International Harvester

Operator's Manual

T-4 & T-5 Crawler

Operator's Manual

IH-O-T4,T5

INTERNATIONAL HARVESTER

OPERATOR MANUAL

T-4, T-5 CRAWLER

CONTENTS

DESCRIPTION	PAGE
INTRODUCTION	1
DESCRIPTION	2, 3
INSTRUMENTS AND CONTROLS	4-6
OPERATION	6-18
Before Starting Your New Tractor	7, 8
Cold Weather Preparation	12
Driving the Tractor	9-11
Electric Hour Meter	18
Front End Weights	18
Hydraulic Valve Attachments	14-16
Operating a Gasoline Engine	9
Operating in Hot Weather	13
Operating Precautions	11
Operating the Power Take-Off	17, 18
Operating the Reverser	13
Operating the Torque Amplifier	14
Preparing for Each Days Work	8
Three Point Linkage	16, 17
LUBRICATION	19-24
FINDING TROUBLE	25-31
MAINTENANCE	32-49
Air Cleaner	36
Adjusting Front Idler Alignment	48
Adjusting the Track Chain Tension	47, 48
Brake and Steering Clutch Adjustment	46, 47
Carburetor	37
Checking Slack in Track Chain	47
Cooling System	32-34
Cranking Motor	40
Distributor Cap	39
Electrical Equipment	38
Engine Clutch Adjustment	45
Fan Belt	34
Front Idler Vertical Adjustment	48
Fuel Pump - Electrical	44
Mechanical	33
Fuel Strainer and Water Trap	35
Hydraulic Fluid Filter	44
Installing New Track	49
Oil Filter	35
Reinstalling the Track	49
Removing the Track	48, 49
Spark Plugs	40
Storage Battery	43, 44
Tightening Track Shoe Bolts	42
Torque Amplifier and Engine Clutch Adjustment	45, 46
Track Assemblies	47
Valve Tappet Adjustment	42
Wiring Diagram	41
ATTACHMENTS	50, 51
Track Shoes	50
Types of Shoes	51
STORAGE	50
SPECIAL EQUIPMENT	52, 53
SPECIFICATIONS	54, 55

INTRODUCTION

Assembled in this book are operating and lubricating instructions for the International T-4 and T-5 Crawler 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 if you should 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 I. H. parts, and they 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.

HA-3964

Illust. 1A

The illustrations in this manual are numbered to correspond with the pages on which they appear; for example, Illusts. 1A, 1B and 1C are on page 1.

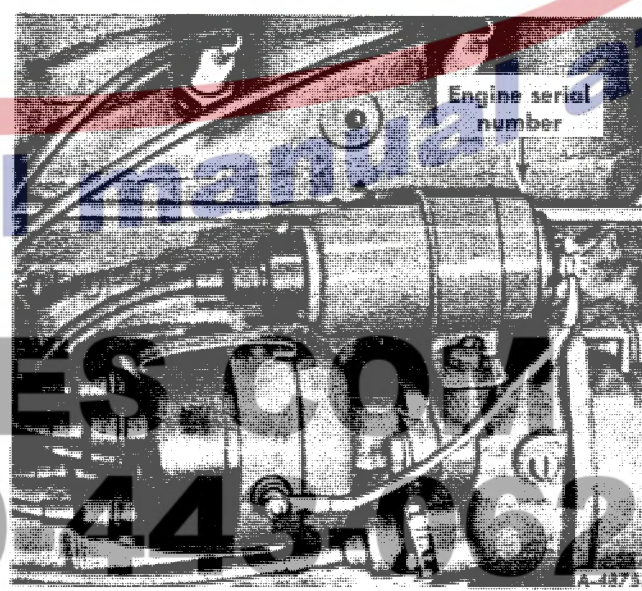
In order to provide a tractor equipped as nearly as possible to suit each customer's needs, a variety of extra equipment and accessories are available. Refer to pages 52 and 53.

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

When in need of parts, always specify the tractor and engine serial numbers including prefix and suffix letters. The tractor serial number is stamped on a name plate attached to the right side of the clutch housing. See Illust. 1B.

Illust. 1B
Location of tractor serial number

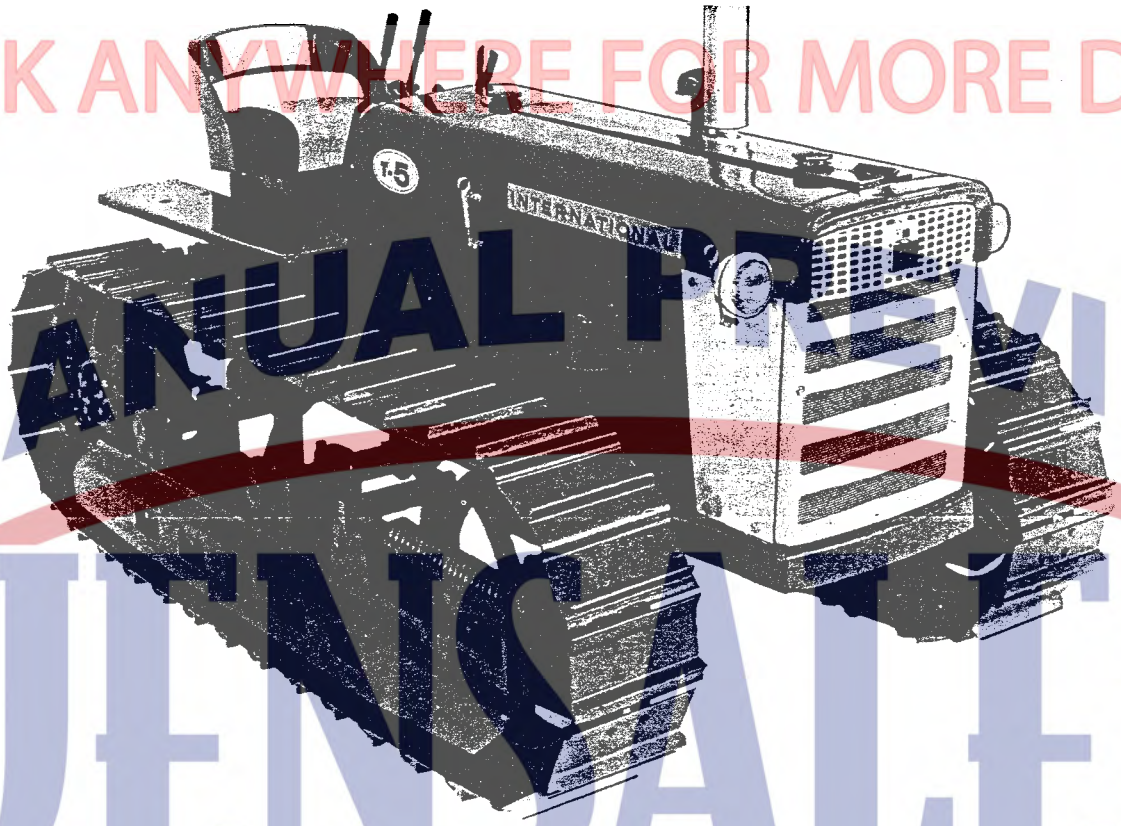
The engine serial number is stamped on the right side of the engine crankcase above the battery ignition unit. See Illust. 1C. This serial number is preceded by the prefix C-123 or C-135 which indicates that it is a carbureted engine with either a 123 or 135-cubic-inch piston displacement.



Illust. 1C
Location of engine serial number

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

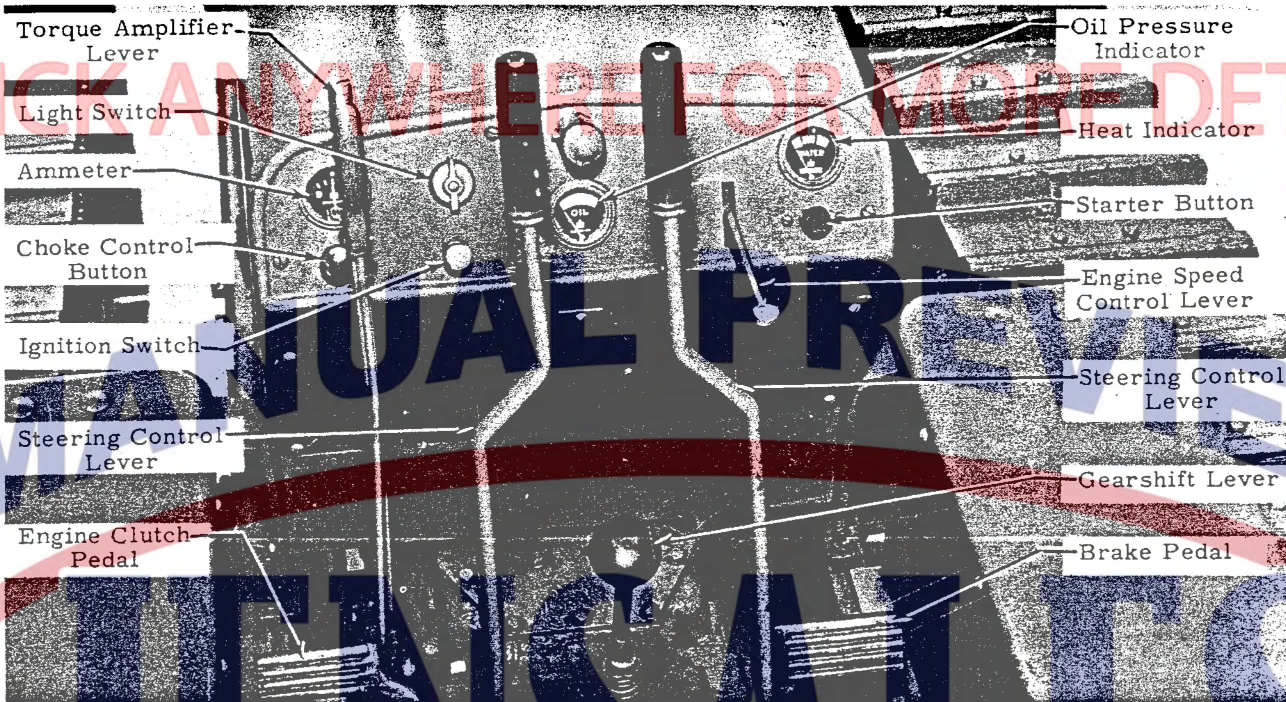
DESCRIPTION



Illust. 2A HA-3964
3/4 Front view of the International T-5 Crawler Tractor

Illust. 2B HA-3970
Rear view of the International T-5 Crawler Tractor

INSTRUMENTS AND CONTROLS



Illust. 4A

HA-3960

Location of Instruments and Controls

The operator of this tractor should thoroughly familiarize himself with the instruments and controls provided for operation. There are important differences between various tractors, therefore regardless of previous experience with other machines, the operator should fully understand what each control is for and how to use it before starting to operate this tractor.

IGNITION SWITCH

The ignition switch is a push - pull type switch having two positions - "OFF" and "ON". Pulling the button out is the "ON" position which completes the ignition circuit.

STARTER BUTTON

Pressing the starting switch button completes the electrical circuit between the battery and cranking motor, causing the cranking motor to crank the engine. Release pressure on this button as soon as the engine starts.

CHOKE CONTROL BUTTON

The choke is controlled by a choke rod terminating in a button on the dash. Pull out on the choke button to close the choke which shuts off the air to the carburetor, giving a rich mixture. Avoid overchoking because excessive use of the choke will flood the engine, making it hard to start. After the first few revolutions of the engine, push the choke button in to open the choke to a point where the engine operates steadily. After the engine has run a short time, push the button all the way in.

ENGINE SPEED CONTROL LEVER

The engine speed control lever controls the speed of the engine. When set in a given position, it maintains a uniform engine speed under variable loads. When the lever is in its lowest position, the engine is at low idle speed. Push the lever up to increase the speed of the engine.

GEARSHIFT LEVER

The gearshift lever is used to select the various gear ratios provided in the transmission. There are five speeds forward and one reverse. When shifting gears depress the engine clutch pedal to disengage the engine clutch, then carefully move the gearshift lever to the desired speed.

STEERING CONTROL LEVERS

The steering control levers control the steering of the tractor. Pulling back on either steering lever releases the steering clutch and engages the steering brake, thus making the track on that side inoperative while the other track continues in motion, turning the tractor. Pulling the lever back enough to release the steering clutch will allow a gradual turn, whereas pulling the lever back further to apply the steering brake it will allow a pivot turn. To turn right pull back on the right lever, to turn left pull back on the left lever.

TORQUE AMPLIFIER LEVER

The torque amplifier lever is used to engage or disengage the torque amplifier. Refer to page 14 for operating instructions.

INSTRUMENTS AND CONTROLS

AMMETER

Illust. 5A HA 4229

The ammeter indicates whether the battery is being charged by the generator. The ammeter should show charge whenever the engine is operating at a speed faster than low idle speed. If it indicates discharge continuously while operating at a faster than low idle speed, the cause should be investigated to avoid completely discharging the battery and possible damage to the generator.

HEAT INDICATOR

Illust. 5B HA 4229

This instrument indicates the temperature of the liquid in the cooling system. The indicator should be at the arrow when operating.

OIL PRESSURE INDICATOR

Illust. 5C HA-4229

This instrument indicates the pressure of oil circulating through the engine. The pointer should be past the first mark above zero when the engine is operating. If the pointer is not past the first mark, stop the engine immediately and investigate the cause of the engine oil pressure failure.

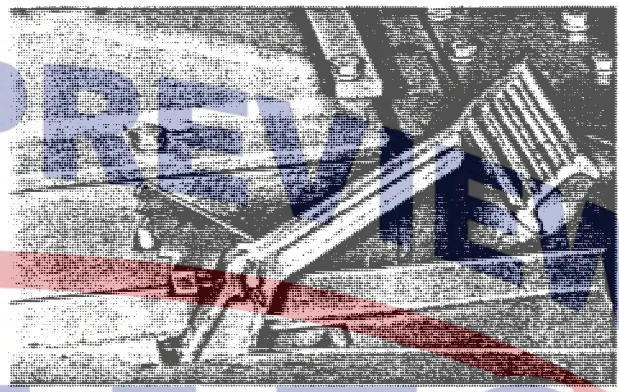
ENGINE CLUTCH PEDAL

When the tractor is equipped with the standard power take-off, depressing the clutch pedal will disengage both the transmission and the power take-off shaft. However, when the tractor is equipped with the constant running power take-off, depressing the clutch pedal approximately 2" disengages the transmission only. Further depression on the pedal disengages the power take-off shaft as well.

BRAKE PEDAL

The brake pedal is used to stop the forward or rearward motion of the tractor and applies brakes to both tracks simultaneously. It is not used for the purpose of steering.

BRAKE PEDAL LOCK



Illust. 5D HA 3999

The brake pedal lock is used to lock the brake pedal in the depressed position, holding the tractor in a parked position on a grade or when it is necessary to hold the tractor stationary while running the tractor engine.

CAUTION: Be sure the tractor is in neutral when the engine is running and the brake lock is holding the tractor stationary. See Illust. 5D.

POWER TAKE-OFF LEVER

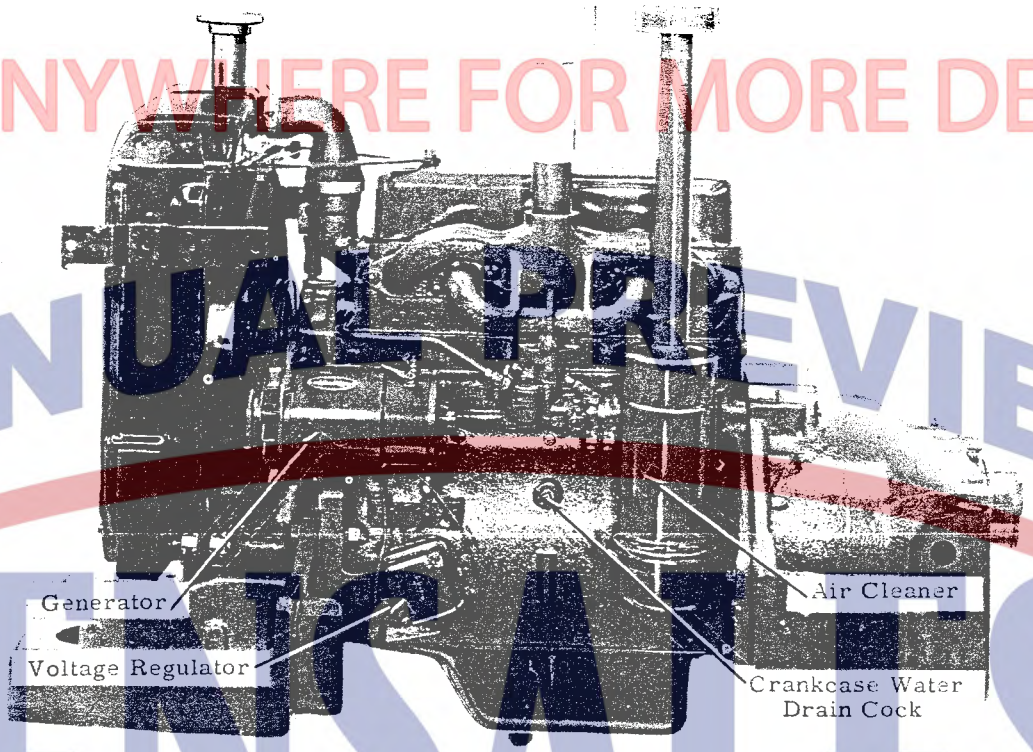
Illust. 5E HA 4169

The power take-off lever is used for engaging and disengaging the power take-off shaft. Pull the lever up to disengage the power take-off shaft and push it down to engage the power take-off shaft.

LIGHT SWITCH

The light switch has four positions; OFF - off position, D - dim lights, B - bright lights, R - rear light. All lights are on when the switch is positioned to D, B and R. The rear light has a red glow when the switch indicates D or B, however when the switch is positioned at R, it becomes a clear sealed beam unit.

OPERATION



Illust. 7A
Left side view of C-123 and C-135 Engine
HA 4199

BEFORE STARTING YOUR NEW TRACTOR

Inspect the tractor completely for any shortage or damage which may have occurred while in transit. Check to be sure that all component units are securely mounted to the tractor.

NOTE: Operate a new tractor with a light load for the first 30 hours at rated governed speed.

Lubrication

Refer to "Lubrication Guide" on pages 20 to 23 and lubricate the entire tractor.

Check the oil levels of the engine crankcase, air cleaner cup, transmission and final drive housings to see that they are filled to the correct level with oil of proper viscosity for the prevailing temperatures. See the "Lubrication Guide" and "Lubrication Table".

Tractors shipped to destinations in Canada, U. S. A. and Mexico have the crankcase and air cleaner cup filled with SAE-10W lubrication oil. If the engine is to be operated at temperatures between +65° and +10°F. this oil can be used for the first 50 hours of operation. If the temperatures are not within this range, drain the crankcase, oil filter and air cleaner cup, then replace the lubricant with the required amount of fresh oil, having the physical properties and proper viscosity suitable for the prevailing temperatures and type of service. After the first 50 hours of operation, the oil filter element and crankcase oil should be replaced.

Tractors packed for export have all oil drained from the engine crankcase, air cleaner and all gear housings. Refer to the "Lubrication Guide" on pages 20 to 23.

Fuel System

Illust. 7B

International Harvester gasoline burning engines are specifically designed for use with regular grade gasoline, having approximately an 80 minimum octane rating (Motor Method).

Be sure to use a well known grade of clean fuel. Keep the containers or drums clean at all times. In order to be safe from contaminated fuel

OPERATION

DRIVING THE TRACTOR - Continued

Adjusting the Seat

Illust. 10A HA 4170

Before starting the tractor, adjust the seat to provide the most comfortable position for the operator.

The seat is quickly and easily adjusted by means of a locking lever on the left side of the seat. To adjust the seat, push the hand lever forward and position the seat, sliding it backward or forward on the slide rails to a position most comfortable for the operator. Release the lever to lock the seat in this position.

Engine Speed Control Lever

Do not fully advance the engine speed control lever until the engine has been operated a few minutes. Never operate the engine at more than regular governed speed as excessive speeds are harmful to the engine. The following chart shows the engine speeds:

ENGINE SPEEDS	T-4	T-5
Low Idle	425	425
High Idle	2200	2200
Rated Load	2000	2000

NOTE: Never overload the tractor.

Steering the Tractor

1. To turn to the right or to the left, pull back on the steering lever on the side to which the turn is to be made.

2. If the tractor is under load and a "short" turn is required, pull back the lever gently, releasing the steering clutch.

3. If the tractor is under load and a "sharp" turn is required, pull the lever back all the way, releasing the steering clutch and engaging the brake. However, if the turn is too sharp, ease the lever forward, applying less pressure to the steering brake.

4. If the tractor is not under load, pulling the lever back and disengaging the steering clutch may not be enough to turn the tractor as it will have a tendency to creep forward. If so, it will be necessary to pull the lever further back in order to engage the steering brake to make the desired turn.

Steering Downgrade

CAUTION: USE LOW GEAR AND REDUCE SPEED.

When pulling a load downgrade, the tractor will steer in the normal manner. However, with a load pushing the tractor downgrade, the steering will be reversed when the steering clutch only is released. That is, when the left steering clutch is released the tractor will turn right, however on pulling the steering lever further back to apply steering brake pressure, the tractor will resume its proper course.

CAUTION: NEVER MAKE A SHARP TURN ON A DOWNGRADE. Always ease the lever back gently.

CAUTION: The safest method for an INEXPERIENCED operator to steer downgrade is to apply sufficient pressure on the foot brake to slow the forward motion of the tractor. This will assure positive steering when either of the steering clutches are released and eliminate the "reverse" steering action as described above.

Shifting Gears

Always completely disengage the engine clutch when shifting gears. Disengage the engine clutch by depressing the clutch pedal all the way down. Depressing the clutch pedal, thus disengaging the clutch should stop the tractor, however if not, apply pressure to the brake pedal as it is necessary to fully stop the tractor before selecting another gear ratio. Hold the clutch pedal down and carefully move the gearshift lever to the desired speed.

Operating over an Obstruction

When running over a log or ditch bank, slow the tractor down by using the steering clutches instead of the engine clutch. Release both steering clutches slightly until the tractor balances on the top of the obstruction, then engage one steering clutch gradually until the tractor moves forward at an angle, over and down.

Towing the Tractor (If Disabled)

At times it may be necessary to tow a tractor. However, if the power train or the tracks are damaged, the tractor should be transported to avoid further damage.

1. Attach a towing cable to the front of the tractor or, in an emergency, to the drawbar.

2. Use the steering levers to assist in steering the towed tractor.

3. Never tow the tractor with the engine clutch engaged.