

# FORD

# 1520 TRACTOR

42152010



# OPERATOR'S MANUAL

Reprinted



F1117

## 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 **63** and **65**. The copy on page **63** is your record of the service performed and the copy on page **65**, 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 **63** and **65** — 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 PRODUCT 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.

A rectangular identification plate with a black background and white text. At the top center is the Ford logo. Below it, the text "PRODUCT IDENTIFICATION NUMBER" is printed. Underneath, there are two rows of input fields. The first row contains "× UH" followed by a blank space and "×". The second row contains "MODEL" above "AH412T" and "UNIT" above a blank space. Below these, the text "ENGINE" is printed above "× J843" followed by a blank space and "×". At the bottom, it says "MADE IN JAPAN".

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Ford policy is one of continuous improvement, and the right to change prices, specification or equipment at any time without notice is reserved.


All data given in this book is subject to production variations. Dimensions and weights are approximate only and the illustrations do not necessarily show tractors in standard condition. For exact information about any particular tractor please consult your Ford tractor dealer.

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# INTERNATIONAL SYMBOLS

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

|   |                          |   |                                     |  |                                   |
|---|--------------------------|---|-------------------------------------|--|-----------------------------------|
|    | Engine speed             |    | Glow                                |   | Control lever operating direction |
|    | Hours recorded           |    | Engine stop                         |   | Rock shaft (raised)               |
|    | Engine water temperature |    | Engine oil                          |   | Rock shaft (lowered)              |
|    | Air filter               |    | Parking brake                       |   | Remote cylinder (float)           |
|    | Engine oil pressure      |    | Lights (upper beam)                 |   | Remote cylinder (retracted)       |
|    | Hazard warning           |    | Lights (lower beam)                 |   | Remote cylinder (extended)        |
|    | Axle connect             |    | Lock                                |   | Forward                           |
|   | Axle disconnect          |   | Release lock                        |  | Warning! contains asbestos        |
|  | Continuously variable    |  | Up                                  |  |                                   |
|  | Increase                 |  | Down                                |  |                                   |
|  | Decrease                 |  | Differential lock                   |  |                                   |
|  | Fuel level               |  | Read operator's manual              |  |                                   |
|  | Creeper range            |  | Battery                             |  |                                   |
|  | High range               |  | Power take-off (on)                 |  |                                   |
|  | Middle range             |  | Power take-off (off)                |  |                                   |
|  | Low range                |  | "Tortoise," slow or minimum setting |  |                                   |
|  | Neutral                  |  | "Hare," fast or maximum setting     |  |                                   |
|  | Diesel fuel              |  | Warning                             |  |                                   |

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# 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 New Holland Dealer.
3. Always use the seat belt. Do not use the seat belt if the rollbar has been 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 57
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 and equipment, particularly brakes and steering, maintained in a reliable and satisfactory condition to ensure your safety and comply with legal requirements.
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. Escaping hydraulic/diesel fluid under pressure can penetrate the skin causing serious injury.
  - **DO NOT** use your hand to check for leaks. Use a piece of cardboard or paper to search for leaks.
  - Stop engine and relieve pressure before connecting or disconnecting lines.
  - Tighten all connections before starting engine or pressurizing lines.If fluid is injected into the skin obtain medical attention immediately or gangrene may result.
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 New Holland 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 other part of the fuel injection system. Failure to follow these instructions can result in serious injury.
9. Continuous long term contact with used engine oil may cause skin cancer. Avoid prolonged contact with used engine oil. Wash skin promptly with soap and water.
10. Some components on your tractor, such as gaskets and friction surfaces (brake linings, clutch linings etc.), may contain asbestos. Breathing asbestos dust is dangerous to your health. You are therefore advised to have any maintenance or repair operations on such components carried out by an authorized Ford New Holland dealer. If, however, service operations are to be undertaken on parts that contain asbestos, the essential precautions listed below must be observed:
  - Work out of doors or in a well ventilated area.
  - Dust found on the tractor or produced during work on the tractor should be removed by extraction not by blowing.
  - Dust waste should be dampened, placed in a sealed container and marked to ensure safe disposal.
  - If any cutting, drilling, etc., is attempted on materials containing asbestos, the item should be dampened and only hand tools or low speed power tools used.

## 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 neutral start switches. Consult your Ford New Holland Dealer if your neutral 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. Disengage PTO, shut off the engine and apply the parking brake before getting 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 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.

(cont.)

# SAFETY PRECAUTIONS (Continued)

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 position.
14. Use the Flasher/Turn Signal Lights and SMV signs when traveling on public roads both day and night unless prohibited by law.
15. Be sure tractor lights are adjusted to prevent blinding an oncoming vehicle operator.

## 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 hills.
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 up the tractor to prevent upset.
7. Always check overhead clearance, especially when transporting the tractor.
8. When operating at night, adjust lights to prevent blinding an oncoming driver.

## 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 take-off, or when near rotating equipment.
3. When operating stationary P.T.O. driven equipment, always place both gear shift levers in neutral, 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.

## 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 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 near 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.

## SAFETY FRAME (ROPS)

If your Ford Tractor is equipped with a safety frame it must be maintained in a serviceable condition. Be careful when driving through doorways or working in confined spaces with low headroom.

### Under no circumstances :

1. ....modify, drill or alter the safety frame in any way as doing so could render you liable to legal prosecution.
2. ....attempt to straighten or weld any part of the main frame or retaining brackets which have suffered damage. By doing so you may weaken the structure and endanger your safety.
3. ....secure any parts on the main frame or attach your safety frame with other than the special high tensile bolts and nuts specified.
4. ....attach chains or ropes to the main frame for pulling purposes.
5. ....take unnecessary risks even though your safety frame affords you the maximum protection possible.

When you see this symbol



it means :

ATTENTION BECOME ALERT! YOUR SAFETY IS INVOLVED!

# CONTROLS AND INSTRUMENTS

## SEAT, SEAT BELT AND ROPS

### TRACTOR SEAT

Your Ford 1520 Tractor is equipped with a suspension seat as shown in Figure 1. The seat is adjustable to obtain the most comfortable position.

To move the seat fore and aft, move the seat release lever to the left and slide the seat fore and aft as desired, Figure 2.

To adjust the seat for flotation, turn the flotation adjustment bolt right for a firm ride, or left for a soft ride, Figure 2.

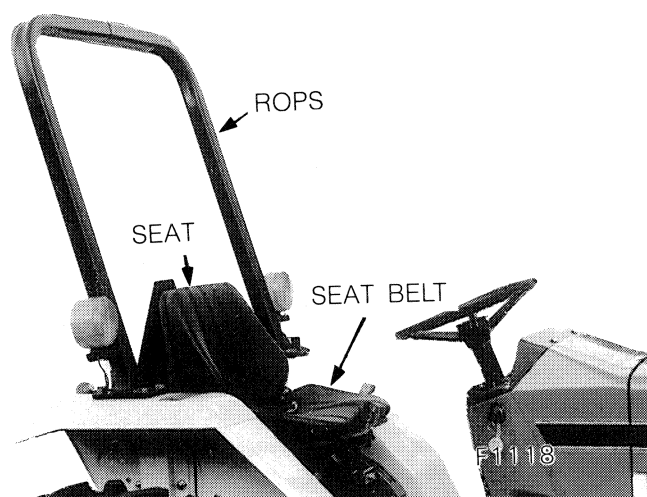


Figure 1 — Tractor Seat, Seat Belt and ROPS

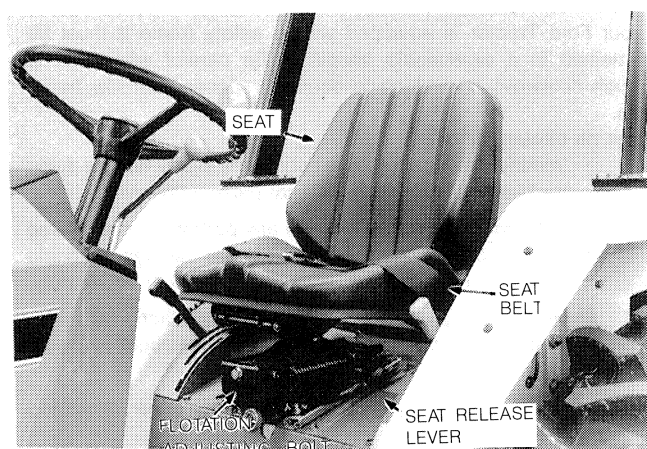


Figure 2 — Tractor Seat Adjustment

### ROLLOVER PROTECTIVE STRUCTURE (ROPS)

A Roll Over Protective Structure (ROPS) and seat belts were standard equipment for this tractor at

time of factory assembly. If the ROPS was deleted by the original purchaser or has been removed, it is recommended that you equip your tractor with a Roll Over Protective Structure (ROPS) and seat belts. ROPS are effective in reducing injuries during tractor overturn accidents. Overturning tractor without a ROPS can result in serious injury or death.

Roll Over Protective Structure (ROPS), and seat belts are available from your Ford New Holland Dealer.

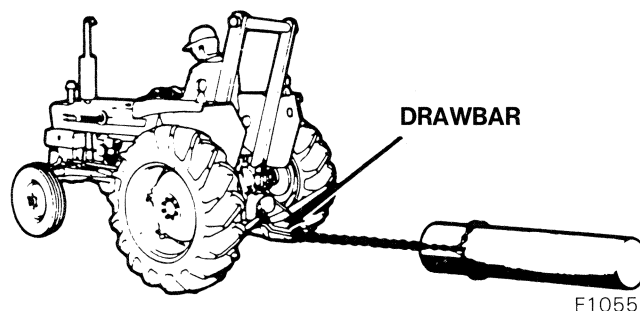
The safety offered by the roll bar and seat belt is minimized if your seat belt is not buckled. Always use your seat belt — they save lives.



**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, naphtha, 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.



# CONTROLS AND INSTRUMENTS

## LIGHTING

### FLASHER WARNING LAMP

Your Ford tractor is equipped with flasher warning lights, Figure 3. The switch, Figure 4 for the warning lights is located on the instrument panel.

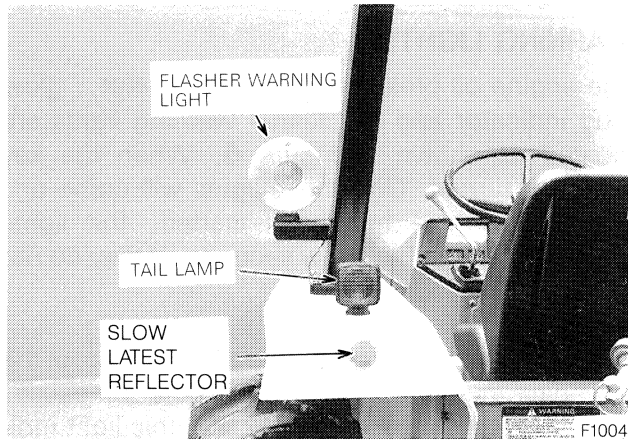


Figure 3 — Flasher Warning and Tail Lamp

The light switch must be turned in one of the "ON" positions before the flasher will operate.

For your protection, use the flasher warning lights and the SMV emblem when traveling on public roads, day or night.

## INSTRUMENT PANEL

### KEY SWITCH

The key switch is shown in Figure 5. Turning the key to the left will activate the cold-start aid.

### LIGHT SWITCH

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

- 1st position ..... "OFF"
- 2nd position ..... Headlights (High Beam), and Tail Lamp "ON"
- 3rd position ..... Headlights (Low Beam), and Tail Lamp "ON"

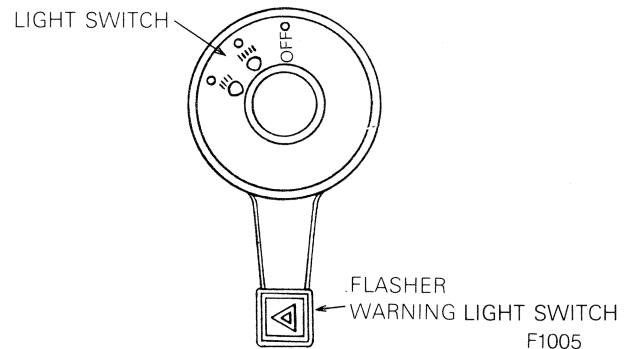


Figure 4 — Combination Switch

### KEY SWITCH (Continued)

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.

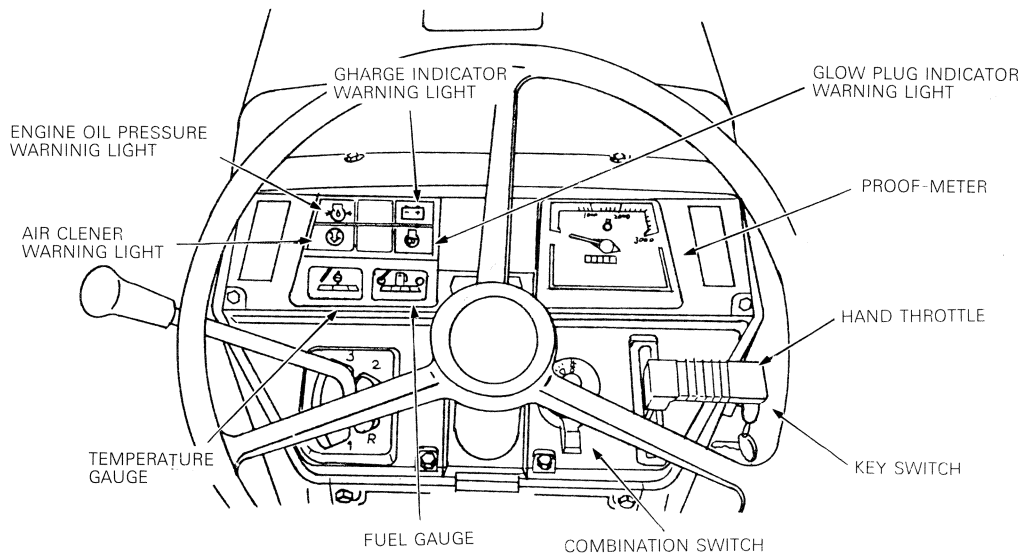


Figure 5 — Instrument Panel

# CONTROLS AND INSTRUMENTS

The starting circuit can only be activated when the clutch pedal is fully depressed and P.T.O. control lever and MID P.T.O. control lever (if equipped) are in the "OFF" position. Always check to make certain the transmission main shift lever and P.T.O. levers are in neutral before attempting to start the engine. Refer to page 14 for complete starting instructions.

## FUEL GAUGE

The fuel gauge is shown in Figure 5 and 6. The needle indicates the amount of fuel in the tank.

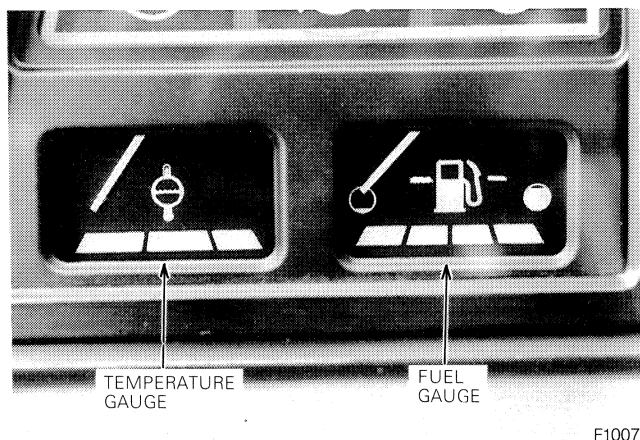


Figure 6 — Temperature Gauge and Fuel Gauge

## FUEL SHUTOFF VALVE

The fuel shutoff valve is shown in Figure 7. To open the fuel shutoff valve, move the handle so

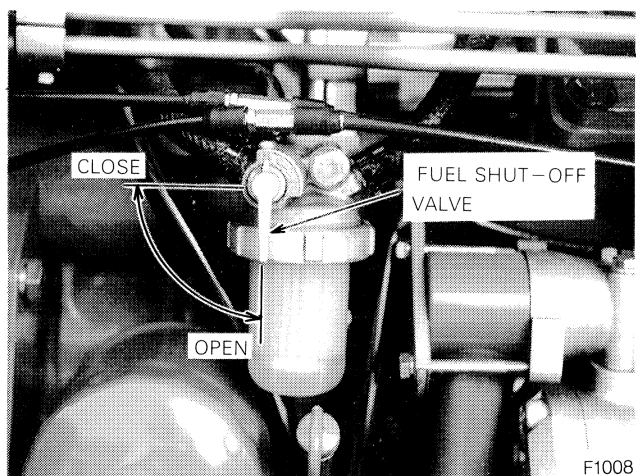


Figure 7 — Fuel Shutoff Valve

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.

## WARNING LIGHTS

The engine oil pressure, charge indicator, glow plug indicator and air cleaner warning lights are located as shown in Figure 5. When the key switch is turned "ON" these lights will 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.
- The glow plug indicator warning light : This light comes on when turning the key switch to the "HEAT" position and "START" Position. Refer to page 14 for starting engine information.
- Air cleaner warning light : This is an indication that the air cleaner element is clogged. Disassemble the air cleaner, and clean. Refer to page 36.

**NOTE:** Make certain that all warning lights turn on for a moment when turning the key switch to the "START" position. If one of the warning lights does not turn on, the bulb should be replaced.

## PROOF-METER

The Proof-Meter is located on the right side of the instrument panel, Figure 5. The Proof-Meter indicates :

# CONTROLS AND INSTRUMENTS

- The hours and portions of hours your tractor has operated, based on an average engine speed of 1867 rpm. Engine speeds below 1867 rpm accumulate engine hours at a slower rate than clock hours. Engine speeds above 1867 rpm accumulate engine hours faster than clock hours. Use the Proof-Meter as a guide to determine hourly service and maintenance intervals.
- Use the engine revolutions per minute scale when operating P.T.O.-driven equipment. P.T.O.-driven equipment must be operated at an engine speed not to exceed that indicated by the line on the rpm scale (2292 rpm on mechanical-transmission tractors, 2326 with hydrostatic transmission). Additional information on P.T.O. operation can be found on page 18. Ground speeds are indicated on a decal attached to the instrument panel (H.S.T) or to the top of the left fender (mechanical transmission tractor) with engine speeds from 1500 to rated rpm. Additional ground speed information can be found on page 56. The decal on hydrostatic transmission tractors shows ground speed for both ranges.

## TEMPERATURE GAUGE

The engine coolant temperature gauge is shown in Figure 6. When the needle is in the middle area, the engine is at its normal operating temperature. The needle at the "red" end indicates an overheated engine.



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

## THROTTLE CONTROLS

### HAND THROTTLE AND ENGINE STOP CONTROL

The hand throttle is shown in Figure 8. Push the

throttle forward to increase engine rpm. Pull the throttle rearward to decrease engine rpm. Turning the key switch to the "OFF" position stops the engine.

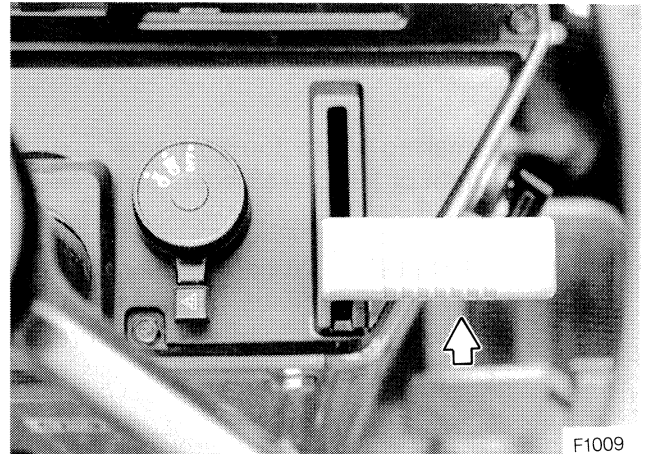


Figure 8 — Hand Throttle

### FOOT THROTTLE

The foot throttle, shown in Figure 9, 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 idle or to the rpm at which the hand throttle has been set.

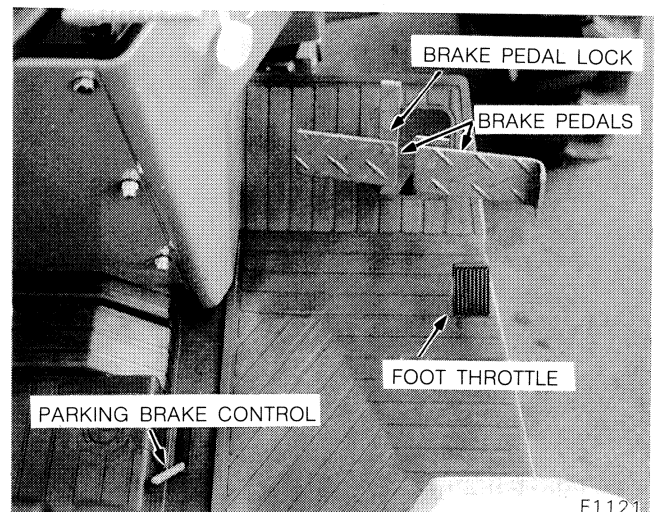


Figure 9 — Foot Throttle and Brake Control

# CONTROLS AND INSTRUMENTS

## BRAKE CONTROLS

### BRAKE PEDALS

The brake pedals are shown in Figure 9. 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 speed, 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 9, 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, shown in Figure 9, 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 latch. 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 conditions require independent rear wheel braking action.

## DIFFERENTIAL CONTROL

### DIFFERENTIAL LOCK PEDAL

The differential lock pedal is shown in Figure 10. Depressing the pedal locks the rear axle shafts together, providing additional traction in wet or loose soil. Refer to page 19 for differential lock operating information.



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

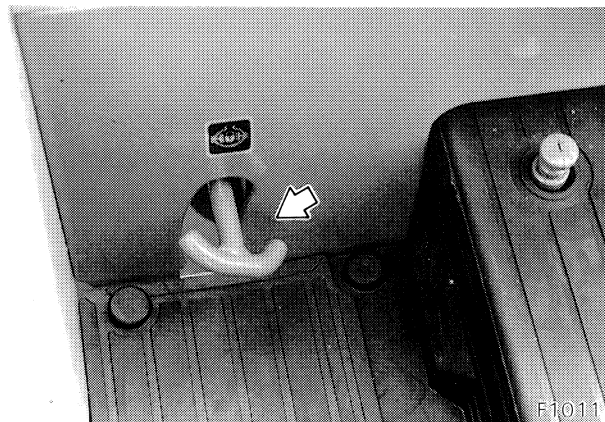


Figure 10 — Differential Lock Pedal

## MECHANICAL TRANSMISSION AND PTO CONTROLS

### TRANSMISSION GEARSHIFT LEVERS

The transmission main shift lever is shown in

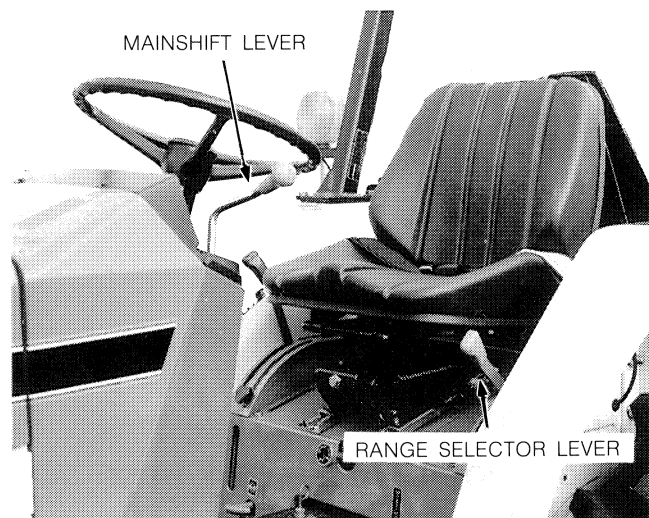


Figure 11 — Transmission Controls

# CONTROLS AND INSTRUMENTS

Figure 11. A diagram showing the shift pattern is molded on the shift cover. Range selector is located at the left-hand side of the seat, Figure 12. Three forward and one reverse speed are provided for each of the three ranges. This provides a total of 9 forward and 3 reverse speeds.

## FOUR-WHEEL DRIVE (OPTIONAL)

The shift lever for the four-wheel drive is located on the top left-hand side of the rear-axle center housing, Figure 12.

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

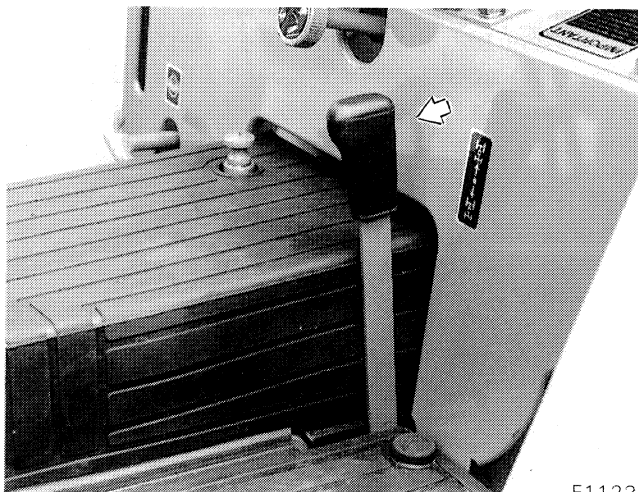


Figure 12 — Four-Wheel Drive Lever (Optional)

## CLUTCH PEDAL

The foot-operated clutch pedal, Figure 13, must be completely depressed to start the tractor or to stop forward travel and P.T.O. shaft rotation. Always fully depress the pedal when changing gear ratios or engaging four-wheel drive.

## DUAL CLUTCH (OPTIONAL)

A dual clutch option is available which allows stopping tractor movement while the P.T.O. shaft continues rotation.

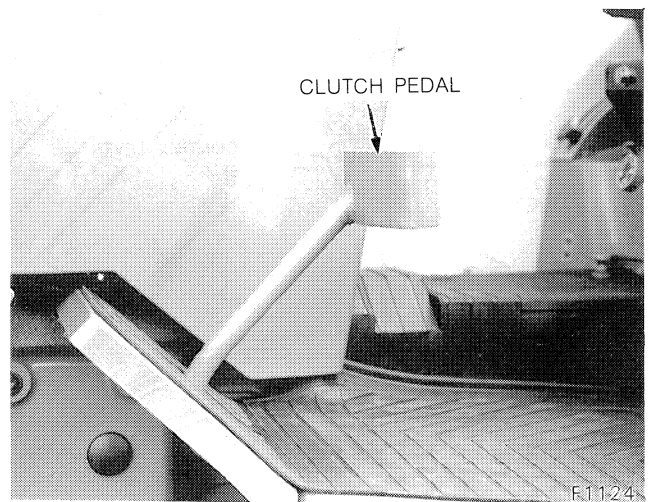


Figure 13 — Clutch Control

When the clutch pedal is depressed to position (1), Figure 14, the tractor movement stops while the P.T.O. shaft continues rotation (if the P.T.O. is engaged). If the pedal is depressed completely (2), both tractor and P.T.O. motion stop.

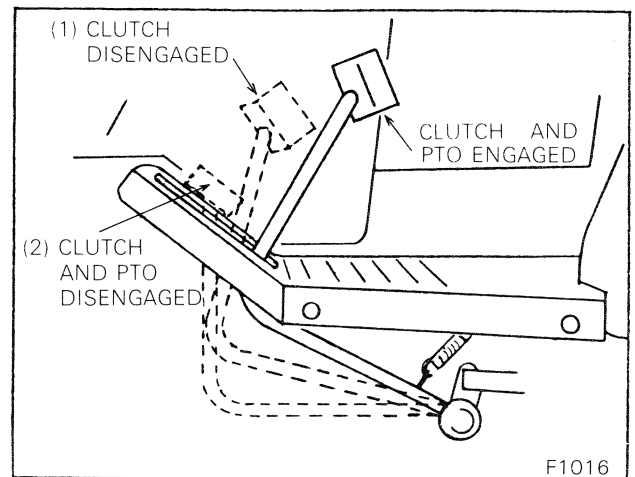


Figure 14 — Dual Clutch (Optional)

## TRANSMISSION P.T.O. CONTROL LEVER

The transmission P.T.O. and mid P.T.O. (if equipped) control levers are shown in Figure 15. They engage and disengage the P.T.O.'s. If the tractor engine is running, always depress the clutch pedal fully before moving the lever. Move the lever forward to engage the rear P.T.O. and rearward to disengage.

For mid P.T.O. move the lever up to engage and down to disengage (if so equipped).

# CONTROLS AND INSTRUMENTS

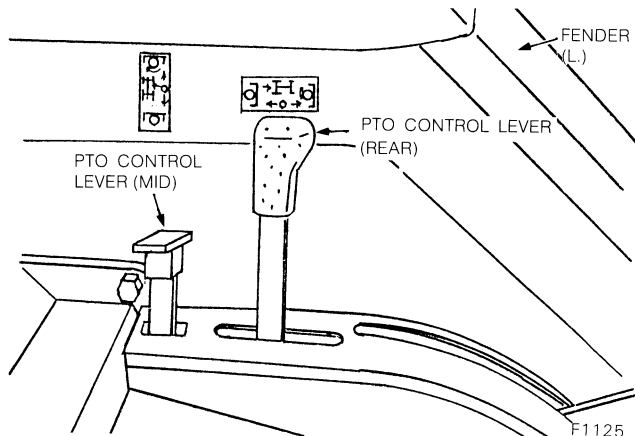


Figure 15 — P.T.O. Control

## HYDROSTATIC TRANSMISSION —H.S.T. CONTROLS (OPTIONAL)

### H.S.T. FOOT PEDAL

The ground speed of tractor 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 16. 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.

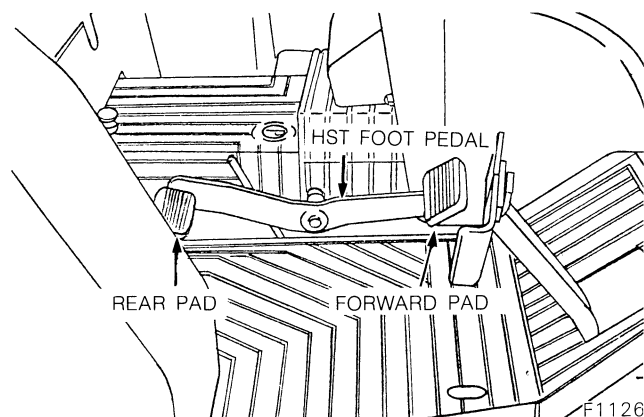


Figure 16 — H.S.T. Foot Pedal

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

### H.S.T. SPEED CONTROL LEVER

The H.S.T speed control lever, Figure 17, 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 "LOCK" 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 "UNLOCK" 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 "LOCK" position when operating at high speed.

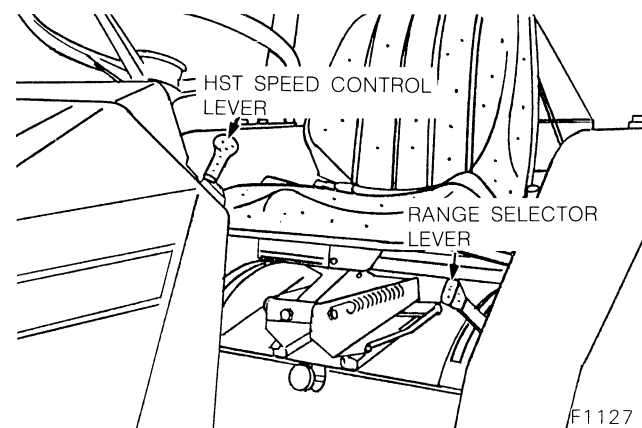


Figure 17 — H.S.T. Controls

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