

Operator's Manual



**McCORMICK®
FARMALL®**

460, 560,

and

INTERNATIONAL®

560

Tractors

INTERNATIONAL HARVESTER COMPANY

180 North Michigan Ave.

Chicago 1, Illinois, U.S.A.

TO THE OWNER

We are glad to welcome you as an owner of a product of International Harvester Company. You have a fine product, designed and built to give you many years of efficient operation. The way you operate and the care you give this product will have much to do with its successful performance.

To help you operate your equipment with utmost efficiency we have provided this operator's manual. It has been carefully prepared to give you the benefit of many years of experience gained in field testing and normal usage of this and similar products.

We urge you to study this manual so you will understand your new equipment thoroughly before operating it. We also urge you to take care of your manual so you will have it available for reference when you need it.

If your manual is lost or destroyed, a new copy may be ordered from the International Harvester dealer at a nominal price. Your International Harvester dealer will also be glad to answer any questions you may have on the operation or care of this product.

It is the policy of International Harvester Company to improve its products whenever it is possible and practical to do so. We reserve the right to make changes or add improvements at any time without incurring any obligation to make such changes on products sold previously.

All illustrations and descriptive matter in this publication apply to International Harvester products sold under the International, McCormick, or McCormick-International trade names.

As a member of the National Safety Council, we are privileged to use the Green Cross for Safety to designate not only our interest in Safety, but to point out more clearly the safety precautions in this manual.

Parts Depots are strategically located at 12 points and Transfer Houses at 4 points in the United States. Ample stocks are maintained at all times to assure prompt shipment to your IH dealer to meet your requirements.

Parts Depots in the United States

Albany 1, N. Y.
Atlanta, Ga.
(East Point, Ga.)
Baltimore 3, Md.

Broadview, Ill.
Columbus 18, Ohio
Dallas 22, Tex.

Denver 17, Colo.
Kansas City 17, Kans.
Memphis 6, Tenn.

Portland 8, Oreg.
Richmond 4, Calif.
St. Paul 4, Minn.

Transfer Houses in the United States

Broadview, Ill.

Kansas City 17, Kans.
Memphis 6, Tenn.

St. Paul 14, Minn.

District Offices in Canada

Calgary, Alta.
Edmonton, Alta.
London, Ont.

Montreal 14, Que.
Quebec 8, Que.

Regina, Sask.
Saint John, N. B.
Saskatoon, Sask.

Toronto, Ont.
Vancouver 4, B. C.
Winnipeg 10, Man.

6-20-62

International Harvester Sales and Service is maintained in all principal countries of the world.

Export address: International Harvester Export Company, Chicago 1, Illinois, U. S. A.

Canadian address: International Harvester Company of Canada, Ltd., Hamilton, Ont., Canada



DELIVERY REPORT

(This copy to be sent to International Harvester District Office.)
(EXPORT—Send to Distributor or Affiliate General Office.)

DISTRICT OFFICE COPY
(EXPORT—DISTRIBUTOR OR
AFFILIATE OFFICE COPY)

- ☐ Farmall 460 or 560 Tractors
☐ Farmall 460 or 560 Hi-Clear Tractors

☐ International 560 Tractor

Tractor Serial No. _____
(See Illust. 3A)

Engine Serial No. _____
(See Illust. 3B)

Delivered to _____
Purchaser's Name

Address _____
Street and No. or R.F.D. and Box No.

Town _____

State _____ Date _____ 19__

Tractor being replaced if any:

Make _____ Age _____ (Years) Model _____

Number tractors owned,
including new purchase _____

Check the Major Use Only for this tractor and complete information under heading:

☐ AGRICULTURAL

1. Acres or hectares in crops _____ 2. Check chief source of farm income: Dairy ☐ Corn ☐ Truck ☐ Orchard ☐
Livestock ☐ Wheat ☐ Cotton ☐ Other ☐

☐ COMMERCIAL

1. Type work _____
2. List below special duty equipment to be used:

Equipment _____
Make _____ Model _____

Equipment _____
Make _____ Model _____

PREDELIVERY SERVICE—Prior to delivery of the above tractor the following checks and tests were made and corrective action taken as necessary:

- ☐ Shortage or Damage in Shipment
☐ Extra Equipment and Accessories Checked Against Purchase Order
☐ Tire Pressures
☐ Engine Oil Level
☐ Air Cleaner Oil Level
☐ Transmission, Differential, and Final Drive Oil Levels
☐ Steering Housing Oil Level
☐ PTO—Rear Unit Oil Level*
☐ Belt Pulley Drive Unit Oil Level*

- ☐ Cooling System Level
☐ Water Level and Gravity of Battery Checked When Installed
☐ Engine Oil Pressure
☐ Cranking Motor
☐ Generator Charging
☐ Lights
☐ TA—Clutch Linkage*
☐ Engine Clutch
☐ Brakes
☐ Power Take-Off*

- ☐ Torque Cylinder Head—Engine Hot
☐ Adjust Valves—Engine Hot
☐ Engine Operation
☐ Test Antifreeze
☐ Gear Shifting—All Speeds
☐ Road Test for General Operation
☐ Attach Cylinders—Operate Each Hydra-Touch Control Handle, Check Reservoir Fluid Level*
☐ Clean and Polish

DELIVERY SERVICE—At time of delivery the importance of the Operator's and Maintenance Manuals was explained and, with them as a guide, instruction was given as indicated by check marks:

- ☐ Precautions with New Tractor
☐ Lubricating Entire Tractor
☐ Fuel and Lubricant Specifications
☐ Checking Oil Levels
☐ Care of Air Cleaner and Breathers
☐ Servicing Oil Filter
☐ Starting, Stopping, and General Operation
☐ Drawbar Adjustment
☐ Safe Hitching Practices
☐ Care of Cooling System
☐ Use of Radiator Shutter*

- ☐ Care and use of Electrical Attachment*
☐ Care and Use of Hydraulic System*
☐ Fast-Hitch Operation*
☐ Care of Fuel System
☐ Adjustment of Engine Clutch
☐ Adjustment of TA Clutch Linkage*
☐ Care of Ignition System*
☐ Care of Generator
☐ Care of Battery
☐ Adjustment of Power Take-Off*
☐ Adjustment of Brakes
☐ Tires—Inflation, Weighting, Care

- ☐ Wheel Weights and Tread Adjustment
☐ Cold Weather Operation
☐ Storing Tractor
☐ Starting Tractor After Storage
☐ Discuss Downhill Operation While Working in TA*
☐ Caution Regarding High-Speed Operation
☐ Tightening Nuts and Bolts
☐ Keeping Tractor Clean
☐ Annual Tractor Service Plan Agreement

*When So Equipped.

The customer's signature below certifies that the tractor was delivered to him in a satisfactory condition and that he received instruction as to its proper operation and maintenance.

Appointment for after-delivery inspection (10 to 30 days after) was made for _____ Date _____

Signed _____
Customer

Signed _____
Dealer

By _____

By _____

CUSTOMER'S SERVICE RECORD

After-delivery inspection made.

Date _____

[illegible]

RECORD OF CONTACT

Symbols— C - Called on T - Telephone L - Letter

[illegible]



DELIVERY REPORT

(This copy to be filed by dealer.)

DEALER'S COPY

- ☐ Farmall 460 or 560 Tractors
☐ Farmall 460 or 560 Hi-Clear Tractors

☐ International 560 Tractor

Tractor Serial No. _____
(See Illust. 3A)

Engine Serial No. _____
(See Illust. 3B)

Delivered to _____
Purchaser's Name

Address _____
Street and No. or R.F.D. and Box No.

Town _____

State _____ Date _____ 19____

Tractor being replaced if any:

Make _____ Age _____ (Years) Model _____

Number tractors owned,
including new purchase _____

Check the Major Use Only for this tractor and complete information under heading:

☐ AGRICULTURAL

1. Acres or hectares in crops _____ 2. Check chief source of farm income: Dairy ☐ Corn ☐ Truck ☐ Orchard ☐
Livestock ☐ Wheat ☐ Cotton ☐ Other ☐

☐ COMMERCIAL

1. Type work _____
2. List below special duty equipment to be used:
Equipment _____ Equipment _____
Make _____ Model _____ Make _____ Model _____

PREDELIVERY SERVICE—Prior to delivery of the above tractor the following checks and tests were made and corrective action taken as necessary:

- | | | |
|---------------------------------------------------------------------------------|-------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> Shortage or Damage in Shipment | <input type="checkbox"/> Cooling System Level | <input type="checkbox"/> Torque Cylinder Head |
| <input type="checkbox"/> Extra Equipment and Accessories Checked | <input type="checkbox"/> Water Level and Gravity of Battery | <input type="checkbox"/> —Engine Hot |
| <input type="checkbox"/> Against Purchase Order | <input type="checkbox"/> Checked When Installed | <input type="checkbox"/> Adjust Valves—Engine Hot |
| <input type="checkbox"/> Tire Pressures | <input type="checkbox"/> Engine Oil Pressure | <input type="checkbox"/> Engine Operation |
| <input type="checkbox"/> Engine Oil Level | <input type="checkbox"/> Cranking Motor | <input type="checkbox"/> Test Antifreeze |
| <input type="checkbox"/> Air Cleaner Oil Level | <input type="checkbox"/> Generator Charging | <input type="checkbox"/> Gear Shifting—All Speeds |
| <input type="checkbox"/> Transmission, Differential, and Final Drive Oil Levels | <input type="checkbox"/> Lights | <input type="checkbox"/> Road Test for General Operation |
| <input type="checkbox"/> Steering Housing Oil Level | <input type="checkbox"/> TA—Clutch Linkage* | <input type="checkbox"/> Attach Cylinders—Operate Each Hydra-Touch Control Handle, Check Reservoir Fluid Level* |
| <input type="checkbox"/> PTO—Rear Unit Oil Level* | <input type="checkbox"/> Engine Clutch | <input type="checkbox"/> Clean and Polish |
| <input type="checkbox"/> Belt Pulley Drive Unit Oil Level* | <input type="checkbox"/> Brakes | |
| | <input type="checkbox"/> Power Take-Off* | |

DELIVERY SERVICE—At time of delivery the importance of the Operator's and Maintenance Manuals was explained and, with them as a guide, instruction was given as indicated by check marks:

- | | | |
|--------------------------------------------------------------------|-----------------------------------------------------------------|--------------------------------------------------------------------------|
| <input type="checkbox"/> Precautions with New Tractor | <input type="checkbox"/> Care and use of Electrical Attachment* | <input type="checkbox"/> Wheel Weights and Tread Adjustment |
| <input type="checkbox"/> Lubricating Entire Tractor | <input type="checkbox"/> Care and Use of Hydraulic System* | <input type="checkbox"/> Cold Weather Operation |
| <input type="checkbox"/> Fuel and Lubricant Specifications | <input type="checkbox"/> Fast-Hitch Operation* | <input type="checkbox"/> Storing Tractor |
| <input type="checkbox"/> Checking Oil Levels | <input type="checkbox"/> Care of Fuel System | <input type="checkbox"/> Starting Tractor After Storage |
| <input type="checkbox"/> Care of Air Cleaner and Breathers | <input type="checkbox"/> Adjustment of Engine Clutch | <input type="checkbox"/> Discuss Downhill Operation While Working in TA* |
| <input type="checkbox"/> Servicing Oil Filter | <input type="checkbox"/> Adjustment of TA Clutch Linkage* | <input type="checkbox"/> Caution Regarding High-Speed Operation |
| <input type="checkbox"/> Starting, Stopping, and General Operation | <input type="checkbox"/> Care of Ignition System* | <input type="checkbox"/> Tightening Nuts and Bolts |
| <input type="checkbox"/> Drawbar Adjustment | <input type="checkbox"/> Care of Generator | <input type="checkbox"/> Keeping Tractor Clean |
| <input type="checkbox"/> Safe Hitching Practices | <input type="checkbox"/> Care of Battery | <input type="checkbox"/> Annual Tractor Service Plan Agreement |
| <input type="checkbox"/> Care of Cooling System | <input type="checkbox"/> Adjustment of Power Take-Off* | |
| <input type="checkbox"/> Use of Radiator Shutter* | <input type="checkbox"/> Adjustment of Brakes | |
| | <input type="checkbox"/> Tires—Inflation, Weighting, Care | |

*When So Equipped.

The customer's signature below certifies that the tractor was delivered to him in a satisfactory condition and that he received instruction as to its proper operation and maintenance.

Appointment for after-delivery inspection (10 to 30 days after) was made for _____ Date _____

Signed _____ Customer Signed _____ Dealer

By _____ By _____



TRACTOR SERVICE

DAVID WHITE COMPANY
P.O. BOX 100
MILWAUKEE, WIS. 53201

Blank form area with faint horizontal lines for text entry.



DELIVERY REPORT

(This copy to be retained by owner.)

OWNER'S COPY

- ☐ Farmall 460 or 560 Tractors
☐ Farmall 460 or 560 Hi-Clear Tractors

- ☐ International 560 Tractor

Tractor Serial No. _____ (See Illust. 3A) Engine Serial No. _____ (See Illust. 3B)
 Delivered to _____ Address _____
 Purchaser's Name Street and No. or R.F.D. and Box No.
 Town State Date
 Tractor being replaced if any:
 Make _____ Age _____ (Years) Model _____ Number tractors owned,
 including new purchase _____

Check the Major Use Only for this tractor and complete information under heading:

☐ AGRICULTURAL

1. Acres or hectares in crops _____ 2. Check chief source of farm income: Dairy ☐ Corn ☐ Truck ☐ Orchard ☐
 Livestock ☐ Wheat ☐ Cotton ☐ Other ☐

☐ COMMERCIAL

1. Type work _____
 2. List below special duty equipment to be used:
 Equipment _____ Equipment _____
 Make _____ Model _____ Make _____ Model _____

PREDELIVERY SERVICE—Prior to delivery of the above tractor the following checks and tests were made and corrective action taken as necessary:

- | | | |
|-----------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> Shortage or Damage in Shipment | <input type="checkbox"/> Cooling System Level | <input type="checkbox"/> Torque Cylinder Head |
| <input type="checkbox"/> Extra Equipment and Accessories Checked Against Purchase Order | <input type="checkbox"/> Water Level and Gravity of Battery Checked When Installed | <input type="checkbox"/> —Engine Hot |
| <input type="checkbox"/> Tire Pressures | <input type="checkbox"/> Engine Oil Pressure | <input type="checkbox"/> Adjust Valve—Engine Hot |
| <input type="checkbox"/> Engine Oil Level | <input type="checkbox"/> Cranking Motor | <input type="checkbox"/> Engine Operation |
| <input type="checkbox"/> Air Cleaner Oil Level | <input type="checkbox"/> Generator Charging | <input type="checkbox"/> Test Antifreeze |
| <input type="checkbox"/> Transmission, Differential, and Final Drive Oil Levels | <input type="checkbox"/> Lights | <input type="checkbox"/> Gear Shifting—All Speeds |
| <input type="checkbox"/> Steering Housing Oil Level | <input type="checkbox"/> TA—Clutch Linkage* | <input type="checkbox"/> Road Test for General Operation |
| <input type="checkbox"/> PTO—Rear Unit Oil Level* | <input type="checkbox"/> Engine Clutch | <input type="checkbox"/> Attach Cylinders—Operate Each Hydra-Touch Control Handle, Check Reservoir Fluid Level* |
| <input type="checkbox"/> Belt Pulley Drive Unit Oil Level* | <input type="checkbox"/> Brakes | <input type="checkbox"/> Clean and Polish |
| | <input type="checkbox"/> Power Take-Off* | |

DELIVERY SERVICE—At time of delivery the importance of the Operator's and Maintenance Manuals was explained and, with them as a guide, instruction was given as indicated by check marks:

- | | | |
|--------------------------------------------------------------------|-----------------------------------------------------------------|-------------------------------------------------------------------------|
| <input type="checkbox"/> Precautions with New Tractor | <input type="checkbox"/> Care and use of Electrical Attachment* | <input type="checkbox"/> Wheel Weights and Tread Adjustment |
| <input type="checkbox"/> Lubricating Entire Tractor | <input type="checkbox"/> Care and Use of Hydraulic System* | <input type="checkbox"/> Cold Weather Operation |
| <input type="checkbox"/> Fuel and Lubricant Specifications | <input type="checkbox"/> Fast-Hitch Operation* | <input type="checkbox"/> Storing Tractor |
| <input type="checkbox"/> Checking Oil Levels | <input type="checkbox"/> Care of Fuel System | <input type="checkbox"/> Starting Tractor After Storage |
| <input type="checkbox"/> Care of Air Cleaner and Breathers | <input type="checkbox"/> Adjustment of Engine Clutch | <input type="checkbox"/> Discus Downhill Operation While Working in TA* |
| <input type="checkbox"/> Servicing Oil Filter | <input type="checkbox"/> Adjustment of TA Clutch Linkage* | <input type="checkbox"/> Caution Regarding High-Speed Operation |
| <input type="checkbox"/> Starting, Stopping, and General Operation | <input type="checkbox"/> Care of Ignition System* | <input type="checkbox"/> Tightening Nuts and Bolts |
| <input type="checkbox"/> Drawbar Adjustment | <input type="checkbox"/> Care of Generator | <input type="checkbox"/> Keeping Tractor Clean |
| <input type="checkbox"/> Safe Hitching Practices | <input type="checkbox"/> Care of Battery | <input type="checkbox"/> Annual Tractor Service Plan Agreement |
| <input type="checkbox"/> Care of Cooling System | <input type="checkbox"/> Adjustment of Power Take-Off* | |
| <input type="checkbox"/> Use of Radiator Shutter* | <input type="checkbox"/> Adjustment of Brakes | |
| | <input type="checkbox"/> Tires—Inflation, Weighting, Care | |

*When So Equipped.

The customer's signature below certifies that the tractor was delivered to him in a satisfactory condition and that he received instruction as to its proper operation and maintenance.

Appointment for after-delivery inspection (10 to 30 days after) was made for _____ Date _____

Signed _____ Signed _____
 Customer Dealer

By _____ By _____

CONTENTS

Description	Page No.
DELIVERY REPORT.....	1
INTRODUCTION.....	3
DESCRIPTION.....	4, 5
INSTRUMENTS AND CONTROLS.....	5 to 9
BEFORE STARTING YOUR NEW TRACTOR.....	9, 10
PREPARING YOUR TRACTOR FOR EACH DAY'S WORK.....	11
OPERATING A GASOLINE ENGINE.....	12, 13
DRIVING THE TRACTOR.....	14 to 17
OPERATING THE TORQUE AMPLIFIER.....	17, 18
OPERATING THE HYDRA-TOUCH SYSTEM.....	19 to 23
HITCHING THE IMPLEMENT TO THE TRACTOR.....	23, 24
OPERATING THE INDEPENDENT POWER TAKE-OFF.....	25, 26
OPERATING THE BELT PULLEY.....	26, 27
WHEELS.....	28 to 35
WEIGHTS.....	36 to 38
PNEUMATIC TIRES.....	39 to 41
STARTING AND LIGHTING EQUIPMENT.....	42 to 45
COOLING SYSTEM.....	46
COLD WEATHER PRECAUTIONS.....	47
GENERAL ENGINE LUBRICATION.....	48
LUBRICATING OIL AND GREASE SPECIFICATIONS.....	48, 50
LUBRICATION TABLE.....	49
LUBRICATION GUIDE.....	51 to 54
SPECIFICATIONS.....	55 to 61
EXTRA EQUIPMENT AND ACCESSORIES.....	62
INDEX.....	63 to 65

A Careful Operator
IS THE BEST INSURANCE
AGAINST AN ACCIDENT

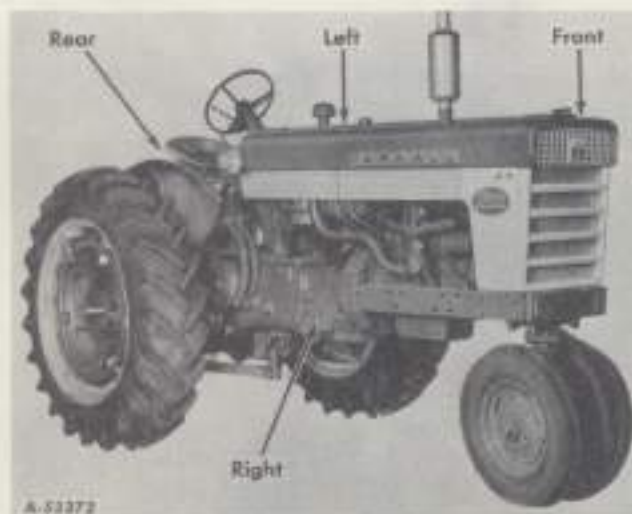
—National Safety Council.

INTRODUCTION

Assembled in this book are operating and lubrication instructions for the Farmall 460, 460 Hi-Clear, 560, 560 Hi-Clear, and International 560 Tractors. This material has been prepared in detail in the hope that it will help you to better understand the correct care and efficient operation of your tractor.

If you should need information not given in this manual, or in the tractor Preventive Maintenance Manual, or require the services of a trained mechanic, get in touch with the International Harvester dealer in your locality. Dealers are kept informed on the latest methods of servicing tractors. They carry stocks of IH parts, and are backed in every case by the full facilities of a nearby International Harvester District Office.

Throughout this manual the use of the terms LEFT, RIGHT, FRONT, and REAR must be understood to avoid confusion when following instructions. LEFT and RIGHT indicate the left and right sides of the tractor when facing forward in the driver's seat. Reference to FRONT indicates the radiator end of the tractor; to REAR, the drawbar end. See *Illust. 3*.



Illust. 3
Terms of location.

The illustrations in this manual are numbered to correspond with the pages on which they appear; for example, *Illusts. 3 and 3A are on page 3*.

In order to provide a tractor equipped as nearly as possible to suit each customer's needs, a variety of extra equipment and accessories is available. For a list of the extra equipment and accessories available, see page 62.

Where operating and maintaining instruction on these items is required, it is included in the instructions in the Operator's or Preventive Maintenance Manual. Disregard the instructions for equipment not on your tractor.

When in need of parts, always specify the tractor and engine serial numbers, including any prefix or suffix letters. On the Farmall 460 Tractor the tractor serial number is stamped on a plate attached to the right side of the clutch housing. On the Farmall and International 560 Tractors the serial number is on a plate attached to the left side of the clutch housing. See *Illust. 3A*.



Illust. 3A
Location of the tractor serial number.

The engine serial number is stamped on the left side of the engine crankcase on a pad below the distributor housing. This serial number is preceded by the prefix C-221 or C-263, which indicates that it is a carbureted engine with a 221 or 263 cubic-inch piston displacement.

For ready reference, we suggest that you write these serial numbers in the spaces provided on the Delivery Report.

DESCRIPTION



A-53374

Illust. 4

Left front view of the Farmall 460 Tractor.



A-53375

Illust. 4A

Right front view of the Farmall 560 Tractor.

DESCRIPTION



Illust. 5

Right front view of the International 560 Tractor.

INSTRUMENTS AND CONTROLS

Brake Pedals

These pedals are used to stop the tractor, to hold the tractor in a stationary position, or to assist in making sharp turns as outlined below:

To stop the tractor, depress both pedals at the same time. Before driving the tractor in high gear, always latch the pedals together.

To hold the tractor in a stationary position, latch the pedals together, depress them, and lock them in this depressed position by using the brake pedal lock.

To assist in making a sharp turn, operate the pedals individually, depressing the pedal on the side toward which the turn is to be made.

The brake pedal latch (Illusts. 6 or 7) is used to latch both brake pedals together, causing the brakes to operate simultaneously.



Caution! Always latch the brake pedals together when driving the tractor in high gear (fifth speed). To latch the pedals together, engage the latch (in the back of the left pedal, Illust. 6 or 7) in the slot in the back of the right

pedal. When the brake pedals are not latched together, the latch should rest in the slot in the back of the left brake pedal.

The brake pedal lock (Illusts. 6 or 7) is used to lock the brake pedals in the depressed position; this prevents the tractor from moving.

Clutch Pedal

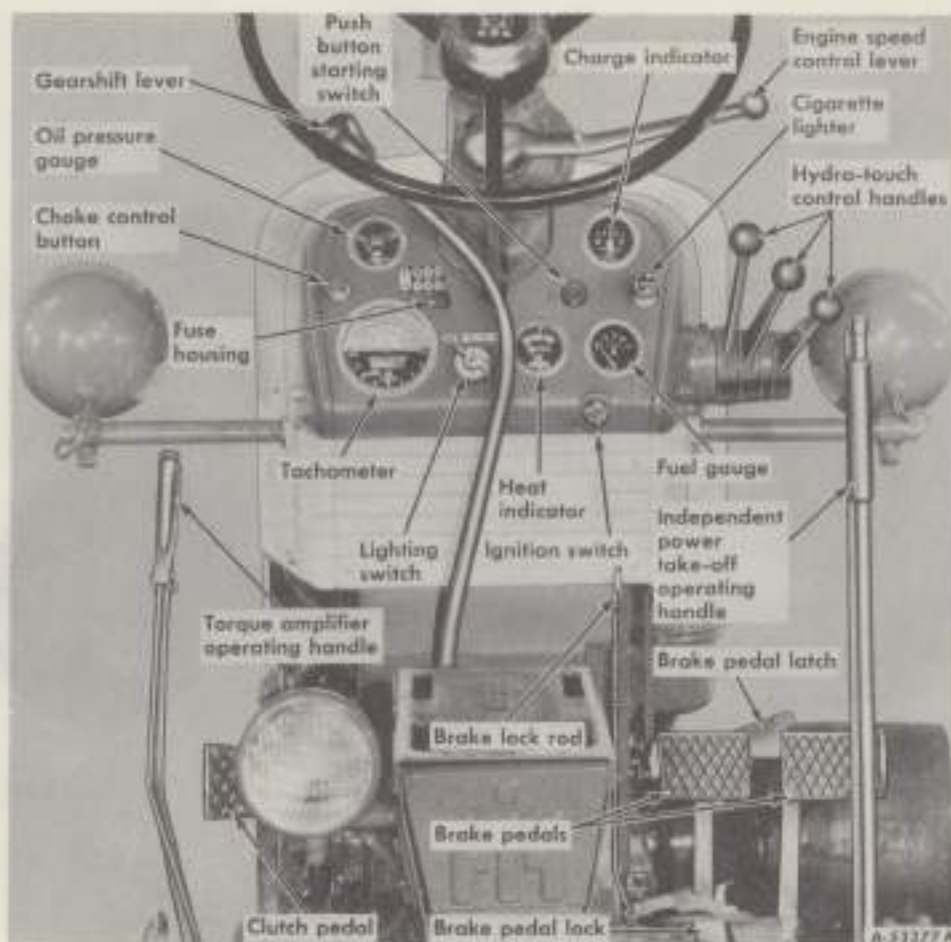
This pedal, when depressed all the way, disengages the engine from the transmission.

Clutch and Torque Amplifier Hand Lever (International 560 Tractor)

The clutch hand lever, for the over-center engine clutch, when pulled all the way back, disengages the engine from the transmission.

The torque amplifier button, at the top of the hand lever, is used when selecting torque amplifier drive or direct drive positions. See pages 17 and 18 for operating instructions.

INSTRUMENTS AND CONTROLS



Illust. 6

Instruments and controls on the Farmall 460 and 560 Tractors.

Choke Control Button

The choke control button makes it possible to regulate the carburetor choke while sitting in the tractor seat. Pulling out on the choke control button closes the carburetor choke for starting the engine; pushing it in opens the choke.

Fuel Gauge

With the ignition switch turned on, the fuel gauge indicates the level of the fuel in the fuel tank.

Push Button Starting Switch

Pushing the button in completes the electrical circuit between the battery and the cranking motor

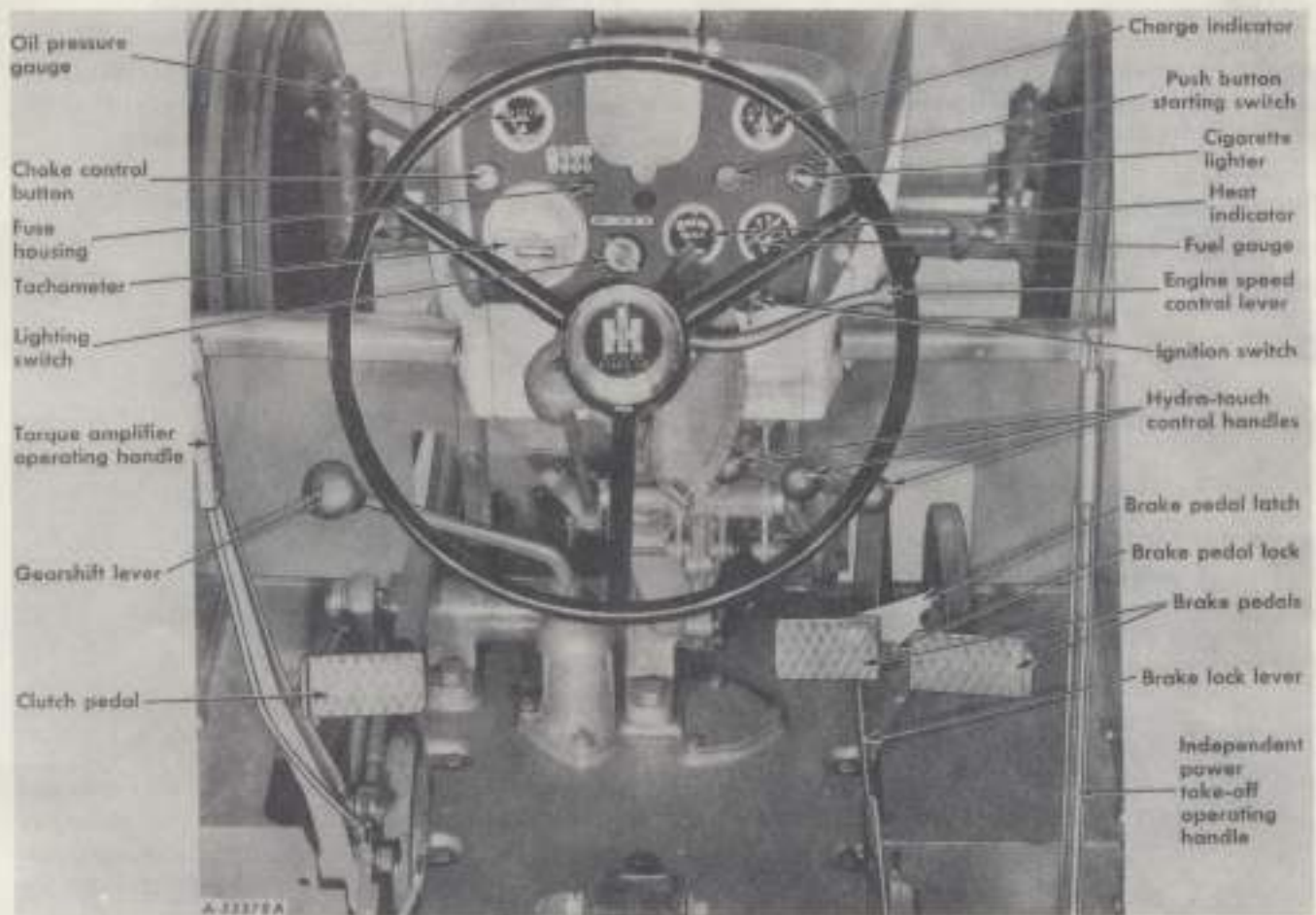
solenoid and causes the cranking motor pinion to engage the flywheel ring gear, thereby cranking the engine. Refer to page 13 for starting the engine.

Ignition Switch

A key-type lock ignition switch is located near the right side of the instrument panel. Turn the key clockwise to a horizontal position to turn on the ignition. The key cannot be removed when in this position.

Note: When the engine is not operating or the engine has stalled and the operator leaves the tractor, the key must be turned to the off position to prevent battery discharge.

INSTRUMENTS AND CONTROLS



Illust. 7

Instruments and controls on the International 560 Tractor.

Lighting Switch

The switch has four positions: "Off" position; "D" position for dim headlights, instrument lights, and a red taillight; "B" position for bright headlights, instrument lights, and a red taillight; and "R" position for bright headlights, instrument lights, and a white rear light. The red taillight should always be used when traveling on the highway at night or during times of poor visibility. The white rear light is for field use only and should not be used on the highway.

Cigarette Lighter

Push the lighter in to make electrical contact. When it pops back it is ready for use.

Engine Speed Control Lever

This lever controls the speed of the engine and, when set in a given position, will maintain a uniform engine speed even though the engine load may vary.

When the lever is set at the top indicator point (LO), the engine speed is fully retarded. When the lever is at the lower indicator point, the engine speed is fully advanced.

Minimum idle speed (hand throttle) is 400 to 450 r.p.m. with the engine speed control lever fully retarded. Never operate the engine at more than the regular governed speed. Excessive speeds are harmful. For engine speeds, see "Specifications."

INSTRUMENTS AND CONTROLS

Governor

The governor is set at the factory and should require no adjustment. If the linkage needs adjustment for any reason, see the instructions in the tractor Preventive Maintenance Manual.

Seat Position Release Lever

This lever is used to hold the seat in the desired position. For additional information, see page 14.

Gearshift Lever

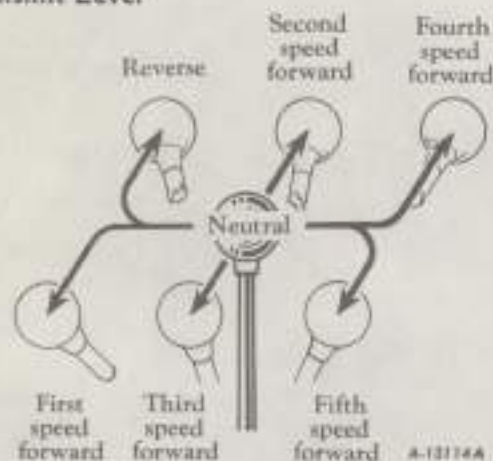


ILLUSTRATION 8
Gearshift positions.

This lever is used to select the various gear ratios in the transmission. There are five forward speeds and one reverse speed. See Illustration 8.

Note: The fifth speed is locked out when steel wheels are used; for further instructions see page 16.

Side-Mounted Belt Pulley Control Rod

This rod is used to engage or disengage the side-mounted belt pulley. See pages 26 and 27 for operating instructions.

Independent Power Take-Off or Rear-Mounted Belt Pulley Operating Handle

The same operating handle is used to engage or disengage the independent power take-off or rear-mounted belt pulley. See page 25 for independent power take-off or page 26 for rear-mounted belt pulley operating instructions.

Hydra-Touch System Control Handles

These handles (Illustrations 6 or 7) operate the Hydra-Touch system. They are used to raise, partially raise or lower direct connected or trailing-type implements. See page 19 for operating instructions.

Torque Amplifier Operating Handle

The torque amplifier operating handle is used to engage or disengage the torque amplifier. See pages 17 and 18 for operating instructions.

Charge Indicator



ILLUSTRATION 8A
Charge Indicator.

This instrument (Illustrations 6 or 7 and 8A) indicates whether the generator is charging or the battery is discharging. If it shows discharge continuously, investigate the cause to avoid completely discharging the battery and possible damage to the generator. See the tractor Preventive Maintenance Manual for additional information on electrical equipment.

Heat Indicator



ILLUSTRATION 8B
Heat Indicator.

This instrument (Illustrations 6 or 7 and 8B) indicates the relative temperature range of the liquid in the cooling system for best engine performance. The indicator pointer should be on the low side of the "RUN" range.

INSTRUMENTS AND CONTROLS

Oil Pressure Gauge

This gauge (located on the instrument panel) shows whether lubricating oil is circulating through the engine.

The indicator needle should be past the first mark above zero when the engine is running at speeds approximately 100 r.p.m. above slow idle speed. See *Illust. 9*.

If the needle does not move past the first mark above zero, stop the engine immediately and investigate the cause of the oil pressure failure. If you are unable to find the cause, consult your International Harvester dealer before operating the engine.



Illust. 9
Oil pressure gauge.

tables on pages 59, 60, and 61, and indicates the engine r.p.m. which provides a means of setting the exact engine speed specified for power take-off operations.

A mark on the lower half of the dial indicates the power take-off shaft speed.

Refer to the table in the "Specifications" for normal ground speeds according to tire sizes. Refer to "Power Take-Off" in "Specifications" for power take-off speeds.



Illust. 9A
Tachometer.

Tachometer

This instrument records engine hours of operation, shows normal tractor speeds in miles per hour in all forward gears, based on rear tire sizes shown in

BEFORE STARTING YOUR NEW TRACTOR

Lubrication

Tractors shipped to destinations in the United States of America, Canada, and Mexico have the crankcase and air cleaners filled with SAE-10W oil. If the engine is to be operated at temperatures between +65° F. and +10° F., this oil can be used for the first 50 hours of operation. If temperatures are not within the range specified, drain the oil from the crankcase, oil filter, and air cleaner, and replace it with the required amount of fresh oil having the physical properties and proper viscosity suitable for the prevailing temperature and type of service. After the first 50 hours, the oil filter element and crankcase oil should be replaced. Refer to the "Lubrication Guide."

Tractors packed for export have all oil drained from the engine crankcase, air cleaner and all gear cases.

Lubricate the entire tractor, using the "Lubrication Guide."



Illust. 9B
Oil Level Gauge.

Check the oil levels of the engine crankcase, air cleaner, transmission, belt pulley housing, and all gear cases to see that they are filled to the correct levels with oil of the proper viscosity for the prevailing temperature. See the "Lubrication Guide" and the "Lubricating Oil and Grease Specifications" on pages 48 to 54.

BEFORE STARTING YOUR NEW TRACTOR

Pneumatic Tires

Before moving the tractor, check the air pressure in the pneumatic tires and inflate or deflate the front and rear tires to the correct operating pressures. See the table on page 40.

Rear Wheel Hub Clamp Bolts

Farmall 460 and 560 Tractors

Before operating the tractor, check the rear wheel hub clamp bolts to make certain that they are torqued to 390-460 foot-pounds.

Tighten the rear wheel hub clamp bolts alternately and a little at a time to prevent excessive tension at any location.

Hub Retainer Cap Screws

International 560 Tractors

Before starting the tractor, check the hub retainer cap screws, on the end of each rear axle, to be sure that they are tightened to a torque tightness of 280-320 foot-pounds.

Steel Wheels

If your tractor is equipped with steel wheels, or has new wheel and lug installations, it is advisable to check and tighten the rear wheel bolts at intervals to be sure that the lugs seat properly.

Engine Cooling System

Be sure the radiator drain and crankcase water drain (*Illust. 46A*) are closed; then fill the radiator to a level approximately $2\frac{1}{4}$ inches below the top of the filler neck. Filling the radiator to this level will allow for expansion of the coolant under normal operating conditions. Use clean water; soft or rain water is recommended, as it does not contain alkali, which forms scale and eventually clogs the passages.

Never start or operate the engine without water or antifreeze in the cooling system except as instructed in "Cold Weather Precautions" on page 47.

For further information see "Cooling System" (page 46), and the tractor Preventive Maintenance Manual. If the tractor is to be operated in freezing temperatures ($+32^{\circ}$ F. or lower) see "Cold Weather Precautions" on page 47. For cooling system capacity, see "Specifications."

Fuel System

Before attempting to use a fuel for which your tractor is not designed, see your International Harvester dealer or the nearest International Harvester Company District Office for full details.

International Harvester gasoline burning engines are specifically designed for use with regular grade gasoline having a 90 minimum octane rating (Research Method—approximately 84 Motor Method).

To obtain best results, use the fuel for which the tractor is designed, follow the operating instructions given for that fuel and observe the following precautions:

Use clean fuel and keep it clean. Store fuel in tanks equipped with hose and nozzle to prevent contamination of the fuel. The use of funnels, cans and drums is not recommended because they are difficult to keep clean.

Battery-to-Ground Strap

Tractors shipped from the factory with starting and lighting equipment have the battery-to-ground strap disconnected at the battery, coiled, and secured to the tractor. Therefore, before attempting to start the engine, be sure the battery-to-ground strap is connected to the battery and to the ground.

Instruments and Controls

Thoroughly acquaint yourself with all instruments and controls as described on pages 5 to 9.

PREPARING YOUR TRACTOR FOR EACH DAY'S WORK

Air cleaner cap	Remove dirt or chaff. See the tractor Preventive Maintenance Manual.
Air cleaner oil cup	Remove, clean and refill. See the tractor Preventive Maintenance Manual.
Cooling system	Check level of coolant in radiator. See page 46.
Lubrication points	See "Lubrication Guide," Pages 30 to 34.

Fuel System



Never refuel the tractor while the engine is running or extremely hot.

Fill the fuel tank preferably at the end of each day's work. This will force out any moisture-laden air and prevent condensation. For fuel capacity, see "Specifications."

The filler cap on the fuel tank has air vents. These vents should be kept open at all times to assure proper flow of the fuel. See *Illust. 11*.

Safety first! Never fill the fuel tank when the engine is running or when near an open flame. Do not smoke, light matches or use a lantern when working around inflammable fuels. When refueling the tractor, keep the hose nozzle or the funnel and container in contact with the metal of the fuel tank (*Illust. 11A*) to avoid the possibility of an electric spark igniting the gas. Do not light matches near gasoline, as the air within a radius of several feet is mixed with a highly explosive vapor.



Illust. 11

Vent holes in the filler cap.



Illust. 11A

Filling the fuel tank.

Cooling System

Remove the radiator filler cap and check the water level. Fill to a level approximately $2\frac{1}{4}$ inches below the top of the filler neck.

Hydra-Touch System

Before operating the Hydra-Touch system for the first time, check to see that the system is filled to the proper level as described in the "Lubrication Guide" under "Transmission." Also see the tractor Preventive Maintenance Manual.

Air Cleaner



Illust. 11B

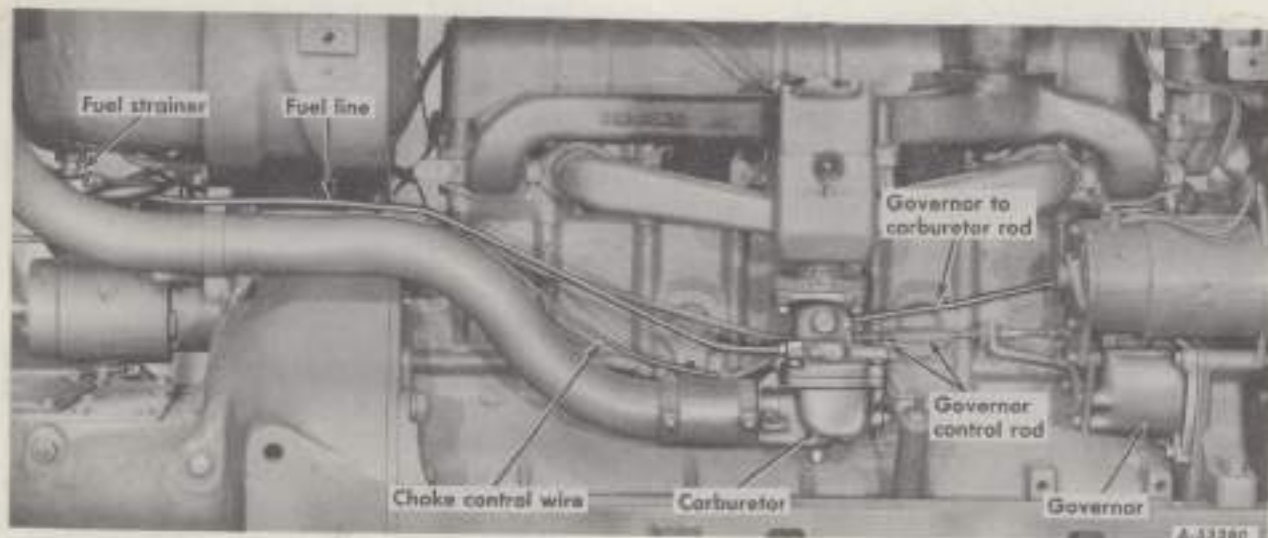
Air cleaner oil cup.

The air cleaner cap should be cleaned, and the oil in the air cleaner oil cup should be changed more frequently than every ten hours of operation, if unusually dusty or dirty conditions are encountered.

OPERATING A GASOLINE ENGINE

Before attempting to start or operate the tractor, be sure you review the instructions for the new tractor and thoroughly familiarize yourself with the instruments and controls.

This engine is designed to operate on gasoline with a 90 minimum octane rating (Research Method).



Illust. 12

Fuel system—gasoline engine.

Radiator Shutter

Tractors designed for gasoline engine operation are not regularly equipped with a radiator shutter. If your tractor is so equipped, close the radiator shutter when starting the engine in cold weather; then regulate it as required to hold the needle of the heat indicator on the low side of the "RUN" range.

Fuel System

Be sure the shut-off valve on the fuel strainer under the gasoline tank is open.

To assure against leakage or seepage when the valve is in its full open position, be sure to screw the needle stem (shut-off valve) out until the seat on the stem is tight against the stop.



Loose or "floppy" clothing should not be worn by the operator because of the danger of it wrapping on or getting into the moving parts.

OPERATING A GASOLINE ENGINE

Starting the Engine



When starting the engine in a barn or garage, keep the doors wide open because exhaust gases from internal combustion engines contain poisonous carbon monoxide which is odorless, tasteless and colorless.

1. Put the gearshift lever in the neutral position.

See *Illust. 8*.

2. Pull the choke control button out all the way.

Note: Avoid overchoking as excessive use of the choke will flood the engine, making it hard to start. The use of the choke for starting will vary, depending on temperature and altitude.

3. Advance the engine speed control lever to the third indicator point down from "LO." See *Illusts. 6 or 7*.

4. Disengage the engine clutch.

5. Turn the ignition key clockwise to a horizontal position. Press the push button starting switch (*Illusts. 6 or 7*) and release it as soon as the engine starts; however, do not operate the cranking motor for more than 30 seconds at any one time. If the engine does not start within this time, release the push button starting switch and wait a minute or two; then try again.

Important! Never operate the cranking motor while the engine is rotating.

6. Slowly release the clutch after the engine starts.



Be sure the gearshift lever of the tractor is in neutral before starting the engine.



Caution! When hand cranking the engine, be sure the gearshift lever is in the neutral position. Always stand in a position that will eliminate any possibility of being struck by the starting crank if there is a reversal of the direction of the engine. Crank the engine by using quick upstrokes; do not spin it.

After the Engine Starts

As soon as the engine starts, adjust the choke to a point where the engine operates without missing and, as the engine warms up, open the choke all the way by gradually pushing the choke control button all the way in. Do not use the choke to enrich the fuel mixture except when starting the engine.

Immediately after the engine starts, check the oil pressure gauge (*Illust. 9*) to make sure lubricating oil is circulating through the engine. If it is not, stop the engine and inspect the oil system to find the cause of failure.

If unable to find the cause, consult your International Harvester dealer before operating the engine.

Stopping the Engine

Retard the engine speed by pushing the control lever all the way up to "LO" (*Illusts. 6 or 7*). Allow the engine to cool slowly from full-load operation by slowly idling the engine for a short time. Then turn the key counterclockwise to the off position to stop the engine. It is advisable to close the gasoline shut-off valve if the engine is to be stopped for any length of time.

DRIVING THE TRACTOR

Adjusting the Seat

The hydraulic seat gives the operator the maximum in driving comfort.

Before starting the tractor, adjust the seat to one of the five positions available to provide the most comfortable position for the operator.

The seat is quickly and easily adjusted by means of the seat position release lever (*Illust. 14A*) located at the front of the seat suspension unit.

Press down on the lever and move the seat forward or backward to the most comfortable operating position.



Illust. 14A

Adjusting the seat on the
Farmall 460 and 560 Tractors.



Illust. 14

Seat tilted for driving in a standing position on
the International 560 Tractor.

Tilt-Back Seat Bracket

When equipped with the tilt-back seat bracket, the seat pan on the hydraulic seat support can be flipped up (*Illust. 14*) to provide ample room for the operator to stand. The seat can be set in a semi-vertical position, giving the operator a support against which he can brace his legs while standing. Also, the seat can be tilted all the way back (*Illust. 14B*) to keep out rain and snow.



Illust. 14B

Tilt-back seat bracket.

DRIVING THE TRACTOR

Starting the Tractor



Illust. 15
Shifting gears.

1. Advance the engine speed control lever slightly. See Illusts. 6 or 7.
2. Disengage the engine clutch.
3. With the engine clutch disengaged, move the gearshift lever to the desired speed. See Illust. 8.
4. Start the tractor in motion by slowly engaging the clutch and advancing the engine speed control lever to the position where the engine operates best for the load to be handled. **Note:** Do not shift gears while the engine clutch is engaged, or while the tractor is in motion.
5. Do not rest your feet on the clutch or brake pedals while driving the tractor, as this will wear the linings excessively.



Always latch the brake pedals together before driving the tractor in high gear. To latch the pedals together, engage the latch into the slot in back of the right pedal. See Illusts. 6 or 7. When the brake pedals are not latched together, the latch should rest in the slot in back of the left brake pedal.



If the tractor will not move because the rear wheels have dug in or sunk deeply into the ground, don't fasten logs, posts, or anything to the rear wheels that will prevent them from rotating. This would be certain to tip the tractor over backward. Instead, use another tractor. Be sure to hitch it correctly according to instructions in "Towing the Tractor."

Steering the Tractor

The tractor is steered in the conventional manner by means of the steering wheel, either manually or by hydraulic assist (Power Steering); however, to make a sharp or pivot turn, press either the right or left brake pedal, depending on the direction in which the turn is to be made. The brake pedals must be unlatched so they can be operated individually.



Be extra careful when working on hillsides. Watch out for holes or ditches into which a wheel might drop and overturn the tractor.

DRIVING THE TRACTOR

Steering the Tractor—Continued

Tractors equipped with power steering are identified by the words "Power Steering" under the IH monogram on the steering wheel hub cap.

For additional Hydraulic Power Steering information, see the tractor Preventive Maintenance Manual.

Stopping the Tractor

Disengage the clutch by pressing down firmly on the clutch pedal and move the gearshift lever to the neutral position. Use the brakes if necessary.

Towing the Tractor

When towing is necessary, have an operator steer the tractor and operate the brakes.

To tow a Farmall 460 or 560 Tractor, attach a tow rope, chain, or cable to the tractor front frame channels or to the lower portion of the upper bolster of the tractor which is "stuck" or which is to be towed.

To tow an International 560 Tractor, attach a tow chain, or cable to a bolt or rod through the two holes in the front bolster of the tractor which is "stuck" or which is to be towed.

Never hitch to the lower bolster. When pulling a "stuck" tractor, the power of both tractors should be used, and a heavy pull must be kept on the chain all of the time. When towing a tractor, do not exceed a speed of 20 miles per hour.

Note: When towing the tractor to get it started, put the torque amplifier handle in the direct-drive (full forward) position. Do not exceed the normal ground speed attained in the gear selected for towing the tractor. Refer to the "Ground Speeds" tables on pages 59 to 61.

When towing the tractor to transport it from one place to another, the gearshift lever must be in the neutral position and the ground speed should not exceed twenty miles per hour.

Note: When the tractor is equipped with fast reverser, having the fast reverser lever in neutral does not meet the above requirements. The transmission gear shift lever must be in the neutral position.

Failure of the fast reverser will result, due to the high speed obtained, if the tractor is towed with the transmission in gear and the fast reverser in neutral.

Locking the Brakes

Always lock the brakes when the tractor is parked on a grade or when doing belt work. To lock the

brakes, first latch the brake pedals together with the latch as previously described. Then press down on the brake pedals and lift up the brake pedal lock lever or rod. See *Illusts. 6 or 7*. The lock will then engage with the ratchet on the left brake pedal. The brake pedals will lock in this position.

To release the brakes, simply press the brake pedals further down, and the lock will automatically fall back into the disengaged position.



Always keep the tractor in gear when going down steep hills.

Fifth Speed

On tractors equipped with steel rear wheels, the fifth (high) speed is locked out by a lockout screw located on top of the transmission case. **Safety First!** Do not remove this screw unless the tractor is converted to pneumatic tires. Then remove the lockout screw and replace it with a $\frac{3}{8}$ x $\frac{3}{4}$ -inch cap screw.



Reduce speed before making a turn or when applying the brakes. Remember, the danger of the tractor overturning increases four times when the speed is doubled.

DRIVING THE TRACTOR

High Speed Low and Reverse Gears

Farmall 560 and International 560 Tractors

When your tractor is equipped with High Speed Low and Reverse it provides approximately 40% increase on first gear and 60% in reverse. See "Ground Speeds" on page 60.

Fast Reverser

Farmall 460 Tractor

The Fast Reverser provides selective full reverse for backing away with the reverse in each respective gear, operating at a speed approximately 22% faster than the forward gear.

To operate the Fast Reverser, press in on the clutch pedal and place the gear shift lever in the speed selected for operation. Third speed is generally used for loader operations.

When approaching loading material, press in on the clutch pedal and move the reverser lever all the way forward (Illustr. 17); then slowly release the clutch pedal.

To back away with a load, press in on the clutch

pedal, move the reverser lever all the way rearward (Illustr. 17), and slowly release the clutch pedal.



Illustr. 17
Fast reverser lever positions.

OPERATING THE TORQUE AMPLIFIER

The Torque Amplifier is a mechanical, supplemental, transmission unit. It is manually controlled to provide an optional lower gear speed in each respective transmission gear speed without interruption of engine power. Thus it provides two ranges of traveling speeds. For ground speeds with and without Torque Amplifier, see "Specifications."

The Torque amplifier can save much time and energy when the tractor is operated with either mounted or trailing-type implements. For example, if extra-hard ground is encountered when plowing, the speed of the tractor can be reduced to provide more pulling power without disengaging the engine clutch, shifting gears, or stopping the tractor.

The speed of the tractor can again be increased after the hard stretch of ground is passed without an unnecessary waste of time or energy.

The tractor can also be started in motion with the torque amplifier engaged, when pulling a heavy load. The tractor speed can be increased when under way by disengaging the torque amplifier.

Engaging or Disengaging the Torque Amplifier

To engage the torque amplifier, pull the operating handle (Illustr. 18) all the way back so that the pawl latches on the ratchet.

To disengage the torque amplifier, squeeze the pawl control grip to release the pawl; then move the operating handle forward.

Note: The torque amplifier operating handle must be in the forward position under the following circumstances:

1. When it is necessary to tow or push the tractor to start the engine.
2. When operating the side-mounted belt pulley to obtain the normal belt speeds shown in the table in "Specifications."

Caution! To maintain safe control of tractor speed and to utilize the engine as a brake during downhill transport operation, the torque amplifier operating handle should be in the direct-drive (fully forward) position.

OPERATING THE TORQUE AMPLIFIER



Illust. 18

Operating the torque amplifier on the
Farmall 560 Tractor.

Engaging or Disengaging the Torque Amplifier International 560 Tractor with hand-lever, over-center clutch

When the tractor is equipped with an over-center clutch the engine clutch and torque amplifier clutch are operated by the same hand lever.

When the engine clutch is disengaged the operator has the choice of going to either torque amplifier operation, by moving the hand lever forward to the torque amplifier drive position, or to the direct drive position, by pressing the thumb button release on top of the hand lever (Illust. 18A) and moving the lever all the way forward.

Disengage the engine clutch by pulling the hand lever all the way back. To start the tractor in motion, move the gearshift lever to the desired speed and advance the engine speed control lever to the position where the engine operates best for the load to

be handled. Then move the hand lever steadily forward.

To change to torque amplifier drive, when operating in direct drive, press the thumb button release and pull the lever rearward to the torque amplifier drive position. The torque amplifier control linkage holds the lever in this position until it is released.

To disengage the torque amplifier drive, press the thumb button release on top of the hand lever and move the lever all the way forward to direct drive position, or pull the lever all the way back to stop the tractor.



Caution! To maintain safe control of the tractor speed and to utilize the engine as a brake during down hill operation, or when it is necessary to tow or push the tractor to start the engine, the hand lever must be in the direct-drive (fully forward) position.



Illust. 18A

Operating the torque amplifier.
(Over-center clutch)

OPERATING THE HYDRA-TOUCH SYSTEM

The Hydra-Touch system provides hydraulic power for raising, lowering, and adjusting the working position of the various implements used with the tractor. Implements can be regulated and adjusted any time the engine is running without stopping work, while the tractor is in motion, or while it is standing still. The Hydra-Touch system will lift or lower either the right, left, or rear sections of tractor mounted implements, each independently of the other.

When the tractor is equipped with Fast-Hitch, a Tel-A-Depth valve, handle, and quadrant replace the Hydra-Touch valve and control handle used for rear mounted implements. An adjustable stop on the quadrant stops the travel of the Tel-A-Depth handle at a preselected position, making it possible to return the handle to the same position each time it is moved. Thus a uniform depth can be maintained, as the piston rod in the cylinder will return to the same position each time the Tel-A-Depth handle is returned to its preselected position against the stop.

Pump

The pump is internally-mounted in the left side of the clutch housing. It is driven by the independent power take-off gear. An exclusive feature of this pump is its "pressure-loading" principle. Oil under pressure from the discharge of the pump is used to maintain minimum end clearance between the gear and bearing faces. This automatically compensates

for wear and maintains "like new" pump pressure indefinitely.

Fluid Filter

A fluid filter, located in the right side of the clutch housing, keeps foreign matter from entering the Hydra-Touch system. See Reference 21, Illusts. 51 and 52.

Clean the filter after the first 50 hours and every 250 hours thereafter, as instructed in the tractor Preventive Maintenance Manual.

Cylinders

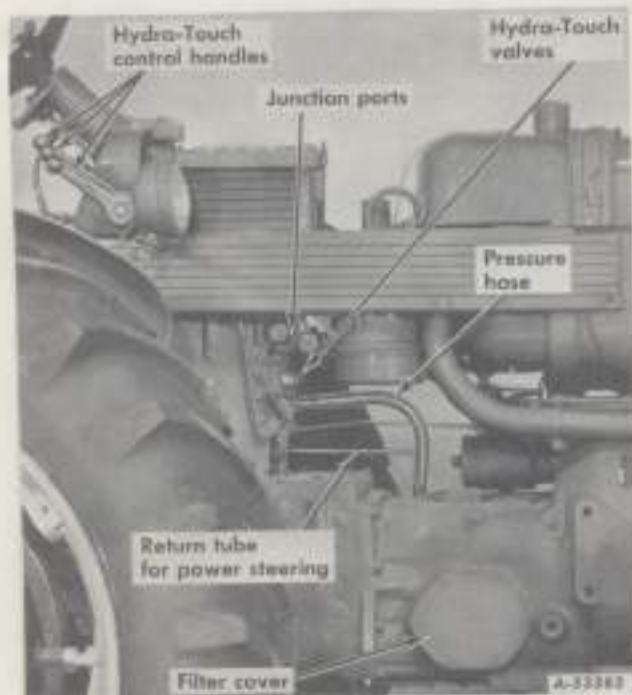
Hydraulic cylinders, hoses, self-sealing couplings and break-away coupling frames are available for tractors equipped with a Hydra-Touch system to adapt the system to operate tractor-mounted or remote-controlled implements.

Either single-action cylinders (one-way hydraulic pressure on the piston) or double-action cylinders (two-way hydraulic pressure on the piston) can be used with this system.

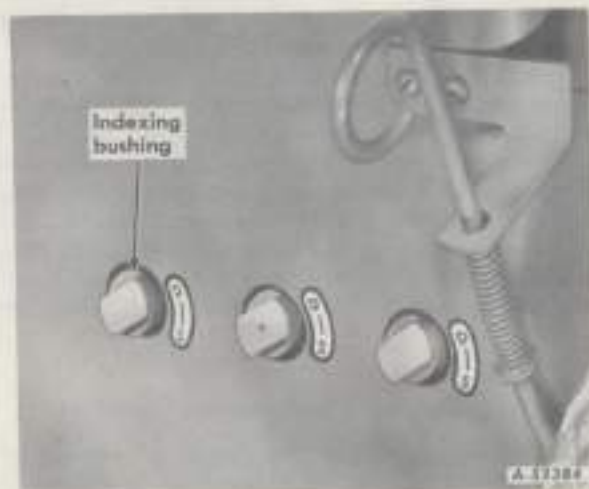
The Hydra-Touch control valves can be set for use with single or double-action cylinders by changing the position of the control valve pin. Use a 9/16 inch open end wrench to select the desired position of the control valve pin.

Turn the indexing bushing so the pin points to "D" to provide double action, or to "S" to provide single action. See Illusts. 19A or 20.

Note: When using the older type single-action cylinder in conjunction with side-mounted implements, the pin on the control valve indexing bushing must be at "S" at all times.



Illust. 19
Hydra-Touch system.



Illust. 19A
Setting the control valve pin for double action.
(Farmall 460 and 560 Tractors)

OPERATING THE HYDRA-TOUCH SYSTEM



Illust. 20
Control valve pin set for double action
on International 560 Tractors.

Control Handles

Your tractor may be equipped with a single, double, or triple valve Hydra-Touch system. A separate control handle is used to operate each valve.

These control handles (Illusts. 22A and 23) are provided to give the operator complete, instantaneous, and effortless control of all implements. The control handles on the double or triple valve system can be used separately or all at the same time. The use of these handles and the choice of single action or double action of the cylinders will depend on the type of implement used with the tractor.

Complete instructions for operating the control handles and use of the cylinders are included in the Operator's Manual furnished with the implement.

General instructions for operating these handles and connecting the hoses are given below. For additional instructions, see "Hydra-Touch System" in the tractor Preventive Maintenance Manual. For lubrication of these handles, on the Farmall 460 and 560 tractors, see the "Lubrication Guide" on page 53.

Connecting Hydraulic Self-Sealing Couplings

To connect the self-sealing couplings on side or rear-mounted junction blocks, push back the collar (lock ball retainer) on the female coupling as shown in Illust. 20A, insert the male half of the coupling all the way, then release the collar to lock the two coupling halves together. To disconnect the couplings, push back the collar and pull on the hose.



Illust. 20A
Connecting the self-sealing couplings
on a side junction block.

To connect the self-sealing couplings on a break-away coupling frame for Remote Control operations, pull the coupling body on the frame toward the operator as shown in Illust. 20B, insert the male coupling all the way, then ease back the coupling body to lock the two coupling halves together. To disconnect the couplings, pull the coupling body toward the operator and pull on the cylinder hose. These remote-control hoses also can be disconnected (utilizing the break-away feature) by pulling back on the cylinder hoses.



Illust. 20B
Connecting the Remote-Control
self-sealing couplings.

When connecting the coupling halves, be sure to keep the couplings free from dirt and grit. Use the rubber dust plugs furnished to help protect the female coupling from dirt and grit when the coupling is disconnected.

OPERATING THE HYDRA-TOUCH SYSTEM

Connecting Hoses to Junction Ports and Cylinders Farmall 460 and 560 Tractors

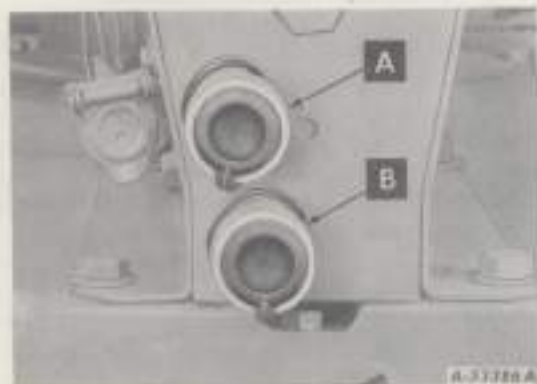
At each junction block on the tractor, there are two self-sealing, female coupling halves. On each coupling hose there is a coupling half with a male connection. To prevent error when connecting the hoses to the junction block ports, the junction block is coded with an arrow pointing to the upper port of the rear junction blocks and the rear port of the left and right junction block. The junction port with the arrow pointing to it should be connected to the cylinder port with the arrow pointing to it. This will assure that the cylinder piston rod will extend when the handles are moved back and retract when the handles are moved forward. It will operate in the reverse manner if the hoses are reversed.

Attach the cylinders to the implements.

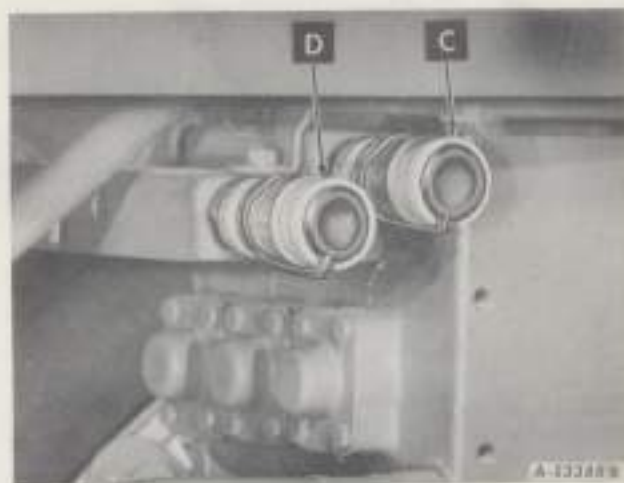
On a tractor with a single valve system, there are two junction ports, "A" (coded with an arrow on the junction block) and "B", on the rear of the tractor, for attaching the hoses for rear tractor-mounted or trailing-type implements. See *Illust. 21*.

On a tractor with a double valve system, there are four junction ports, two on the rear and two, "C" (coded with an arrow on the junction block) and "D", on the left side of the tractor, for attaching hoses to rear tractor-mounted, trailing-type, and front tractor-mounted implements. See *Illusts. 21 and 21A*.

On a tractor with a triple valve system, there are six junction ports, two on the rear, two on the left side, and two, "E" (coded with an arrow on the junction block) and "F", on the right side of the tractor, for attaching hoses to rear tractor-mounted, trailing-type, and left and right front tractor-mounted implements. See *Illusts. 21, 21A and 21B*.



Illust. 21
Rear of tractor showing junction ports.
(Farmall 460 and 560 Tractors)



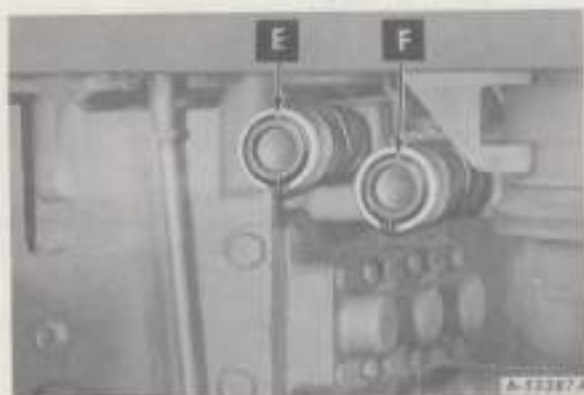
Illust. 21A
Left side of tractor showing junction ports.
(Farmall 460 and 560 Tractors)

Rear Tractor-Mounted or Pull-Type Implements Farmall 460 and 560 Tractors

Connect one end of the hose to junction port "A" with the arrow pointing to it (*Illust. 21*) and connect the other end of the hose to cylinder port "G" with the arrow pointing to it (*Illust. 22*). Connect the other hose to junction port "B" (*Illust. 21*) and cylinder port "H" (*Illust. 22*).

Left Front Tractor-Mounted Implements Farmall 460 and 560 Tractors

Connect one end of the hose to junction port "C" with the arrow pointing to it (*Illust. 21A*) and the other end of the hose to cylinder port "G" with the arrow pointing to it (*Illust. 22*). Connect the other hose to junction port "D" (*Illust. 21A*) and cylinder port "H" (*Illust. 22*).

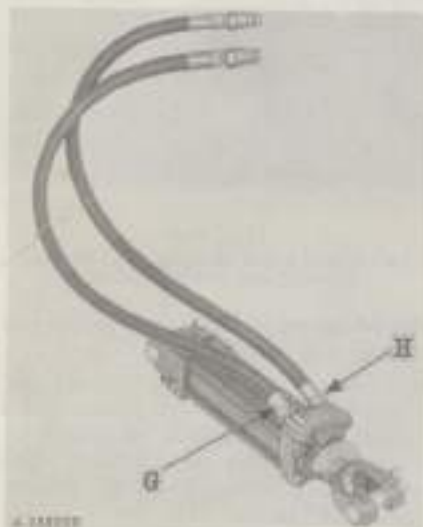


Illust. 21B
Right side of tractor showing junction ports.
(Farmall 460 and 560 Tractors)

OPERATING THE HYDRA-TOUCH SYSTEM

Right Front Tractor-Mounted Implements Farmall 460 and 560 Tractors

Connect one end of the hose to junction port "E" with the arrow pointing to it (*Illust. 21B*) and the other end of the hose to cylinder port "G" with the arrow pointing to it (*Illust. 22*). Connect the other hose to junction port "F" (*Illust. 21B*) and cylinder port "H" (*Illust. 22*).



Illust. 22
Cylinder connections.

One-Way (Single) Action Cylinder

If you are using a cylinder which supplies only one-way (single) action, connect the single hose to junction port "E" (*Illust. 21B*) on the right side or to junction port "C" (*Illust. 21A*) on the left side for front tractor-mounted implements. Connect the single hose to junction port "A" (*Illust. 21*) for rear tractor-mounted implements.

Note: When the control valve is set for the cylinder to supply two-way (double) action, the control handles will automatically return to the neutral position when released after the implement has reached the proper working depth or lifting height.

When the control valve is set for the cylinder to supply one-way (single) action and when any of the control handles are moved all the way forward to provide the implement with float, the control handles will remain in the forward position until manually returned to the neutral position.

Connecting Hoses on the International 560 Tractors

Pull-Type Implements (Remote Control)

The left Remote Control self-sealing coupling should be connected to the cylinder port with the arrow pointing to it ("G" *Illust. 22*).

Front Mounted Implements International 560 Tractors

When connecting hoses to an International 560 Tractor with a double or triple valve system the hoses are connected to the bottom of the valve or valves by removing the two plugs.

The port next to the control valve actuating lever should be connected to the cylinder port with the arrow pointing to it ("G" *Illust. 22*). This will assure that the cylinder piston rod will extend when the handles are moved back and retract when the handles are moved forward.

Raising and Lowering the Implement Farmall 460 and 560 Tractors

To raise front tractor-mounted implements all the way up (on double or triple valve systems), move the left or middle control handles all the way back, separately or together, as desired by the operator. To raise the rear tractor-mounted or trailing implements, move the right control handle all the way back. See *Illust. 22A*.



Illust. 22A
Hydra-Touch system control handles.
(Farmall 460 and 560 Tractors)

To partially raise the implement when it is desirable to ease the load, as when hitching implements or in cultivating through soft spots, move the control handle back slowly just enough to secure the proper lift. To lower front tractor-mounted implements (on a double or triple valve system), move the left or middle control handle all the way forward (see *Illust. 22A*). To lower rear tractor-mounted or trailing implements, move the right control handle all the way forward. The right control handle on a double or triple valve system or the handle on the single valve system will also operate trailing-type implements. Pull backward to raise, push forward to lower. See *Illust. 22A*.

OPERATING THE HYDRA-TOUCH SYSTEM

International 560 Tractor



Illustr. 23

Operating the Hydra-Touch System.
(International 560 Tractor)

To raise tractor-mounted implements all the way up (on double or triple valve systems), move the right or middle control handles all the way down, separately or together, as desired by the operator. To raise trailing implements, move the left control handle all the way down. See *Illustr. 23*.

To partially raise the implement when it is desirable to ease the load, as when hitching implements, move the control handle down slowly just enough to secure the proper lift. To lower tractor-mounted implements (on a double or triple valve system),

move the right or middle control handle all the way up. To lower trailing implements, move the left control handle all the way up. The left control handle on a double or triple valve system or the handle on the single valve system will operate trailing-type implements. Push down to raise, pull up to lower.

Adjusting the Working Depth (With double-action cylinders)

The length of the cylinder piston stroke gauges the working position of the implement. If you want to set the implement for a six-inch depth, loosen the thumb screw on the stroke limit collar and adjust the collar on the piston rod to give the length of stroke that will correspond to a six-inch working depth. Tighten the thumb screw. The implement will automatically stop at this depth when the collar comes against the limit stop valve. When the valve closes, fluid circulation to the cylinder is stopped, thus halting piston travel. This valve eliminates the need for heavy collars, yokes and other cumbersome mechanism used on some types of cylinders. No tools are needed to adjust the position of the collar.

To hold the implement in the raised position when the cylinder is removed, use the locking device located on the implement.

To transport the implement, set the stroke limit collar against the valve in the end of the cylinder. This prevents circulation of fluid and thus locks the implement rigidly in position.

HITCHING THE IMPLEMENT TO THE TRACTOR (Tractors with Regular Drawbar)

Do not attempt to pull when the drawbar is removed.
Drawbar bolts must be kept tight and drawbar braces must be in place.
All hitches for trailing implements must be attached to the drawbar.

A fixed drawbar (quick-attachable) is available for tractors not equipped with Fast-Hitch. See *Illustr. 24*.

The tractor exerts its pulling power on pull-behind implements by means of the drawbar which is adjustable up and down to accommodate different hitches. Proper hitching will save both the tractor and the implement it is pulling from undue strains. Make the hitch so that the center line of pull of the tractor will fall in line with, or at least be near, the center line of draft of the hitched-on implement.

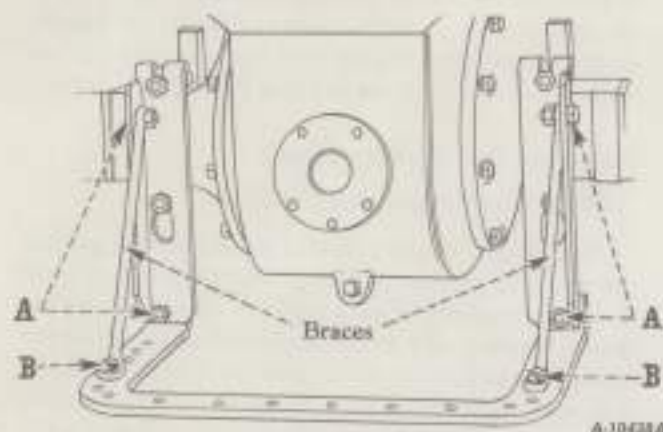
Hitching to one side or the other of the line of draft will cause stresses and strains on the tractor and the implement being pulled, frequently great enough to do permanent damage. Incorrect hitching also tends to make the tractor difficult to steer and will result in unsatisfactory work by the implement being pulled.

When using a long chain to hitch the tractor to the load, drive the tractor forward slowly until all slack is taken out of the chain.

HITCHING THE IMPLEMENT TO THE TRACTOR

Drawbar Adjustment

Farmall 460 and 560 Tractors

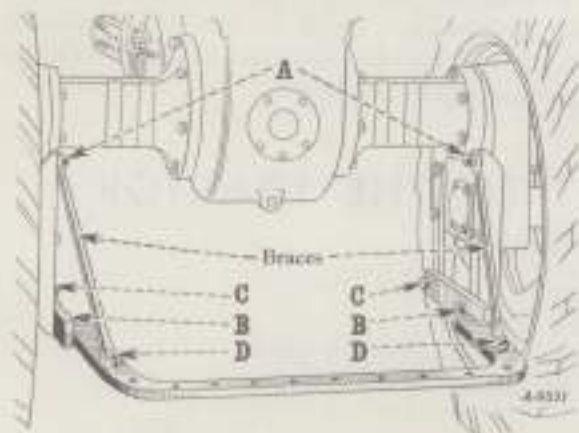


Illust. 24

Drawbar adjustment on the Farmall 460 and 560 Tractors.

Farmall 460 and 560 Tractors

To raise or lower the drawbar (Illust. 24), loosen bolts "A," remove bolts "B," and put the braces in the desired position. Replace bolts "B," and tighten bolts "A" and "B."



Illust. 24A

Drawbar adjustment on the Farmall 460 and 560 Hi-Clear Tractors.

Farmall 460 and 560 Hi-Clear Tractors

To raise or lower the drawbar (Illust. 24A), loosen bolts "A" and "B," remove bolts "C" and "D," and put the braces in the desired position. Replace bolts "C" and "D" and tighten all bolts securely.



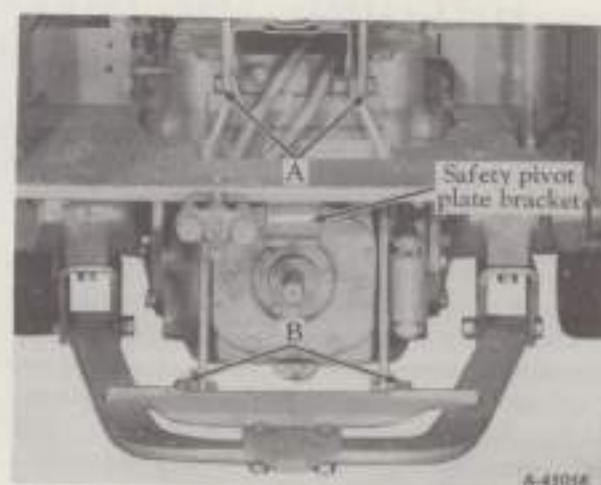
Always hitch to the tractor drawbar, and when pulling a heavy load stumps, rocks, or fence posts, don't take up the slack of the chain with a jerk.

Drawbar Adjustment

International 560 Tractor

The drawbar can be set at three different heights to obtain the proper hitch position.

To raise or lower the drawbar (Illust. 24B), loosen bolts "B," remove bolts "A," and put the braces in the desired position. Replace bolts "A," and tighten bolts "A" and "B."



Illust. 24B

Drawbar adjustment on the International 560 Tractor.

OPERATING THE INDEPENDENT POWER TAKE-OFF



Illust. 25

Operating the independent power take-off.

The independent power take-off is powered directly from the engine flywheel; it therefore provides a separate control of the power take-off drive independent of the engine clutch. The planetary-type consists of a planetary gear reduction rear unit with reactor bands, while the clutch-type consists of a multiple disc clutch rear unit. Either type is engaged or disengaged by using the power take-off handle at the right of the tractor seat. See Illust. 25.

The tractor motion can be started or stopped in any of the forward speeds or the reverse speed without affecting the speed of the power take-off shaft. Also, the power take-off shaft can be started or stopped without affecting the speed of the tractor.

Engaging or Disengaging the Independent Power Take-Off

Planetary-Type

To engage the power take-off, push forward lightly on the operating handle, depress the release button, and pull back until the operating lever pawl engages in the rear slot of the quadrant.



When the tractor is pulling power equipment, be sure that all power line shielding is in place and in good order.

To disengage the power take-off, pull rearward lightly on the operating handle, depress the release button, and push forward until the operating lever pawl engages in the front slot of the quadrant.

Clutch-Type

To engage the power take-off, push forward lightly on the operating handle, depress the release button, and pull the handle back slowly and firmly until a distinct over-center clutch engagement is felt.

To disengage the power take-off, push the operating handle forward until the operating lever pawl engages with the pivot shaft bracket.



Always stop the power take-off before dismounting from the tractor.

Operating the Power Take-Off



Be sure to stop the power take-off before dismounting from the tractor.



When operating the power take-off, be sure that the master shield covering the power take-off exposed shaft is always in place.



When the power take-off shaft is not in use, always keep it covered with the power take-off shaft guard.

If the tractor is equipped with a tachometer, adjust the engine speed control lever so the tachometer indicator needle is in line with the power take-off speed mark on the lower half of the dial.

Caution! Do not exceed the recommended power take-off speed for the driven machine.

When power take-off driven machines are used with a tractor having a Fast-Hitch drawbar, movement of the hitch must be restricted in one of the following ways so the hitch will not be accidentally moved.

Fasten the lift links to the side plates.

Pin the hitch in the "rigid" position and lock the Tel-A-Depth handle, either by setting the adjustable stop on the Tel-A-Depth quadrant, or by using the valve spool lock-out screw in the Tel-A-Depth valve cover.

OPERATING THE SIDE-MOUNTED BELT PULLEY

The engine clutch for the tractor also starts and stops the belt pulley. Be sure to disengage the engine clutch before moving the pulley control rod. The tractor gearshift lever must be in the neutral position before and during operation of the belt pulley.

Note: When the tractor has a Torque Amplifier, the operating handle should be in the forward position.

To operate the belt pulley, disengage the clutch and move the pulley control rod back until the gears are in mesh; then slowly engage the clutch.



Don't put on or remove the belt from the belt pulley while the pulley is in motion.

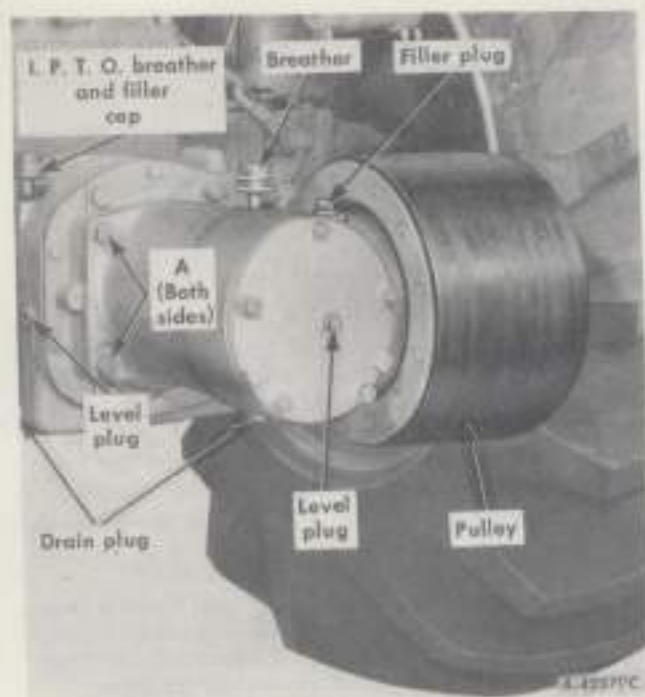
OPERATING THE REAR-MOUNTED BELT PULLEY

Caution! When using the belt pulley on tractors with Fast-Hitch, the cylinder bellcrank, hitch sockets and lateral swing limiter must be locked in the "rigid" position.

When operating the belt pulley in the right rear position, the right lift link must be disconnected

and lowered to the ground by removing the pin at the upper part of the right lift link. If the left rear position is used, the left lift link must be disconnected and lowered to the ground by removing the cotter pin and locking pin at the upper part of the left lift link.

OPERATING THE REAR-MOUNTED BELT PULLEY



Illust. 27

Belt pulley on right rear of tractor with independent power take-off.

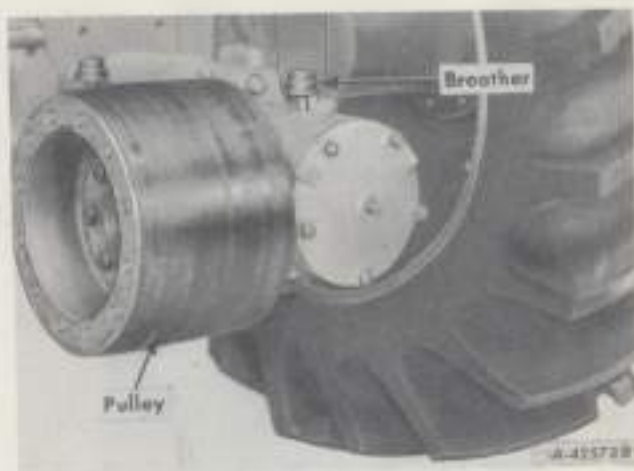
In either case, the rockshaft arms must then be raised with the Tel-A-Depth handle. Movement of the hitch must be restricted, so the hitch will not be accidentally moved, by locking the Tel-A-Depth handle. Lock the handle either by setting the adjustable stop on the Tel-A-Depth quadrant, or by using the valve spool lock-out screw in the Tel-A-Depth valve cover.

Because the belt pulley is driven by the independent power take-off shaft, it is started and stopped by the independent power take-off operating handle. For operating instructions, see "Operating the Independent Power Take-Off."

Note: When operating the Fast-Hitch, the belt pulley must be removed.

Changing the Belt Pulley to Right or Left

1. Remove the belt pulley drive housing breather or vent plug and install a $\frac{1}{4}$ -inch pipe plug in its place.
2. Remove the four bolts securing the belt pulley drive unit. See "A," Illust. 27.
3. Rotate the belt pulley drive unit 180 degrees and assemble the bolts. See "A," Illust. 27.
4. Remove the $\frac{1}{4}$ -inch plug in the upper part of the belt pulley drive unit and replace it with the breather or vent plug. See Illust. 27 and 27A.



Illust. 27A

Belt pulley on left rear of tractor with independent power take-off.

General Instructions

Observe the following instructions when using the tractor belt pulley:

1. Secure the implement to receive power in the desired location.

2. Align the tractor belt pulley with the implement pulley. Keep the tractor level if possible.

Important! When operating tractors on belt work with the front of the tractor higher than the rear, the correct oil level must be maintained in the transmission. Check and add oil when necessary.

3. Observe the direction of belt travel indicated on the belt, and install the belt accordingly to prevent damaging it.

4. Tighten the belt enough to prevent the belt from rubbing against itself during operation. To do this, back the tractor into the belt when using the side-mounted pulley, or drive the tractor into the belt when using the rear-mounted pulley, lock the brakes, and block the tractor rear wheels. (When using a very long belt or a crossed belt, it will not be possible to eliminate all rubbing.)

5. Gradually bring the tractor engine up to speed, making sure the belt is running true.

Note: Static electricity, generated by belt work, can be discharged harmlessly from tractors equipped with pneumatic tires by attaching a chain to the tractor and letting it touch the ground.

For belt and belt pulley speeds, refer to "SPECIFICATIONS."

FRONT WHEELS

These tractors are equipped with disc-type wheels with pneumatic tires. The wheels revolve on two tapered roller bearings. They are equipped with felt and leather seals. A dirt deflector is also provided on the axle to prevent dirt from entering at the inner bearing. For complete lubrication instructions, see the tractor Preventive Maintenance Manual.

Wheel Treads

Farmall 460 and 560 Tractors

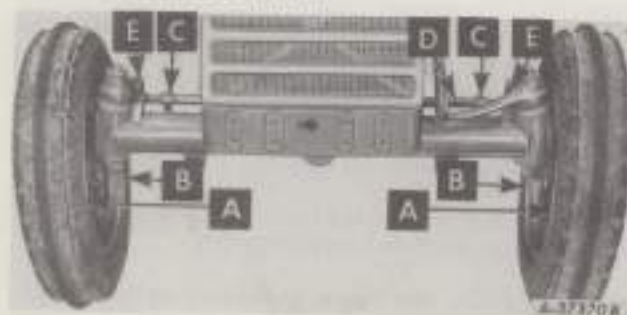


Illust. 28
Variable-tread front wheels.

On the Farmall 460 Tractor, mount the variable-tread front wheels with the concave side in for a tread width of 8 inches; with the concave side out for a tread width of 16 inches. On the Farmall 560 Tractor, mount the wheels with the concave side in for a tread width of 9 inches; with the concave side out for width of 16 inches.

Adjusting the Toe-In

International 560 Tractor



Illust. 29A
Adjusting the toe-in.

Front wheels should have $\frac{1}{4}$ -inch to $\frac{3}{8}$ -inch toe-in ($\frac{1}{4}$ -inch to $\frac{3}{8}$ -inch closer in front than rear). Measure

the distance between two points "A" and two points "B" (Illust. 28A). Points "A" and "B" must be at the outer edges of the rims and at the same height from the ground as the hub caps.

To adjust the toe-in, remove cap screws "C" on both sides. See Illust. 28A. Turn tie rod tube "D" in or out as required. Be sure to make arm "E" adjustment equal. Tighten cap screw "C" on both sides.

Adjustable Wide Tread Front Axle

Farmall 460 and 560 Tractors

The adjustable wide tread front axle adapts the tractor to work where rows are spaced too closely for regular dual front wheels.

When the Farmall 460 or 560 Tractor is equipped with an adjustable wide tread front axle, the front wheels can be set to track with the rear wheels.

The axle on the Farmall 460 Tractor is adjustable for treads of 57 to 81 inches and that of the Farmall 560 Tractor for treads of 60 to 82 inches.

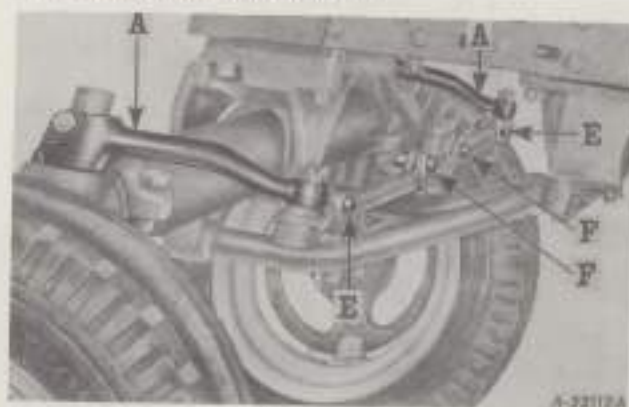
The disc wheels permit additional tread adjustments over those provided by the adjustable axle up to a maximum of 89 inches for the Farmall 460 Tractor and 90 inches for the Farmall 560 Tractor.

For the maximum tread width, assemble the wheels with the concave side out.

Note: The front wheels must always be assembled with the concave side in when the tractor is carrying heavy front end weight.

Note: The adjustable wide tread front axle cannot be used with M-448 or HM-639 Cultivators.

Adjusting the Tread Widths



Illust. 28B

Left side view of the adjustable wide-tread front axle.

1. Raise the front end of the tractor.
2. Loosen the bolts on axle extension clamps "C" and remove pin "D." See Illust. 29.
3. Remove cap screws "E" from the tie rod clamps. Then move the axle extension so the dowel holes coincide at the desired tread position. See Illusts. 28B and 29.

FRONT WHEELS

4. Move the tie rod to correspond with the position of the front axle extension.

5. Replace axle extension clamp pins "D" and tighten the clamp bolts; then replace cap screws "E" in the tie rod clamps and tighten. See *Illusts. 28B and 29.*

Note: In some applications, it may be desirable to set the wheels at unequal distances each side of center. For this purpose sufficient notches are provided in the steering connection adjusting rod to permit moving one axle extension only.

Adjusting the Toe-In

The front wheels should have $\frac{1}{8}$ -inch to $\frac{1}{4}$ -inch toe-in ($\frac{1}{8}$ inch to $\frac{1}{4}$ inch closer in front than in the rear). Measure the distance between two points "G" and two points "H." See *Illust. 29.* Points "G" and "H" must be at the outer edges of the rims and at the same height from the ground as the hub caps.

To adjust the toe-in, remove cap screws "E" and "F" on both sides. See *Illusts. 28B and 29.* Turn tie rod tubes "B" in or out as required. Be sure to make arm "A" adjustment equal. Tighten cap screws "E" and "F."

Adjusting the Front Wheel Tread Widths

Farmall 460 and 560 Hi-Clear Tractors

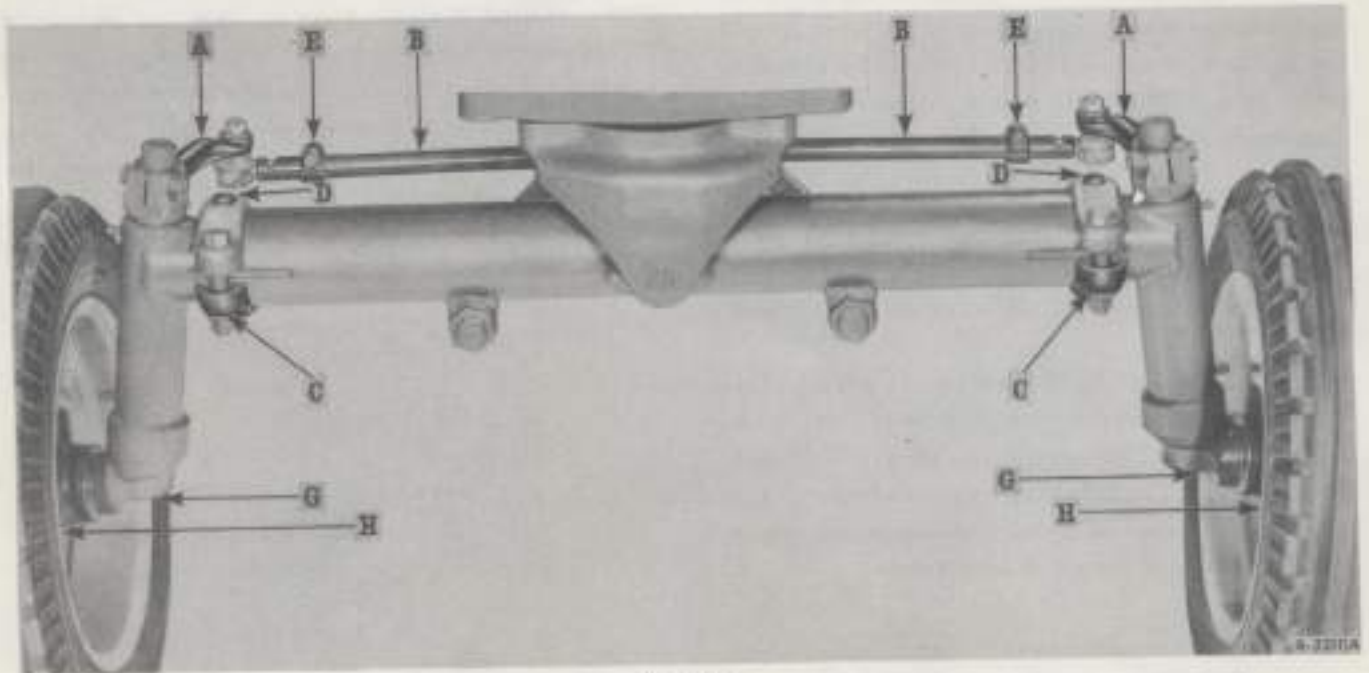
The Farmall 460 and 560 Hi-Clear Tractors use front disc wheels for 6.00-20 six ply tractor-type pneumatic tires.

The Farmall 460 and 560 Hi-Clear Tractors are equipped with an adjustable front axle which allows the front wheels to be set to track with the rear wheel tread settings.

Additional tread settings greater than those provided by the adjustable axle can be made by putting the wheels on with the concave side faced out.

Note: The front wheels always must be assembled with the concave side facing in when the tractor is carrying heavy front end weight.

The adjustable front axle unit for the Farmall 460 and 560 Hi-Clear Tractors has provision for attaching auxiliary stay rods to prevent the axle and main stay rod from bending under the severe operating conditions encountered in rice or cane field operations.



Illust. 29
Front view showing adjustable wide-tread front axle.

REAR WHEELS

Farmall 460 and 560 Tractors

Farmall 460 and 560 Tractors may be equipped with pneumatic tire or steel rear wheels with spade lugs. Pneumatic tire rear wheels are equipped with demountable double-bead rims or power-adjusted wheels and rims for 12.4-38 (11-38), 13.6-38 (12-38), 13-38, or 15.5-38 agricultural or cane and rice-type tires, as ordered with the tractor.

Tread Adjustments with Double-Bead Rims (Pneumatic Tire Rear Wheels)

These double-bead rims permit suitable tread adjustments when going from plowing to cultivating operations, or vice versa, without removing the wheels from the axles.

When observing the rear wheels on your tractor, you will note that the rim is held to the wheel by eight clamps which engage in a raised bead around the inside of the rim. The clamps may be bolted to either side of the wheel and will engage either of the two beads in the rim.

Various tread widths are obtained on tractors equipped with the standard or heavy-duty rear axles by using the assembly combinations shown in *Illust. 30*, and by sliding the wheels in or out on the axles.

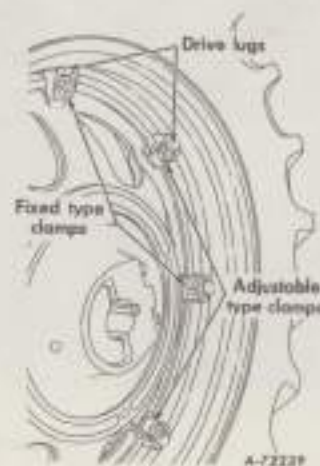
Farmall 460 and 560 Hi-Clear Tractors with double-bead rims are equipped with 12.4-38 (11-38), 13.6-38 (12-38) or 13-38 agricultural or cane and rice-field type tires. The following treads may be obtained by using the beads of the rim in combination with the rim clamps as shown in table below.

Inner Bead		Outer Bead	
Clamp Inside	Clamp Outside	Clamp Inside	Clamp Outside
70"	74"	62"	66"

Note: When reversing pneumatic tire rear wheels, make sure that the tires rotate in the direction shown by the arrow on the side of the tires. It may sometimes be necessary to change them from one side of the tractor to the other.

Assembling Rear Wheel Double-Bead Rims

The rear wheel rims are held in place with two fixed clamps and six adjustable clamps. When assembling the rim on the wheel, be sure the two fixed clamps are assembled at 90 degrees to each other and are engaged over two of the four drive lugs or in the drive lug depressions (depending on the type of rim) and tighten the clamp bolts to from 170 to 190 foot pounds torque. Then assemble the six adjustable clamps and be sure that two of these clamps engage with the two other drivers. Tighten all of the adjustable clamp bolts securely and equally in consecutive order to from 170 to 190 foot pounds torque to prevent possible misalignment or slippage. Check all clamp bolts frequently and keep them tightened to the proper foot pounds torque. See *Illusts. 30 and 31*.

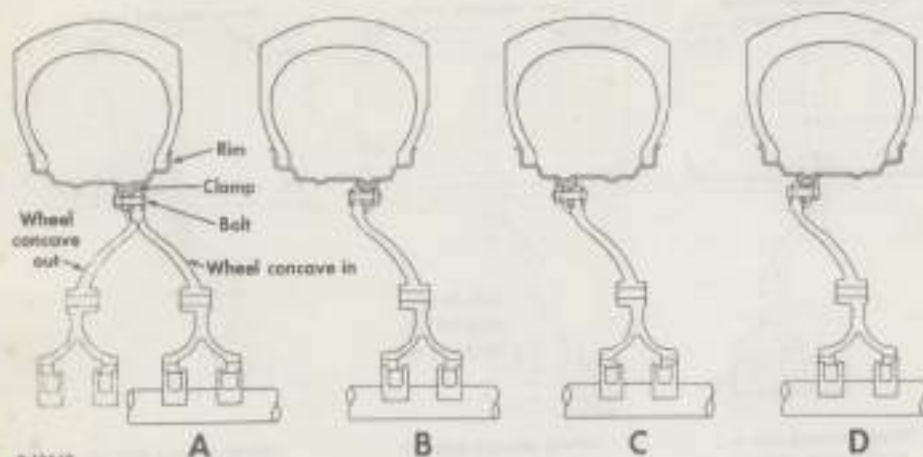


Illust. 30

Fixed clamps assembled over drive lugs at 90 degrees to each other.

REAR WHEELS

Farmall 460 and 560 Tractors



8-12649

Fixed type clamps, two required per wheel mounted at 90 degrees to each other.

Rim to be mounted so that its drivers engage with either adjustable or fixed clamps.



Rim to be mounted with the two fixed type locating clamps over driving lugs at 90 degrees to each other as shown.

Tractor		Wheel Concave	Rim and Clamp Position			
			A	B	C	D
Farmall 460	Standard Axle	In	48°-61°	48°-65°	48°-69°	51°-73°
		Out	59°-81°	63°-85°	67°-89°	71°-93°
	Wide-Tread Axle	In	48°-73°	48°-77°	48°-81°	51°-85°
		Out	59°-93°	63°-97°	67°-101°	71°-105°
Farmall 460 with Heavy Duty Axle Farmall 560	Standard Axle	In	50°-62°	50°-66°	54°-70°	58°-74°
		Out	66°-82°	70°-86°	74°-90°	78°-94°
	Wide-Tread Axle	In	50°-74°	50°-78°	54°-82°	58°-86°
		Out	66°-94°	70°-98°	74°-102°	78°-106°
Farmall 460 and 560 Hi-Clear	Fixed Wheels	In	62°	66°	70°	74°

Illustr. 31

Rear wheel tread and rim mounting diagram
(rear view of right wheel shown).

Hub Clamp Bolts

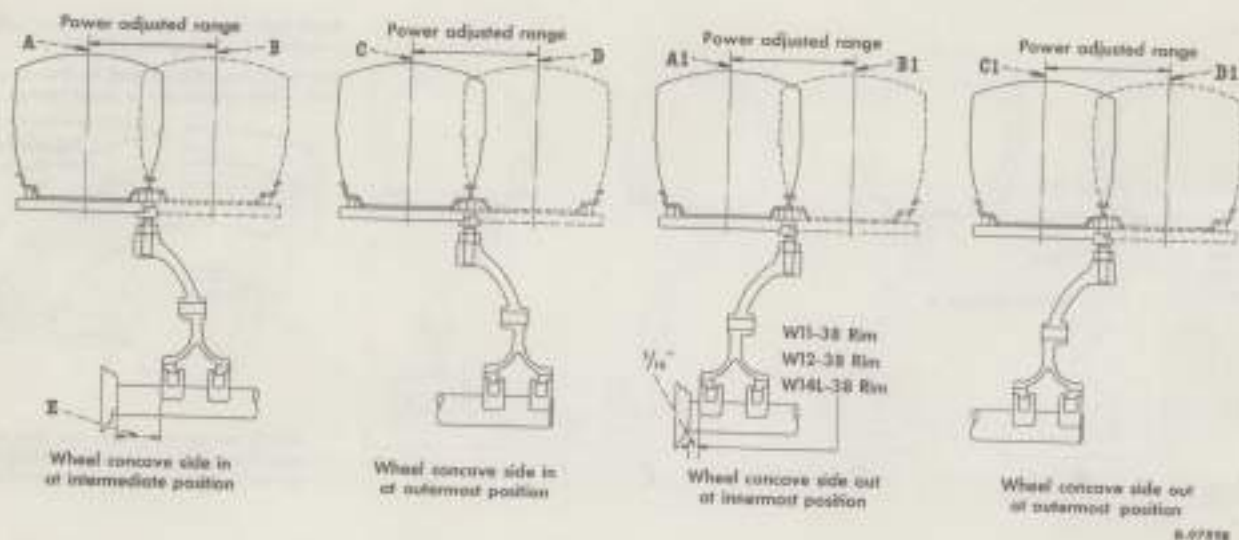
Important! Check the hub clamp bolts at frequent intervals to maintain a torque tightness of 390-460 foot pounds. Tighten the bolts alternately and a little at a time to prevent excessive tension at any location.

Tread Adjustments (Steel Rear Wheels)

Rear wheel tread adjustments from 52 inches to 88 inches may be obtained on tractors equipped with steel wheels by sliding the wheels in or out on the axles and reversing the wheels on the axles.

REAR WHEELS **Farmall 460 and 560 Tractors**

Power-Adjusted Rear Wheels



Farmall 460 Tractor	Wheel Concave Side In				Wheel Concave Side Out			
	Intermediate Position		Outermost Position		Innermost Position		Outermost Position	
	A	B	C	D	A1	B1	C1	D1
Regular Axle								
W11-38 Rim	48"	68"	57"	77"	56"	76"	77"	97"
W12-38 Rim	50"	74"	55"	79"	54"	78"	75"	99"
Wide-Tread Axle								
W11-38 Rim	48"	68"	69"	89"	56"	76"	89"	109"
W12-38 Rim	50"	74"	67"	91"	54"	78"	87"	111"
Farmall 460 with Heavy Duty Axle and Farmall 560 Tractors	Wheel Concave Side In				Wheel Concave Side Out			
	Intermediate Position		Outermost Position		Innermost Position		Outermost Position	
	A	B	C	D	A1	B1	C1	D1
Regular Axle								
W11-38 Rim	50"	70"	58"	78"	62"	82"	78"	98"
W12-38 Rim	50"	74"	56"	80"	60"	84"	76"	100"
W14L-38 Rim	52"	76"	56"	80"	60"	84"	76"	100"
Wide-Tread Axle								
W11-38 Rim	50"	70"	70"	90"	62"	82"	90"	110"
W12-38 Rim	50"	74"	68"	92"	60"	84"	88"	112"
W14L-38 Rim	52"	76"	68"	92"	60"	84"	88"	112"

Illustr. 32
 Power-adjusted rear wheel tread diagram
 (right rear wheel shown).

REAR WHEELS

Farmall 460 and 560 Tractors

Power-Adjusted Rear Wheels—Continued

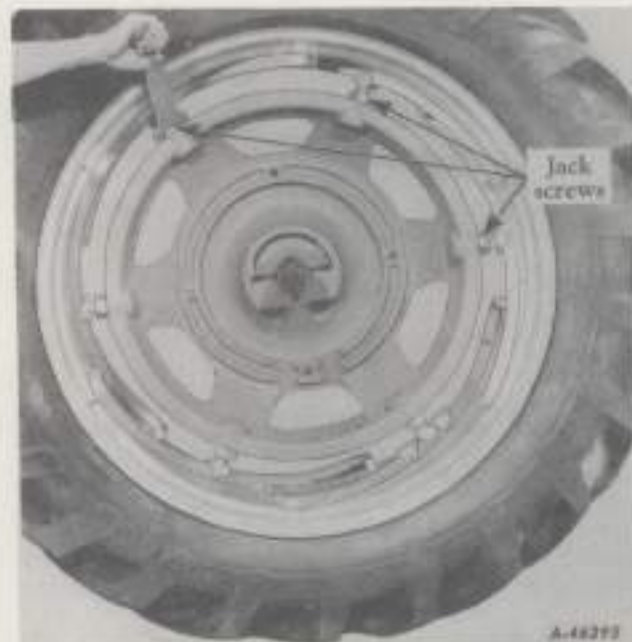
The following instructions are for tractors equipped with power-adjusted rear wheels having agricultural or cane and rice field type 12.4-38 (11-38), 11-38, 13.6-38 (12-38), 12-38, 13-38, or 15.5-38 tires.

The power-adjusted rear wheels can be set at any position within the range of the holes in the rails on the rims by use of tractor power, to provide a variety of wheel tread positions. Various wheel treads may be obtained on tractors equipped with standard rear axles by power-adjusting the wheels (concave side in or out) and by moving the wheels in or out on the axles.

A range of 12 inches with W 12-38 and W 14L-38 rims or 10 inches with W 11-38 rims is available in two-inch increments at each position of the wheel on the axle by power-adjusting the wheels. See *Illusts. 32 and 34*.

Caution! In order to avoid interference with the fenders when the wheels are assembled with the concave side faced in at the intermediate position, do not set the wheels or the axles closer to the tractor frame at "E" (*Illust. 32*) than the dimension shown in the table below.

Rim Size	Farmall 460	Farmall 560
W11-38	7" regular axle 4½" heavy duty axle	4½" regular axle
W12-38	8" regular axle 5½" heavy duty axle	5½" regular axle
W14L-38	6½" heavy duty axle	6½" regular axle



Illust. 33
Loosening rim from wheel.

Adjust the wheels one at a time as follows: Loosen the rim from the wheel by loosening the three uppermost adjacent jack screws as shown in *Illust. 33*.

Loosen the screw in the stop at the side of the jack screw toward which the wheel is to be rotated. Move this stop to the new tread position. Then tighten the screw. See *Illusts. 32 and 34*.

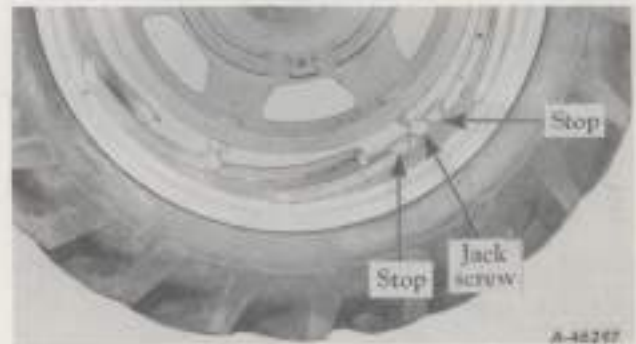
To move the right wheel inward or the left wheel outward, operate the tractor in low gear.

To move the right wheel outward or the left wheel inward, operate the tractor in reverse gear.

Apply the brake to the wheel which is not being adjusted. Engage the clutch until the jack screw reaches the stop, then disengage the clutch and shift to neutral.

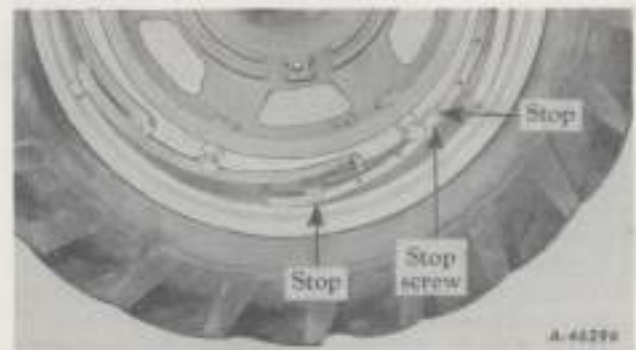
Loosen the screw in the other stop, then slide the stop over against the newly positioned jack screw, and tighten the stop screw. See *Illust. 33A*.

Tighten the nuts on the three previously loosened jack screws to 250 foot-pounds torque so the rim will be properly centered. Recheck all jack screw nuts for proper tightness after the tractor has been operated a short time.



Illust. 33A
Jack screw in locked position.

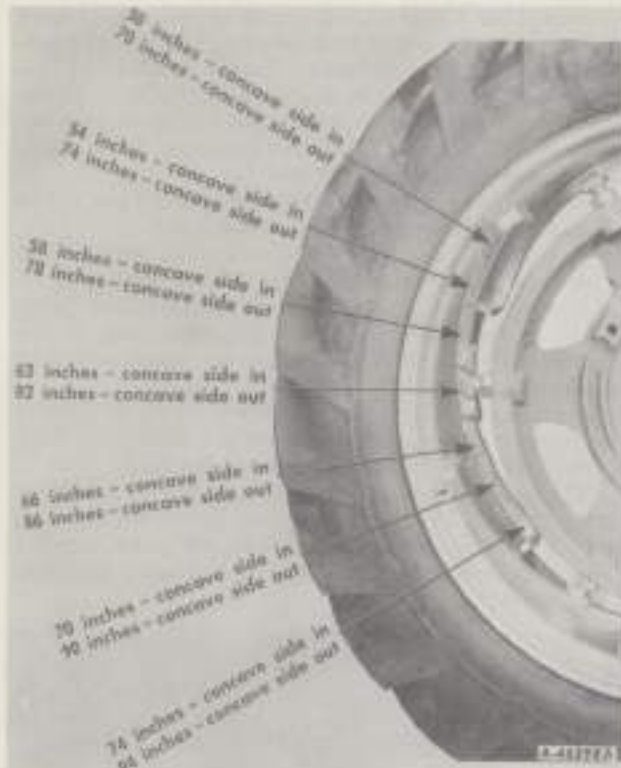
Note: When the wheels are to be reversed from either the concave side in or the concave side out position, mount the right wheel on the left side of the tractor and the left wheel on the right side, so the tire tread will rotate in the correct direction as shown by the arrow on the tire.



Illust. 33B
Position of stop after power-adjusting rim.

REAR WHEELS

Farmall 460 and 560 Tractors



Illustr. 34

Jack screw locations for available power-adjusted rear wheel tread positions.

Illustration shows INTERMEDIATE position of right rear wheel with W12-38 rim. Variations from this setting will result in other tread widths. Refer to Illustr. 32.

Wide-Tread Rear Axle

A wide-tread rear axle is available for use on the Farmall 460 and 560 Tractors. It consists of a set of two longer rear axles which replace the regular rear axles to allow an increase in the maximum rear wheel tread.

For Farmall 460 Tractors, a maximum tread of 105 inches is available, instead of the regular 93 inches.

For Farmall 560 Tractors, a maximum tread of 106 inches is available, instead of the regular 94 inches.

Increasing the Rear Wheel Tread

Raise the rear of the tractor so that one of the rear wheels is off the ground.

Caution! Be sure the tractor is rigidly supported. Lock both brakes and block the front wheels and the other rear wheel.

Place the wheel in the desired position on the rear axle and tighten the hub clamp bolts to 390-440 foot-pounds torque. Tighten the bolts alternately and a little at a time to prevent excessive tension at any location. Then lower the tractor, raise the opposite rear wheel, and proceed as shown above.



Illustr. 34A

Tractor with wide-tread rear axle.

Rear Wheel Hubs (Farmall 560)

Rear wheel hubs with attached flanges are available for use in place of the regular hubs. This allows the operator to utilize wheels and 18-26 tires from the No. 141 Harvester-Thresher (Rice Machine) or No. 127-SP Harvester-Thresher (Rice Machine) in place of the regular tractor wheels and tires for row crops. Rear wheel treads of 56 to 100 inches are available with the above equipment.

REAR WHEELS

International 560 Tractors

Tractors may be equipped with either pneumatic tire rear wheels or steel rear wheels with spade lugs. Pneumatic tire rear wheels are equipped with demountable steel rims for 14-26, 14-30, or 15-30 agricultural or cane and rice field type tires, demountable double bead rims for 13-30, 14-30, or 15-30 agricultural-type tires, or one-piece disc wheels for 18-26 cane and rice field or industrial type tires, as ordered with the tractor.

Note: Check the rear wheel hub retainer cap screw on the end of each rear axle shaft at frequent intervals to maintain a torque tightness of 280-320

foot pounds.

If your tractor is equipped with 14-30 rear tires, it is recommended that DW-14-30 attached clamp rims be used and mounted in the outer position when additional fender-tire clearance is desired or when tire chains are to be used. This will allow approximately 1½ inches more clearance between the fender and the tire at top. This however, will increase the rear wheel tread by 6 inches.

Note: When mounting pneumatic-tire rear wheel rims, make sure that the tires will rotate in the direction as shown by the arrow on the side of the tires.

REAR WHEELS

International 560 Tractor

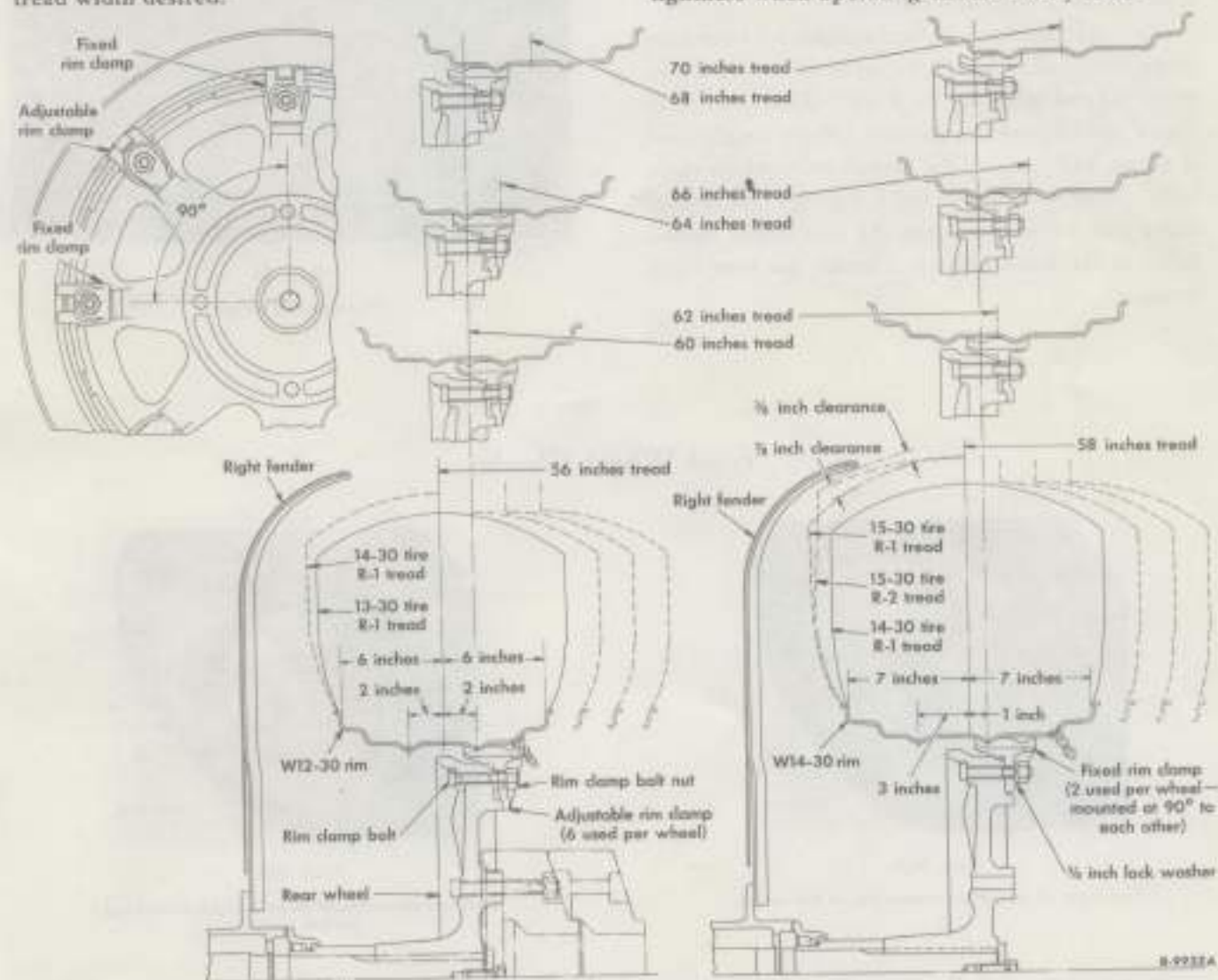
Tread Adjustments with Double-Bead Rims

Double-bead rims permit tread adjustments without removing the wheels from the axles.

The rim is held to the wheel by six adjustable clamps and two fixed clamps. These clamps have an inner and an outer groove; either groove may be engaged in either the inner or the outer raised bead around the inside of the rim, depending upon the tread width desired.

The two fixed clamps, mounted at 90° to each other, are used to keep the rims concentric with the wheel. See *Illust. 35*.

When assembling the rim on the wheel, be sure two clamps are assembled in the rim drive lug or depression. Then tighten all clamp bolts securely and equally in consecutive order to 170-190 foot pounds torque to prevent misalignment or slippage. Check the clamp bolts frequently for proper torque tightness when operating under a heavy load.



Rim and Clamp Positions	W12-30 Rim	W14-30 Rim
Outer bead of rim with outer groove of clamp.....	60	62
Inner bead of rim with inner groove of clamp.....	*64	*66
Inner bead of rim with outer groove of clamp.....	†68	†70
Outer bead of rim with inner groove of clamp.....	56	58

* Widest tread recommended for heavy drawbar loads.

† These beads are for use with light drawbar loads only.

Illust. 35
Rear wheel tread and rim mounting diagram.

WEIGHTS

Front Bolster Weight

Due to the size and weight of some implements, additional weight must be added to the front end of the tractors when these implements are used.

The front bolster weights, which weigh 80 pounds per piece, allow the use of one, two, or three weights with attaching bolts and washers.

To install the front bolster weights with the least effort, two bolts should be screwed into the two lower tapped holes in the front bolster enough to have a good thread engagement. Lift the weights one at a time and position the slotted portions on these bolts. Then insert two bolts through the drilled holes and screw them into the two upper tapped holes in the front bolster. Tighten the four bolts securely.



Illustr. 36
Front bolster weights.

Front Wheel Weights



Illustr. 36A
First front wheel weight assembled on the wheel.



Illustr. 36B
First and second front wheel weights assembled on the wheel.

The front wheel weights weigh approximately 50 pounds each, and either one or two can be attached to each front wheel. To increase steerability, front wheel weights are recommended for use as a front end counterbalance whenever heavy loads are superimposed on the drawbar, or when heavy equipment is to be mounted on the rear end of the tractor.

The first set of front wheel weights includes a set of two weights and four $\frac{1}{2}$ NC x 2 inch bolts, and nuts for attaching the weights to the front wheels at "A." See Illustr. 36A.

If additional weight is desired, a second set of weights can be attached to the wheels by using four $\frac{1}{2}$ NC x 4 inch bolts, and nuts at "B." See Illustr. 36B.

WEIGHTS

Rear Wheel Weights (Two-Piece)

Farmall 460 and 560 Tractors



Illust. 37

First set of rear wheel weight halves assembled on power-adjusted wheels.



Illust. 37A

First and second set of rear wheel weight halves assembled on power-adjusted wheels.

Two-piece rear wheel weights (each half weighing approximately 75 pounds) can be attached to each drive wheel to reduce slippage and increase drawbar pull. Either two pieces or four pieces can be attached to each drive wheel. The increase in drawbar pull with a proportionate reduction in slippage varies with the type of soil.

The first set of rear wheel weights consists of a

set of four pieces, eight $\frac{1}{4}$ NC x $4\frac{1}{4}$ -inch bolts, sixteen nuts and eight lock washers for attaching the weights to the wheels at "E." See Illust. 37.

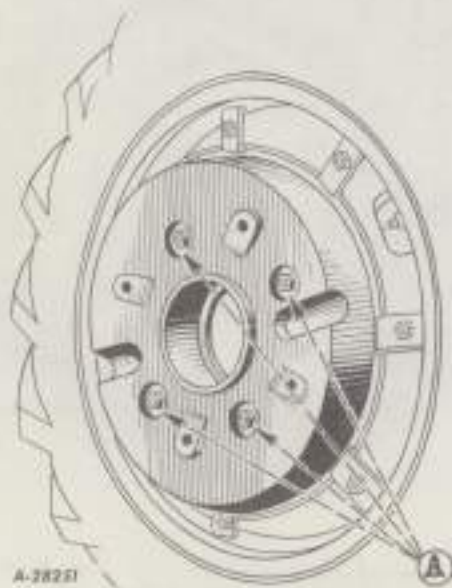
The second set of rear wheel weights consists of a set of four weight halves and eight $\frac{1}{4}$ NC x $3\frac{1}{4}$ -inch bolts, sixteen nuts and eight lock washers for attaching the second set of weights at "F." See Illust. 37A.

WEIGHTS

Rear Wheel Weights (One-Piece)

(International 560 Tractors with Pneumatic Tire Demountable Rim Cast Rear Wheels)

The rear wheel weights weigh approximately 145 pounds each and either one or two can be attached to each rear wheel to reduce slippage and tire wear and increase traction.



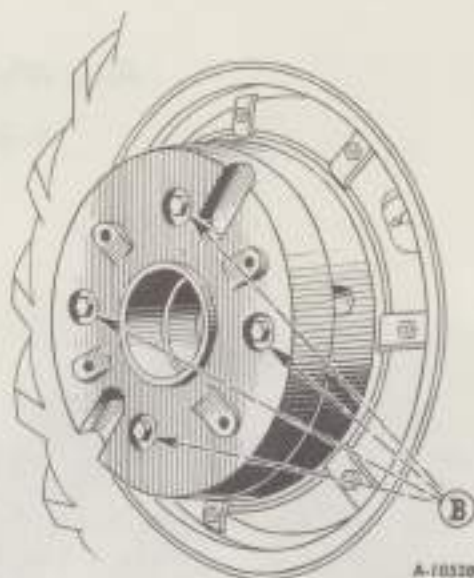
Illust. 38

First rear wheel weight assembled on the wheel.

The first set of rear wheel weights includes a set of two weights and eight $\frac{3}{4}$ NC x $5\frac{1}{4}$ -inch bolts, nuts and lock washers for attaching the weights to the rear wheels at "A." See Illust. 38.

The second set of rear wheel weights includes a set of two weights and eight $\frac{3}{4}$ NC x 4-inch bolts and lock washers for attaching the weights at "B." See Illust. 38A.

If additional weight is desired, a third set of rear wheel weights and eight $\frac{3}{4}$ NC x 4-inch bolts and



Illust. 38A

First and second rear wheel weights assembled on the wheel.

lock washers are available for attaching to the second weights.

Rear Wheel Weights (Two-Piece)

(International 560 Tractors with Pneumatic Tire One-Piece Disc Wheels)

Two-piece weights are available to facilitate mounting on the inside or outside of the wheel without having to remove the wheel. Easier mounting is possible as each half weighs approximately 75 pounds.

The first set of rear wheel weights includes a set of four weight halves, eight $\frac{5}{8}$ NC x $3\frac{3}{4}$ -inch bolts, sixteen hex nuts, and lock washers for attaching the weights to the wheels.

The second or third set of rear wheel weights includes a set of four weight halves, eight $\frac{5}{8}$ NC x $5\frac{1}{2}$ -inch bolts, hex nuts, and lock washers for attaching the weights to the first or second weight.

PNEUMATIC TIRES

Observe the following instructions and recommendations in order to secure maximum life and efficient service from the pneumatic tires.

Inflation

Keep the pneumatic tires properly inflated to the pressures shown in the table on page 40. Underinflation will damage the tire cord body and may cause the tire to slip on the rim and tear out the tube valve stem. Overinflation results in excessive slippage, causing rapid tire wear.

Check the air pressure once a week with an accurate, low-pressure gauge having one-pound graduations. Do not allow the air pressure to drop below the recommendations.

Always see that the tire valve caps are in place and are screwed tightly. The caps prevent the loss of air through the valve core, and also prevent loose soil, mud, gravel, snow, and ice from entering and damaging the valve core and air chamber in the tires.

The tires can be inflated with a pressure pump, hand pump, or spark plug pump. Spark plug pumps can be purchased from International Harvester dealers.

Using the Spark Plug Pump

Note: Do not use a diesel engine as the source of power.



Illustr. 39
Tire pump, hose, and air gauge.

Remove one of the spark plugs from the tractor engine, or any carbureted engine, and replace with pumping element "A" having the correct spark plug thread size. See Illustr. 39. Attach one end "B" of the pump hose to the pumping element and other end "C" to the valve stem of the tire to be inflated. Start the engine and run it at low speed for maximum efficiency.

Shipping Tractors Equipped with Pneumatic Tires

When tractors are transported on a carrier, such as a railroad car or trailer, inflation pressures should be as follows to make possible rigid blocking and to prevent bouncing.

Rear tires may be inflated up to 30 pounds. Front tire inflations should not exceed maximum pressures shown in the table. This higher pressure must be reduced to operating inflation BEFORE the tractor is removed from the carrier.

For farming operations a maximum speed of ten miles per hour is recommended.



Never dismount from the tractor while it is in motion. Wait until it stops.

PNEUMATIC TIRES

Operating Pressure for Low-Pressure Tractor Tires

The recommended air pressures are shown in the following table.

Caution! Upon receiving your tractor, immediately adjust the air pressure in the tires as indicated below.

Front Tire Loads in Pounds at Various Inflation Pressures (Underlining indicates maximum recommended load)

Tire Size	Ply Rating	Pounds per square inch									
		20	24	28	32	36	40	44	48	52	
		Kilograms per square centimeter									
		1.40	1.68	1.97	2.25	2.53	2.81	3.09	3.38	3.65	
F-1, F-2, and/or F-3 Tread											
9.00-10	8	1080	1200	1315	1425	1525	1620	1715			
6.00-16	4	750	835	915							
6.00-16	6	750	835	915	990	1065	1130	1200			
6.50-16	6	860	960	1050	1155	1215	1290				
6.50-18	4	935	1040	1140							
7.50-18	4	1205	1340								
7.50-18	6	1205	1340	1465	1585	1700					
7.50-20	4	1305	1450								
7.50L-15	8	1045	1160	1270	1375	1470	1560	1650	1740	1820	
I-1 Tread											
7.50-16	10	1500	1670	1820	1970	2110	2250	2390			
7.50-18	8	1550	1720	1880	2040	2190	2320	2455			
7.50-24	6	1740	1940	2120	2290						
6.00-20	6	1090	1210								

Rear Tire Loads in Pounds at Various Inflation Pressures (Underlining indicates maximum recommended load)

Tire Size	Ply Rating	Pounds per square inch					
		12	14	16	18	20	22
		Kilograms per square centimeter					
		.84	.98	1.12	1.26	1.40	1.54
R-1 and/or R-2 Tread							
12.4-38 (11-38) or 11-38	6	2185	2390	2580	2770	2950	<u>3110</u>
13.6-38 (12-38) or 12-38	6		2810	3040	3260	<u>3470</u>	
13-38	6		3330	3600	3860		
15.5-38	6		3030	3270	<u>3510</u>		
14-30	6			3020			
15-30	6			<u>3650</u>			
18-26	8			<u>5000</u>			
16.9-34	6			<u>4170</u>			
18.4-34	6			<u>4940</u>			
18.4-34	8			4940	5800	<u>6650</u>	
R-3 Tread							
14-26	6	3120	3410	<u>3680</u>			
18.4-34	6			<u>4940</u>			

Tire Code Marking	Tire Industry Type
F-1.....	Single Rib
F-2.....	Agricultural
F-3.....	Industrial
I-1.....	Rib Tread
R-1.....	Agricultural
R-2.....	Cane or Rice
R-3.....	Industrial

The rear wheel tire loads shown may be increased up to 20% with no increase in inflation when used on tractors with mounted implements and operated at speeds not exceeding 10 miles per hour. Tire loads should be calculated to include FULL bins or tanks.

Care of Tires

Avoid stumps, stones, deep ruts and other hazards. Cuts in tires should be repaired immediately because neglect decreases tire life.

Keep the tires free from oil and grease as both destroy rubber.

After using the tractor for spraying (insect control work), use water to remove any chemicals that may be on the tires.

Tire Chains

In wet grass or ground conditions, use lug-type chains. The flexing of the tire and the creeping of chains will break the mud loose as the wheel rotates.

Note: There is a possibility of the tire slipping within the chain; to prevent this, the use of spring-type chain fasteners is recommended.

Static Electricity in Tractors Doing Belt Work

Static electricity, generated by belt work, can be discharged harmlessly from tractors with pneumatic tires, by attaching a chain to the tractor and allowing it to touch the ground.

Mounting Tires on the Rims

After mounting a new or old tire on the rim, inflate it to thirty pounds pressure to seat the tire bead on the rim flange and to prevent the tire from creeping and shearing off the valve. Then deflate or inflate the tire to the correct operating pressure.

Traction and Weights

The tractor should not be operated with the tires improperly inflated. To insure the maximum hours of service, watch the tread lugs; if they wear down too fast, immediately add more weight to cut down slippage. Check for high air pressure. Consult your International Harvester dealer for information.

PNEUMATIC TIRES

Wheel Weights

The drawbar pull of a tractor can be increased by adding cast-iron weights to the driving wheels, and by the use of liquid in the tire tubes.

The amount of the increase in drawbar pull by the addition of certain definite weights varies with the type of soil. When very heavy weight is required, both liquid and cast-iron weights can be used.

After adding weight to the rear wheel or front bolster, it may be necessary to readjust the height of the drawbar to obtain the correct alignment.

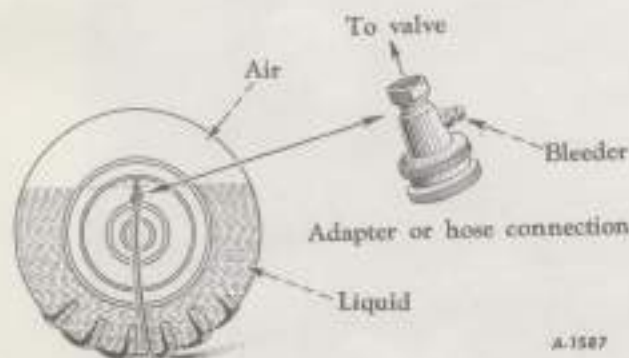
Overloading

Do not overload the tractor tires by mounting implements on the tractor which exceed the load capacity of the size of the tires on the tractor.

Liquid Weight

Tractor tire tubes can be three-quarters filled with liquid, using clean water for temperatures above freezing ($+32^{\circ}\text{F.}$). A calcium chloride solution (CaCl_2) is recommended when operating in freezing temperatures.

Putting Liquid into the Tube



Illust. 41
Tire three-quarters full of liquid.

Purchase an adapter (Illust. 41) from an International Harvester dealer. The adapter is equipped with a bleeder for letting out the air displaced by the liquid.

Jack up the tractor and revolve the tire so the valve stem is on top. Remove the valve core housing and screw on the adapter; then attach the water hose to the adapter.

The liquid can be put into the tube from a tank placed at least five feet higher than the tire, or by using a hand force pump, or compressed air and a pressure tank filled with liquid.

Remove the hose and adapter; then replace the valve core housing and inflate the tire to the correct operating pressure.

Liquid Weight for Freezing Temperatures

Calcium chloride solution, using a 25% mixture, which is approximately twenty pounds of flaked calcium chloride to ten U. S. gallons of water, is recommended when freezing temperatures prevail.

The strength of the solution can be checked with a battery hydrometer. A 25% solution measures approximately 1.225 specific gravity and has a freezing point of -25°F.

Note: Some calcium chloride flakes have an acid reaction. It is advisable to add one pound of lime to each 100 pounds of calcium chloride used.

Caution! When preparing the calcium chloride solution, always pour the water into the container first; then add the correct amount of calcium chloride crystals, stirring the mixture thoroughly. Never pour the water on the calcium chloride flakes. After the solution is mixed, allow it to cool before using.

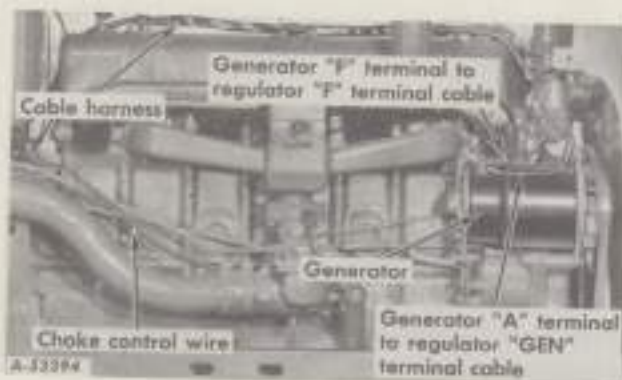
Valve Stem Mounting Cones

Valve stem mounting cones are furnished with all rear wheel tire tubes having valve stems for inserting liquids; the cones are mounted on the valve stem at the factory.

The purpose of the cone is to hold the valve stem in the valve hole when mounting the tire, particularly when liquid is used in the tire. Without the cone when mounting the tire or inserting the liquid, the valve stem might be pulled into the rim and will cause extra work in again inserting it through the valve hole.

STARTING AND LIGHTING EQUIPMENT

Description



Illust. 42
Generator and cable harness.

The electrical system of the tractor consists of a generator, voltage regulator, cranking motor, lights, lighting switch, electrical instruments, distributor, coil, resistor and a twelve-volt battery.

The colored plastic-covered cables are contained in a harness of nonmetallic oilproof and waterproof woven braid.

Use the illustrations on pages 42 and 43 and the wiring diagrams on pages 44 and 45 as a guide for identifying the various electrical units and for tracing the electrical cables and connections. Be sure all terminals are clean and securely fastened.

Before working on any part of the electrical system, disconnect the battery ground strap at the battery. Do not reconnect this strap until all electrical work has been completed. This will prevent shorting and causing damage to any of the electrical units.

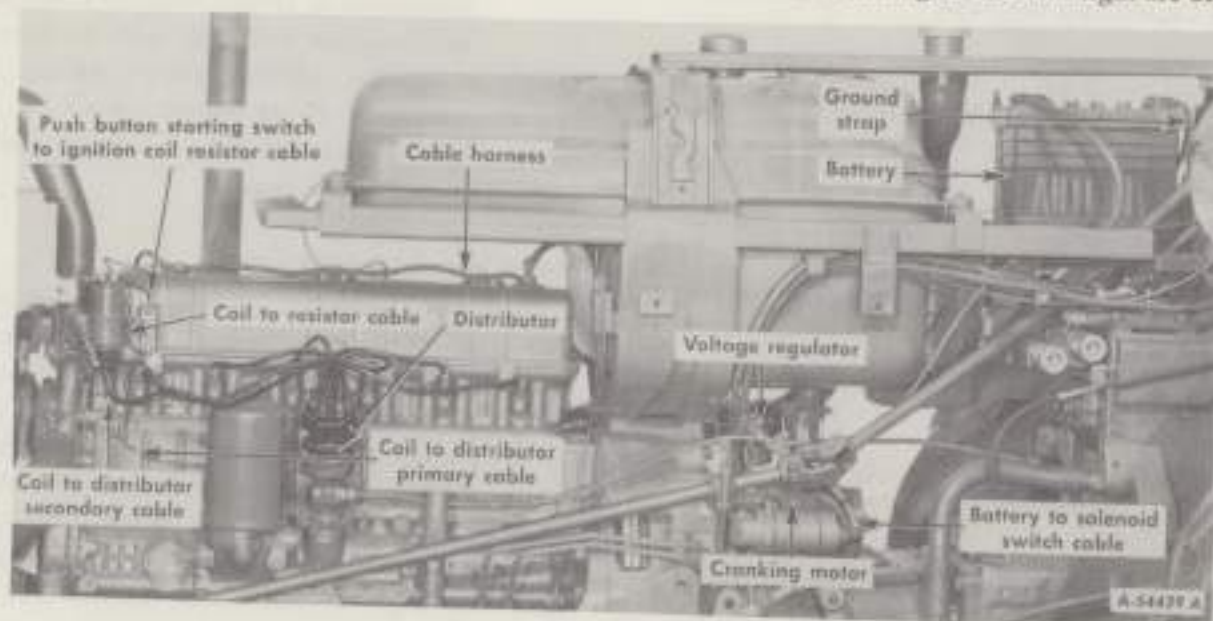
Generator and Regulator

The generator supplies current to keep the battery in a charged condition, to replace the energy consumed by the cranking motor and lights, and to carry the electrical load requirements of the tractor, up to the rated capacity, 20 amperes, of the generator. It is hinge mounted on the right side of the engine crankcase and is driven by a combination fan and generator belt. The generator is a two-brush shunt-wound generator ventilated at both ends. It is ventilated by a fan, which draws air through it. This prevents overheating and permits a greater output from the generator.

Note: Never place a jumper lead between or accidentally bridge the "BAT" and the "F" terminal on the regulator as this will damage the regulator.

Instrument Lamp

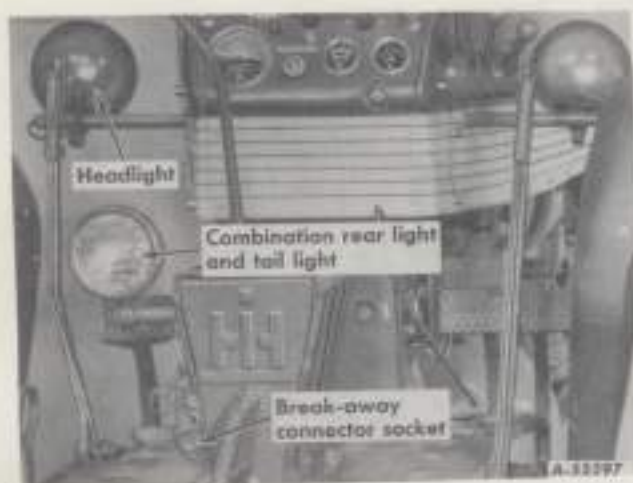
Two 2 candle power lamps (12-16 volt—No. 127934) on the instrument panel are provided for illuminating the instruments at night and are lighted whenever the headlights and rear light are on.



Illust. 42A
Cranking motor, distributor, and cables.

STARTING AND LIGHTING EQUIPMENT

Headlights



Illust. 43

Headlights, rear light, and break-away connector socket.
(Farmall 460 and 560 Tractors)



Illust. 43B

Break-away connector socket and combination rear light
and tail light.

The headlights on your tractor are sealed-beam lights especially developed for tractor operations. The parts are so constructed that the filament, reflector, lens and gasket are all assembled in a unit permanently sealed against dirt, moisture and corrosion. Should a filament burn out or a lens break, the complete unit must be replaced. See your International Harvester dealer.

Break-away Connector Socket

A break-away electric socket on the left side of the battery box or under the rear platform serves as a plug-in connection for lights on trailing implements. This socket can also be used to plug in a trouble light.



Illust. 43A

Headlights on the International 560 tractor.

Combination Rear Light and Taillight

The rear light on the tractor is a combination light with a sealed beam unit. It is turned on by the lighting switch on the instrument panel and gives a choice of red as a taillight for use on the highway or white as a rear light for use in the field. Refer to page 7 for the lighting switch positions.

Should the lens break, or a filament burn out, the complete sealed beam unit must be replaced. See your International Harvester dealer. To replace the taillight lamp, remove the sealed beam unit and replace the taillight lamp with a 15 candlepower lamp (12 volt—No. 455 490).

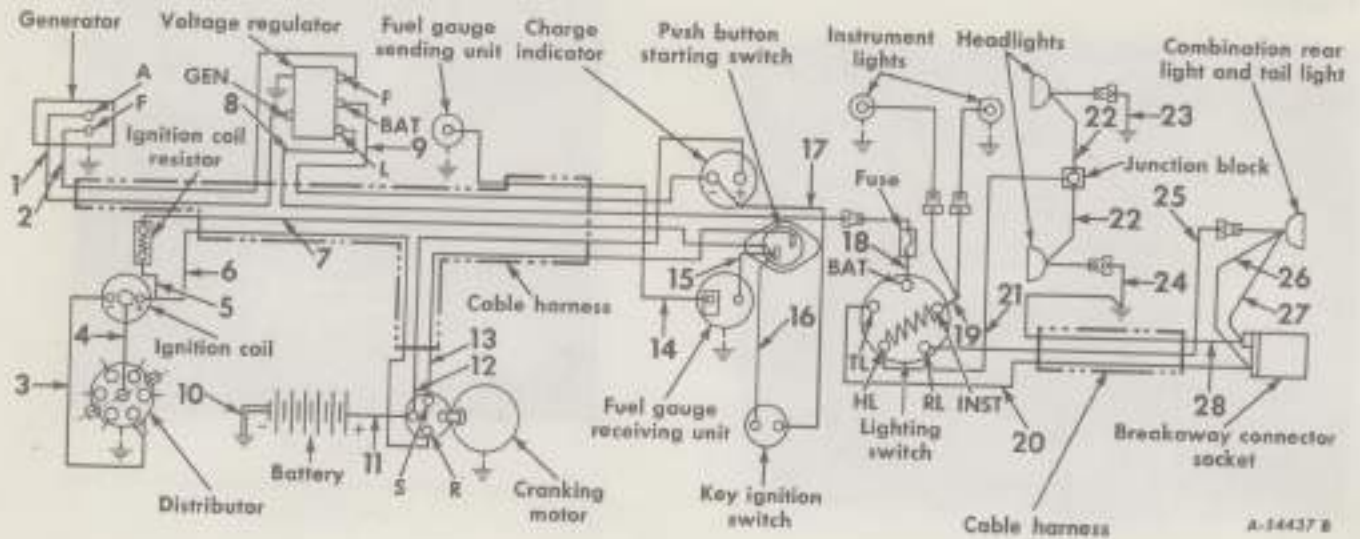
Fuse

A cartridge-type fuse (AGC-10 ampere) is in the fuse housing above the lighting switch. If a short circuit occurs in the lighting circuit, the fuse will burn out and break the circuit, preventing damage to the electrical system.

It is important to use the same capacity fuse for replacement. If the lights fail, check the fuse. If the fuse repeatedly burns out, check the electrical wiring for short circuits.

To install a new fuse, unscrew the fuse housing knob on the instrument panel (Illusts. 6 and 7), pull out the old fuse, and replace it with a new one.

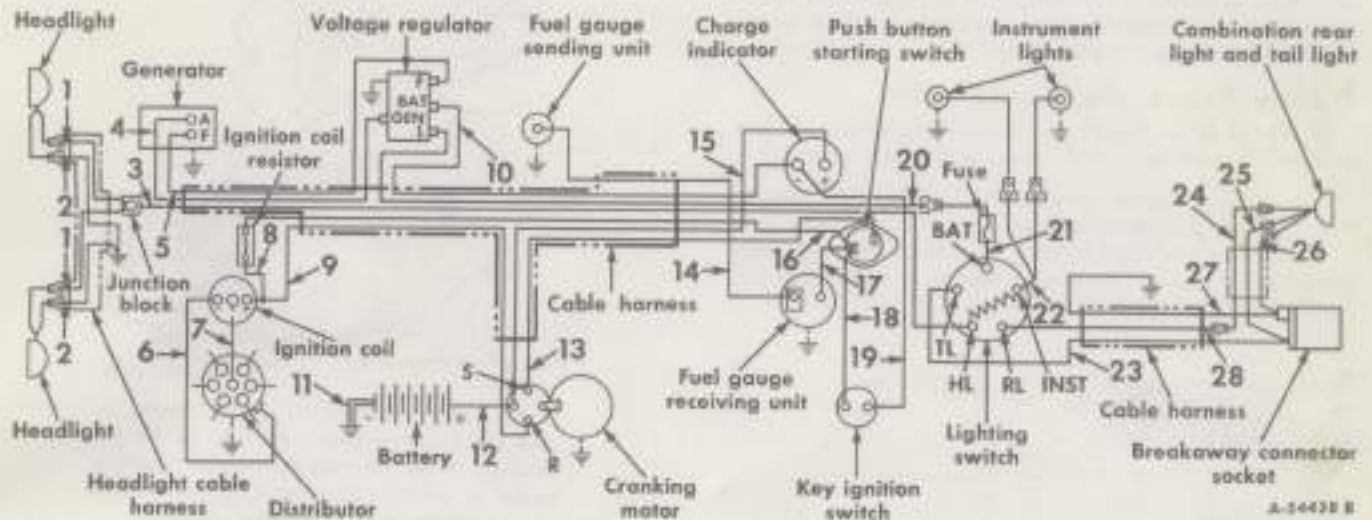
STARTING AND LIGHTING EQUIPMENT



Illustr. 44
Schematic wiring diagram for
Farmall 460 and 560 Tractors.

Ref. No.	Description	Ref. No.	Description
1	Cable—regulator "GEN" terminal to generator "A" terminal (light blue).	15	Cable—push button starting switch to fuel gauge receiving unit.
2	Cable—regulator "T" terminal to generator "F" terminal (yellow).	16	Cable—push button starting switch to ignition switch.
3	Cable—coil to distributor (primary).	17	Cable—charge indicator to key ignition switch.
4	Cable—coil to distributor (secondary).	18	Cable—fuse housing to lighting switch.
5	Cable—coil to resistor.	19	Cable—lighting switch to instrument panel lights.
6	Cable—solenoid switch to coil (natural).	20	Cable—break-away connector socket and tail light to lighting switch (black).
7	Cable—push button starting switch to ignition coil resistor (black).	21	Cable—lighting switch to junction block.
8	Cable—regulator "L" terminal to fuse housing (light green).	22	Cable—head light to junction block (black).
9	Cable—charge indicator to regulator "BAT" terminal (gray).	23	Cable—right headlight to ground (ground on steering shaft housing right rear mounting bolt).
10	Strap—battery to ground (ground on steering shaft housing support left rear mounting bolt).	24	Cable—left headlight to ground (ground on steering shaft housing left rear mounting bolt).
11	Cable—battery to solenoid switch.	25	Cable—combination rear light to lighting switch (red).
12	Cable—charge indicator to solenoid switch (red).	26	Cable—combination rear light and break-away connector socket (long).
13	Cable—push button starting switch to solenoid switch (orange).	27	Cable—combination rear light and break-away connector socket (short).
14	Cable—fuel gauge receiving unit to fuel gauge sending unit (dark blue).	28	Cable—combination rear light and break-away connector socket ground terminal to ground (pink).

STARTING AND LIGHTING EQUIPMENT



Illust. 45
Schematic wiring diagram
for International 560 Tractor.

Ref. No.	Description	Ref. No.	Description
1	Cable—headlight to junction block (black).	16	Cable—push button starting switch to coil resistor (black).
2	Cable—headlight to ground (pink).	17	Cable—fuel gauge receiving unit to push button starting switch.
3	Cable—lighting switch to junction block (violet).	18	Cable—push button starting switch to ignition switch.
4	Cable—regulator "GEN" terminal to generator "A" terminal (light blue).	19	Cable—charge indicator to ignition switch.
5	Cable—regulator "F" terminal to generator "F" terminal (yellow).	20	Cable—regulator "L" terminal to fuse housing (light green).
6	Cable—coil to distributor—primary.	21	Cable—fuse housing to lighting switch.
7	Cable—coil to distributor—secondary.	22	Cable—lighting switch to instrument panel lights.
8	Cable—coil to resistor.	23	Cable—break-away connector socket to lighting switch (black).
9	Cable—solenoid switch "R" terminal to coil positive terminal (natural).	24	Cable—combination rear light to line connector terminal (red).
10	Cable—charge indicator to regulator "BAT" terminal (gray).	25	Cable—combination rear light to break-away connector socket (black).
11	Strap—battery to ground (ground on steering shaft housing support right rear mounting bolt).	26	Cable—combination rear light to break-away connector ground terminal, long (pink).
12	Cable—battery to solenoid switch.	27	Cable—break-away connector socket ground terminal to ground (pink).
13	Cable—push button starting switch to solenoid switch (orange).	28	Cable—line connector to lighting switch (red).
14	Cable—fuel gauge receiving unit to fuel gauge sending unit (dark blue).		
15	Cable—charge indicator to solenoid switch (red).		

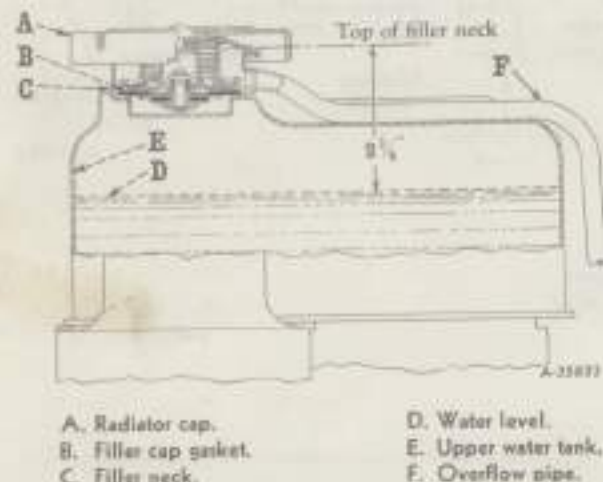
COOLING SYSTEM

The cooling system operates under pressure which is controlled by means of a regulating valve built into the radiator cap. Always use clean water (soft or rain water if possible).

Adding Water to the Cooling System

Caution! If the water in the cooling system is hot and water is to be added, observe the following:

Turn radiator cap "A" (see *Illust. 46*) slowly counterclockwise to the safety stop to allow the pressure or any steam to escape; then press down on the cap and continue to turn until the cap is free to be removed.



Illust. 46

Water level in the pressure-cooled radiator.

Allow the engine to cool, and fill the radiator slowly to approximately $2\frac{1}{4}$ inches below the top of filler neck "C." Due to expansion when the system becomes hot, any excess water will be discharged through overflow pipe "F."

Note: Do not pour cold water into the radiator if the engine is very hot unless conditions make it absolutely necessary; in which case start the engine and let it idle; then slowly pour the water into the radiator.

Before replacing the filler cap, be sure to remove any chaff or dirt particles which may be on the gasket surface or cap, and tighten the cap clockwise to the stop.

Note: A pressure-cooled system will not operate properly unless the cooling system is tight.

The gasket surface must be in good condition. The cap must be properly tightened to the stop, and the system must not have loose connections or leaks. Unless these instructions are followed, pressure will not be maintained, and loss of water and consequent overheating will result. When draining the radiator, always remove the filler cap to permit complete drainage.

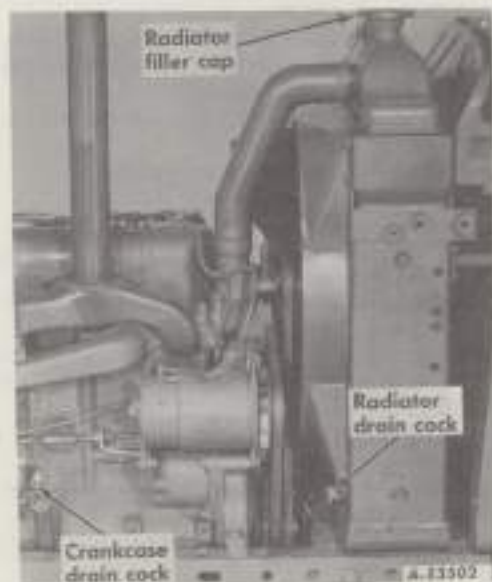


If the motor overheats, allow the engine to cool off before removing the cap to fill the radiator. When removing the cap, be extremely careful to avoid being scalded by steam which has built up pressure in the radiator.

Do not attempt to repair or replace any of the regulating valve parts. If the valve is faulty, replace it with a new radiator cap of the same type.

Filling the Cooling System

Be sure the radiator drain and crankcase water drain (*Illust. 46A*) are closed; then fill the radiator to a level approximately $2\frac{1}{4}$ inches below the top of the filler neck. Filling the radiator to this level will allow for expansion of the coolant under normal operating conditions. Use clean water; soft or rain water is recommended as it does not contain alkali, which forms scale and eventually clogs passages.



Illust. 46A

Cooling system shown on the Farmall 560 Tractor.

COLD WEATHER PRECAUTIONS

When operating the tractor in temperatures of +32° F. or lower, observe the following precautions:

Fuel System

Use only a high-test, winter-grade gasoline for starting, and keep your supply in a closed container so the more volatile portion does not evaporate. Fill the fuel tank at the end of the day's run to prevent moisture from collecting in the tank.

Lubrication

Be sure to use lubricant of the proper viscosity in the engine crankcase, air cleaner, transmission, differential and steering gear housing as specified on page 49.

Storage Battery

In order to assure starting in cold weather, the battery must be kept fully charged at all times.

Cooling System

When the temperature is likely to be +32° F. or lower, there is danger of the water freezing in the cooling system. To prevent this, drain the water from the cooling system at the end of each run or use IH permanent type antifreeze.

Draining and Refilling the System

If an antifreeze is not to be used:

1. Open the radiator drain cock on the right side of the radiator and the crankcase drain cock on the right side of the engine (behind the oil filler and level gauge). See *Illustr. 46A*.

2. See that the drain is not clogged and that the water drains completely. Then close the drain cocks.

Important! Before filling the cooling system in freezing weather, close the radiator shutter (if so equipped) or cover the front of the radiator. Have sufficient water available at the tractor to fill the cooling system (warm water is preferable). Start the engine, then put the water in **immediately**. This keeps the water from freezing during warm-up. Maintain the operating temperature of the engine by regulating the radiator shutter or uncovering the front of the radiator as much as necessary.

If an antifreeze is to be used:

1. Inspect the hose connections. They must be in good condition both inside and out. Then tighten all water connections.

2. Inspect the water pump for leaks. See the Preventive Maintenance Manual.

3. Inspect the fan belt and adjust it, if necessary, to the proper tension as described in the Preventive Maintenance Manual. If the belt is worn, or oil-soaked, install a new one.

4. Drain the cooling system as described above. Clean it as described in the Preventive Maintenance Manual.

5. Check to be sure that the radiator drain cock and the crankcase water drain cock on the right side of the engine are tightly closed. Then fill the cooling system, using either of the following procedures.

- a. Make a solution of the required amount of IH permanent type antifreeze with the necessary amount of clean water (use soft or rain water if possible) as instructed on the container to fill the cooling system. Fill the cooling system to a level approximately $2\frac{3}{4}$ inches below the top of the filler neck. See "Specifications" on page 58 for the cooling system capacity. Because the thermostat is closed, only part of the solution can be put in. Put on the radiator cap, start the engine, and run it until the operating temperature is reached to permit the thermostat to open. Then check the level of the solution and add solution as necessary to bring it up to the proper level.

- b. Put the required amount of IH permanent type antifreeze into the cooling system. Add sufficient clean water (use soft or rain water if possible) to a level approximately $2\frac{3}{4}$ inches below the top of the filler neck. Start the engine and run it until the operating temperature is reached, to permit the thermostat to open and allow the antifreeze and water to mix thoroughly. After the engine is warm, check the coolant level in the radiator, and, if necessary, add water to bring it up to the proper level.

6. Check the cooling system for leaks, paying special attention to the hose connections.

Antifreeze Solutions

The use of alcohol as an antifreeze is not recommended because denatured alcohol boils at +173° F. However, if it is necessary to use alcohol, check the solution frequently to make certain you have adequate protection for the prevailing temperature.

Note: Use only one type of antifreeze solution. Do not mix solutions, as it will be difficult to determine the exact amount of protection.

Never use any of the following in the cooling water as an antifreeze:

Honey, salt, kerosene, fuel oil, glucose or sugar, calcium chloride, or any alkaline solution.

GENERAL ENGINE LUBRICATION

The life of any tractor depends upon the care it is given. Proper lubrication is a very important part of that care.

The engine has a pressure-feed lubrication system. A gear-type oil pump circulates the lubricating oil under pressure to the crankshaft bearings, connecting rod bearings, camshaft bearings, valve mechanism, timing gears, and governor, thereby assuring positive lubrication of all parts.

The engine is equipped with a full-flow oil filter which continually cleans all the oil while the engine is running. To obtain the full benefit from the filter, replace the element with a new one after every 250 hours of operation or every time the oil in the crankcase is changed. Cleaning the old element is not satisfactory. See page 49 for the recommended oil to use for the prevailing temperature.

The engine is equipped with a combination oil filler cap and bayonet-type oil level gauge on the right side of the engine. See *Illust. 9B*.

To add oil to the crankcase, remove the cap with the level gauge from the oil filler tube by turning the cross piece on the gauge counterclockwise to loosen, then pull out the gauge. The oil level should never be above the "Full" mark nor below the "Low" mark on the gauge.

When testing the oil level, the gauge must be withdrawn and wiped clean, then inserted all the way and withdrawn for a true reading. See page 53.

Caution: Stop the engine before removing the cap. Never check the oil level while the engine is running.

Oil Pressure Gauge

This gauge (on the instrument panel) shows whether lubricating oil is circulating through the engine.

Under all operating conditions, the oil pressure of the engine should hold the indicator needle past the first mark above zero when the engine is running at speeds of approximately 100 or more r.p.m. above slow idle speed. See *Illust. 9*. If the needle does not move past the first mark above zero, stop the engine immediately and investigate the cause of the oil pressure failure. If you are unable to find the cause, consult your International Harvester dealer before operating the engine.

Always check the oil pressure gauge immediately after starting the engine.

Oil Pump

The gear-type oil pump in the crankcase has a screen attached to the oil intake to stop large dirt particles from entering the lubricating system. This screen should be cleaned whenever the oil pan is removed. The oil intake floats on top of the oil in the crankcase and draws the oil from the surface, thereby eliminating the possibility of mixing water or sediment with the oil.

LUBRICATING OIL AND GREASE SPECIFICATIONS

Engine Oil

The three types of crankcase oils marketed have been classified by the American Petroleum Institute (API) as "For Service ML", "For Service MM", and "For Service MS". Either single or multi-viscosity oils designated "For Service MS" are recommended for this engine.

To Aid Starting

To facilitate starting, the selection of crankcase lubricating oils should be based on the lowest anticipated temperature for the day. It is not necessary to change the crankcase oil every time the temperature rises or falls into another temperature range during some part of the 24-hour day. Also see "Cold Weather Precautions" on page 47 for special instructions.

Note: After changing oil, the engine must not be operated at high speed or under load until the new

oil has had ample time to reach all of the bearings.

After changing to a lighter grade of oil, the engine must be operated at least five to ten minutes without load so the lighter oil is worked into the bearings and onto the cylinder walls.

Gear Lubricant

Tractors shipped to destinations in the United States of America, Canada, and Mexico are filled with lubricant in the transmission, differential, and steering gear housings (also in the rear axle drive housings on the Farmall 460 and 560 Hi-Clear Tractors). Tractors shipped export have all lubricant drained.

Use only high-quality lubricating oils and greases as specified in "Lubrication Table". For your own protection, select only oils and greases of recognized manufacture.

Continued on page 50.

LUBRICATION TABLE

Point of Lubrication	Capacity			Anticipated Air Temperature				
	Farmall 460	Farmall 560	International 560	Above +90° F.	+90° F. to +32° F.	+32° F. to +10° F.	+10° F. to -10° F.	Below -10° F.
Engine crankcase	9 qt.	9 qt.	9 qt.	SAE-30 or SAE 20W-40	SAE-20 or SAE 10W-30*	SAE-10W or SAE 5W-20	8 quarts SAE-10W with 1 quart kerosene or SAE 5W-20	7 quarts SAE-10W with 2 quarts kerosene
Air cleaner oil cup	2 1/4 pt.	2 pt.	2 pt.	SAE-30 or SAE 20W-40	SAE-20 or SAE 10W-30*	SAE-10W or SAE 5W-20	SAE 10W or SAE 5W-20	SAE-10W or SAE 5W-20
Distributor				Chassis lubricant				
Distributor.....	xxx	xxx	xxx	Light engine oil				
Cam hole felt (in distributor).....	xxx	xxx	xxx					
Generator	xxx	xxx	xxx	SAE-20 engine oil				
Transmission and differential case Tractors with Hydra-Touch.....	Approx. 10 gal.	Approx. 16 gal.	Approx. 16 gal.	IH Hy-Tran Fluid or a mixture of one quart IH Torque Amplifier Transmission Lubricant Additive to each four gallons of SAE-10W engine oil. (See Note 1).				
Tractors without Hydra-Touch but with Torque Amplifier.....	Approx. 10 gal.	Approx. 16 gal.	Approx. 16 gal.	Tractors operating in temperatures below +40° F., IH Hy-Tran Fluid; or a mixture in the ratio of one quart of IH Torque Amplifier Transmission Lubricant Additive to each four gallons of SAE-30 engine oil (see Note 1); or SAE-80 gear lubricant may be used (see Note II). If temperatures are consistently above +40° F., IH Hy-Tran Fluid; or a mixture in the ratio of one quart of IH Torque Amplifier Transmission Lubricant Additive to each four gallons of SAE-50 engine oil (see Note I); or SAE-90 gear lubricant may be used (see Note II).				
Tractors without Hydra-Touch, Torque Amplifier or independent power take-off drive.....	Approx. 6 gal.	Approx. 14 gal.	Approx. 14 gal.					
Rear axle housing (Hi-Clear tractors only)	3 qt.	3 qt.	xxx					
Belt pulley housing (Rear mounted)**	2 qt.	2 qt.	2 qt.					
Independent power take-off rear unit housing				SAE-10W engine oil				
Planetary-type.....	2 qt.	2 qt.	2 qt.					
Clutch-type.....	1 pt.	1 pt.	1 pt.	IH Hy-Tran Fluid; or a mixture in the ratio of one quart IH Torque Amplifier Transmission Lubricant Additive to each four gallons of SAE-10W engine oil (see Note 1).				
Steering gear housing								
Manual steering.....	2 1/2 pt.	2 1/2 pt.	3 1/2 pt.	IH Hy-Tran Fluid; or a mixture in the ratio of one quart IH Torque Amplifier Transmission Lubricant Additive to each four gallons of SAE-10W engine oil (see Note 1); or SAE-80 gear lubricant (see Note II).				
Power steering.....	xxx	xxx	3 1/2 pt.					
Lubrication fittings	xxx	xxx	xxx	Use chassis lubricant (pressure gun grease) for fittings on which the hand lubricator is applied.				

*SAE 5W-20 may be used if temperatures are not consistently above +65° F.

**Proper level of oil in the side-mounted belt-pulley housing is maintained by the oil level in the transmission case.

Note I—Any engine oil mixed with IH Torque Amplifier Transmission Lubricant Additive must have an aniline point range of +170° F. to +220° F.

Note II—Torque Amplifier Transmission Lubricant Additive must be mixed with engine oil when it is used as gear lubricant, and must not be mixed with optional SAE-80 or 90 gear lubricant.

LUBRICATING OIL AND GREASE SPECIFICATIONS

Gear Lubricant—Continued

Important! On tractors with Hydra-Touch the transmission and differential case also serves as the reservoir for the Hydra-Touch system. Use only IH Hy-Tran Fluid or a mixture of one quart IH Torque Amplifier Transmission Lubricant Additive to each four gallons of SAE-10W engine oil.

The SAE-10W engine oil must have an aniline point range of +170°F. to +220°F.

Lubrication Fitting Grease

Use pressure-gun grease (chassis lubricant) for lubrication fittings on which the hand lubricator is applied.

Important! Keep your supply of lubricating oil and grease absolutely clean and free from dust. Always use clean containers. Keep the lubricator clean and wipe dirt from the fittings before applying the lubricator.

LUBRICATION GUIDE



—Daily or After Every 10 Hours of Operation

1—Air cleaner.

Clean and refill the oil cup to the oil level bead with the same new oil as used in the engine crankcase. See *Illust. 11B*. Refer to the Lubrication Table.

2—Oil filler and bayonet-type oil level gauge.

Check the oil (with the engine stopped) and add sufficient new oil to bring the level to the "Full" mark on the bayonet gauge. Do not check the oil level while the engine is operating or operate the engine if the oil level is below the "Low" mark on the bayonet gauge. If the oil level is checked after the engine has been stopped for some time, the oil level may show slightly above the "Full" mark on the gauge. This is a normal condition as the result of oil draining back from the filter.

Note: The proper method of checking the oil level with the bayonet-type oil level gauge (2) is: Using the cross piece, turn the gauge counter-clockwise to release it, remove the gauge from the oil filler tube and wipe it clean. Reinsert the

gauge all the way without turning it, then remove the gauge and check the oil level. After checking, and adding oil if necessary, reinsert the gauge all the way, and, using the cross piece, turn the gauge clockwise to tighten it.

3—Steering knuckle pivot (2).

4—Front pivot.

5—Tie rod (Farmall 460 and 560) (4) (Int. 560) (2).

6—Drag link, rear (International 560).

7—Drag link, front (International 560).

8—Swinging drawbar roller.

Use chassis lubricant (pressure-gun grease) and apply two or three strokes of the lubricator or sufficient grease to flush out old grease and dirt.

9—Single front wheel (Farmall 460 and 560).

Refer to instructions in the tractor Preventive Maintenance Manual.



—After Every 50 Hours of Operation

10—Brake pedal (1) Clutch pedal (1).

11—Torque amplifier operating handle.

12—Independent power take-off operating handle.

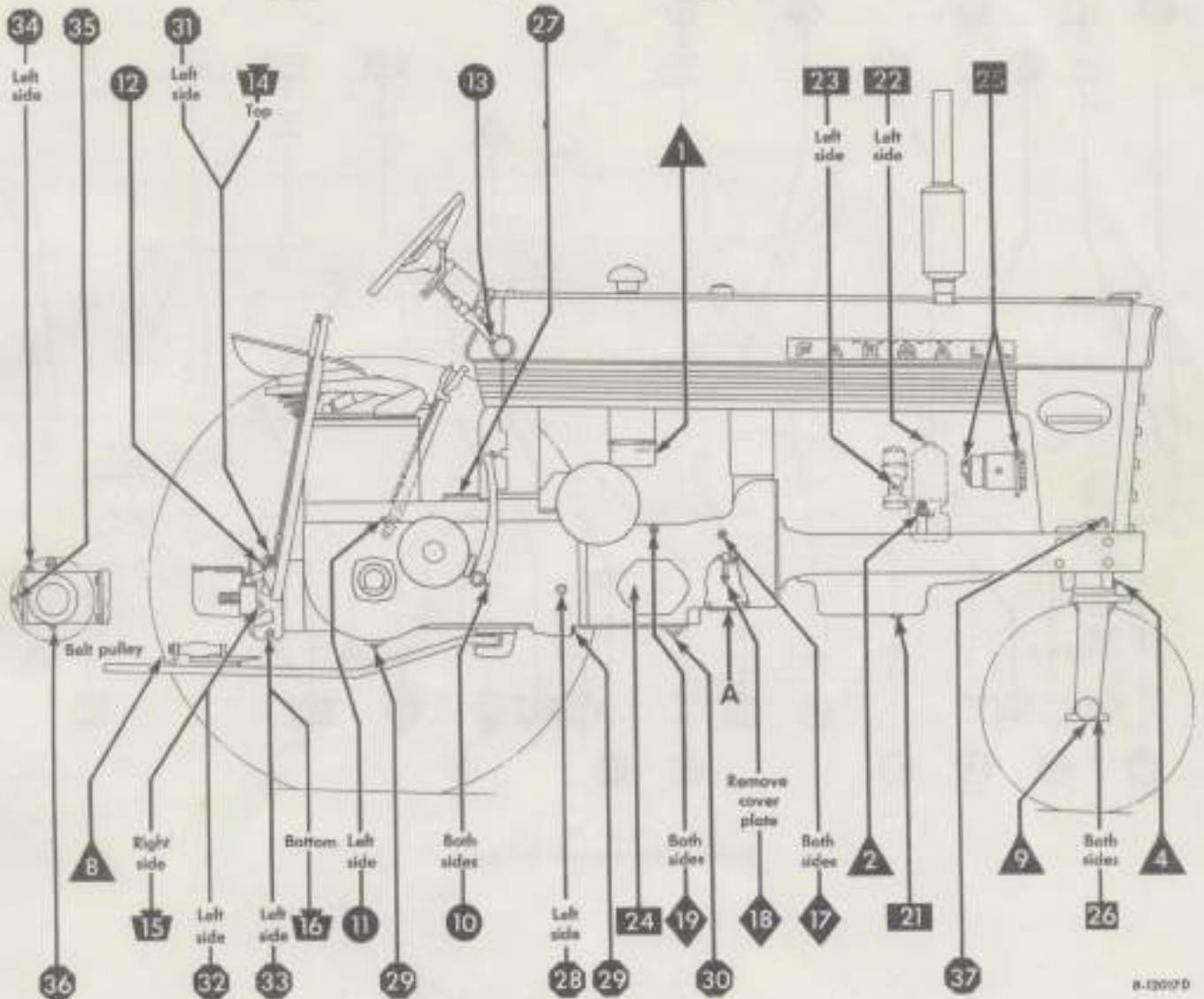
13—Hydra-Touch system handles (Farmall 460 and 560).

Use chassis lubricant (pressure-gun grease) and apply two or three strokes of the lubricator or sufficient grease to flush out old grease and dirt.

LUBRICATION GUIDE

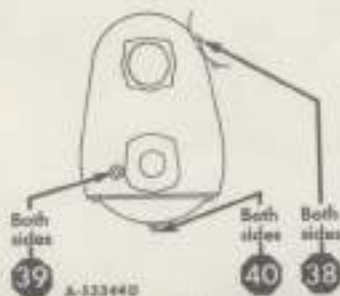
The symbols shown around the reference numbers on the illustrations on this page indicate the intervals of lubrication.

▲ — 10 hours, ● — 50 hours, ☐ — 100 hours, ◆ — 150 hours,
■ — 250 hours, ■ — 500 hours, ● — Periodic

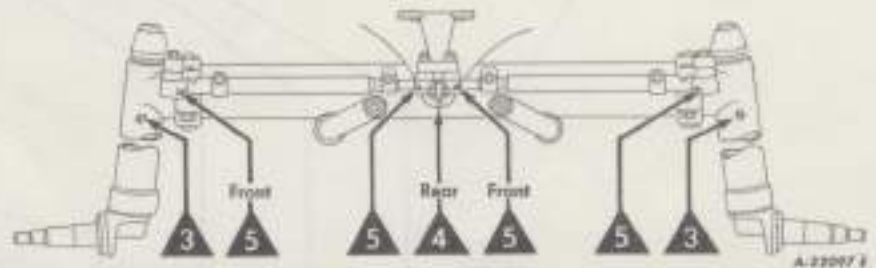


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Illustr. 51
Right side of Farmall 460 and 560 Tractors.



Illustr. 51A
Right rear axle housing
for Hi-Clear Tractors.



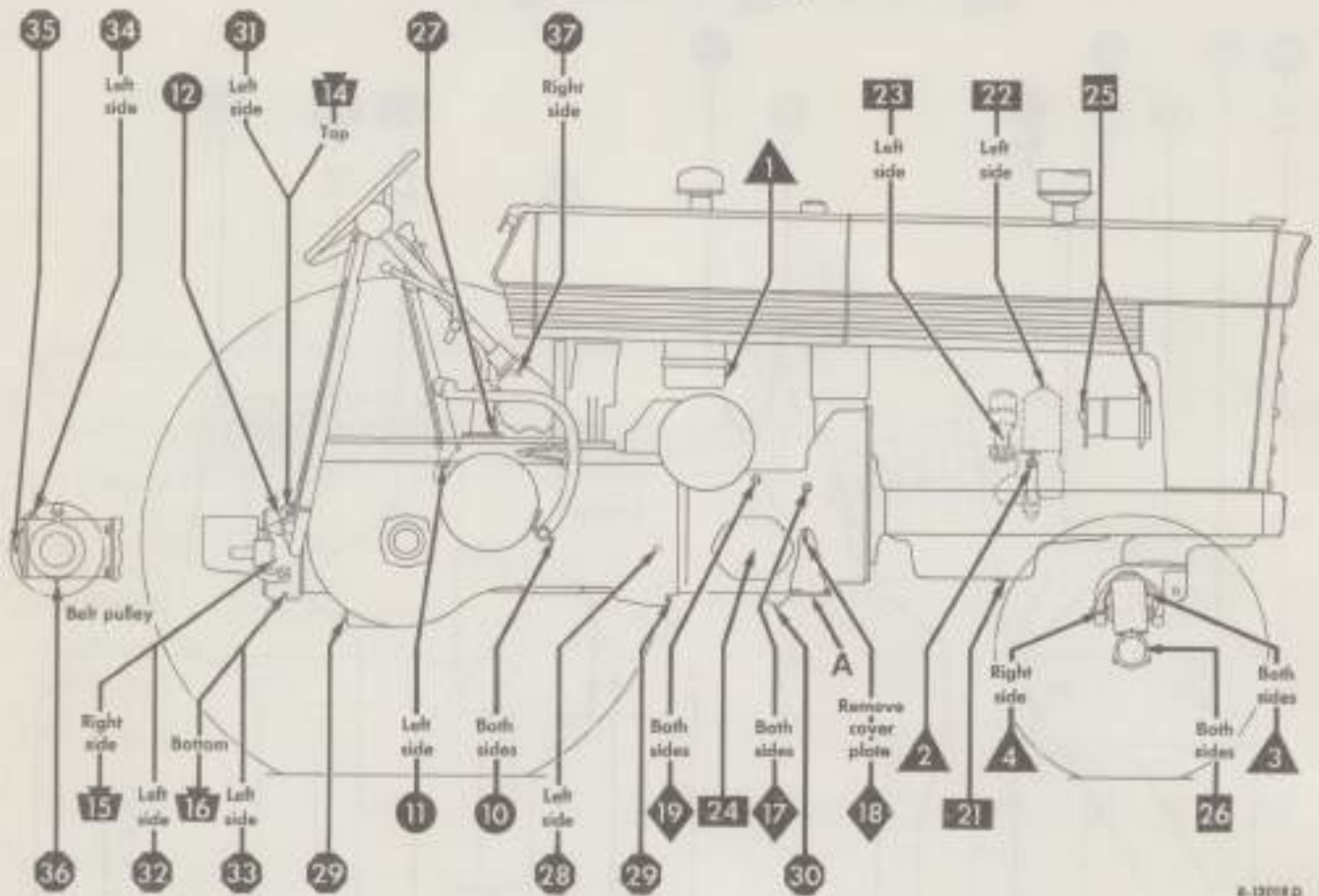
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Illustr. 51B
Rear view of front axles
for Farmall Series Tractors.

LUBRICATION GUIDE

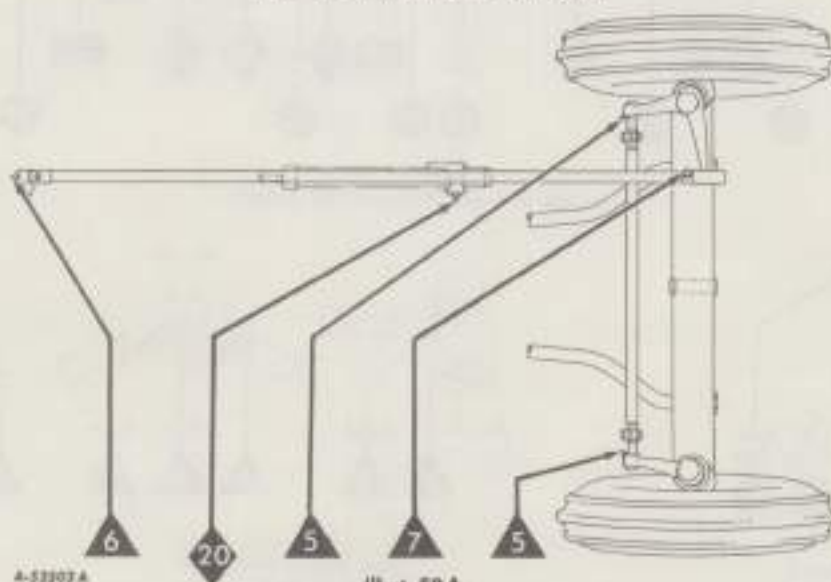
The symbols shown around the reference numbers on the illustrations on this page indicate the intervals of lubrication.

▲ — 10 hours, ● — 50 hours, 🛢 — 100 hours, ◆ — 150 hours,
 ■ — 250 hours, ■ — 500 hours, ○ — Periodic



6-12018 D

Illust. 52
Right side of International 560 Tractor.



A-52303A

Illust. 52A
Steering linkage on International 560 Tractor.

LUBRICATION GUIDE

— After Every 100 Hours of Operation

Independent Power Take-Off Rear Unit (Clutch Type)

- 14—Filler cap and breather or vent plug.
- 15—Level plug.
- 16—Drain plug.

Drain the rear unit and refill with approved lubricant after each 100 hours of power take-off operation, or at least once a year, if operated less than 100 hours. Remove the drain plug, filler cap, or vent plug and bushing and level plug. After the lubricant has drained, replace the drain plug and refill the rear unit to the height of level plug. Then replace the level plug and the filler cap or vent plug and bushing. Refer to "Lubrication Table" on page 49.

— After Every 150 Hours of Operation

- 17—Clutch release shaft (2).
- 18—Clutch release bearing.
- 19—Torque Amplifier clutch release shaft (2).
Use chassis lubricant (pressure-gun grease) and apply one or two strokes of the hand lubricator.

To reach the clutch release bearing (18), remove the clutch compartment bottom cover "A."

- 20—Hydraulic power steering drag link, center (International 560).
Use chassis lubricant (pressure-gun grease) and apply two or three strokes of the lubricator.

— After Every 250 Hours of Operation

- 21—Crankcase oil pan drain plug.
Remove the plug and drain all oil from the crankcase while the engine is warm; then replace the plug and refill with new oil to the "Full" mark on the oil level gauge. Refer to the Lubrication Table.
- 22—Oil filter element.
Replace the oil filter element every time the crankcase oil is changed. Remove the oil filter drain plug and allow all the oil to drain out. Remove the center tube and case and remove the used filter element. Replace the drain plug and install a new

filter element as instructed in the tractor Preventive Maintenance Manual.

- 23—Distributor.
Remove the grease plug and insert a lubrication fitting. Apply four or five strokes of the lubricator (approx. 1/4 oz.) to the distributor fitting using chassis lubricant (pressure-gun grease).
- 24—Hydra-Touch Fluid Filter.
Remove filter and clean as instructed in the tractor Preventive Maintenance Manual.

— Every Six Months or After Every 500 Hours of Operation

- 25—Generator oil cups (2).
Fill the generator oil cups with SAE-20 engine oil as follows:
Drive End: Fill the oil cup full once.
Commutator End: On the regular generator having a bushing-type bearing at the commutator end, fill the oil cup full two or three times. On a heavy duty generator having a ball bearing at the commutator end, fill the oil cup full only once.

Note: Overlubrication will "gum" the commutator, resulting in reduced output and increased wear. Never oil the commutator. Do not lubricate the generator while it is in operation.

- 26—Front Wheels.
Remove, clean, and repack the front wheel bearings with fiber grease. Refer to the tractor Preventive Maintenance Manual for complete information.

LUBRICATION GUIDE

—Periodic

Transmission and Hydraulic System

27—Oil filler plug.

28—Oil level plug.

29—Oil drain plug (2). (For Farmall 460, see Illust. 51; Farmall 560 and International 560, see Illust. 52).

30—Drain plug.

Check the oil level periodically. Use approved lubricant according to the Lubrication Table.

For Farmall 460 tractors, keep the lubricant up to the level of the cap screw opening in the hex. head plug (28). Do not remove the large hex. head plug.

For 560 Series tractors, keep the lubricant up to the square head level plug (28) opening in the left side of the transmission case.

Note: Change the oil in the transmission case at least once a year, preferably before freezing weather sets in. However, do not drive the tractor more than 1,000 hours without changing the oil.

Remove the two drain plugs (29) and allow all the oil to drain out. For tractors with independent power take-off and/or Torque Amplifier, also remove drain plug (30). Replace the drain plugs and remove the filler plug (27) and level plug (28) (560 Series) or level screw (28) (460 tractor). Refill with approved lubricant up to the level opening and replace the plugs (560 Series) or filler plug and level screw (460 tractors).

If your tractor is equipped with power steering and/or Hydra-Touch, refer to the tractor Preventive Maintenance Manual for the proper procedure for draining and refilling those systems when the transmission is drained.

Independent Power Take-Off, Rear Unit (Planetary Type)

31—Filler cap and breather or vent plug.

32—Level plug.

33—Drain plug.

Drain the rear unit and refill with approved lubricant (see Lubrication Table) each time the transmission oil is changed. Remove the drain plug (33) filler cap or vent plug and bushing (31) and the level plug (32). After the lubricant has drained, replace the drain plug, and refill to the height of the level plug. Then replace the level plug and filler cap or vent plug and bushing.

Rear-Mounted Belt Pulley Housing

34—Filler plug.

35—Level plug.

36—Drain plug.

Check the oil level periodically. Use approved lubricant (see Lubrication Table) and keep the lubricant up to the level plug (35). Drain and refill the housing each time the oil is changed in the transmission case. To change the oil, remove the drain plug (36) and allow all the oil to drain. Then replace the drain plug. Remove filler plug (34) and level plug (35). Fill to the level plug opening and replace the plugs.

Steering Gear Housing

37—Filler plug.

Farmall 460 and 560 Tractors

Remove the grille by removing the slotted hex-head cap screws at each end of the top crosspiece. Check the oil level periodically and add sufficient approved lubricant (see Lubrication Table). After the oil is added, replace the plug. Refill the steering gear housing after the lower bolster and steering gear mechanism have been disassembled for service.

International 560 Tractor

To add oil, remove the plug on the right side of the steering gear housing. Fill the gear case with approved lubricant (see the Lubrication Table) to the level of the plug opening. After the oil is added, replace the plug.

Rear Axle Housing (Hi-Clear tractors only)

38—Oil filler plugs (2).

39—Oil level plugs (2).

40—Oil drain plugs (2).

Check the oil level periodically and keep the lubricant up to the level of the level plug. Use approved lubricant (see the Lubrication Table). Change the oil at least once a year; however, do not drive the tractor more than 1,000 hours without changing the oil. Drain and then replace drain plugs. Refill to the level of plug (39) on each side. After oil is added, replace the filler and level plugs.

Miscellaneous Parts

Occasionally lubricate the clutch and brake pedal connections with a few drops of engine oil. Occasionally lubricate the engine control linkage with a few drops of engine oil.

SPECIFICATIONS

	Farmall 460 and 460 Hi-Clear	Farmall 560 and 560 Hi-Clear	International 560
Capacities (U. S. Measure—Approximate)			
Cooling system.....	19 qt.	19½ qt.	19½ qt.
Fuel tank.....	33 gal.	33 gal.	33 gal.
Crankcase pan.....	9 qt.	9 qt.	9 qt.
Transmission and differential case (also reservoir for Hydra-Touch system).....	Approx. 10 gal.	Approx. 16 gal.	Approx. 16 gal.
Steering gear housing.....	2½ pt.	2½ pt.	3½ pt.
Air cleaner oil cup.....	2¼ pt.	2 pt.	2 pt.
Rear axle drive housing (each) (Hi-Clear tractors only).....	3 qt.	3 qt.	
Independent power take-off housing.....	2 qt.	2 qt.	2 qt.
Engine			
Cylinders.....	6	6	6
Bore.....	3⅞ in.	3⅞ in.	3⅞ in.
Stroke.....	3⅞ in.	4⅞ in.	4⅞ in.
Engine speeds: Minimum idle speed (governed).....	Approx. 425 r.p.m.	Approx. 425 r.p.m.	Approx. 425 r.p.m.
Maximum idle speed (no load).....	Approx. 1980 r.p.m.	Approx. 1980 r.p.m.	Approx. 1980 r.p.m.
Maximum (full load).....	1,800 r.p.m.	1,800 r.p.m.	1,800 r.p.m.
Battery ignition unit.....	<i>Dist. inside</i> IH	IH	IH
Gasoline engine (30° advance distributor).....	.023 in.	.023 in.	.023 in.
Spark plug gap.....	.027 in.	.027 in.	.027 in.
Valve clearance (engine hot).....	IH	IH	IH
Carburetor (with Donaldson air cleaner).....	1¼ in., updraft	1¼ in., updraft	1¼ in., updraft
Clutch			
Single-plate, dry-disc, spring-loaded.....	10½ in.	12 in.	12 in.
Single-plate, dry-disc, over-center.....			
Foot Brakes			
Mechanical-disc type, operated either individually or interlocked.....	XXX	XXX	XXX

SPECIFICATIONS

Fuse, Headlights, Instrument Lights, and Combination Rear Light and Taillight 12 Volt System	Farmall 460 and 460 Hi-Clear	Farmall 560 and 560 Hi-Clear	International 560
Fuse (cartridge-type)	AGC—10 amp.	AGC—10 amp.	AGC—10 amp.
Headlight (sealed unit)	12-16 volt	12-16 volt	12-16 volt
Combination rear light and taillight (sealed unit)	12-16 volt	12-16 volt	12-16 volt
Taillight	12 volt	12 volt	12 volt
Instrument light	No. 455 490	No. 455 490	No. 455 490
	12 volt	12 volt	12 volt
	No. 127 934	No. 127 934	No. 127 934
Belt Pulley (Side-Mounted) (TA operating handle in forward (disengaged) position)			
Pulley speeds: Low idle (no load)	263 r.p.m.	263 r.p.m.	263 r.p.m.
Fast idle (no load)	1,223 r.p.m.	1,227 r.p.m.	1,227 r.p.m.
Maximum (full load)	1,112 r.p.m.	1,115 r.p.m.	1,115 r.p.m.
Belt speed (with 11-inch pulley) (at full load engine speed)	3,202 ft. per min.	3,212 ft. per min.	3,212 ft. per min.
Pulley diameter	11 in.	11 in.	11 in.
Pulley face	7½ in.	7½ in.	7½ in.
Belt Pulley (Rear-Mounted)			
Pulley speeds (Planetary-type): Low idle (no load)	255 r.p.m.	246 r.p.m.	246 r.p.m.
Fast idle (no load)	1,186 r.p.m.	1,146 r.p.m.	1,146 r.p.m.
Maximum (full load)	1,078 r.p.m.	1,042 r.p.m.	1,042 r.p.m.
Belt speed (Planetary-type) (at full load engine speed)	3,104 ft. per min.	2,999 ft. per min.	2,999 ft. per min.
Pulley speeds (Clutch-type): Low idle (no load)	250 r.p.m.	247 r.p.m.	247 r.p.m.
Fast idle (no load)	1,165 r.p.m.	1,151 r.p.m.	1,151 r.p.m.
Maximum (full load)	1,059 r.p.m.	1,046 r.p.m.	1,046 r.p.m.
Belt speed (Clutch-type) (at full load engine speed)	3,051 ft. per min.	3,013 ft. per min.	3,013 ft. per min.
Pulley diameter	11 in.	11 in.	11 in.
Pulley face	7½ in.	7½ in.	7½ in.

SPECIFICATIONS

	Farmall 460	Farmall 460 Hi-Clear	Farmall 560	Farmall 560 Hi-Clear	International 560
Wheels and Tread					
Front wheels, pneumatic tire size	15.50-16	16.00-20	16.00-16	16.00-20	6.50-18
Rear wheels, pneumatic tire size	12.4-38(11-38)	11-38	13.6-38(12-38)	11-38	14-30
Tread, front	8, 16 in.	60 to 90 in.	9, 16 in.	60 to 90 in.	51 in.
Tread, front (adjustable axle)	57 to 89 in.		58 to 90 in.		
Tread, rear (with double-head rim)	48 to 95 in.	62 to 74 in.	50 to 94 in.	62 to 74 in.	58 to 70 in.
Tread, rear (with power-adjusted wheels)	48 to 97 in.		50 to 100 in.		
Wheelbase	95 in.	100 in.	96 in.	100 in.	85½ in.
+ Other pneumatic tire sizes are available (also steel rear wheels for all tractors except Hi-Clear Tractors).					
General Dimensions					
Length overall	140 in.	153 in.	141 in.	155 in.	146 in.
Width overall: Minimum (to outside edge of rear axle)	83½ in.	86 in.	85 in.	86 in.	72 in.
Maximum (to outside edge of rear tires)	105 in.		107 in.	88 in.	86 in.
Height overall (to top of steering wheel)	78 in.	90 in.	79 in.	92 in.	71 in.
Ground clearance for crops under front axle (wide axle)	22 in.	34 in.	22½ in.	34 in.	15 in.
Ground clearance for crops under frame	19½ in.	30½ in.	18½ in.	29½ in.	16 in.
Ground clearance for crops under rear axle	25½ in.	35¼ in.	26¼ in.	36 in.	
Drawbar Height Above Ground (Adjustable):					
Quick-attachable drawbar	15 to 20 in.	15, 18, 21 in.	15 to 21 in.	17, 20, 23 in.	12, 15, 17 in.
Heavy-Duty fixed drawbar		25½ in.		28 in.	
Swinging Drawbar Height Above Ground (Adjustable):					
Quick-attachable drawbar	13 to 20 in.		14 to 21 in.		9, 15, 16 in.
Drawbar Lateral Adjustment Each Side of Center Hole:					
Quick-attachable drawbar	13 in.	15 in.	13 in.	15 in.	9 in.
Swinging Drawbar Lateral Swing Each Side of Center:					
Quick-attachable drawbar	18 in.		16 in.		14 in.
Minimum Turning Radius (Wheels in Minimum Tread):					
Without brake applied	9½ ft.	14½ ft.	9 ft.	14½ ft.	14 ft.
With brake applied	9 ft.	12 ft.	8½ ft.	12 ft.	12 ft.

SPECIFICATIONS

	Farmall 460	Farmall 460 Hi-Clear	Farmall 560	Farmall 560 Hi-Clear	International 560
Independent Power Take-Off					
Power take-off shaft speeds (Planetary-type):					
Maximum (full load) (1800 engine r.p.m.)	556 r.p.m.	556 r.p.m.	538 r.p.m.	538 r.p.m.	538 r.p.m.
Low idle (425 engine r.p.m.)	131 r.p.m.	131 r.p.m.	127 r.p.m.	127 r.p.m.	127 r.p.m.
Fast idle (no load) (1,980 engine r.p.m.)	612 r.p.m.	612 r.p.m.	592 r.p.m.	592 r.p.m.	592 r.p.m.
Power take-off shaft speeds (Clutch-type):					
Maximum (full load) (1,800 engine r.p.m.)	547 r.p.m.	547 r.p.m.	540 r.p.m.	540 r.p.m.	540 r.p.m.
Low idle (425 engine r.p.m.)	129 r.p.m.	129 r.p.m.	128 r.p.m.	128 r.p.m.	128 r.p.m.
Fast idle (no load) (1,980 engine r.p.m.)	602 r.p.m.	602 r.p.m.	594 r.p.m.	594 r.p.m.	594 r.p.m.
*Standardized Hitch					
Horizontal distance, drawbar hitch hole to end of power take-off shaft	14 in.	16½ in.	14 in.	16½ in.	14 in.*
Fixed and swinging drawbars					
†Fixed drawbar		5 in.		5 in.	
†Heavy-duty fixed drawbar		†37½ in.		†39½ in.	
Height of power take-off shaft above ground	25½ in.		27 in.		24½ in.
Vertical distance, drawbar hitch to power take-off shaft					9½ in.*
Fixed drawbar with extension plate on top in lowest position	11½ in.	11½ in.	11½ in.	11½ in.	15¼ in.*
Height of drawbar hitch hole above ground					
Fixed drawbar with extension plate on top in lowest position	14¾ in.	14¾ in.	15¼ in.	15¼ in.	

* Note: Standardized hitch is based on 12.4-38 (11-38) agricultural-type pneumatic tires for Farmall 460 Tractors, on 12-38 pneumatic tires for Farmall 560 Tractors, and on 14-30 pneumatic tires for International 560 Tractors.

† Farmall Hi-Clear tractors have standard power take-off shafts, but do not conform fully to A.S.A.E. standards due to their construction as high-clearance tractors.

* When using drawbar extension plate on top of drawbar with drawbar in middle position.

Specifications are subject to change without notice.

SPECIFICATIONS

Ground Speeds

Comparative Ground Speeds with Various Tires

Engine Operating at Rated Speed of 1,800 r.p.m.

No allowance for tire slippage.

FARMALL 460 AND 460 HI-CLEAR TRACTORS

		Miles per Hour Based on Tire Sizes									
		Farmall 460 Tractors					Farmall 460 Hi-Clear Tractors				
		R-1 Tire		R-2 Tire			R-1 Tire		R-2 Tire		
Gear		12.4-38 (11-38)	13.6-38 (12-38)	11-38	12-38	13-38	12.4-38 (11-38)	13.6-38 (12-38)	11-38	12-38	13-38
1st	Normal	2.6	2.6	2.6	2.7	2.8	2.4	2.5	2.5	2.5	2.6
	T.A.	1.7	1.8	1.8	1.8	1.9	1.6	1.7	1.7	1.7	1.8
2nd	Normal	3.9	4.0	4.0	4.1	4.3	3.7	3.8	3.8	3.9	4.0
	T.A.	2.7	2.7	2.7	2.8	2.9	2.5	2.6	2.5	2.6	2.7
3rd	Normal	5.3	5.4	5.4	5.5	5.7	5.0	5.1	5.1	5.2	5.4
	T.A.	3.6	3.7	3.6	3.7	3.9	3.4	3.5	3.4	3.5	3.7
4th	Normal	7.5	7.7	7.6	7.8	8.1	7.1	7.3	7.2	7.4	7.7
	T.A.	5.1	5.2	5.2	5.3	5.5	4.8	4.9	4.9	5.0	5.2
5th	Normal	16.6	17.0	16.9	17.3	17.9	15.6	16.0	15.9	16.3	16.9
	T.A.	11.2	11.5	11.4	11.7	12.1	10.6	10.8	10.8	11.0	11.4
Rev.	Normal	3.2	3.3	3.3	3.3	3.5	3.0	3.1	3.1	3.2	3.3
	T.A.	2.2	2.2	2.2	2.3	2.3	2.0	2.1	2.1	2.1	2.2

R-1 Agricultural Tread.

R-2 Cane or Rice Tread.

*Ground speeds on tachometer dial are as shown in this column.

Tires of other sizes will give other speeds as shown in table.

SPECIFICATIONS

Ground Speeds

Comparative Ground Speeds with Various Tires

Engine Operating at Rated Speed of 1,800 r.p.m.

No allowance for tire slippage.

FARMALL 560 AND 560 HI-CLEAR TRACTORS

		Miles per Hour Based on Tire Sizes									
		Farmall 560 Tractors								Farmall 560 Hi-Clear Trac.	
		R-1 Tire				R-2 Tire				R-2 Tire	
Gear		13.6-38 (12-38) 15.5-38 *	12.4-38 (11-38)	16.9-34	18.4-34	11-38	12-38	13-38	18.4-34	12-38	13-38
1st	Normal T.A.	2.2 1.5	2.1 1.4	2.1 1.4	2.2 1.5	2.2 1.5	2.2 1.5	2.3 1.5	2.3 1.5	2.1 1.4	2.2 1.5
2nd	Normal T.A.	3.8 2.6	3.7 2.5	3.8 2.5	3.9 2.6	3.8 2.6	3.9 2.6	4.0 2.7	4.0 2.7	3.7 2.5	3.8 2.6
3rd	Normal T.A.	5.4 3.6	5.2 3.5	5.3 3.6	5.5 3.7	5.3 3.6	5.5 3.7	5.7 3.8	5.6 3.8	5.2 3.5	5.4 3.6
4th	Normal T.A.	7.5 5.0	7.3 4.9	7.3 4.9	7.7 5.2	7.4 5.0	7.6 5.1	7.9 5.3	7.8 5.3	7.2 4.8	7.5 5.0
5th	Normal T.A.	16.6 11.2	16.2 11.0	16.3 11.0	17.1 11.6	16.5 11.1	16.9 11.4	17.6 11.9	17.3 11.7	16.0 10.8	16.6 11.2
Rev.	Normal T.A.	2.8 1.9	2.8 1.9	2.8 1.9	2.9 1.9	2.8 1.9	2.9 1.9	3.0 2.0	2.9 2.0	2.7 1.8	2.8 1.9

With High-Speed Low and Reverse Gears

1st	Normal T.A.	2.5 1.9	2.4 1.6	2.4 1.6	2.6 1.7	2.5 1.7	2.5 1.7	2.6 1.8	2.6 1.8	2.4 1.6	2.5 1.7
Rev.	Normal T.A.	3.3 2.2	3.2 2.2	3.2 2.1	3.4 2.3	3.3 2.2	3.4 2.3	3.5 2.4	3.5 2.3	3.2 2.1	3.3 2.2

With Heavy Tillage Gears

3rd	Normal T.A.	4.8 3.3	4.7 3.2	4.7 3.2	5.0 3.3	4.8 3.2	4.9 3.3	5.1 3.4	5.0 3.4	4.6 3.1	4.8 3.2
4th	Normal T.A.	6.7 4.5	6.5 4.4	6.7 4.4	6.9 4.7	6.6 4.5	6.8 4.6	7.1 4.8	7.0 4.7	6.4 4.3	6.7 4.5

R-1 Agricultural Tread.

R-2 Cane or Rice Tread.

*Ground speeds on tachometer dial are as shown in this column.

Tires of other sizes will give other speeds as shown in table.

SPECIFICATIONS

Ground Speeds

Comparative Ground Speeds with Various Tires

Engine Operating at Rated Speed of 1,800 r.p.m.

No allowance for tire slippage.

INTERNATIONAL 560 TRACTORS

Gear		Miles per Hour Based on Tire Sizes					
		R-3 Tire	R-1 Tire		R-2 Tire	R-3 Tire	R-2 Tire
		14-26	14-30 *	15-30	15-30	18-26 DW-20-26 Rims	18-26 DW-20-26 Rims
1st	Normal	1.9	2.1	2.2	2.2	2.2	2.4
	T.A.	1.3	1.4	1.5	1.5	1.5	1.6
2nd	Normal	3.4	3.7	3.9	4.0	3.8	4.2
	T.A.	2.3	2.5	2.7	2.7	2.6	2.8
3rd	Normal	4.8	5.2	5.5	5.6	5.3	5.9
	T.A.	3.2	3.5	3.7	3.8	3.6	4.0
4th	Normal	6.7	7.3	7.7	7.7	7.4	8.2
	T.A.	4.5	4.9	5.2	5.2	5.0	5.5
5th	Normal	14.8	16.2	17.1	17.3	16.6	18.2
	T.A.	10.0	10.9	11.6	11.6	11.2	12.3
Rev.	Normal	2.5	2.7	2.9	2.9	2.8	3.1
	T.A.	1.7	1.9	2.0	2.0	1.9	2.1

With High-Speed Low and Reverse Gears

1st	Normal	2.2	2.4	2.6	2.6	2.5	2.7
	T.A.	1.5	1.6	1.7	1.7	1.7	1.8
Rev.	Normal	3.0	3.2	3.4	3.4	3.3	3.6
	T.A.	2.0	2.2	2.3	2.3	2.2	2.4

R-1 Agricultural Tread. R-2 Cane or Rice Tread. R-3 Industrial Tread.

*Ground Speeds on Tachometer Dial are as shown in this column.

Tires of other sizes will give other speeds as shown in table.

EXTRA EQUIPMENT AND ACCESSORIES

The tractor is used for so many different types of work and is called on to operate under so many different conditions that a considerable variety of equipment is necessary to adapt it to the varied requirements of the user.

When you purchased your tractor, you probably had it completely equipped for your particular needs at that time. However, later you may wish to obtain some of the equipment or accessories listed below. These items can be purchased from and installed by your International Harvester dealer.

Types of equipment	Types of equipment
Air Pipe Extension	Pistons, High Altitude
Auxiliary Stay Rods (Farmall 460 Hi-Clear and 560 Hi-Clear)	Power Adjusted Pneumatic Tire Rear Wheels and Rims (Farmall 460 and 560)
Auxiliary Drawbar Brace (Farmall 460 and 560)	Pre-Cleaner
Belt Pulley (Side Mounted)	Pre-Screener
Belt Pulley (Rear Mounted)	Rear Axle Extension (Farmall 460 and 560)
Cigarette Lighter	Rear Wheel Hubs (Farmall 560) (with flanges to use rice machine wheels and tires)
Clutch Pressure Plate Spring (12")	Rear Axle, Wide Tread (Farmall 460 and 560)
Drawbar Extension Plate	Safety Light
Drawbar, Fixed (Quick-Attachable) (Farmall 460 and 560)	Seat, DeLuxe Upholstered
Drawbar, Quick-Attachable, High-Hitch Heavy Duty (Farmall 460 Hi-Clear and 560 Hi-Clear)	Seat Pad, Detachable
Drawbar, Swinging	Seat Springs
Electrall	Tachometer
Exhaust Muffler	Tilt-Back Seat Bracket (Farmall 460 and 560)
Exhaust Pipe Extension	Tire Pumps, Pneumatic
Extension Cable	Tire Pump Kit, Pneumatic
Fast-Hitch with Traction Control (Farmall 460 and 560)	Wheels, Front
Fenders, Rear Wheel (Farmall 460, 460 Hi-Clear, 560 and 560 Hi-Clear)	Single Wheels for Pneumatic Tires (Farmall 460 and 560)
Front Axle, Adjustable, Wide Tread (Farmall 460 and 560)	Wheels, Rear, Steel
Hydra-Touch System	Extension Tire
Hydraulic Power Steering	Spade Lugs
Independent Power Take-Off (with provision for Rear Mounted Belt Pulley)	Overtire (International 560)
	Weights, Front Wheel (Pneumatic Tire)
	Weights, Rear Wheel (One Piece) (Pneumatic Tire) (International 560)
	Weights, Rear Wheel (Two-Piece) (Pneumatic Tire)
	Weights, Front Bolster

INDEX

Description	Page No.	Description	Page No.
Accessories and extra equipment.....	62	Combination rear light and tail light.....	43
Adjustable front wheels.....	28, 29	Contents, table of.....	2
Adjustable wide-tread front axle.....	28, 29	Control handles, Hydra-Touch.....	20, 22
Adjusting the seat.....	14	Cooling system.....	10, 11, 46, 47, 55
Adjusting the toe-in.....	28, 29	Couplings, hydraulic self-sealing.....	20
Adjusting the tread widths (wheels and axles).....	28 to 35	Coupling the implement.....	23, 24
Adjusting the working depth.....	23	Crankcase.....	55
Air cleaning system.....	11, 53	Crankcase water drain cock.....	47
Air pipe extension.....	62	Cranking motor.....	13
Antifreeze solutions.....	47	Cranking the engine by hand.....	13
Assembling rear wheel rims.....	30, 35	Cylinder, Hydra-Touch.....	19
Auxiliary stay rods.....	62		
Axle extension, rear.....	31, 33	Description.....	4, 5
Axles, front and rear.....	28 to 35	Detachable seat pads.....	62
		Differential.....	48, 50
Battery.....	10, 42	Dimensions of tractor.....	57
Battery ignition unit.....	42	Double valve system.....	19 to 23
Battery-to-ground strap.....	10, 42	Draining the cooling system.....	47
Before starting your new tractor.....	9, 10	Draining the crankcase.....	53
Belt pulley.....	26, 27	Draining the Hydra-Touch reservoir.....	54
Belt pulley control rod.....	8	Drain pipe, radiator.....	47
Belt speeds.....	56	Drain plug, transmission.....	54
Bracket, tilt-back seat.....	14	Drawbar extension plate.....	62
Brake pedal latch.....	5, 15	Drawbars.....	23, 24
Brake pedal lock.....	5, 16	Driving the tractor.....	14 to 17
Brakes.....	5		
Break-away connector socket.....	43	Electrall.....	62
Break-away hydraulic coupling.....	19, 20	Electric wiring.....	44, 45
		Engine clutch.....	5, 15, 26
Cables, electrical equipment.....	44, 45	Engine oil.....	48, 50, 53
Cables, spark plug.....	44, 45	Engine serial number.....	3
Capacities, lubrication.....	50, 55	Engine specifications.....	55
Capacity, cooling system.....	55	Engine speed control lever.....	7
Capacity, fuel system.....	55	Engine speeds.....	55
Capacity, Hydra-Touch system.....	50	Exhaust muffler.....	62
Carburetor.....	55	Exhaust pipe extension.....	62
Care of tires.....	40	Extension cable.....	62
Chains, tire.....	40	Extension tires, rear steel wheel.....	62
Changing the oil filter element.....	53	Extra equipment and accessories.....	62
Charge indicator.....	8		
Choke control button.....	6	Fast reverser.....	17
Cigarette lighter.....	7	Fenders, rear wheel.....	62
Cleaning the air cleaner.....	11	Fifth speed.....	16
Clutch (engine).....	5, 15, 26, 55	Filler and breather cap (IPTO rear unit).....	54
Clutch, hand lever.....	5	Filler caps, gasoline and fuel tanks.....	11
Clutch, over-center.....	5, 18	Filling the cooling system.....	10, 11, 46
Clutch pedal (engine clutch).....	5	Filling the fuel tank.....	11
Cold weather precautions.....	41, 47	Filling the Hydra-Touch reservoir.....	50, 54

INDEX

Description	Page No.	Description	Page No.
Filter, Hydra-Touch fluid	19	Instruments and controls	5 to 9
Fixed drawbar	23, 24	Introduction	3
Fluid level, Hydra-Touch system	54	Junction ports, Hydra-Touch system	20, 21
Front axle, adjustable wide tread	28, 29	Key, ignition switch	6
Front bolster weights	36	Latching the brake pedals	5, 15
Front wheels	28, 29	Lever, seat position release	7
Front wheel tread widths	29	Lighting switch	7
Front wheel weights	36	Lights	42, 43
Fuel	10, 12	Liquid weight in tires	41
Fuel gauge	6	Locking the brakes	16
Fuel system	10, 11, 12, 47	Lubricating oil and grease specifications	48, 50
Fuel tank	55	Lubrication, engine and chassis	48 to 54
Fuse	43	Lubrication fitting grease	49
Gaps, spark plug	55	Lubrication, front wheels	54
Gauges (meters and indicators)	6, 8, 9, 47	Lubrication guide	51 to 54
Gear lubricant	48, 50	Lubrication, shipping	9
Gearshift lever	8	Lubrication table	49
General dimensions	57	Lugs, spade, steel wheel	62
Generator	42	Mounting tires on the rims	40
Generator belt	42	Muffler, exhaust	62
Governor	7	Oil filter	53
Grease specifications	48, 49, 50	Oil pressure gauge	9, 48
Greasing the front wheels	54	Oil pump	48
Ground speeds	59, 61	Oil, shipping	9
Hand-cranking the engine	13	Operating a gasoline engine	12, 13
Headlights (sealed beam)	43	Operating the belt pulley	26, 27
Heat indicator	8	Operating the brakes	5
High altitude pistons	62	Operating the Hydra-Touch system	19 to 23
High speed, low and reverse	17	Operating the Hydraulic Remote Control	20
Hitching the implement to the tractor	23, 24	Operating the independent power take-off	25, 26
Hose connections, Remote Control	20	Operating the torque amplifier	17, 18
Hub clamp bolts	31	Over-center clutch	5
Hydra-Touch pump	19	Overloading the tires	41
Hydra-Touch system	11, 19 to 23	Pads, seat	62
Hydra-Touch system control handles	8	Pistons (high altitude)	62
Hydraulic power steering	62	Pneumatic tire pump	39
Hydraulic remote control	20, 22	Pneumatic tires	10, 39, 40
Hydraulic self-sealing couplings	20, 21	Power-adjusted rear wheels	32, 33, 34
Ignition cables	44, 45	Power take-off (independent)	8, 25, 26, 27
Ignition switch	6	Pre-Cleaners	62
Independent power take-off	24, 25, 26, 27	Preparing your tractor for each day's work	11
Independent power take-off operating handle	8	Pre-Screener	62
Inflation, tire	39, 40	Pulley, belt	26, 27
Instrument lamp	42	Pump, Hydra-Touch	19
		Pump, oil	48

INDEX

Description	Page No.	Description	Page No.
Push-button starting switch.....	6	Steering the tractor.....	16
Putting liquid into tire tubes.....	43	Stopping a gasoline engine.....	13
Radiator drain.....	47	Stopping the tractor.....	16
Radiator filler cap.....	46	Storage battery.....	47
Radiator, filling the.....	46, 47	Storing and handling fuel.....	11
Radiator shutter.....	12, 47	Swinging drawbar.....	62
Raising and lowering implements.....	22, 23	Switch, ignition.....	6
Rear axle.....	34	Table of contents.....	2
Rear axle extension.....	34	Table of ground speeds.....	59 to 61
Rear light and tail light.....	43	Table of tire pressures.....	40
Rear wheel hubs.....	10, 30, 34	Tachometer.....	9
Rear wheels.....	30 to 35	Tail light, rear light.....	43
Regulator, voltage.....	42	Temperature gauge (heat indicator).....	8
Remote Control system.....	20, 21	Terms of location.....	3
Reservoir, Hydras-Touch.....	49, 54	Thermostat.....	47
Reverser, fast.....	17	Tilthback seat bracket.....	14
Safety light.....	62	Tire chains.....	40
Seat, adjusting the.....	14	Tire pressure table.....	40
Seat bracket, tilthback.....	14	Tire pumps, pneumatic.....	39
Seat, de luxe upholstered.....	62	Tires, pneumatic.....	34, 39 to 41
Seat pads, detachable.....	62	Toe-in, front wheel.....	28, 29
Seat position release lever.....	7, 14	Torque amplifier.....	17, 18
Seat springs.....	62	Torque amplifier operating handle.....	8, 17, 18
Serial numbers, engine and tractor.....	3	Towing the tractor.....	16
Service meter.....	6, 9	Tractor serial number.....	3
Shipping oil.....	9	Transmission.....	8, 15, 16, 17, 18
Shipping the tractor.....	39	Tread adjustments.....	28 to 35
Shut-off valves, gasoline and fuel.....	12	Triple valve system.....	19 to 23
Single front wheel.....	53, 62	Valve clearance, engine.....	55
Single valve system.....	22, 23	Valve stem mounting cones.....	41
Spade lugs, rear steel wheel.....	62	Views of the tractor.....	4, 5
Spark plug tire pump.....	39	Voltage regulator.....	42
Specifications, lubricant.....	48, 50	Water for cooling sys.....	46
Specifications, power take-off.....	38	Weights.....	56 to 58
Specifications, tractor.....	55 to 61	Wheels.....	28 to 35
Specific gravity of liquid wheel weight.....	41	Wheels, front.....	28, 29
Speeds, belt.....	56	Wheels, greasing the front.....	53
Speeds, engine.....	55	Wheels, rear.....	29 to 35
Speeds, tractor.....	50 to 61	Wheels, steel.....	10, 62
Starting a gasoline engine.....	13	Wheel weights.....	30 to 38, 41
Starting and lighting equipment.....	42 to 45	Wheel weights, liquid.....	41
Starting switch, push button.....	6	Wide-tread front and rear axles.....	28, 29, 30, 34
Starting the tractor.....	15	Wiring diagram (battery ignition).....	44, 45
Static electricity.....	40		
Steel wheels.....	10, 62		
Steering mechanism.....	16, 28, 29, 62		



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