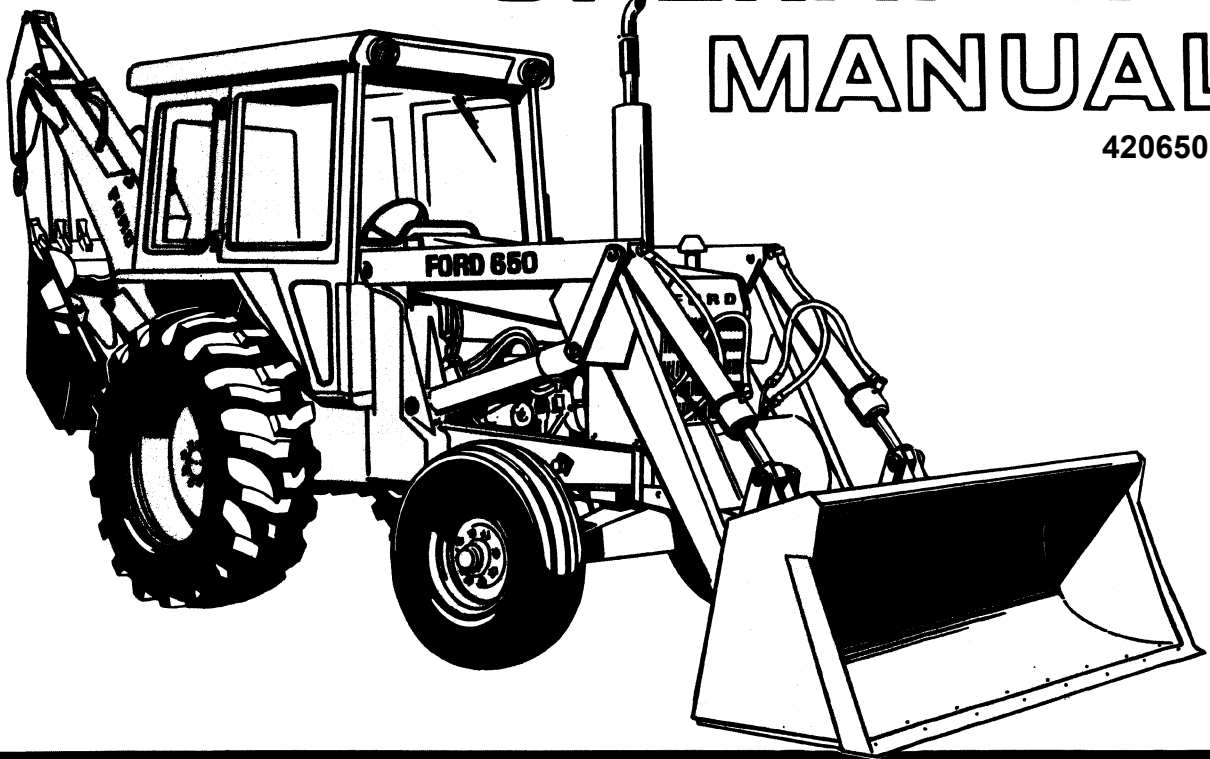


FORD

OPERATOR'S MANUAL

42065010



650

TRACTOR-LOADER-BACKHOE

Reprinted

FOREWORD

This manual has been prepared to assist you in the proper break-in, daily care, and operation of your new Ford 650 Tractor-Loader or Tractor-Loader-Backhoe. It contains specific information on its many features; the attachments that are available; instructions for making minor repairs and adjustments; safety precautions; general specifications; suggested operating techniques; and your Tractor Warranty.

Your Ford 650 has been carefully inspected before leaving the factory and by your Ford Tractor-Equipment Dealer prior to delivery to see that it is "ready to go." To keep it in this "ready to go" condition, it is important to follow regularly scheduled service periods as recommended in this manual.

Any references to right, left, front or rear, when referring to the loader or tractor portions of the Ford 650, is as viewed from the operator's seat when the seat is facing forward for forward travel. When referring to the backhoe portion of the Ford 650, all references to left and right are as viewed from the operator's seat while facing rearward, which is normal for backhoe operation.

When ordering parts, whether they be for the tractor, loader, or backhoe portion of the Ford 650, left and right is established as viewed from behind the entire unit.

The Ford 650 serial number is important should your unit require future service. Have your Dealer record this number, along with the other information called for in the spaces below.

Read this manual carefully before operating your Ford 650 and keep it in a convenient location for future reference. If, at any time, you have a service problem concerning your new Ford 650, remember that your Ford Tractor-Equipment Dealer has factory trained service personnel, genuine Ford parts, and the necessary tools and equipment to best satisfy your service needs.

Ford Tractor Operations

Ford Motor Company

ISSUED TO:

ISSUED BY:

Owner's Name

Ford Tractor-Equipment Dealer

Mailing Address

City

City

State

State

Delivery Date

Ford 650 Serial Number

Backhoe Serial Number (If Equipped)


DEAR CUSTOMER – PLEASE READ CAREFULLY

The warranty coverage that is extended to your Ford 650 is explained in the Warranty and Limitation of Liability, Ford Tractors and Equipment form. Your dealer will provide you with a copy of the warranty and retain a copy which you have signed. After you read the warranty, ask your dealer to explain any points that you may not understand.

For a complete list of the pre-delivery service checks performed by your dealer, refer to PRE-DELIVERY SERVICE on the upper portion of pages 75 and 77. The copy on page 75 is your record of the service performed, and the copy on page 77, which is to be removed from the manual, is your dealer's record. **MAKE SURE THAT YOU AND THE DEALER SIGN BOTH COPIES.**

After you have operated your tractor for fifty hours, take the manual and your tractor to your dealer. He will then perform the factory recommended 50-HOURS SERVICE as listed on the lower portion of pages 75 and 77 – without charge – except for lubricants, hydraulic 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 underside of the right hood panel. 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 space below.

	
TRACTOR NUMBER	
<input type="text"/>	
MODEL	UNIT
<input type="text"/>	<input type="text"/>
ENGINE	
<input type="text"/>	
TRANSMISSION	REAR AXLE
<input type="text"/>	<input type="text"/>
HYDRAULIC PUMP	HYDRAULIC LIFT
<input type="text"/>	<input type="text"/>

CONTENTS

Safety precautions	2
Controls and instruments	3
seat, light, and engine controls	4
cab electrical controls	8
brake and rear axle controls	9
transmission controls	10
loader controls	10
backhoe controls	11
Operation	15
break-in procedures	16
starting the engine	16
weighting limitations	20
loader operation	21
backhoe operation	28
loader attachments	36
backhoe attachments	38
Lubrication and maintenance	43
lubrication and maintenance chart	44
fuels and lubricants	45
fuel and lubricant service procedures	46
general maintenance	56
storing the Ford 650	66
Specifications	69
pre-delivery and 50-hour service	75

SAFETY PRECAUTIONS

A careful operator is the best operator. Most accidents can be avoided by observing certain precautions to prevent the possibility of injury or damage. The following precautions are suggested to help prevent accidents. Read them carefully before operating your new Ford 650

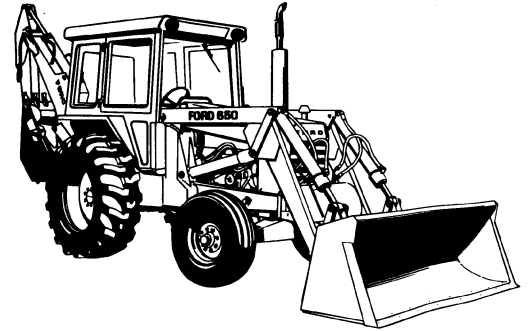
1. Read this manual carefully to acquaint yourself with the Ford 650. Working with unfamiliar equipment can lead to accidents.
2. Use the hand holds when getting on and off the Ford 650.
3. For safe operation, observe proper maintenance and repair of all pivot pins, hydraulic cylinders, hoses, snap rings, and main attaching bolts prior to each day's operation.
4. If the unit is equipped with a rollbar or safety cab, always fasten the seat belt before starting the engine.
5. Keep the operator's platform free of debris.
6. Do not bypass the safety starter switch. Consult your Ford Tractor-Equipment Dealer if your safety starter controls are malfunctioning.
7. Always be sure of water, gas, sewage, and electrical line locations before you start to dig.
8. Never start the engine while standing beside the unit. Always start the engine while sitting in the operator's seat.
9. Never run the engine in a closed building without adequate ventilation, as the exhaust fumes are very dangerous.
10. Do not permit anyone to ride on the Ford 650 with the operator.
11. Operate the loader or backhoe controls only when properly seated at the control consoles.
12. Never attempt to lift loads in excess of loader or backhoe capacity.
13. Never allow anyone to get under the loader or backhoe buckets, or reach through the lift arms when the buckets are raised.
14. Always be watchful of bystanders when operating the loader, when lowering the stabilizers, or when operating the backhoe.
15. Use care when operating on steep grades to maintain proper stability, also drive at speeds compatible with safety, especially when operating over rough ground, crossing ditches, slopes, or when turning.
16. To prevent upsets, avoid full reach and swinging a loaded backhoe bucket to the downhill side when operating on a slope.
17. Watch out for overhead and underground high-voltage electrical lines when operating the backhoe.
18. Exercise caution when operating the loader with a raised loaded bucket or fork.
19. Always carry the loader bucket low for maximum stability and visibility, whether the bucket is loaded or empty.
20. Always use the headlamps and work lamps for night work.
21. Always lower the loader and backhoe buckets to the ground, shut off the engine and apply the hand brake before getting off the unit. Never get off the unit while it is in motion.
22. Always apply the hand brake and remove the starter key when leaving the unit parked or unattended.
23. Never leave the unit when it is parked on an incline. Always park the unit on level ground where possible. If the unit is to be parked on an incline, always lower the buckets so that the cutting lips contact the ground, apply the hand brake, and securely block the wheels.
24. Always check overhead clearance, especially when transporting the unit.
25. Always attach the backhoe transport chains before transporting the Ford 650
26. Never attach chains, ropes, cables, etc., to the rollbar for pulling purposes, as the unit can tip rearward.
27. When necessary to tow the Ford 650, do not exceed 5 mph (8 kph). Avoid towing the Ford 650 over long distances.
28. When traveling on public roads, use accessory lights and devices for adequate warning to operators of other vehicles.
29. Do not lubricate or make mechanical adjustments while the unit is in motion or when the engine is running. However, if minor engine adjustments must be made, apply the hand brake, securely block the wheels, and use extreme caution.
30. Never make repairs or tighten hydraulic hoses or fittings when the system is under pressure, when the engine is running, or when the loader or backhoe cylinders are under a load.
31. Never refuel the Ford 650 while smoking or when the engine is hot or running.
32. Always keep the brakes and power steering system in good operating condition.

Whenever you see this symbol



it means:

ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!



CONTROLS and INSTRUMENTS

The controls on your new Ford 650 are designed for efficient operation and are located within comfortable reach of the operator, thereby reducing operator fatigue.

All instruments are centrally located so that you can tell at a glance whether the unit is operating properly. The instruments also warn you of possible trouble before it becomes serious.

Before attempting to start or operate your new Ford 650, familiarize yourself with the location and function of all controls and instruments as described on the following pages.

Know your controls and instruments
 to assure Safe Operation. 

—CONTROLS AND INSTRUMENTS—

SEAT, LIGHT, AND ENGINE CONTROLS

OPERATOR'S SEAT

Your new Ford 650 is equipped with a "turnabout" type seat, Figure 1. It can be adjusted forward or rearward a maximum of seven inches (17.8 cm) by moving the seat release lever. The height can also be changed two inches (5.0 cm) to suite the operator by the height adjustment knob.

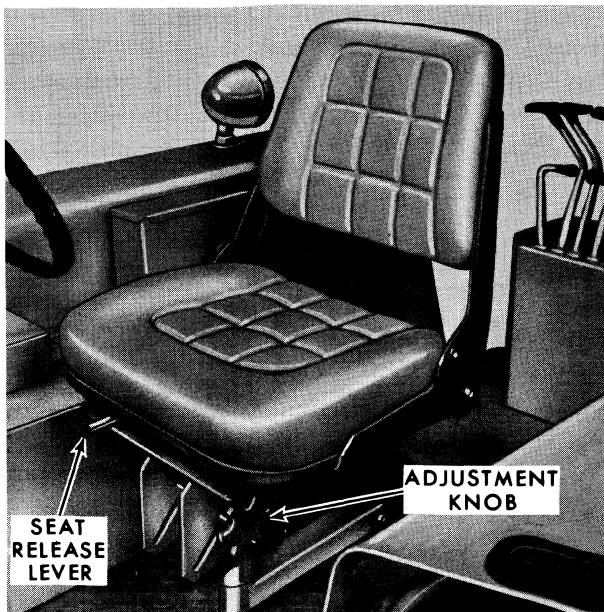


Figure 1
Operator's Seat

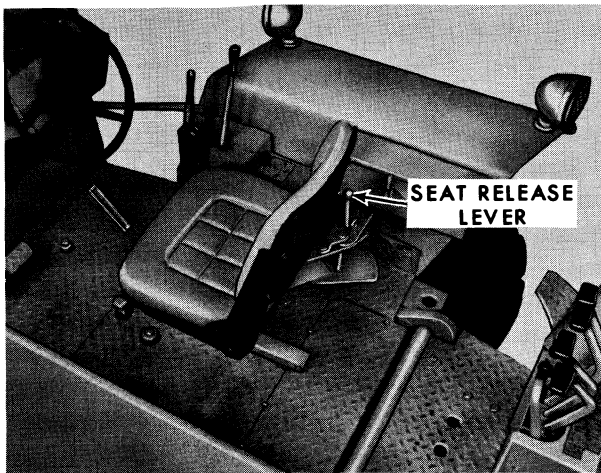


Figure 2
Operator's Seat — Traveling
and Loader Positions

Once the seat is adjusted for operator comfort in the loader operating position, it can be turned to the backhoe position by releasing the seat release lever. See Figures 2 and 3. Once the seat is adjusted for loader operation, it will normally suite the operator for backhoe operation without additional adjustments.

ROLL OVER PROTECTIVE FRAMES (OPTIONAL)

The new Ford 650 is available with a safety frame cab and seat belt, or a 4-post protective frame and seat belt. Remember, the safety offered by the protective frame alone will be minimized if your seat belt is not buckled. Always use your seat belt - they save lives.



CAUTION: Never attach chains, ropes, or cables to the roll bar for pulling purposes. This is very dangerous, as the tractor will tip backward. Always pull from the tractor drawbar or from a point below the rear axle. Be careful when driving through door openings or under low overhead objects. Make sure there is sufficient clearance for the roll bar to clear the structure or object.

ADJUSTING THE SEAT BELT

To lengthen the belt, tip the buckle end down, then 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.

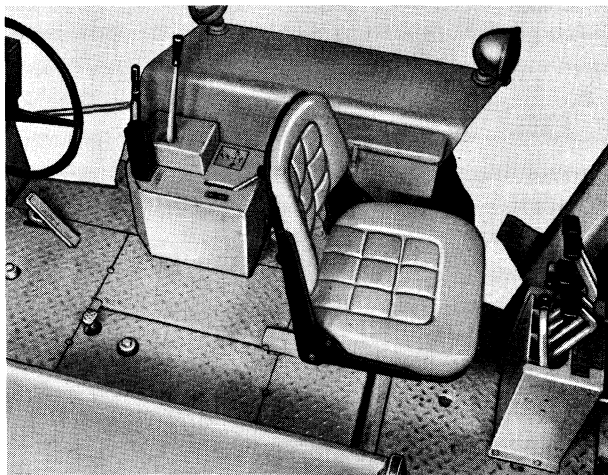


Figure 3
Operator's Seat — Backhoe
Position

If the seat belt is to be cleaned, use soap and water. Do not use carbon tetrachloride, naphtha, etc., as it will weaken the webbing. Also, for the same reason, do not bleach or redye the webbing.

FLASHER WARNING LAMP

A flasher warning lamp, located on the rear of the left fender, or on the left rear corner of the cab, is provided as standard equipment. A push-type switch on the lamp housing, Figure 4, or on the inside left wall of the cab, is used to turn the flasher on or off. The light switch, Figure 5, must be turned on to make the flasher warning light operative.

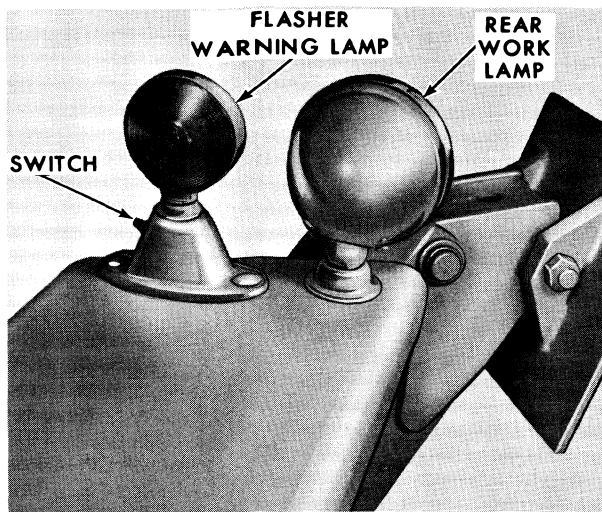


Figure 4
Flasher Warning Lamp

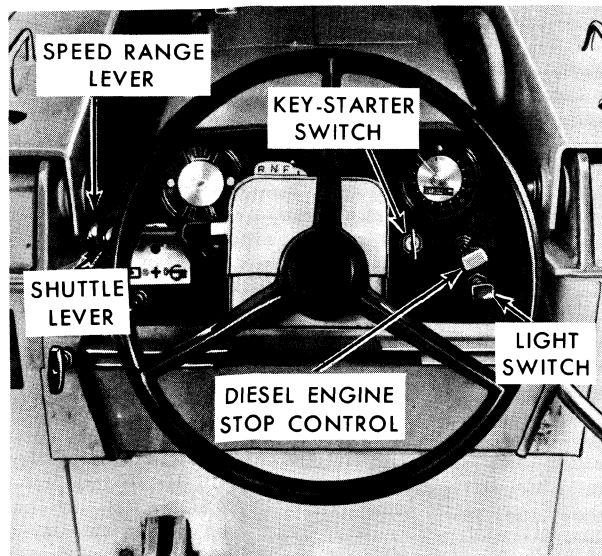


Figure 5
Engine, Light, and Starter Controls

For your protection and as a warning to motorists, use the flasher warning lamp when operating on public roads, day or night, unless prohibited by law in your state.

LIGHT SWITCH

The light switch is shown in Figure 5. The switch is a rotating type that turns to the right. Switch positions are:

- "Home" Position Off
- First Right Instrument Lights, Head-lamps, and Flasher Warning Lamp
- Second Right Instrument Lights, Head-lamps, Flasher Warning Lamp, and Rear Work Lamps.
- Third Right Instrument Lights, Head-lamps, Flasher Warning Lamp, and Red Taillights.

KEY-STARTER SWITCH

The key-starter switch is shown in Figure 5. Turning the key to the right to its "ON" position will activate the instrument warning lights and instruments. Turning the key further right to its "START" position will start the engine. Upon release, the key will spring-return to the "ON" position.

The starting circuit can only be activated when the transmission shuttle lever, Figure 5, is in the neutral (N) position. Refer to page 16 for complete starting instructions.

DIESEL ENGINE STOP CONTROL

The diesel engine stop control, shown in Figure 5, is used with the key-starter switch to stop and start the engine. The control must be pushed in before the engine can be started. Pulling the control out will stop the engine. Refer to "STOPPING THE ENGINE" on page 17 for additional information.

HAND THROTTLE CONTROL LEVER

The hand throttle control lever is shown in Figure 6. Moving the lever forward will increase engine rpm. Moving the lever rearward will decrease rpm.

—CONTROLS AND INSTRUMENTS—

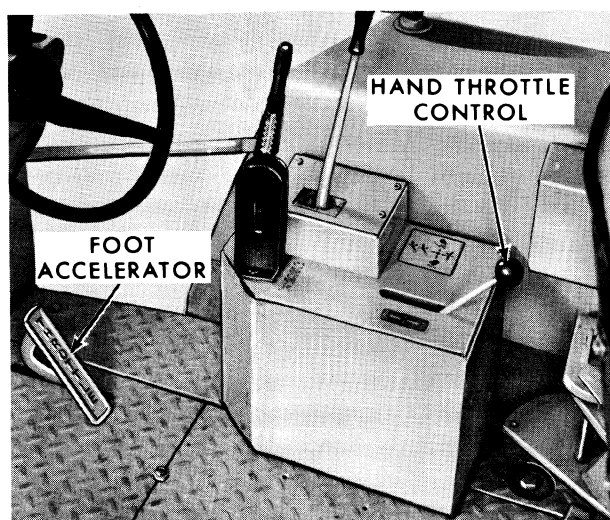


Figure 6
Hand Throttle and Foot
Accelerator

FOOT ACCELERATOR

The foot accelerator in your new Ford 650 can be used separately, or in conjunction with the hand throttle. With the hand throttle set at a selected engine rpm, the foot accelerator, Figure 6, can be used to increase engine rpm to its maximum governed speed. Upon release of the foot accelerator, the engine speed will return to idle or to the rpm which the hand throttle has been set to maintain.

INSTRUMENT PANEL WARNING LIGHTS

The warning lights are shown in Figure 7. When the key-starter switch is turned "ON" the lights will come on. When the engine is started, the lights will go out. 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 still check the crankcase for proper oil level.

Charge Indicator Warning Light: It is an indication that the battery is not being charged. Investigate the cause otherwise the battery will become fully discharged.

Transmission Temperature Warning Light: Check to make sure the oil level in the transmission is at the proper level. If the light comes on during operation and the transmission oil level is satisfactory, operate the engine with no-load at 1000 to 1200 rpm to cool the oil.

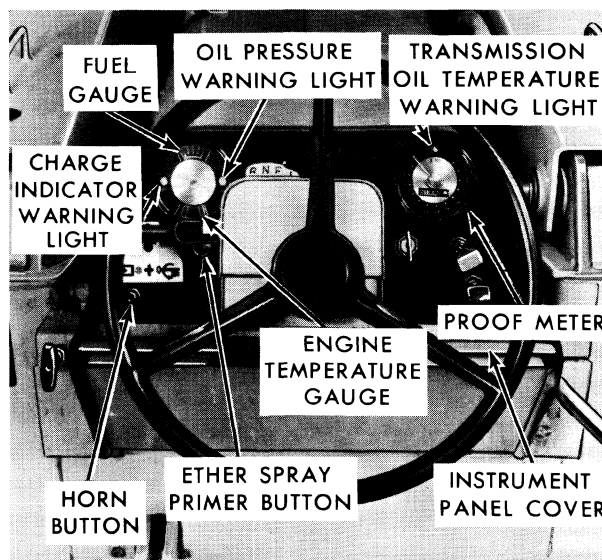


Figure 7
Instrument Cluster

FUEL GAUGE

The fuel gauge is shown in Figure 7. The relationship of the needle to the quarter marks on the gauge indicates the amount of fuel in the tank.

TEMPERATURE GAUGE

The engine coolant temperature gauge is shown in Figure 7. When the needle is in the black zone, the engine coolant is at its normal operating temperature. When the needle is in the blue zone, the engine is cold and when it is in the red zone the engine is hot.

PROOF-METER

The Proof-Meter is the large instrument in the upper right of the instrument panel, Figure 7. The meter indicates:

- The engine revolutions per minute. Use the Proof-Meter in conjunction with the transmission shift decal and the ground speed chart on page 72, to determine ground speed.
- The hours and portions of hours your Ford 650 has operated, is based on the average engine speed of 1666 rpm. Engine speeds below 1666 rpm accumulate hours at a slower rate than clock hours. Engine speeds above 1666 rpm build up hours faster than clock hours. Use the Proof-Meter as a guide to determine hourly service and maintenance intervals.

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