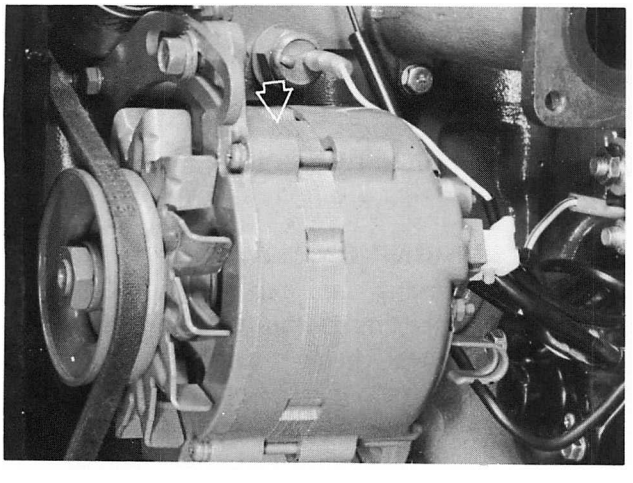


Figure 50 — Alternator

VOLTAGE REGULATOR

The voltage regulator (Figure 51) automatically controls the alternator charging rate. No attempt should be made to adjust the setting of the regulator.

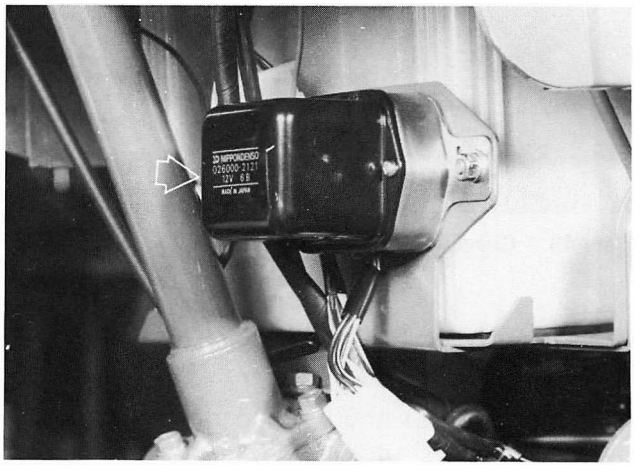


Figure 51 — Voltage Regulator

If the charge indicator warning light indicates that the alternator is not charging the battery, check the fan belt and the wiring connections. If these are satisfactory and the warning light continues to indicate no charge, consult your Ford Tractor Equipment Dealer.

FUSES

The fuses are shown in Figure 52. The plastic fuse cover is easily removed by pulling it off. Always replace blown fuses with the specified fuse.

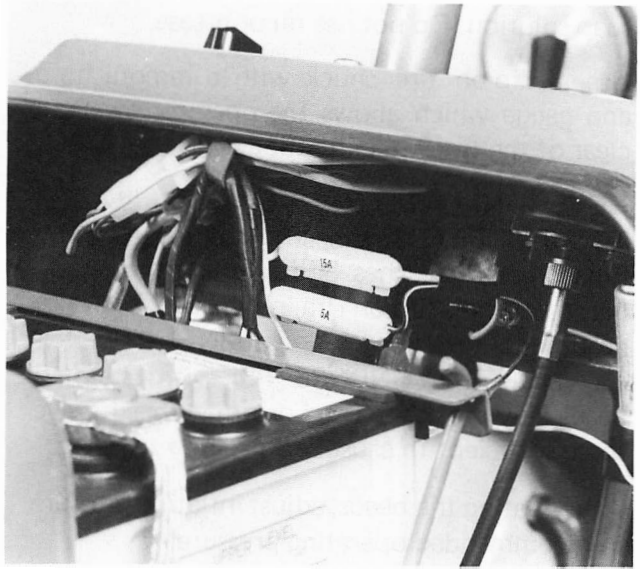


Figure 52 — Fuses

HEADLAMPS

Should a headlamp failure occur, the bulb must be replaced. To change the bulb;

1. Remove four screws securing the headlamp cover to fender, Figure 53.

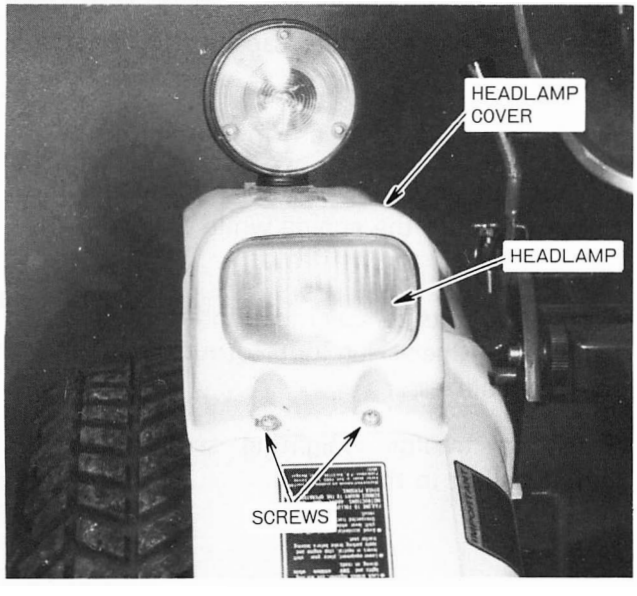


Figure 53 — Headlamp Removal

2. Turn the socket to align the index tab and remove the socket from the housing, Figure 54.
3. Remove the bulb.
4. Install new blub in the socket and install the socket with bulb in the housing.

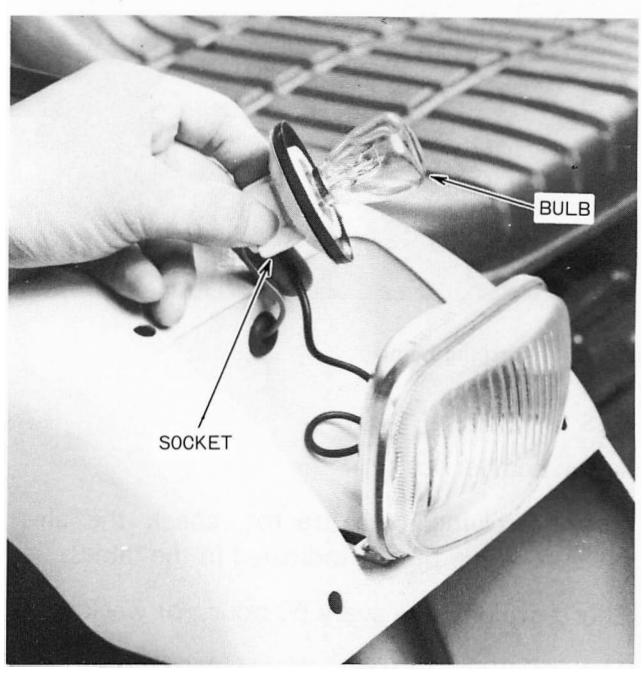


Figure 54 — Headlamp Socket

TAIL LAMP AND FLASHER WARNNING LAMP

To replace a tail lamp bulb or flasher warning lamp bulb:

1. Remove the lens, then remove the bulb.
2. Install a new bulb and reinstall the lens/and or rim assembly.

INSTRUMENT LIGHTS

To change an instrument bulb:

1. Remove the two screws securing the instrument panel lens cover to the instrument panel and pull the light holder up out of the instrument panel.
2. Replace bulb.
3. Install light holder in instrument panel and position lens cover over bulbs.
4. Secure cover with two screws.

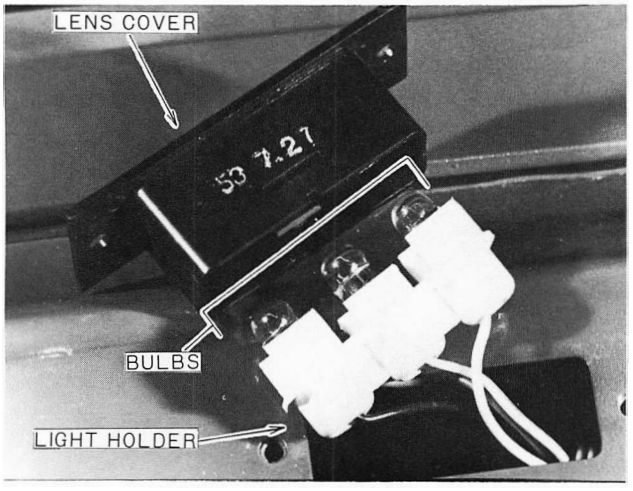


Figure 55 – Warning Lamp

TIRES

Inflation and Service

- Upon receiving your tractor, check the air pressure in the tires as indicated in the tables.
- Check tire pressure every 50 hours, or weekly.
- Tire inflation pressure affects the amount of weight which a tire may carry. Locate the tires for your tractor in the "Tire Inflation vs Permissible Load" chart on page 23. Do not over-or-under inflate the tires.
- Do not inflate a tire above the manufacturer's maximum pressure shown on the tire or the maximum pressure shown in the "Tire Inflation vs Permissible Load" chart, page 23 if the tire is not marked.
- Do not re-inflate a tire that has been run flat or seriously under-inflated until the tire has been inspected for damage by a qualified person.

WARNING: Inflating or servicing tires can be dangerous. Trained personnel should be called to service and/or mount tires when possible. In any event to avoid possible serious or fatal injury, follow the safety precautions below:

- When checking tire pressure, inspect the tire for damaged side walls and tread cuts. Neglected damage will lead to early tire failure.
- Be sure the rim is clean and free of rust.
- Lubricate both tire beads and rim flanges with soap solution. Do not use oil or grease.
- Use a clip-on tire chuck with a remote hose and gauge which allows the operator to stand clear of the tire while inflating it.
- NEVER INFLATE TO OVER 35 psi (2.4 bar) TO SEAT BEADS. If beads have not seated by time pressure reaches 35psi deflate the assembly, reposition tire on rim, relubricate both tire beads and rim flanges and re-INFLATE. INFLATION BEYOND 35 PSI with unseated beads may break the bead or rim with explosive force sufficient to cause serious injury.
- After seating the beads, adjust inflation pressure to recommended operating pressure.
- Do not inflate a tire unless the rim is mounted on the tractor or is secured so that it will not move if the tire or rim should suddenly fail.
- Do not weld, braze, otherwise repair, or use a damaged rim.
- Never attempt tire repairs on a public road or highway.
- Use jack stands or other suitable blocking to support the tractor while repairing tires.
- Insure jack has adequate capacity to lift your tractor.
- Insure jack is placed on a firm level surface.
- Do not put any part of your body under the tractor or start the engine while the tractor is on the jack.
- Torque lug nuts to specification after reinstalling wheel. Check lug nut torque daily until torque stabilizes.
- Refer to tractor weighting section before adding ballast to the tires.

FRONT WHEEL BEARINGS (TWO-WHEEL DRIVE)

The front wheels are carried on the wheel spindles by inner and outer roller bearings. Two grease seals are provided at the inner end of the spindle and an o-ring at the inner end of the outer wheel hub, to retain the lubricant and to keep out dirt and other foreign material.

Front wheel bearings should be repacked every 600 hours as follows:

1. Apply the parking brake to hold the tractor securely.
2. Jack up one of the front wheels and remove the wheel. Split and remove the outer wheel hub. Remove the lock nut, lockwasher, outer bearing, O-ring, collar, inner bearing, grease seals, inner wheel hub and spacer.
3. Thoroughly clean all parts in a suitable solvent and allow to dry naturally. Do not use compressed air. Inspect the bearing cones, cups and rollers for excessive discoloration or wear.
4. Repack the cone and roller assemblies with clean, short-fiber grease. Apply a film of grease on the surface of the spindle.
5. Reinstall the inner bearing, and pack grease in the space between the bearings.
6. Install the outer bearing and tighten with the lockwasher and lock nut to 22-36 lbs. ft. (30-49 N.m).

   NOTE: Figure 56 illustrates front wheel bearing components.
7. Reinstall the outer wheel hub. Install wheel assembly and attaching nuts, and torque 43-54 lbs.ft. (58-73 N.m). Tighten hub nut until a slight resistance is felt.

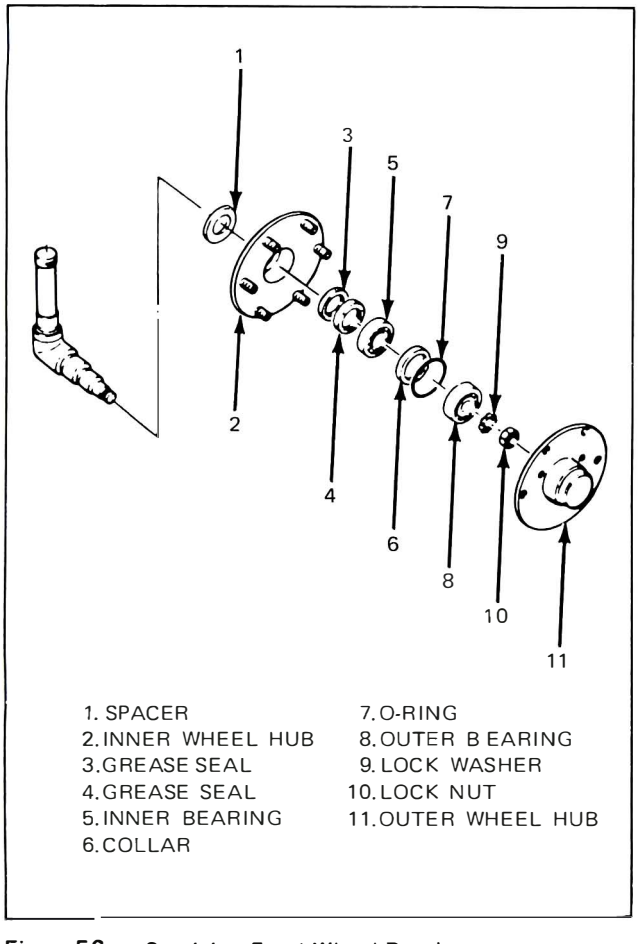


Figure 56 — Servicing Front Wheel Bearings — Two-Wheel Drive

STEERING WHEEL FREE PLAY ADJUSTMENT

Steering wheel play in the direction of rotation should be between .78-1.38 in. (20-35 mm) as shown in Figure 57. If the play exceeds, 2 in. (50 mm), then adjustment is necessary.

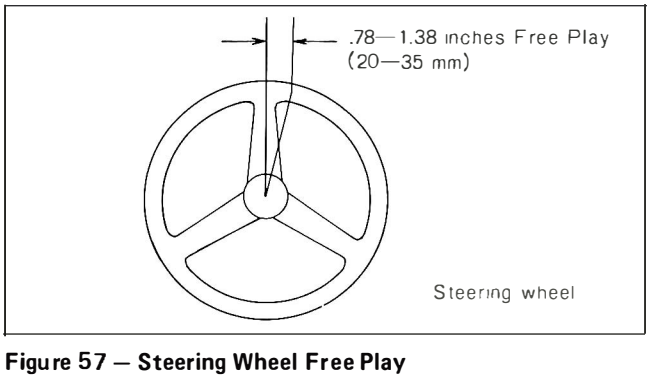


Figure 57 — Steering Wheel Free Play

1. Make sure that all link bolts are tightened properly. If severe wear is apparent, install new parts.
2. Loosen the adjuster locknut on the right side of the steering gear box and turn the adjuster screw, see Figure 58. Turning the screw clockwise will decrease the free play while turning the adjuster screw counterclockwise will increase the steering wheel free play.

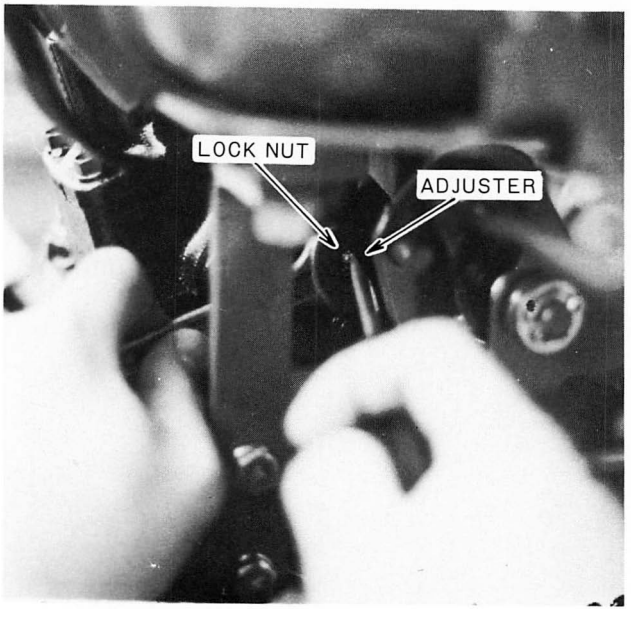


Figure 58 — Steering Wheel Free Play Adjustment

3. Once the adjustment is made, tighten the adjuster locknut securely.

FRONT WHEEL TOE-IN

Front wheel toe-in adjustments on your tractor were made at the factory. Normally, the wheels maintain their toe-in; however, an occasional check should be made.

Checking Toe-In

1. With the front wheels in the straight-ahead position, mark the front of the wheels (not the tires) at wheel hub height (Figure 59). Determine the straight-ahead position by turning the steering wheel from lock to lock and then halfway back.
2. Measure and record the distance between the front of the wheels at the marks, then push the tractor forward or backward until marks are at wheel hub height on the rear of the wheel.
3. Measure and record the distance between the marks at the rear of the wheels.
4. The difference between the dimensions recorded in Step 2 and 3 should give zero to 13/64-inch (0-5 mm) toe-in. The distance between the marks on the wheels should be zero to 13/64-inch (0-5 mm) greater when the marks are at the rear than at the front.
5. If the toe-in is not correct, adjust as outlined in the following procedure.

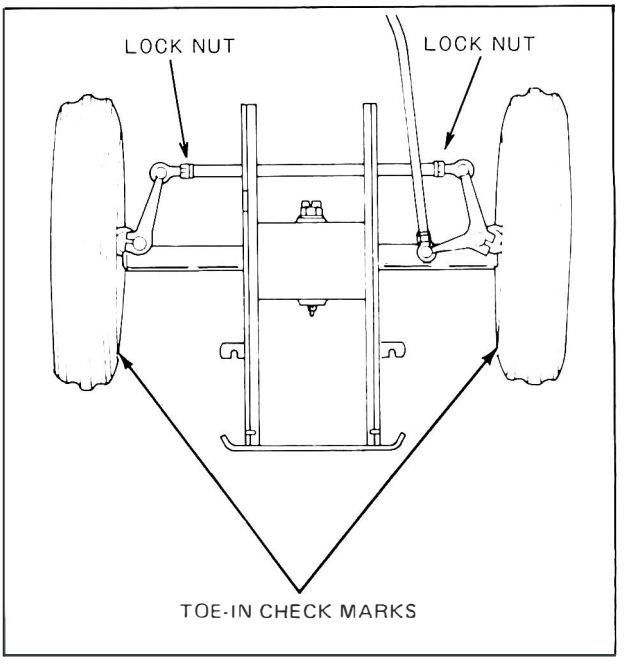


Figure 59 — Checking Toe-In

Adjusting Toe-In

1. Loosen the tie rod lock nuts.
2. Adjust the tie rod tube assembly as required to give zero to 13/64-inch (0-5 mm) toe-in.
3. After the correct toe-in is obtained, tighten the tie rod lock nuts.

BRAKE ADJUSTMENT

Whenever the brake pedal travel becomes excessive, or if the travel of one pedal is unequal to that of the other, adjustment of each pedal should be made in the following manner:

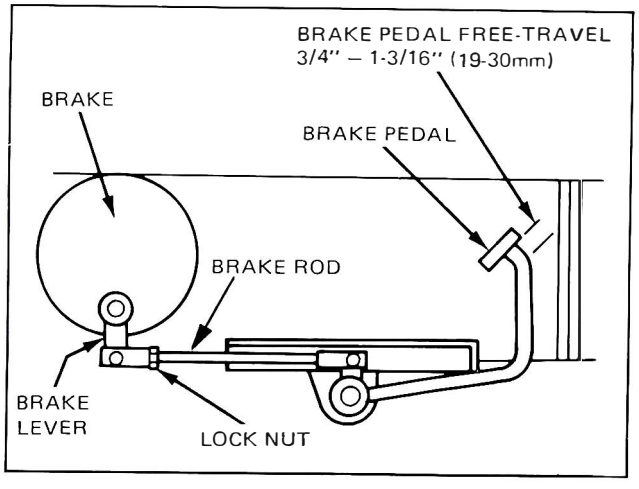


Figure 60 – Brake Pedal Adjustment

1. Jack the tractor up until both rear wheels are free to turn. Support with safety stands.
2. Loosen the lock-nut, Figure 60, and rotate the brake rod as necessary until there is 3/4-1-3/16 inch (19-30 mm) of pedal free play. Lengthening the rod increases free play while shortening the rod decreases free play.
3. Test drive the tractor to make sure the braking action of both rear wheels is equal. Readjust as necessary.

CLUTCH PEDAL ADJUSTMENT

To obtain maximum clutch life, it is essential that the clutch pedal free travel be checked every 50 hours so as to maintain free travel at 3/4 – 1-3/16 inches (19-30 mm), Figure 61.

1. Remove the cotter pin and clevis pin.
2. Turn the clevis to increase or decrease pedal travel as required.

Figure 61 – Clutch Pedal Free Travel Adjustment

FOUR-WHEEL DRIVE FRONT AXLE DIFFERENTIAL CASE

Checking Oil Level: Check the oil level in the front axle every 50 hours. A filler and level check dipstick, Figure 62, is located on the right front axle housing. The oil is at the correct level when the oil level is between the mark and the lower end of the dipstick.

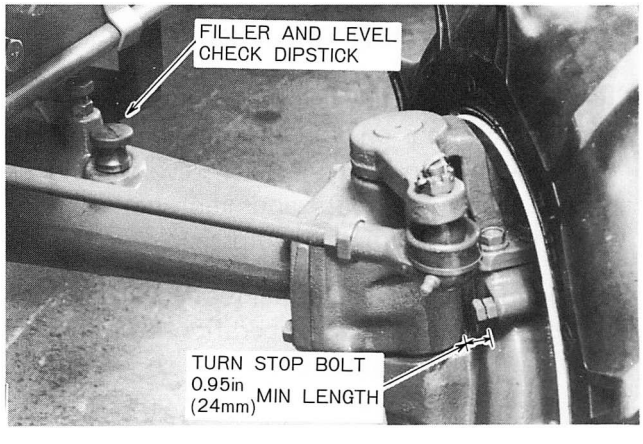


Figure 62 – Turn Stop Bolt and Filler Plug

Changing Oil: Drain the front axle differential case every 300 hours by removing the drain plug, Figure 63. Replenish with a high-quality, extreme pressure gear lubricant with an anti-foam additive. Refer to the following chart for recommended viscosity grades.

TEMPERATURE	VISCOSITY GRADE
Under 86°F.(30°C)	SAE 80
Over 86°F. (30°C)	SAE 90 or 140

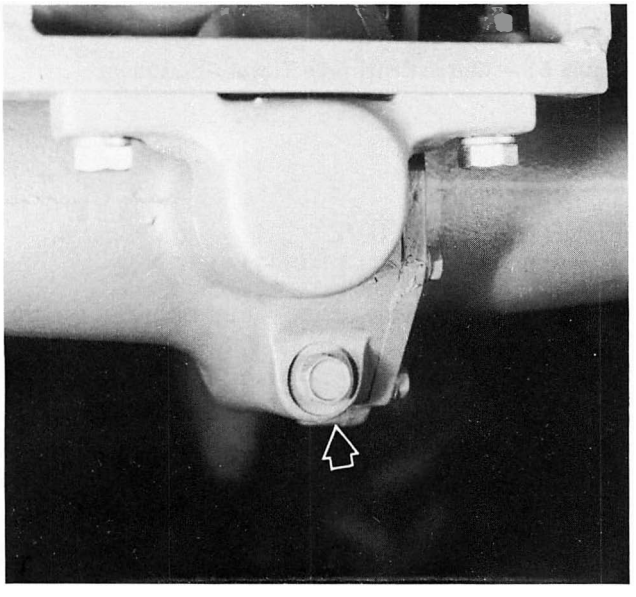


Figure 63 – Front Axle Differential Drain Plug

FINAL REDUCTION GEAR CASES

Checking Oil Level: Oil level for the entire front axle is indicated on the dipstick on the right front axle housing, Figure 62. Level should be checked every 50 hours and kept between the mark and the bottom of the dipstick.

Changing Oil: Drain each final reduction gear case after every 300 hours of operation by removing the drain plug, Figure 64, on each gear case. Replenish with a high-quality, extreme pressure gear lubricant with an anti-foam additive. Refer to the following chart for recommended viscosity grades.

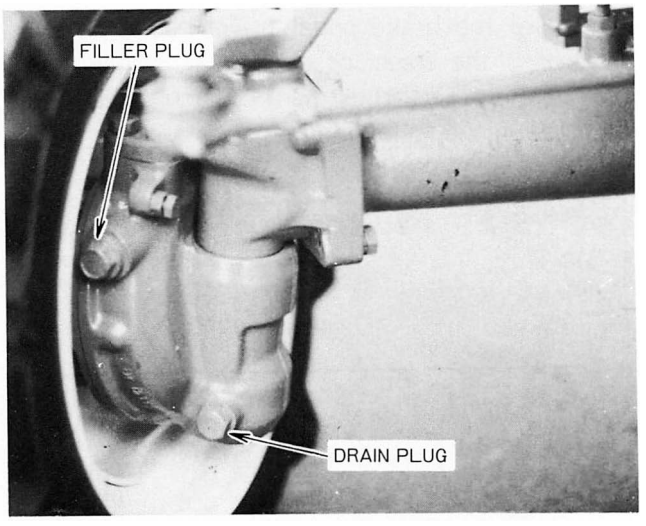


Figure 64 – Final Reduction Gear Case Fill and Drain Plugs

TEMPERATURE	VISCOSITY GRADE
Under 86°F.(30°C)	SAE 80
Over 86°F. (30°C)	SAE 90 or 140

TRACTOR STORAGE

Tractor s that are to be stored for an extended period should be protected during storage. The following is a suggested list of operations to be carried out.

1. Thoroughly clean the tractor. Use touch-up paint where necessary to prevent rust.
2. Check the tractor for worn or damaged parts. Install new parts as required.
3. Raise the lift arms hydraulically to their fully raised position so the lift piston is in a fully extended position. This fills the cylinder with oil and will protect the cylinder wall surfaces from corrosion.
4. Lubricate the tractor. Drain and refill the transmission, hydraulic system and rear axle with new oil. Drain the engine oil and refill with new lubricating oil. Also clean the air cleaner.

5. If the tractor is stored or removed from operation for an extended period, special precautions should be taken to protect the fuel injection pump and the injector nozzles against corrosion and gumming during the storage period.

   - Before storing, the fuel system should be flushed with a special oil, a quantity of which will remain in the system when the engine is shut down for storage.
   - Special diesel fuel system flushing oils are available from most oil companies. If special flushing oil is not readily obtainable, mix one U.S. pint (0.8327 Imp. pt.) (.473 liters) of SAE 10 non-detergent engine oil with 10 U.S. quarts (8.33 Imp. qts.) (9.46 liters) of No. 2 diesel fuel.
   - Drain the fuel tank and pour two U.S. gallons (1.67 Imp. gals.) (7.57 liters) of the special flushing oil (or lubricating mixture) in the fuel tank.
   - Run the engine for 10 minutes to ensure complete distribution of the special oil through the injection pump and fuel injectors. There is no need to remove the injector nozzles.
   - Fill the fuel tank with No. 1 diesel fuel.

     IMPORTANT: Do not use No. 2 diesel fuel for winter storage because of wax separation and setting at low temperatures.

6. Drain the radiator and engine block. Flush the system, close the drain valves, and fill with a 50/50 solution of permanent antifreeze and clear water.

7. Remove the battery and clean it thoroughly. Be sure that it is fully charged, and that the electrolyte is at the proper level. Place it in storage in a cool, dry place above freezing temperature. The battery should be charged periodically during storage.

8. Place blocking under the tractor axles to remove the weight from the tires.

9. Cover the exhaust pipe opening (if no rain cap is installed).

10. Place pedal spacer between clutch pedal and set plate to separate clutch disc from flywheel (Figure 65).

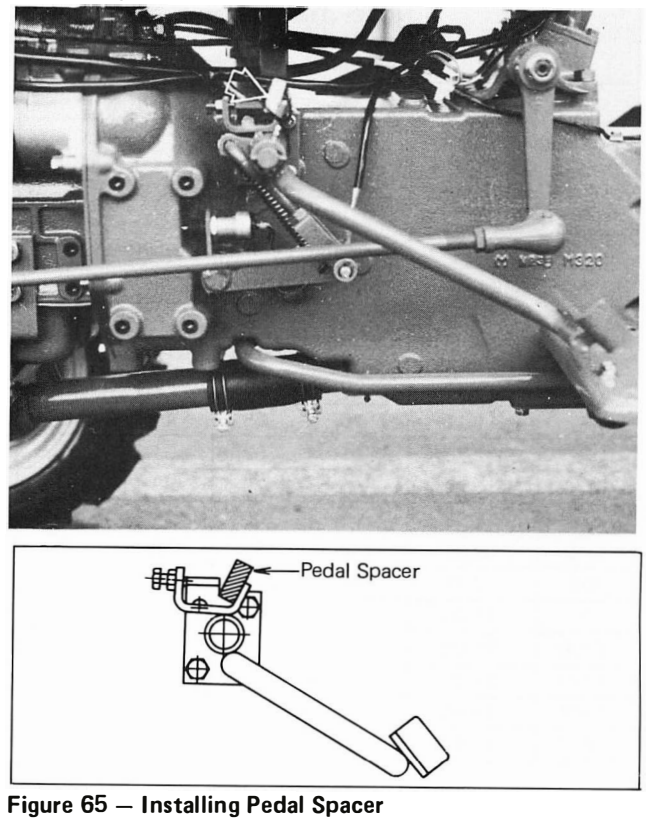


Figure 65 — Installing Pedal Spacer

Tractors that have been placed in storage should be completely serviced in the following manner before using:

1. Inflate the tires to the recommended pressures, and remove the blocking.

2. Check the oil level in the engine crankcase, the common sump (for the hydraulic lift, transmission rear axle), and optional front wheel drive axle.

3. Install a fully-charged battery and remove the exhaust cover, if other than a rain cap.

4. Check the cooling system for proper level of 50/50 solution of antifreeze and clear water.

5. Remove pedal spacer from between clutch pedal and set plate.

6. Start the engine and allow it to idle a few minutes. Be sure the engine is receiving lubrication and that each control is functioning correctly.

7. Drive the tractor without a load and check to be sure it is operating satisfactorily.

GENERAL TORQUE SPECIFICATION TABLE (Revised 2-74)

USE THE FOLLOWING TORQUES WHEN SPECIAL TORQUES ARE NOT GIVEN

NOTE: These values apply to fasteners as received from supplier, dry, or when lubricated with normal engine oil. They do not apply if special graphited or moly disulphide greases or other extreme pressure lubricants are used. This applies to both UNF and UNC threads.

SEE Grade No.		2				5				8 *			
Bolt head identification marks as per grade NOTE: Manufacturing Marks Will Vary													
Bolt Size		Torque Pounds Feet		Torque Newton-Meters		Torque Pounds Feet		Torque Newton-Meters		Torque Pounds Feet		Torque Newton Meters	
Inches	Millimeters	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
1/4	6.35	5	6	6.8	8.13	9	11	12.2	14.9	12	15	16.3	30.3
5/16	7.94	10	12	13.6	16.3	17	20.5	23.1	27.8	24	29	32.5	39.3
3/8	9.53	20	23	27.1	31.2	35	42	47.5	57.0	45	54	61.0	73.2
7/16	11.11	30	25	40.7	47.4	54	64	73.2	86.8	70	84	94.9	113.9
1/2	12.70	45	52	61.0	70.5	80	96	108.5	130.2	110	132	149.2	179.0
9/16	14.29	65	75	88.1	101.6	110	132	149.2	179.0	160	192	217.0	260.4
5/8	15.88	95	105	128.7	142.3	150	180	203.4	244.1	220	264	298.3	358.0
3/4	19.05	150	185	203.3	250.7	270	324	366.1	439.3	380	456	515.3	618.3
7/8	22.23	160	200	216.8	271.0	400	480	542.4	650.9	600	720	813.6	976.3
1	25.40	250	300	338.8	406.5	580	696	786.5	943.8	900	1080	1220.4	1464.5
1-1/8	25.58	—		—		800	880	1084.8	1193.3	1280	1440	1735.7	1952.6
1-1/4	31.75	—		—		1120	1240	1518.7	1681.4	1820	2000	2467.9	2712.0
1-3/8	34.93	—		—		1460	1680	1979.8	2278.1	2380	2720	3227.3	3688.3
1-1/2	38.10	—		—		1940	2200	2630.6	2983.2	3160	3560	4285.0	4827.4

* Thick nuts must be used with Grade 8 bolts.

METRIC BOLT TORQUE SPECIFICATIONS

Size of screw	Grade No.	Coarse thread Pitch (mm)	Coarse thread Pounds Feet	Coarse thread Newton-Meters	Fine thread Pitch (mm)	Fine thread Pounds Feet	Fine thread Newton-Meters
M6	4T (4)	1.0	3.6–5.8	4.9–7.9	—	–	–
	7T (7)		5.8–9.4	7.9–12.7		–	–
	8T (8) (11)		7.2–10	9.8–13.6		–	–
M8	4T	1.25	7.2–14	9.8–19	1.0	12–17	16.3–23
	7T		17–22	23–29.8		19–27	25.7–36.6
	8T		20–26	27.1–35.2		22–31	29.8–42
M10	4T	1.5	20–25	27.1–33.9	1.25	20–29	27.1–39.3
	7T		34–40	46.1–54.2		35–47	47.4–63.7
	8T		38–46	51.5–62.3		40–52	54.2–70.5
M12	4T	1.75	28–34	37.9–46.1	1.25	31–41	42–55.6
	7T		51–59	69.1–79.9		56–68	75.9–92.1
	8T		57–66	77.2–89.4		62–75	84–101.6
M14	4T	2.0	49–56	66.4–75.9	1.5	52–64	70.5–86.7
	7T		81–93	109.8–126		90–106	122–143.6
	8T		96–109	130.1–147.7		107–124	145–168
M16	4T	2.0	67–77	90.8–104.3	1.5	69–83	93.5–112.5
	7T		116–130	157.2–176.2		120–138	162.6–187
	8T		129–145	174.8–196.5		140–158	189.7–214.1
M18	4T	2.0	88–100	119.2–136	1.5	100–117	136–158.5
	7T		150–168	203.3–227.6		177–199	239.8–269.6
	8T		175–194	237.1–262.9		202–231	273.7–313
M20	4T	2.5	108–130	146.3–176.2	1.5	132–150	178.9–203.3
	7T		186–205	252–277.8		206–242	279.1–327.9
	8T		213–249	288.6–337.4		246–289	333.3–391.6

SPECIFICATIONS

The specifications on the following pages are provided for your information. For additional information, see your Ford Tractor-Equipment Dealer.

Properly Maintained Equipment is Safe Equipment

"Ford Motor Company, whose policy is one of continuous improvement, reserves the right to make changes in design and specifications at any time without notice and without obligation to modify units previously built."

SPECIFICATIONS

ENGINE

Type . . . . . Diesel
Number of Cylinders 3
Bore . . . . . 2.83 in. (7.2 cm)
Stroke . . . . . 2.83 in. (7.2 cm)
Displacement . . . . . .53.6 cu. in. (879 cc)
Compression Ratio . . . . . .23 : 1
Firing Order 1-2-3
Low Idle Speed . . . . . 750-850 rpm
Maximum Speed:
  High Idle 2850-2900
  Rated 2700
Valve Clearance (Cold Engine):
  Intake . . . . . .0.008 in. (.20 mm)
  Exhaust . . . . . .0.008 in. (.20 mm)

CAPACITIES

Fuel Tank . . . . . 4.8 U.S. Gals.
4.0 Imp. Gals.
18 Liters
Cooling System . . . . . .2.4 U.S. Qts.
2.0 Imp. Qts.
2.3 Liters
Engine Crankcase:
  Less Filter . . . . . .2.6 U.S. Qts.
2.2 Imp. Qts.
2.5 Liters
  With Filter Change . . . . . .3.0 U.S. Qts.
2.5 Imp. Qts.
2.8 Liters
Rear Axle and Transmission . . . . . 17 U.S. Qts.
(Includes Hydraulics) . . . . . 14.2 Imp. Qts.
16.1 Liters
H.S.T. Rear Axle and Transmission . . . . . .15.3 U.S. Qts.
12.8 Imp. Qts.
14.5 Liters
Front Axle Final Reduction and Differential
  Gear Case . . . . . .1.62 U.S. Qts.
1.36 Imp. Qts.
1.5 Liters

COOLING SYSTEM

Type . . . . . Pressurized Liquid with Recirculating Bypass
Water Pump:
  Type . . . . . Centrifugal
  Drive . . . . . .V-Belt
  Water Pump Belt Deflection . . . . . .7/16 to 9/16 (10-15 mm) when 20-25 lbs. (9-11 kg) Thumb Force is Applied Midway Between Pulleys.
  Fan Diameter . . . . . 13.19 in. (33.5 cm)
Thermostat:
  Start to Open . . . . . .160°F (71°C)
  Fully Open . . . . . .185°F (85°C)
Radiator Cap . . . . . .13 psi (.9 bar)

ELECTRICAL SYSTEM

Alternator . . . . . 12-volt, Heavy Duty, 35 amps
Regulator (Alternator) . . . . . Mechanical
Battery . . . . . .12-volt, 65 amp. Hour Rating with Negative Ground
Starting Motor . . . . . Solenoid, Pre-Engaged

FUEL SYSTEM

Type of Fuel to Use	Temperature	Type
Diesel	Above 20°F (–6.7°C)	No. 2D Cetane Rating 45
	Below 20°F (–6.7°C)	No. 1D Cetane Rating 50

Injection Pump:
  Type . . . . . In-Line
  Timing . . . . . .20 ~ 21°BTDC

CLUTCH

Type . . . . . 7.2 in. (18.4 cm) Dry Disc., Organic Face
Pedal Free-Travel . . . . . .3/4-1-3/16 in. (19-30 mm)

BRAKES

Type . . . . . .Drum (Expanding Shoe)
Drum . . . . . .4.33 in. Diameter (11.0 cm)

STEERING

Type . . . . . Manual
Turn Lock-to-Lock 2.3
Steering Wheel Free-Play . . . . . .0.78-1.38 in. (20-35 mm)
Front Wheel Toe-In . . . . . .0-13/64 in. (0-5 mm)
Turning Radius
  (Without Brake) . . . . . 7.2 ft. (219 cm) Two Wheel Drive
8.0 ft. (244 cm) Four Wheel Drive

POWER TAKE-OFF

Type . . . . . Transmission
Shaft . . . . . 1-3/8 in. (3.49 cm)
6 Spline SAE STD
Engine Speed for 540 rpm
PTO Operation . . . . . 2568 rpm/2575 rpm
(H.S.T.)
Horsepower PTO
Observed 13.5

HYDRAULIC LIFT SYSTEM

Type . . . . . Live Category 1
3-point Linkage
Pump Type . . . . . Gear
Pump Capacity . . . . . 4.3 gpm @
1849 psi at 2700 rpm
(3.6 Imp. gpm @
127 bar @ 2700 rpm)
System Relief Valve
Setting. . . . . 1849 psi (127 bar)

CAST IRON WEIGHTS

(3) Front End Weights. . . . . 33 lbs.
(15 kg) each
(2) Front Wheel Weights . . . . . 33 lbs.
(15 kg) each
(4) Rear Wheel Weights . . . . . 44 lbs.
(20 kg) each
Draw Bars
Fixed Type . . . . . Standard

TIRES

Front:
Standard (AG). . . . . (Four Wheel Drive)
5-12, R1, 4 Ply
(Two Wheel Drive)
4.00-12, F2, 4 Ply
Optional (TURF) 20x8.00-10, R3. 4Ply

Rear:
Standard (AG). . . . . 8-16, R1, 4 Ply
Optional (TURF) . . . . 29 x 12.00-15, R3, 4Ply

WHEEL BOLT TORQUES

Front Wheel
Disc-to-Hub. . . . . 43-54 lbs. ft.
(58-73 N.m)
Rear Wheel
Disc-to-Axle . . . . . 69-87 lbs. ft.
(93-117 N.m)

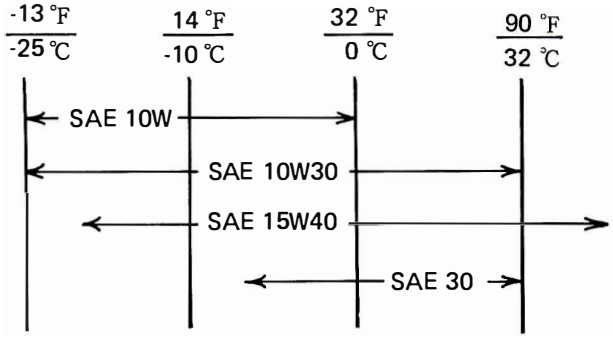
LUBRICANTS

TRACTOR COMPONENT	FORD SPECIFICATION NUMBER	FORD PART NO.
Engine Oil	FORD 121	1QM-2C 121-AMV
	(Meets M2C-121-B API Grade CD and MIL-L-2104C	(Case-24 Qts. 15W-40)
		1QM-2C 121-A10
		(Case-24 Qts. SAE 10W)
		1QM-2C 121-A30
		(Case-24 Qts. SAE 30W)
Transmission, Rear Axle and Hydraulic System Oil (Mechanical Transmission)	FORD 134	1 QM-134B (1 Gal.)
		5GM-134B (5 Gal.)
(Hydrostatic Transmission)	FORD 41	
Lubrication Fittings	M1C-137-A	1TM-1C-137-A (1 Tube)
Front Axles.	FORD 134	1GM-134B (1Gal.)
		E0AZ-19580-E (5 Gal.)

NOTE: Should the recommended engine oil not be readily available, use a commercial oil as shown in the following chart.

SPECIFICATIONS

OUTDOOR TEMPERATURES AND RANGES OF APPLICATION



IMPORTANT;

Engine crankcase oil drain intervals should be adjusted downward when diesel fuel sulfur content is above 0.5%.

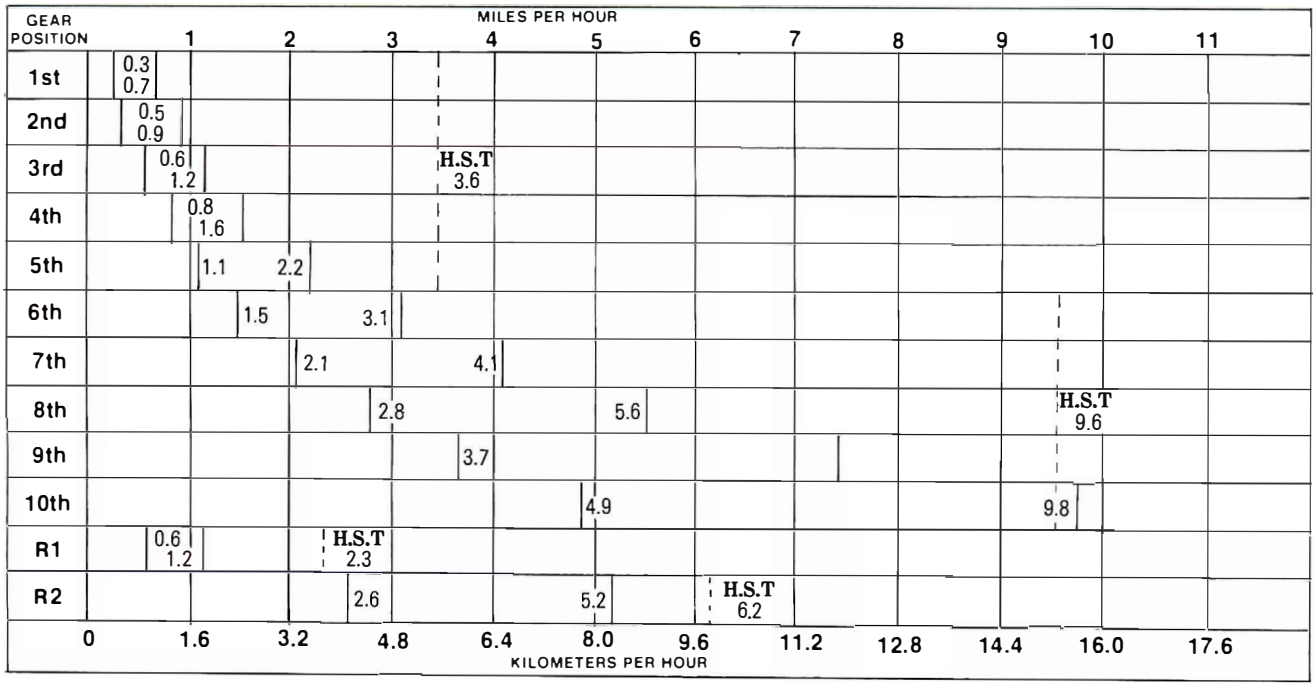
GENERAL DIMENSIONS

	Two Wheel Drive(H.S.T.)	Four Wheel Drive
Length	102.0 in. (259 cm)	102.0 in. (259 cm)
Wheelbase	55.1 in. (140 cm)	55.1 in. (140 cm)

GENERAL DIMENSIONS – Cont'd.

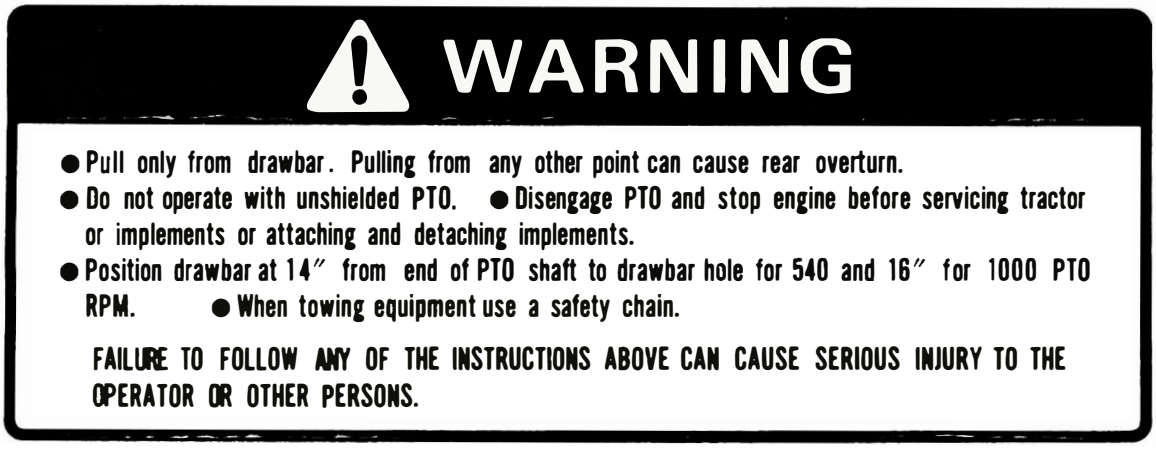
	Two Wheel Drive	Four Wheel Drive
Height:		
Top of Steering Wheel	50.2 in. (127.5 cm)	50.4 in. (128 cm)
Top of ROPS	79.5 in. (202 cm)	79.5 in. (202 cm)
Width	44.1 in (112 cm)	44.1 in. (112 cm)
Minimum Ground Clearance		10.4 in. (26.4 cm)
Adjustable Width		
Front	33.9-36.2 in. (86-92 cm)	34.6 in. (88 cm)
Rear	31.1-45.9 in. (78.9-1165 cm)	31.1-45.9 in. (78.9-1165 cm)
Weight		
(Less Options)		1289 lbs. (585 kg)
H.S.T.	1245 lbs. (565 kg)	1333 lbs. (605 kg)

GROUND SPEEDS
From 1350–2700 RPM Engine Speed with 8 ×16 Rear Tires

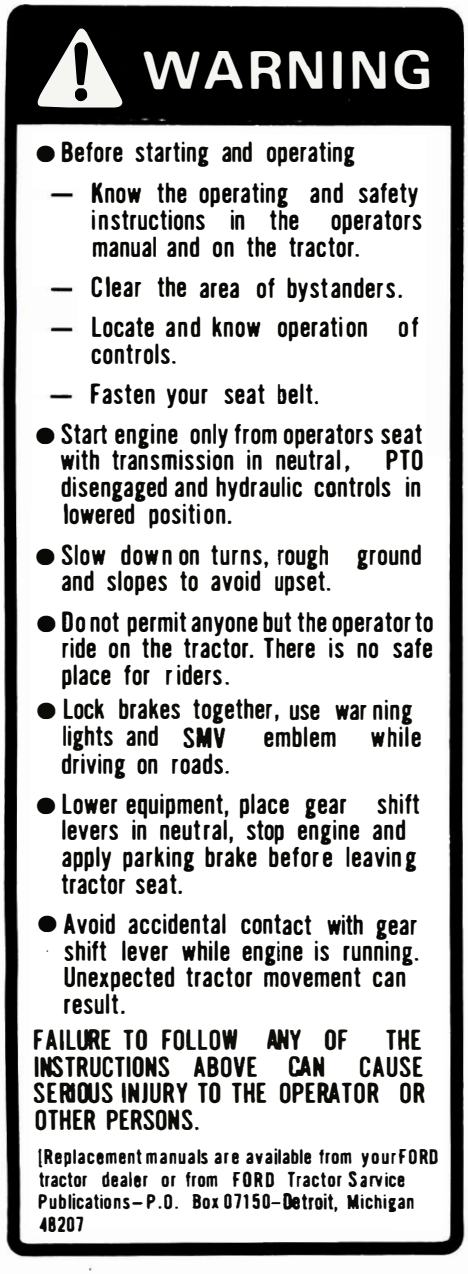


SAFETY AND INSTRUCTION DECALS

In the event that decals become damaged or illegible, they should be replaced with new decals at their original position.



WARNING – Pull only from drawbar
PART NO. – SBA-390192291
LOCATION – Top of PTO shaft.

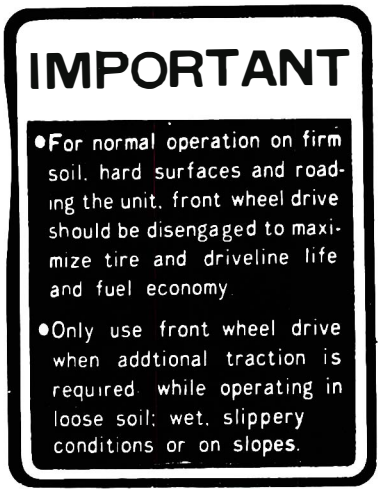


WARNING – Start engine only from operators seat.
PART NO. – SBA-190196681.
LOCATION – On the starting motor.

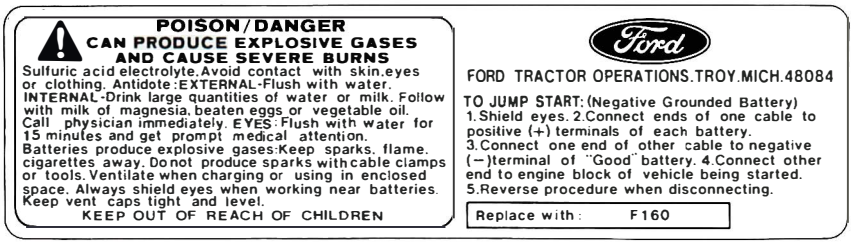
WARNING – Keep hands and clothing away from rotating fan.
PART NO. – SBA-390191351.
LOCATION – Rear of radiator.

WARNING – Before starting and operating.
PART NO. – SBA-390192272.
LOCATION – Center of R. H. fender.

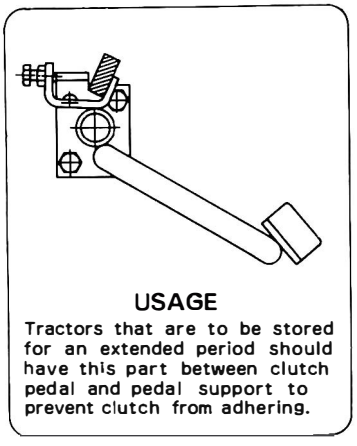
SAFETY AND INSTRUCTION DECALS



IMPORTANT – **For normal operation.**
PART NO. – SBA-390192410.
LOCATION – Center of R.H. fender.



POISON/DANGER – TO JUMP START
PART NO. – SBA- 390193240
LOCATION – On the Battery.

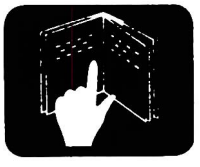


USAGE – **Tractors that are to be stored for an extended period should have this part.**
PART NO. – SBA-390192801.
LOCATION – L.H. Side of Fuel Tank.

Flasher Warning Switch
PART NO. – SBA-390191390.
LOCATION – Safety flasher switch right of instrument panel.

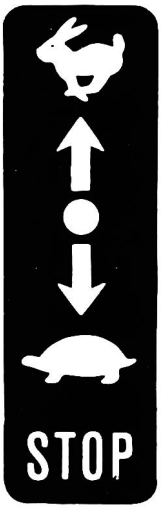
Starter Switch
PART NO. – SBA-390190030.
LOCATION – Starter Switch, right side of instrument panel.

Cold Start Aid
PART NO. – SBA-390191370
LOCATION – Glow plug indicator left side of instrument panel.

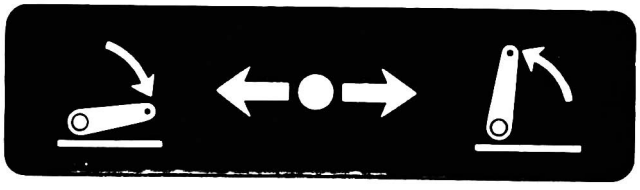


HYD. Mainfold Operation
See Operator's Manual
PART NO. – SBA-390192850.
LOCATION – R.H. side of Hyd. Manifold

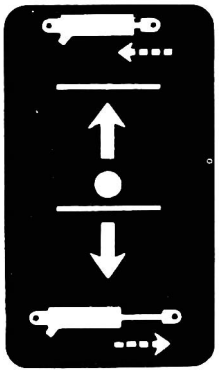
Diesel Fuel
PART NO. – SBA-390192840.
LOCATION – Under fuel fill lid.



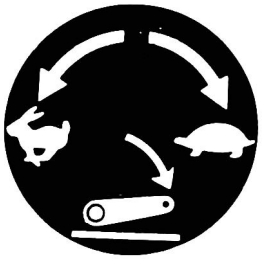
Hand Throttle Lever
PART NO. – SBA-390430090.
LOCATION – Hand throttle lever, rear of hood right side.



Hydraulic Lift Control Lever
PART NO. – SBA-390370280.
LOCATION – Center of R.H. fender.



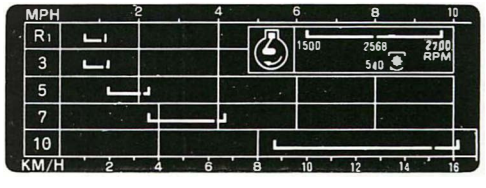
Remote Control Lever (Optional)
PART NO. – SBA-390370300.
LOCATION – Front of quadrant bracket.



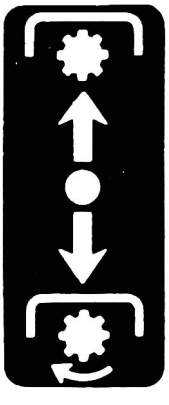
Flow Control Valve
PART NO. – SBA-390370290.
LOCATION – Top of flow control knob.

Range Selector Lever
PART NO. – SBA-390170660.
LOCATION – Right side of transmission housing.

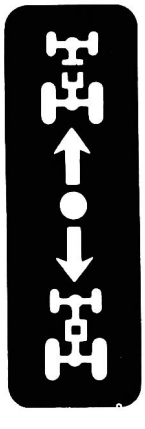
Creeper Range Selector Lever (Optional)
PART NO. – SBA-390170670.
LOCATION – Right side of transmission housing.



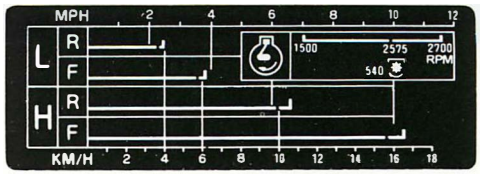
Ground Speed Diagram-Manual
PART NO. – SBA-390171260
LOCATION – Proof-meter, left side of instrument panel.



PTO Control Lever
PART NO. – SBA-390170650.
LOCATION – On the change lever case right side.



Four-Wheel Drive Control Lever
PART NO. – SBA-390170630.
LOCATION – On the change lever case left side.



Ground Speed Diagram-Hydrostatic
PART NO. – SBA-390171280
LOCATION – Proof-meter, left side of instrument panel.

SAFETY AND INSTRUCTION DECALS

WATCH YOUR PROOF METER HOURS

LUBRICATION AND MAINTENANCE SERVICE INTERVALS

LUBRICATION AND MAINTENANCE ITEM	CHECK	CLEAN	LUBE	CHANGE	ADJUST	SERVICE INTERVAL
Radiator	●					Every 10 Hours or Daily
Engine Oil Level	●					
Air Cleaner	●					
Transmission Oil Level	●					Every 50 Hours
Front Diff Oil Level	●					
Front Axle Oil Level	●					
Tires	●					
Clutch Pedal					●	
Battery	●					
Lubrication Fittings						
Steering linkage			●			
Front wheel spindles			●			
3-point linkage			●			
Engine Oil				●		Every 100 Hours
Fuel Filter	●					
Air Cleaner	●					
Fuel Filter				●		Every 200 Hours
Engine Oil Filter				●		
Fan Belt					●	
Brakes					●	
Steering Free-Play					●	
H.S.T Suction Filter						Every 300 Hours
H.S.T Cartridge Filter				●		
Front Axle Oil				●		
Front Diff Oil				●		
Transmission–Rear Axle Oil				●		
Fuel Injectors	●				●	Every 600 Hours
Hydraulic Filter						
H.S.T Suction Filter				●		
Radiator Coolant				●		Seasonal
Air Cleaner Element				●		

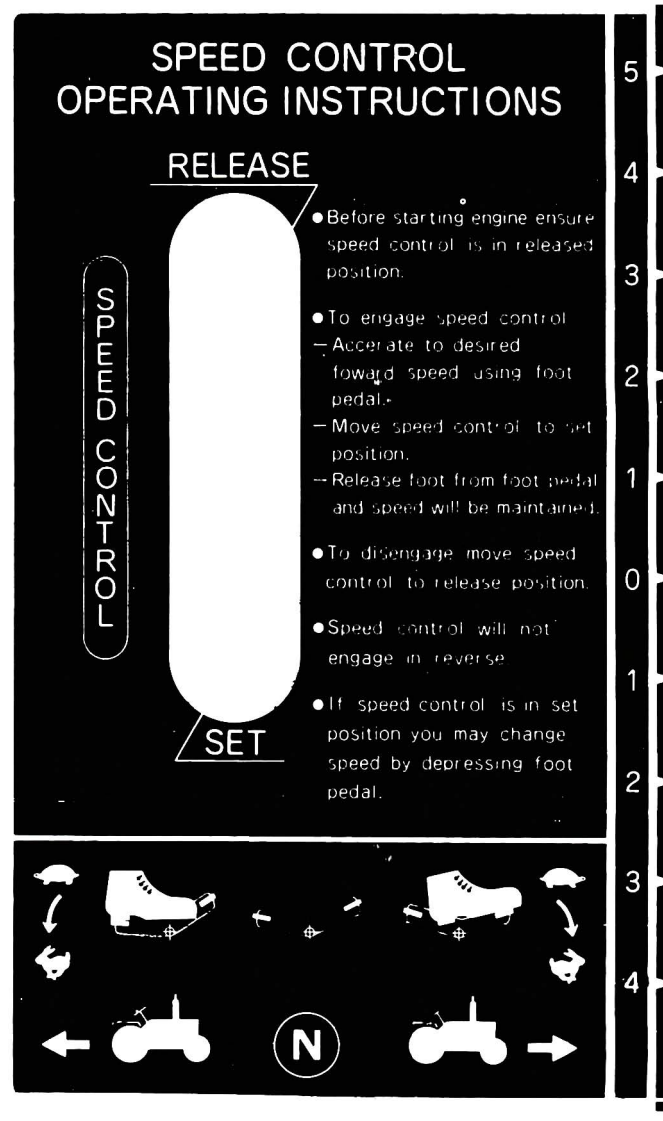
Refer to your Operator's Manual for additional information

Watch your proof meter hours-lubrication and maintenance service intervals.
PART NO. – SBA-390192810.
LOCATION – Inside of the Hood

DIESEL ENGINE OIL INFORMATION

Service Grade CD
SAE 10W30, 10W40 for year around use
or
SAE 10W in severe cold below 32° F
SAE 20W for winter use 32° to 50° F
SAE 30W for summer use above 50° F
Change interval every 100 hours

Diesel Engine Oil Information
PART NO. – SBA-190196490.
LOCATION – On the engine cylinder head cover.



Speed Control Operating Instructions
PART NO. – SBA-390192730.
LOCATION – On the transmission case cover.

NOTES

NOTES

PRE-DELIVERY SERVICE

CHECK AND ADJUST AS REQUIRED

INOPERATIVE SERVICE CHECKS:

1. Tire pressure ☐
2. Air cleaner oil level and hose connections ☐
3. Radiator coolant level ☐
4. Fan belt tension ☐
5. Battery cleanliness, vent openings, electrolyte level, and charge ☐
6. Engine oil level ☐
7. Transmission and rear axle oil level ☐
8. Front Axle and Front Diff oil level (4WD) ☐
9. Starter safety switch operation ☐
10. Hydraulic Lift control adjustment ☐
11. Upper link, and hitch ☐
12. Brake adjustment and pedal equalization ☐
13. Operation of brake pedal lock ☐
14. Rear wheel disc and hub bolts for tightness ☐
15. Front wheel disc and hub nuts for tightness (2WD) ☐
16. Front wheel disc and hub bolts for tightness (4WD) ☐
17. Front wheel toe-in ☐
18. Fuel level ☐
19. Sheet metal and paint condition ☐
20. Check lift rod for proper operation ☐
21. Drain diesel fuel filter ☐
22. Operator's Manual ☐
23. Seat belt installed when ROPS is installed ☐

OPERATIVE SERVICE CHECKS:

All operating checks are to be performed with the tractor at normal operating temperature.

1. Lights and instruments for proper operation ☐
2. Fluid and oil leaks ☐
3. Maximum no-load speed and idle speed adjustments, and fuel shutoff ☐
4. Starting and starter safety switch ☐
5. P.T.O. engagement and disengagement:
   - Clutch pedal and P.T.O. lever ☐
6. Hydraulic System:
   - Selection lever for position control operation ☐
   - Flow control operation ☐
7. 4-wheel drive lever operation ☐
8. Low speed (creeper) lever ☐
9. Operation of H.S.T. ☐

TRACTOR MODEL NO. _____ **INSPECTION PERFORMED WARRANTY EXPLAINED** **TRACTOR SERIAL NO.** _____

_____

OWNER'S SIGNATURE **DATE** **DEALER'S SIGNATURE** **DATE**

50-HOUR SERVICE

CHECK AND ADJUST AS REQUIRED

INOPERATIVE SERVICE CHECKS:

1. Tire pressure ☐
2. Check air cleaner hose connection ☐
3. Replace diesel fuel filter(s) ☐
4. Tighten in-line pump delivery valve holders ☐
5. Radiator coolant level ☐
6. Fan belt tension ☐
7. Battery cleanliness and vent openings, electrolyte level, and charge ☐
8. All electrical cables, terminals, and wires ☐
9. Drain and refill engine oil ☐
10. Replace engine oil filter ☐
11. Transmission and rear axle oil level ☐
12. Front differential and front axle oil level (4WD) ☐
13. Injection pump timing ☐
14. Cylinder head bolt torque ☐
15. Clean Hydraulic System Oil Filter ☐
16. Replace H.S.T. cartridge oil filter ☐

OPERATIVE SERVICE CHECKS:

1. Lights and instruments for proper operation ☐
2. Fluid and oil leaks ☐
3. Maximum no-load speed and idle speed adjustments, and fuel shutoff ☐
4. Starting and starter safety switch ☐
5. Valve lash ☐
6. Hydraulic System:
   - Selector lever for position control operation ☐
   - Flow control operation ☐

PERFORMANCE SERVICE CHECKS:

1. Engine operation including throttle and governor operation ☐
2. Transmission including clutch ☐
3. Steering control ☐
4. Differential lock engagement and disengagement ☐
5. Brake action ☐
6. All optional equipment and accessories ☐
7. Hydrostatic Transmission ☐

TRACTOR MODEL NO. _____ **INSPECTION PERFORMED** **TRACTOR SERIAL NO.** _____

_____

OWNER'S SIGNATURE **DATE** **DEALER'S SIGNATURE** **DATE**

PRE-DELIVERY SERVICE

CHECK AND ADJUST AS REQUIRED

INOPERATIVE SERVICE CHECKS:

1. Tire pressure ☐
2. Air cleaner oil level and hose connections ☐
3. Radiator coolant level ☐
4. Fan belt tension ☐
5. Battery cleanliness, vent openings, electrolyte level, and charge ☐
6. Engine oil level ☐
7. Transmission and rear axle oil level ☐
8. Front Axle and Front Diff oil level (4WD) ☐
9. Starter safety switch operation ☐
10. Hydraulic Lift control adjustment ☐
11. Upper link, and hitch ☐
12. Brake adjustment and pedal equalization ☐
13. Operation of brake pedal lock ☐
14. Rear wheel disc and hub bolts for tightness ☐
15. Front wheel disc and hub nuts for tightness (2WD) ☐
16. Front wheel disc and hub bolts for tightness (4WD) ☐
17. Front wheel toe-in ☐
18. Fuel level ☐
19. Sheet metal and paint condition ☐
20. Check lift rod for proper operation ☐
21. Drain diesel fuel filter ☐
22. Operator's Manual ☐
23. Seat belt installed when ROPS is installed ☐

OPERATIVE SERVICE CHECKS:

All operating checks are to be performed with the tractor at normal operating temperature.

1. Lights and instruments for proper operation ☐
2. Fluid and oil leaks ☐
3. Maximum no-load speed and idle speed adjustments, and fuel shutoff ☐
4. Starting and starter safety switch ☐
5. P.T.O. engagement and disengagement:
   - Clutch pedal and P.T.O. lever ☐
6. Hydraulic System:
   - Selection lever for position control operation ☐
   - Flow control operation ☐
7. 4-wheel drive lever operation ☐
8. Low speed (creeper) lever ☐
9. Operation of H.S.T. ☐

TRACTOR MODEL NO. _____ **INSPECTION PERFORMED WARRANTY EXPLAINED** **TRACTOR SERIAL NO.** _____

OWNER'S SIGNATURE **DATE** **DEALER'S SIGNATURE** **DATE**

50-HOUR SERVICE

CHECK AND ADJUST AS REQUIRED

INOPERATIVE SERVICE CHECKS:

1. Tire pressure ☐
2. Check air cleaner hose connection ☐
3. Replace diesel fuel filter(s) ☐
4. Tighten in-line pump delivery valve holders ☐
5. Radiator coolant level ☐
6. Fan belt tension ☐
7. Battery cleanliness and vent openings, electrolyte level, and charge ☐
8. All electrical cables, terminals, and wires ☐
9. Drain and refill engine oil ☐
10. Replace engine oil filter ☐
11. Transmission and rear axle oil level ☐
12. Front differential and front axle oil level (4WD) ☐
13. Injection pump timing ☐
14. Cylinder head bolt torque ☐
15. Clean Hydraulic System Oil Filter ☐
16. Replace H.S.T. cartridge oil filter ☐

OPERATIVE SERVICE CHECKS:

1. Lights and instruments for proper operation ☐
2. Fluid and oil leaks ☐
3. Maximum no-load speed and idle speed adjustments, and fuel shutoff ☐
4. Starting and starter safety switch ☐
5. Valve lash ☐
6. Hydraulic System:
   - Selector lever for position control operation ☐
   - Flow control operation ☐

PERFORMANCE SERVICE CHECKS:

1. Engine operation including throttle and governor operation ☐
2. Transmission including clutch ☐
3. Steering control ☐
4. Differential lock engagement and disengagement ☐
5. Brake action ☐
6. All optional equipment and accessories ☐
7. Hydrostatic Transmission ☐

TRACTOR MODEL NO. _____ **INSPECTION PERFORMED** **TRACTOR SERIAL NO.** _____

OWNER'S SIGNATURE **DATE** **DEALER'S SIGNATURE** **DATE**

Ford Tractor Operations

Troy, Michigan 48084

Ford Motor Company

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