

CAB

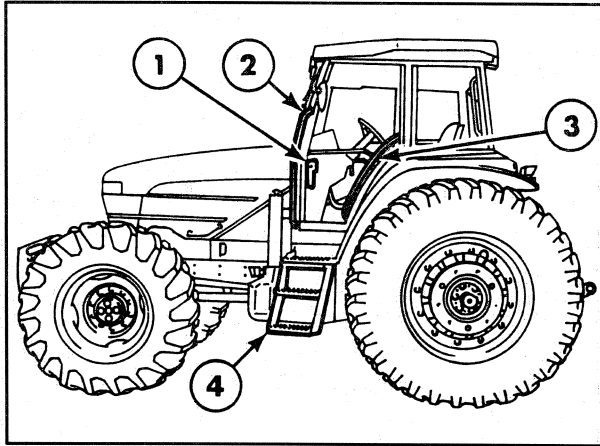


Figure 2-1

70-600-254

- 1 Door
- 2 "A" post assist rail
- 3 Door assist rail
- 4 Anti-slip steps

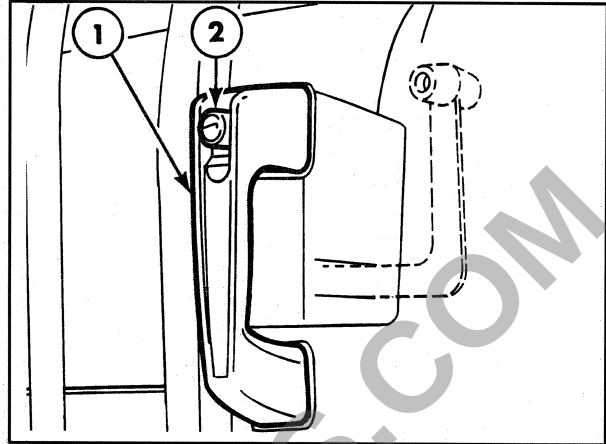


Figure 2-2

70-660-256

- 1 Door handle
- 2 Push button

INTRODUCTION

The cab has been designed for operator comfort and convenience. Inside, the walls, roof, and floor are insulated to reduce noise to a minimum.

Standard features include two doors, a fresh air heater/defroster, air-conditioning, tinted glass, interior lights, assist rails, cigar lighter, ashtray, storage box and an air suspension seat.

ENTERING THE CAB

Figure 2-1

The cab may be entered from the right or left side.

To enter the cab, face a door, 1, then open it. Grasp the "A" post assist rail, 2, and the door assist rail, 3.

Place one foot on the lowest step plate, 4. Use the assist rails to climb the steps. Enter the cab, close the door, sit in the seat, and fasten the seat belt.

To exit the cab, release the seat belt, open the door, grasp the assist rails, back out of the cab and descend the steps using the assist rails.

DOORS

Figure 2-2

Each door has an external handle, 1, with a push button, 2. The door may be locked from the outside by using the start/stop switch key. Insert the key in the slot in the push button. Rotate the key to lock or unlock the door.

To open a door from the outside, push in on the button and pull out on the handle.

SECTION 3

LUBRICATION AND MAINTENANCE

GENERAL INFORMATION

INTRODUCTION

This section gives full details of the service procedures necessary to maintain your tractor at peak efficiency. The lubrication and maintenance chart on page 3-8 provides a ready reference to these requirements. Each operation is numbered for easy reference.

In addition to the regular maintenance operations listed, check the following items every 10 hours or daily during the first 50 hours of operation:

- Wheel nuts for tightness
- Front axle hub oil levels - Four Wheel Drive (FWD) only

IMPORTANT: *Park the tractor on level ground and, where applicable, extend all cylinders before checking oil levels.*

SAFETY PRECAUTIONS

Read and observe all safety precautions listed in "Servicing the Tractor" in Section 0.

NOTE: **Dispose of used filters and fluids properly.**



CAUTION: DO NOT CHECK, LUBRICATE, SERVICE OR ADJUST THE TRACTOR WITH THE ENGINE RUNNING.

PREVENTING SYSTEM CONTAMINATION

To prevent contamination when changing oils, filters, etc., always clean the area around filler caps, level plugs, drain plugs, dipsticks and filters prior to removal. Before connecting remote cylinders, ensure that oil contained within them is clean, has not degenerated due to long storage and is of the correct grade.

To prevent dirt entry during greasing, wipe dirt from the grease fittings before greasing. Wipe excess grease from the fitting after greasing.

FLEXIBLE MAINTENANCE INTERVALS

The intervals listed in the lubrication and maintenance chart are guidelines to be used when operating in normal working conditions.

Adjust the intervals for environmental and working conditions. Intervals should be shortened under adverse (wet, muddy, sandy, extremely dusty) working conditions.

LUBRICATION AND MAINTENANCE CHART - PAGES 3-8 and 3-9

The chart lists the intervals when routine checks, lubrication, service and/or adjustments should be performed. Use the chart as a quick reference guide when servicing the tractor. The operations follow the chart.

FIRST 50-HOUR SERVICE

At the first 50-hour service, ensure that the following additional service operations are carried out. The items are listed in the "First 50-Hour Service" checklist at the rear of this manual.

- Change engine oil and filter
- Change fuel filter / water separator
- Clean fuel sedimenter
- Change hydraulic oil filter
- Change transmission oil filter
- Check adjustment of front wheel bearings (two wheel drive only)
- Change FWD differential oil
- Change FWD axle hub oil
- Check and adjust park brake
- Check all air intake connections
- Tighten all cooling system hose connections.
- Check torque of front end weight clamp bolts (when installed)
- Check torque of safety cab mount bolts
- Check torque of exhaust manifold bolts

NOTE: **Items listed in the first 50-hour check are important. If not performed, early component failure and reduced tractor life may result.**

SECTION 4

TROUBLESHOOTING

TROUBLESHOOTING AND FAULT FINDING

INTRODUCTION

The following information is intended as a guide to assist in identifying and correcting possible tractor malfunctions and fault conditions.

Information is divided into three headings:

OPERATOR PROMPTS

FAULT CODES

SYSTEM TROUBLESHOOTING

OPERATOR PROMPTS

Figure 4-1

Operator prompts, 1, indicate that an operational procedure has been performed out of sequence. The "prompts" are meant to advise the operator to take correct action.

The following flashing prompts will be displayed on the Electronic Instrument Cluster (EIC) gear shift display.

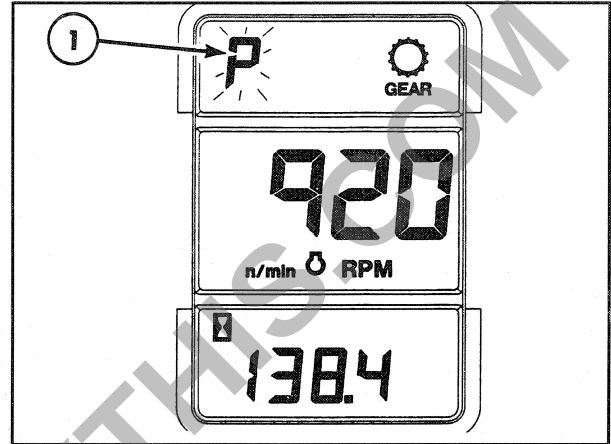


Figure 4-1

70-550-357

1 Operator prompt

PROMPT	CAUSE	CORRECTION
F	Gear shift lever in forward while starting	Return shift lever to neutral
R	Gear shift lever in reverse while starting	Return shift lever to neutral
P	Park brake applied when gear selected	Return shift lever to neutral and release park brake
d	Gear shift lever in downshift when starting	Return shift lever to neutral
U	Gear shift lever in up shift while starting	Return shift lever to neutral

The specifications on the following pages are given for your information

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Abstract

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PRECAUTIONARY STATEMENTS

SAFETY PRECAUTIONS

A careful operator is the best operator. Most accidents can be avoided by observing certain precautions. To help prevent accidents, read and take the following precautions before operating the tractor. 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. Only allow properly trained and qualified persons to operate the tractor.
3. To prevent falls, use the assist rails and step plates when getting on and off the tractor. Keep steps and platform clear of mud and debris.
4. Do not permit anyone but the operator to ride on the tractor. There is no safe place for extra riders.
5. Replace all missing, illegible or damaged safety decals.
6. Keep safety decals free of dirt or grime.
7. Do not modify or alter or permit anyone else to modify or alter the tractor or any of its components or any tractor function without first consulting an authorized dealer.
8. Install all shields before starting or operating the tractor.

DRIVING THE TRACTOR

1. Always sit in the driver's seat while starting or driving the tractor.
2. When driving on public roads, have consideration for other road users. Pull to the side of the road so that any following traffic may pass.
3. Dim the tractor lights when meeting a vehicle at night. Make sure the lights are adjusted to prevent blinding the driver of an oncoming vehicle.
4. Reduce speed before turning or applying the brakes. Lock the brake pedals together when traveling at road speeds or when on the highway. Brake both wheels simultaneously when making an emergency stop.
5. Use extreme caution and avoid hard application of the tractor brakes when towing heavy loads at road speeds.
6. Any towed vehicle whose total weight exceeds that of the towing tractor must be equipped with brakes for safe operation.
7. Never apply the differential lock when turning. When engaged, the differential lock will prevent the tractor from turning.
8. Always check overhead clearance, especially when transporting the tractor. Watch where you are going, especially at row ends, on roads and around trees and low overhanging obstacles.
9. Use extreme caution when operating on steep slopes.

FEDERAL EMISSIONS WARRANTY

(California owner's emissions warranty is covered elsewhere)

New Holland warrants that your new 1996 and later heavy-duty off-road diesel engine was designed, built, and equipped to conform to applicable U.S. Environmental Protection Agency regulations for a period of use of five years or 3,000 hours of operation, whichever occurs first.

The new model year, class of diesel engine, and emission application determination for your engine are identified on the emission control information label affixed to the top of your engine's rocker arm cover. The warranty period begins on the date the new equipment is sold to the first retail purchaser.

Any emission control system parts which are proven defective during normal use will be repaired or replaced during the warranty period. The warranty repairs and service will be performed by any authorized New Holland dealer at the dealer's place of business, with no charge for parts or labor (including diagnosis).

As the engine owner, you are responsible to perform all the required maintenance listed in your owner's manual. New Holland will not deny an emission warranty claim solely because you have no record of maintenance; however, a claim may be denied if your failure to perform maintenance resulted in the failure of a warranted part. Receipts covering regular maintenance should be retained in the event of questions and these receipts should be passed on to each subsequent owner of the engine.

It is recommended replacement parts used for maintenance or repairs be New Holland Service Parts to maintain the quality originally designed into your emission certified engine. The use of non-New Holland parts does not invalidate the warranty on other components unless the use of such parts causes damage to warranted parts.

New Holland wishes to assure the emission control systems warranty is being properly administered. If you believe you have not received the service entitled to under this warranty, you should contact the nearest New Holland Branch Office for assistance. The address and phone number of each Branch Office is in your vehicle owner's manual. If additional assistance or information is needed, contact:

Service Department
New Holland North America, Inc.
500 Diller Avenue
New Holland, PA 17557
(717) 355-1121

Please note that the Emission Warranty does not cover:

1. Systems and parts that were not first installed on the new equipment or engine as original equipment by New Holland.
2. Part malfunctions caused by abuse, misuse, improper adjustment, modification, alteration, tampering, disconnection, improper or inadequate maintenance, or use of non-recommended fuels and lubricating oils.
3. Accident caused damage, acts of nature, or other events beyond New Holland's control.
4. Replacement of expendable items made in connection with scheduled maintenance.
5. Parts requiring replacement, inspection or adjustment maintenance intervals for reasons other than being defective.
6. Parts which are not New Holland Service Parts.
7. Loss of time, inconvenience, loss of use of equipment/engine or commercial loss.
8. Equipment with altered or disconnected hourmeter where the hours cannot be determined.
9. Equipment normally operated outside the United States.
10. Non-defective parts replaced by other than New Holland dealers.

Coverage

This emission control system warranty applies to the following 675TA/V emission control parts.

Fuel Injection Pump
Fuel Injectors
Turbocharger
Intake Manifold
Charge Air Cooler
Exhaust Manifold
Boost Pressure Tubing-connection to Aneroid Device ON F.I.P.

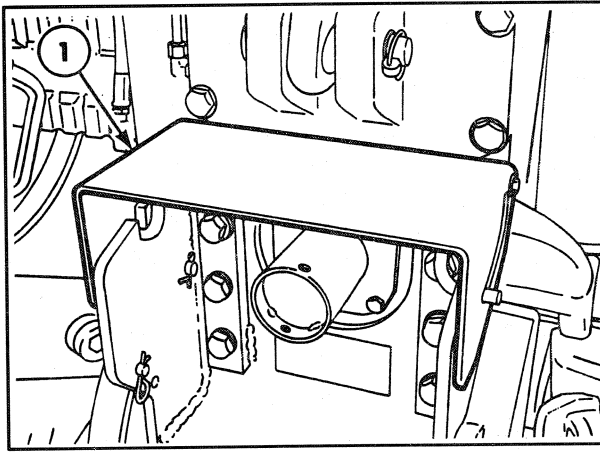


Figure 1-16

70-350-45

1 PTO master shield

TRACTOR MASTER PTO SHIELD

Figure 1-16

The shield covers the tractor PTO stub shaft. The shield can be pivoted to make installing a PTO shaft easier.



CAUTION: DO NOT REMOVE OR MODIFY THE SHIELD.

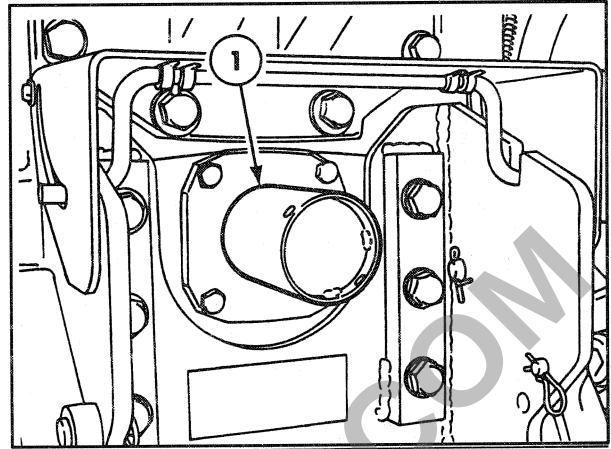


Figure 1-17

70-350-46

1 PTO stub shaft cover

TRACTOR PTO STUB SHAFT COVER

Figure 1-17

Install the cover over the tractor's PTO stub shaft when the shaft is not attached to an implement. Turn the shield counterclockwise to remove, and clockwise to install.

Store the cover when removed.



WARNING: INSTALL ALL PROTECTIVE SHIELDS BEFORE STARTING OR OPERATING THE TRACTOR.

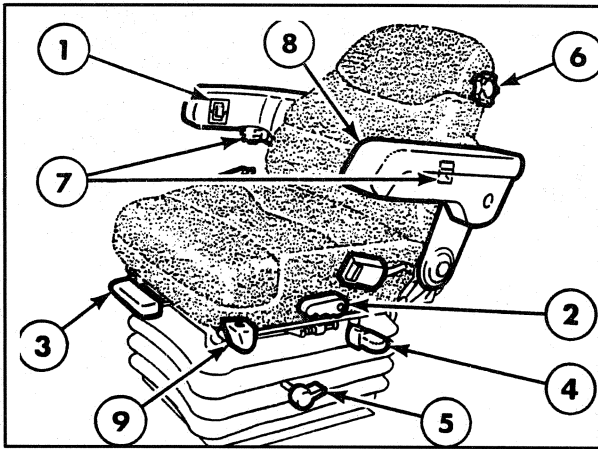


Figure 2-5

70-620-360

SEAT ADJUSTMENTS

Figure 2-5

NOTE: All adjustments should be made in the following order while sitting in the seat.

Adjust the seat using the following procedures:

1. Height/Weight Adjustment

Raise or lower the seat as follows with the key switch in the on position.

Raise - Depress the top of the switch. Release when the desired height is obtained.

Lower - Depress the bottom of the switch. Release when the desired height is achieved.

2. Backrest Angle Adjustment

Lift the control and tilt the backrest to the desired position. Release the control to lock the backrest in position.

NOTE: The backrest will tilt backward far enough to contact the rear window.

3. Fore/Aft Position Adjustment

Pull up on the handle and move the seat fore/aft through the 178 mm (7") adjustment range to the desired position. Release the handle to lock the seat into position.

4. Fore/Aft Isolator Engagement

After selecting the desired fore/aft position, the seat can be held stationary or allowed to isolate fore/aft within the 51 mm (2") limit of the isolator's travel.

Adjust to the desired position as follows:

Isolate - Pull up on the handle.

Lock-out - Push down on the handle while slowly moving the seat fore and aft. The handle will lower in place and the seat will not move when the lock-out position is selected.

5. Dampener Adjustment

The firmness of the ride can be adjusted as follows:

Soft - Rotate control rearward.

Firm - Rotate control handle forward.

6. Lumbar Adjustment

Adjust as follows:

Increase support - Turn knob clockwise

Decrease support - Turn knob counterclockwise

7. Armrest Angle Adjustment

Rotate the knurled wheel on each armrest to adjust to the desired angle.

8. Left Armrest Height Adjustment

The left side armrest can be positioned even with the seat cushion or in four raised positions. To adjust the height:

- Raise the armrest to the end of travel (past vertical).
- Lower the armrest until it is even with the seat cushion.
- Raise the armrest to obtain positions 2 through 4.

9. Swivel Adjustment

The seat can be adjusted to:

- Lock in one position to the left of center.
- Lock in one of four positions to the right of center (increments of 7° for a total of 28° rotation).
- Provide a free swing position without locking in any position.

To adjust the swing:

- Move the swivel control handle partially to the rear.
- Swing the seat to the desired position.
- Release the handle to lock the seat into position.

NOTE: Moving the control handle fully rearward will provide the free swing position.

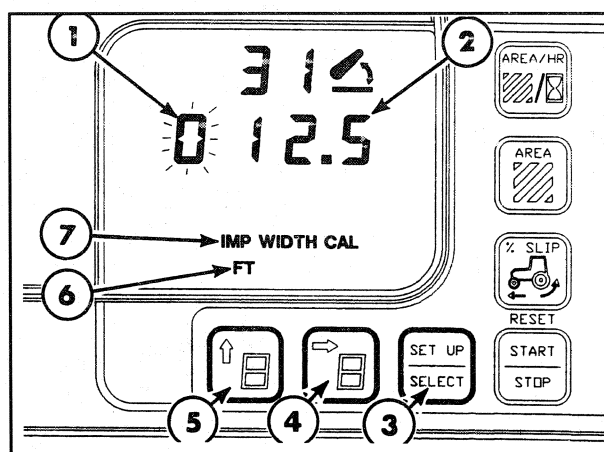


Figure 2-46

70-550-319

- 1 Flashing digit
- 2 Implement width display
- 3 SET UP/SELECT switch
- 4 Digit select switch
- 5 Digit set switch
- 6 FT. or METERS
- 7 IMP. WIDTH CAL legend

Setting Implement Width

Figure 2-46

In order that the modules may calculate the work done, the working width of the implement in use must be entered into the memory.

Implement width is a four-digit display and will appear as "000.0" feet, 2, or "00.00" meters with the left-hand digit, 1, flashing. "IMP WIDTH CAL," 7, and either "FT," 6, or "METERS" will also be displayed.

Touch the digit select switch, 4, to move the flashing digit to the right. Touch the digit set switch, 5, to increase the numerical value of the flashing digit.

For example: To set an implement working width of 12.5 feet, a display of "012.5" is required. Touch the DIGIT SELECT switch, 4, to cause the second digit from the left to flash. Touch the DIGIT SET switch, 5, to change the flashing digit from "0" to "1."

Use the DIGIT SELECT, 4, and DIGIT SET, 5, switches to change the remaining digits until "012.5" is displayed.

NOTE: The area measured will only be accurate if there is no implement overlap when the tractor turns around at the end of a

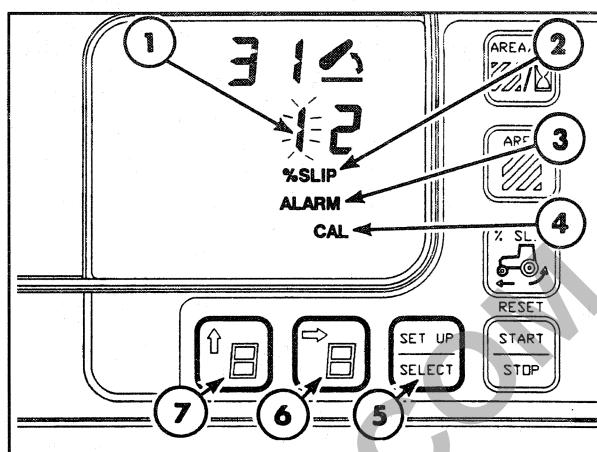


Figure 2-47

70-550-303

- 1 Slip alarm point digital display
- 2 % SLIP legend
- 3 ALARM legend
- 4 CAL legend
- 5 SET UP/SELECT switch
- 6 Digit select switch
- 7 Digit set switch

run to make another pass. Alternatively, the implement width entered into memory may be reduced by the estimated amount of overlap.

With the required implement width displayed, touch the SET UP/SELECT switch, 3, to enter the implement width into memory and change the display to the % SLIP alarm point.

Setting The Slip Alarm Point (Option)

Figure 2-47

NOTE: If the optional radar unit is not installed, the slip alarm function will be omitted from the sequence.

The slip alarm point will appear as a two-digit display, 1, with the left-hand digit flashing. "% SLIP," 2, and "ALARM," 3, will also be displayed with the word CAL, 4.

Use the DIGIT SET, 7, and DIGIT SELECT, 6, switches to change the value to the required setting. If the slip alarm is not required, set the display, 1, to "00."

With the required slip alarm point displayed, touch the SET UP/SELECT switch, 5, to change the lower display to show the first Service Alert Indicator "I."

TRANSMISSION PROGRAMMING

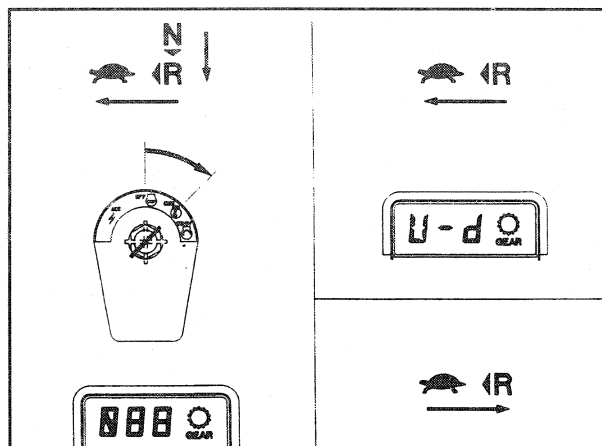


Figure 2-87

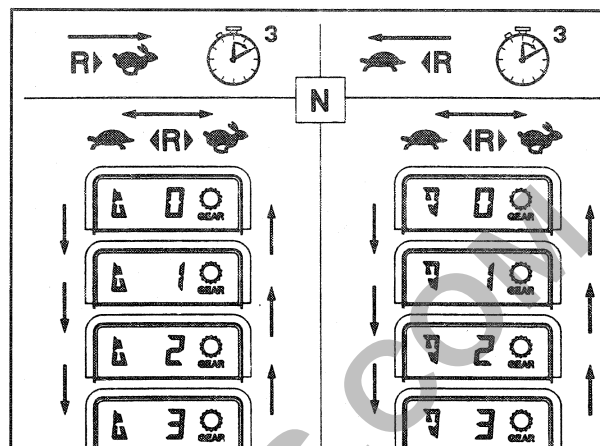


Figure 2-88

70-220-335

70-220-337

PROGRAMMING THE PROGRAMMABLE UP SHIFT, DOWN SHIFT

Figure 2-87 and Figure 2-88

To change the number of gears increased or decreased when selecting the programmable up shift or down shift, proceed as follows:

- Turn the KEY-START switch off.
- Move the control lever to the reverse speed position, then hold the lever to the left.
- While holding the lever to the left, turn on the KEY-START switch (but do not start the engine.) After three seconds, the digital display should show "U-d" indicating the up/down shift programming mode is engaged.
- Return the control lever to the reverse position.

Figure 2-88

To program the up shift:

- With the shift lever still in reverse, move the lever to the right and hold for three seconds. The digital display will show an up arrow and the up shift number currently stored in memory.
- Nudge the lever to the right one, two or three times, as required. The display will show "1", "2" or "3." This indicates that when the UP

SHIFT switch is depressed, the transmission will up shift one, two or three gear ratios higher than the gear currently being used. To cancel the Up Shift program, nudge the lever to the left until "0" appears.

Return the lever to neutral after selecting the desired up shift to store the program.

To program the down shift:

- To change the number of gears that will be down shifted when Down Shift is selected, position the shift lever in neutral. The display should show "U-d." Move the shift lever to reverse position then to the left and hold for three seconds. The display will show a down arrow and the down shift number currently stored in memory.
- Nudge the lever to the right one, two or three times and the display will show "1", "2" or "3". This indicates the number of gear ratios that will be down shifted from the current gear when the DOWN SHIFT switch is activated. To cancel the down shift program, nudge the lever to the left until "0" appears.
- Return the lever to neutral after selecting the desired down shift to store the program.

To exit the program:

- Turn the key-switch to the off position to exit the up shift and down shift program mode.

THREE-POINT HITCH CONTROLS

INTRODUCTION

The electro-hydraulic three-point hitch control system employs electronic switches and a microcomputer to control the hydraulic system, which raises and lowers the 3-point linkage.

MODES OF OPERATION

The electro-hydraulic three-point hitch system offers three modes of operation, position, draft, and float.

Position Control provides accurate and sensitive control of implements that operate at a fixed position. Once set, position control will maintain the selected implement height. When operating in position control the tractor and implement become, in effect, a rigid unit. Irregularities in the soil surface will cause the implement to rise and fall according to movement of the tractor.

Draft Control provides for a uniform load to be maintained on the tractor by automatically adjusting the working height/depth of soil engaging implements.

The changes in draft loading are sensed electronically through special load sensing pins used to connect the lower links to the rear axle housing. These pins send an electronic signal to the computer which, in turn, signals the hydraulic system to respond by raising or lowering the implement to maintain the requested draft load.

Float Control provides a means of operating implements that operate with the contour of the soil surface, including implements that operate with gauge wheels or other devices that limit operating depth. Float control also allows for lateral movement of the implement on uneven surfaces.

The set-up and operation of each mode of operation is described later in this section.

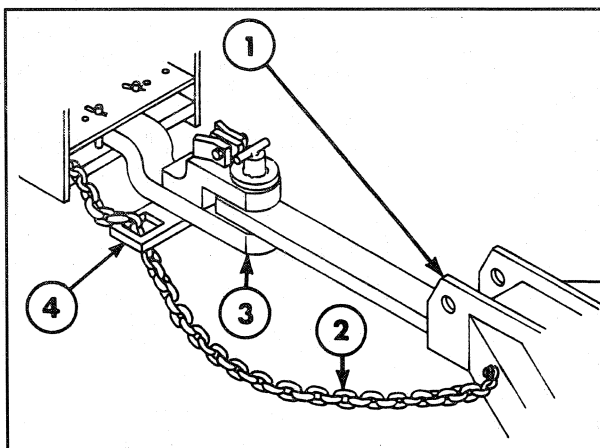


Figure 2-161

70-330-113

- 1 Implement
- 2 Safety chain
- 3 Drawbar
- 4 Chain guide

Safety Chain

Figure 2-161

When towing implements, 1, on the highway, use a safety chain, 2, with tensile strength equal to or greater than the gross weight of the implement to be towed by the tractor. This will control the implement in the event the drawbar, 3, and implement disconnect.

An optional chain guide, 4, is available to support the chain.

After attaching 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 a tight or loose chain.

Check the implement operator's manual for implement weight and attaching hardware specifications.

Safety chains, attaching hardware and chain guide are available from your authorized dealer.

ATTACHING AND DETACHING TRAILED EQUIPMENT

IMPORTANT: Regulations in some areas require brakes on towed equipment when operating on the public highway. Before traveling on public highways, make sure you comply with legal requirements.

To attach the tractor to trailed equipment and implements:

1. Be sure implement is at the draw bar height.
2. Slowly inch rearwards to allow the drawbar and implement hitch to intersect (steering sharply left and right will aid in hitch alignment).
3. Set parking brake and stop engine.
4. Insert hitch pin and be sure the retainer is in the latched position.

NOTE: For implements that require hitch extensions or interfere with the tractor clevis, remove and store the clevis and hitch pin.

Always use a safety chain installed between the tractor and implement hitch when transporting equipment on the highway.

North American standards recommend that you observe the following precautions for towing equipment not equipped with brakes:

DO NOT TOW equipment weighing more than twice the tractor weight.

DO NOT exceed 16 km/h (10 MPH) if towed equipment weighs more than the tractor.

DO NOT exceed 32 km/h (20 MPH) while towing equipment that weighs less than the tractor.

IMPORTANT: To extend tractor life and avoid excessive soil compaction and rolling resistance, do not over ballast. Ballast should never exceed the weight needed to provide traction for sustained full power loads.

TIRES AND BALLASTING

The tire chart in Section 5 shows the load carrying capacity per tire.

IMPORTANT: Do not overload tires. If maximum tractor weight exceeds the load rating of the tire as listed in the tire chart, reduce load, install higher rated ply tires, or reduce road speed.

Calculating Tire and Axle Loads

NOTE: Include the weight of fully raised three-point hitch implements when calculating rear axle load when operating at road speeds for an extended period. An example is:

Model 8870 with SuperSteer with rear axle weights with duals = 7470 kg (16434 lbs.)

3-point hitch load fully raised = 2727 kg (6000 lbs.)

Total rear axle load without additional ballast = 10197 kg (22434 lbs.)

Estimated additional ballast 439 kg (966 lbs.)

Total rear axle load supported by 4 tires = 10636 kg (23400 lbs.)

divided by 4

Load supported by each tire with 3-point hitch fully raised = 2659 kg (5850 lbs.)

NOTE: An 18.4R46 tire would require 24 PSI inflation pressure to carry this weight during extended high speed road use. See tire inflation table in Section 5. If the three-point hitch load was not present, or if three-point load is on the ground, the load per tire would be 1973 kg (4350 lbs). The tire pressure should then be reduced to maintain the proper tire side wall deflection for best traction.

REAR TIRE WEIGHTING

NOTE: Install cast iron weight first. Use liquid ballast only as required.



CAUTION: INSTALLING LIQUID BALLAST REQUIRES SPECIAL EQUIPMENT AND TRAINING. HAVE LIQUID BALLAST ADDED BY YOUR AUTHORIZED DEALER OR A TIRE STORE.

IMPORTANT: With radial tires NEVER fill a tire to more than 40-50 percent. More liquid ballast solution will leave too little air space to absorb shocks. Damage to the tire could occur. This occurs due to the lower inflation pressures that are used with radial tires. Bias ply tires can be filled to 75 percent.

A solution of water and calcium chloride provides safe, economical ballast. Used properly, it will not damage tires, tubes, or rims.

NOTE: Use of alcohol as liquid ballast is not recommended. Calcium chloride solution is heavier and more economical.

Radial-ply and bias-ply tires should be handled differently. The following chart shows how much ballast each size and type of tire will hold.

Tire Size	Water Liters/Gal.	CaCl ₂ Kg./Lbs.	Total Wt. Kg./Lbs.
18.4-38	337/89	202/445	539/1187
20.8-38	431/114	259/570	690/1521
18.4-42	352/93	211/465	563/1240
20.8-42	454/120	272/600	726/1600
14.9-46	246/65	147/325	393/867
18.4-46	397/105	238/525	635/1400
710/70R38	647/171	388/855	1041/2295

ATTENTION: Maximum recommended vehicle weight can be exceeded when tires are filled to 75% fill. See Ballast limitations.

The above weights are based on 75% fill. Radial tires should only be a 40-50% fill. Calculate weight as required.

Some sloshing of the liquid ballast may be noticed when the tractor is first stopped. This is normal.

EVERY 50 HOURS

Complete the preceding operations plus the following:

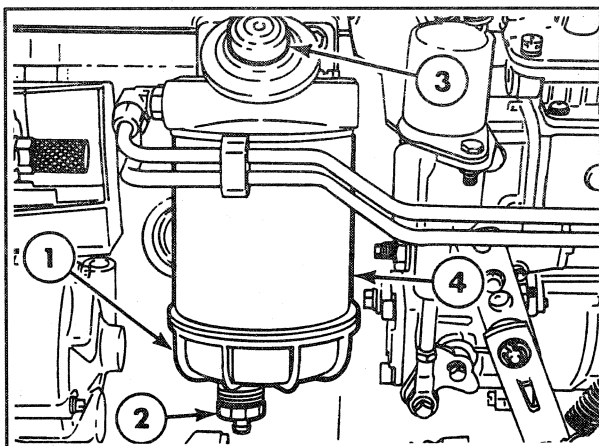


Figure 3-24

70-150-151

- 1 Water separator bowl
- 2 Drain plug
- 3 Hand primer
- 4 Fuel filter/water separator

OPERATION 6**CHECK FUEL SYSTEM WATER SEPARATOR****Figure 3-24**

IMPORTANT: Before loosening or disconnecting any part of the fuel injection system, thoroughly clean the area to be worked on.

Drain the separator bowl if water or sediment are present as follows:

1. Open the drain plug, 2.
2. Operate the hand primer, 3, until all water is drained. Catch the fuel in a suitable container and dispose of properly.
3. Close the drain plug, 2.
4. Press the hand primer repeatedly until resistance is felt.

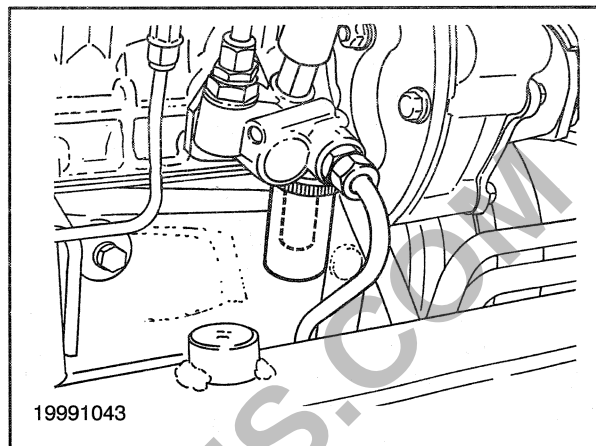


Figure 3-25

70-150-152

- 1 Sedimeter bowl
- 2 Filter screen

OPERATION 7**CHECK FUEL SEDIMENTER****Figure 3-25**

Check the sedimenter bowl, 1, and filter screen, 2, for contaminants. If contamination can be seen, clean the sedimenter bowl and screen as described in "Operation 32."

NOTE: A partially plugged filter screen can cause reduced fuel supply to the engine which can cause a reduction in engine performance.

EVERY 900 HOURS OR 12 MONTHS (WHICHEVER OCCURS FIRST)

Complete the appropriate preceding operations plus the following:

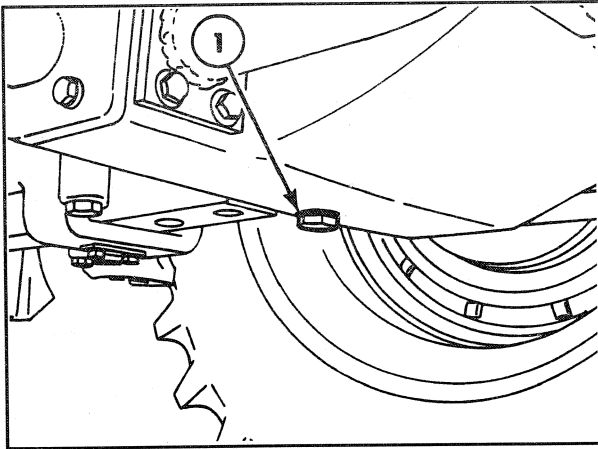


Figure 3-77

70-410-198

- 1 Drain plug

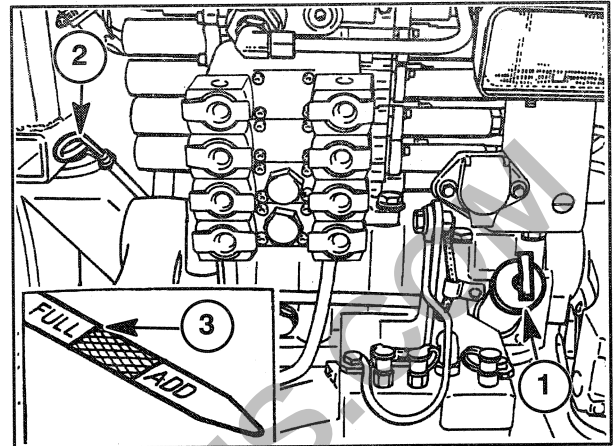


Figure 3-78

70-410-199r

- 1 Filler cap
2 Dipstick
3 Full mark

OPERATION 49**CHANGE TRANSMISSION/REAR AXLE/ HYDRAULIC OIL****Figure 3-77 and Figure 3-78**

NOTE: Perform this operation in conjunction with "Operations 49, 50, and 51."

Prior to changing the oil, run the engine and operate the hydraulic system until the oil is warm. Park the tractor on level ground, lower three-point linkage and stop the engine. Engage the park brake and block wheels on both sides.



WARNING: BE VERY CAREFUL TO AVOID CONTACT WITH HOT OIL. IF OIL IS EXTREMELY HOT, ALLOW OIL TO COOL TO MODERATELY WARM TEMPERATURE BEFORE PROCEEDING.

To change the oil:

1. Remove the drain plug, 1, and catch the oil in a suitable container. Dispose of oil properly. See Figure 3-77.

NOTE: Approximately 136 liters (36 gallons) of oil will be drained depending on the model.

2. Install the drain plug.

IMPORTANT: Perform operations 49, 50 and 51 before refilling with oil.

3. Remove the filler cap, 1, and refill with new oil. See Figure 3-78.

Model 8670 - 83 liters (22 U.S. gal.)

Models 8770, 8870, 8970 - 106 liters (28 U.S. gal.).

Normal refill quantity will be approximately 23 liters (6 U.S. gal.) less than factory fill capacity, stated on page 5-9, due to oil retained in the system.

4. Run the engine and operate the hydraulic system. Fully raise the three-point linkage.
5. Stop the engine and wait five minutes while checking the system for leaks.
6. Check oil level on the dipstick, 2. Add oil as required to bring the oil level to the full mark, 3.

NOTE: Do not fill above the full mark.

Oil Specification: ESN-M2C134-D

Oil Capacity:

Model 8670 - 113 liters (30 U.S. gal.)

Models 8770, 8870, 8970 - 140 liters (36.9 U.S. gal.)

NOTE: Capacities listed are for a COMPLETELY DRAINED system.

GENERAL MAINTENANCE

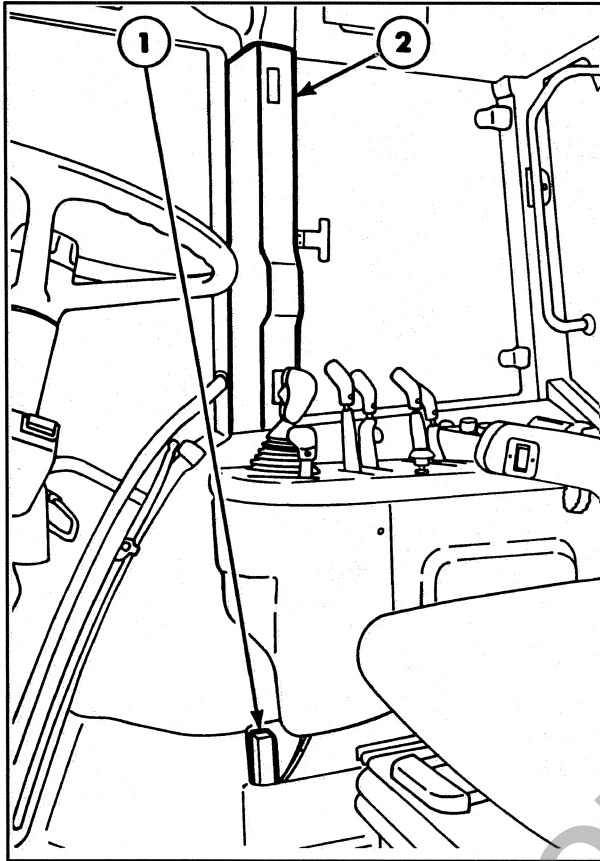


Figure 3-115

70-540-293

- 1 Main fuse panel
- 2 Main distribution panel

OPERATION 67

FUSE REPLACEMENT

Figure 3-115

Power is distributed from the battery to the main fuse panel, 1, to the main distribution panel, 2, and to the individual circuits.

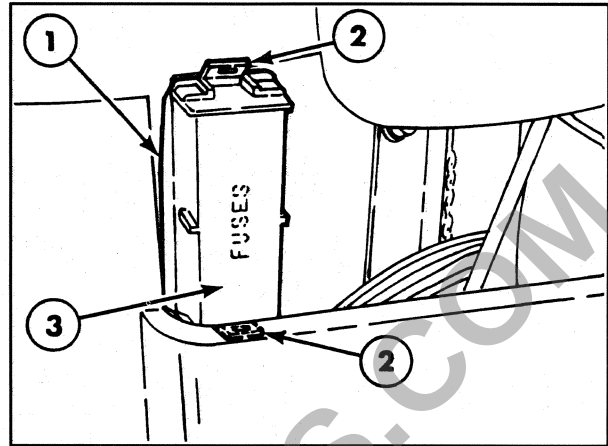


Figure 3-116

70-540-294

- 1 Main fuse panel
- 2 Tabs
- 3 Cover

Automotive-style block fuses are used to protect circuits from overload.

IMPORTANT: Locate and correct the cause of a blown fuse. **DO NOT** replace a blown fuse with another of a different rating than specified.

IMPORTANT: Be sure the key switch is in the "Off" position when replacing a fuse.

Main Fuse Panel (MFP)

Figure 3-116

The main fuse panel, 1, is located at the base of the right-hand console. To gain access to the fuses, release the tabs, 2, and remove the cover, 3.

SPECIFICATIONS

		8670	8770	8870	8970
COOLING SYSTEM					
Type		Pressurized with full flow bypass, recovery tank and filter with conditioner			
Thermostats		2	2	2	2
Begin to Open	°C (°F)	81 (178)	81 (178)	81 (178)	81 (178)
Fully Open	°C (°F)	95 (203)	95 (203)	95 (203)	95 (203)
Radiator Pressure Cap	bar (PSI)	0.9 (13)	0.9 (13)	0.9 (13)	0.9 (13)
Viscous Fan		Yes	Yes	Yes	Yes
Number of Blades		8	8	8	8
Fan Diameter	mm (in)	686 (27)	686 (27)	686 (27)	686 (27)
TRANSMISSION					
Type		16 x 9 Powershift with power shuttle			
POWER TAKE-OFF					
Type		Independent PTO			
Engine Speed for 540 RPM PTO Speed	ERPM	1880	NA	NA	NA
Engine Speed for 1000 RPM PTO Speed	ERPM	1900	1900	1900	1900
DRAWBAR					
Distance from hitch point to PTO shaft					
Rear drawbar hole	mm (in)	355 (14)	406 (16)	406 (16)	406 (16)
Center drawbar hole	mm (in)	406 (16)	508 (20)	508 (20)	508 (20)
Forward drawbar hole	mm (in)	508 (20)	609 (24)	609 (24)	609 (24)
Maximum Static Downward Load					
Rear drawbar hole	kg (lb)	2449 (5400)	2750 (6000)	2750 (6000)	2750 (6000)
Center drawbar hole	kg (lb)	2086 (4600)	2131 (4700)	2131 (4700)	2131 (4700)
Forward drawbar hole	kg (lb)	1587 (3500)	1770 (3900)	1770 (3900)	1770 (3900)

DELIVERY REPORT/SERVICE CHECK AND ADJUST AS REQUIRED

STATIONARY CHECKS - ENGINE OFF:

- ___ 1. Tire pressures and condition
- ___ 2. Lift-rod adjusting blocks for proper operation
- ___ 3. Radiator coolant level and specific gravity
1.071 – 1.083 at 60° F (16° C)
- ___ 4. Poly V belt
- ___ 5. Engine oil level
- ___ 6. Drain diesel fuel filter and clean fuel sedi-
menter
- ___ 7. Air Cleaner element and hose connections
- ___ 8. Coolant lines and clamps
- ___ 9. Windshield wiper washer and fluid
- ___ 10. Transmission/rear axle oil level
- ___ 11. Front axle differential oil level (FWD)
- ___ 12. Front axle hub oil level (FWD)
- ___ 13. Upper link, drawbar pins in position
- ___ 14. Wheel disc-to-rim hardware torque
- ___ 15. Wheel disc-to-hub hardware torque
- ___ 16. Front end weight clamp bolts for tightness
- ___ 17. Front end wheel toe-in & steering stops
- ___ 18. Fuel level
- ___ 19. Sheet metal and paint condition
- ___ 20. Lubricate all grease fittings
- ___ 21. Seat mounting and adjustment
- ___ 22. Side console operation
- ___ 23. Tilt telescopic steering column operation
- ___ 24. Cab door and lock operation and seal condi-
tion
- ___ 25. Cab interior upholstery, trim and moldings
- ___ 26. Cab window operation, gas springs, latches
and seal condition
- ___ 27. Cab filter installation
- ___ 28. All electrical cables, terminals and wires
- ___ 29. Hood gas springs in proper mounting position

SAFETY ITEM CHECKS:

- ___ 1. Seat belt operation
- ___ 2. Safety decals installed
- ___ 3. All Safety shields installed

- ___ 4. Neutral start switches operative
- ___ 5. Parking brake operative
- ___ 6. Flashing lights/taillights operation
- ___ 7. Operator's manual supplied
- ___ 8. SMV emblem installed
- ___ 9. Battery cables

STATIONARY CHECKS - ENGINE RUNNING:

All operative 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 ad-
justments and fuel shut-off
- ___ 4. PTO operation & brake
- ___ 5. Hydraulic System
 - ___ Selector lever & knobs for draft and position
control operation
 - ___ Draft control operation
 - ___ Remote control valves
 - ___ Flow control operation
 - ___ Pressure detent operation
- ___ 6. Transmission selector & EIC gear display
- ___ 7. Transmission clutch calibration
___ F1 ___ F2 ___ Rev

PERFORMANCE SERVICE CHECKS

- ___ 1. Dynamometer HP test, engine operation in-
cluding throttle and governor operation
- ___ 2. Transmission
- ___ 3. Steering control
- ___ 4. Differential lock and FWD engagement and
disengagement
- ___ 5. Brake action
- ___ 6. All optional equipment and accessories
___ 30-amp and 8-amp sockets
- ___ 7. Ballasting

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