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This symbol means ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED. The message that follows the symbol contains important information about your safety. Carefully read the message. Make sure you fully understand the causes of possible injury or death. SB001

IF THIS MACHINE IS USED BY AN EMPLOYEE, IS LOANED, OR IS RENTED, MAKE SURE THAT THE OPERATOR UNDERSTANDS THE TWO INSTRUCTIONS BELOW.

BEFORE THE OPERATOR STARTS THE ENGINE:

1. GIVE INSTRUCTIONS TO THE OPERATOR ON SAFE AND CORRECT USE OF THE MACHINE.
2. MAKE SURE THE OPERATOR READS AND UNDERSTANDS THE OPERATOR'S MANUAL FOR THIS MACHINE.

WARNING

IMPROPER OPERATION OF THIS MACHINE CAN CAUSE INJURY OR DEATH.

BEFORE STARTING THE ENGINE, DO THE FOLLOWING:

1. READ THE OPERATOR'S MANUAL.
2. READ ALL SAFETY DECALS ON THE MACHINE.
3. CLEAR THE AREA OF OTHER PERSONS.

LEARN AND PRACTICE SAFE USE OF MACHINE CONTROLS IN A SAFE, CLEAR AREA BEFORE YOU OPERATE THIS MACHINE ON A JOB SITE.

It is your responsibility to observe pertinent laws and regulations and to follow manufacturer's instructions on machine operation and maintenance.

See your Authorized Case dealer for additional operator's manuals, parts catalogs, and service manuals.

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INTRODUCTION

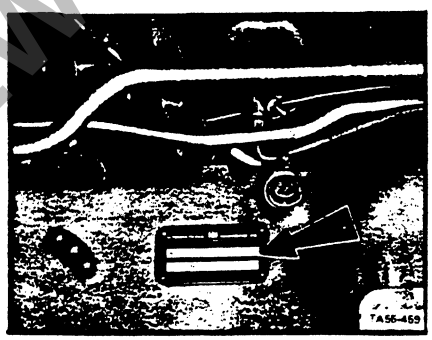
Compiled in this manual are the operating and maintenance instructions for the INTERNATIONAL 434 Tractor.

This material has been prepared in detail to help the operator to understand better the correct care and efficient operation of the tractor.

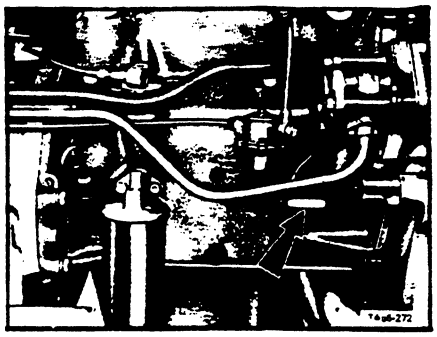
If information not given in this manual is required, consult an International Harvester dealer. Dealers are kept informed on the latest methods of servicing machines, they carry stocks of genuine I.H. service parts and are backed in every way by the full facilities of the International Harvester Company.

Throughout this manual the terms LEFT, RIGHT, FRONT and REAR are to be taken as those applicable to a person seated in the driver's seat and facing the radiator.

When in need of service parts always specify the tractor and engine serial number. The tractor serial number is stamped on a nameplate attached to the right hand side of the clutch housing (Illust.5). The engine serial number is stamped on the right hand side of the engine crankcase (Illust.6). For ready reference, write these serial numbers in the spaces provided above the illustrations.



Illust.5 Tractor Serial Number Location



Illust.6 Engine Serial Number Location

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SPECIFICATIONS

Tread in(cm)	
Front in 4 in (10.16 cm) stages	39 to 51 (99 to 129.5)
Rear in 4 in (10.16 cm) stages	36 to 64 (91.4 to 162.5)
Width overall in(cm)	
Front wheels	50 to 62 (127 to 157.5)
Rear wheels	51-3/4 to 75-3/4 (131.4 to 192.4)
Wheel base in(cm)	76-1/2 (194.3)
Height in(cm)	
To top of steering wheel	57 (144.98)
Ground clearance in(cm)	
Under rear frame	15-1/2 (39.4)
Under front axle	18-1/2 (47)
Turning radius (at minimum setting) in(cm)	
Without brakes	RH 130 (330) LH 135 (343)
With brakes	RH 118 (300) LH 125-1/2 (319)
Lift at end of lower links lb(kg)	
With links horizontal	2000 (908)
Operating weight (approx.) lb(kg) including fuel, oil, water, hydraulic system with three point linkage & constant running p.t.o.	3659 (1660)

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INSTRUMENTS AND CONTROLS

POSITION CONTROL LEVER

This lever raises and lowers the three point linkage. Moving the lever rearward raises the linkage.

DRAFT CONTROL LEVER

This lever governs the working depth of the implement. Moving the lever rearward shallows the working depth.

DIFFERENTIAL LOCK PEDAL

This pedal controls the differential lock mechanism, which locks the rear axle drive shafts together and thus overcomes individual rear wheel slip.

CAUTION: The differential lock is designed solely for use with pneumatic tyres. If steel wheels, girdles etc. are fitted the differential lock pedal should be removed as a precaution against accidental use.

BRAKE PEDAL LOCKING LEVER

This lever is used to lock the brake pedals in the engaged position for parking purposes.

ISOLATING VALVE

This valve is used to isolate the three point linkage. Closing the valve hydraulically locks the linkage thus providing a safety device against inadvertent movement of the position control lever.

NOTE: The valve must always be fully open or fully closed.

RESPONSE CONTROL

This reguletes the delivery from the hydraulic pump to the hydraulic system. Push in the knob and turn it anti-clockwise for slow delivery rate.

REAR P.T.O. LEVER

This lever is moved forward to disengage and rearward to engage the rear P.T.O.

CAUTION: On early machines the single speed regular P.T.O. incorporated a lock-out feature to prevent the rear P.T.O. being used in the high range of gears. On later machines this P.T.O. must NOT be used in the high range of gears.

HIGH-LOW SHIFT LEVER

This lever is used to select the high or low speed range for any one position of the gear shift lever.

ENGINE CLUTCH PEDAL

This pedal is used to disengage the drive between the engine and the transmission. The clutch is disengaged when the pedal is fully depressed.

NOTE: A two stage clutch is used with the constant running P.T.O. attachment.

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LUBRICATION CHART

ITEM 13 L.H. STEERING KNUCKLE POST

Apply sufficient grease to flush out old grease and dirt.

ITEM 14 DRAG LINK - FRONT

Apply sufficient grease to flush out old grease and dirt.

SERVICE AFTER EVERY 50 HOURS OPERATION

ITEM 15 R.H. CLUTCH PEDAL SHAFT

Apply sufficient grease to flush out old grease and dirt.

ITEM 16 TRANSMISSION CASE LEVEL PLUG

Check the level of oil in the transmission case.

ITEM 17 TRANSMISSION AND P.T.O. FILLER PLUG

Top up as necessary with the correct grade lubricant.

ITEM 18 BRAKE PEDAL LOCKING LEVER

Apply sufficient grease to flush out old grease and dirt.

ITEM 19 R.H. BRAKE PEDAL

Apply sufficient grease to flush out old grease and dirt. Liberally smear the pivot pins with grease.

ITEM 20 THREE POINT LINKAGE LEVELLING BOX

Apply sufficient grease to flush out old grease and dirt.

ITEM 21 R.H. THREE POINT LINKAGE LEVELLING SCREW

Apply sufficient grease to flush out old grease and dirt.

ITEM 22 L.H. THREE POINT LINKAGE LEVELLING SCREW

Apply sufficient grease to flush out old grease and dirt.

ITEM 23 HYDRAULIC FILLER/LEVEL PLUG

Check the level of oil and top up as necessary with the correct grade lubricant.

ITEM 24 L.H. BRAKE PEDAL

Apply sufficient grease to flush out old grease and dirt. Liberally smear the pivot pins with grease.

ITEM 25 P.T.O. CASE LEVEL PLUG

Check the level of oil in the P.T.O. case.

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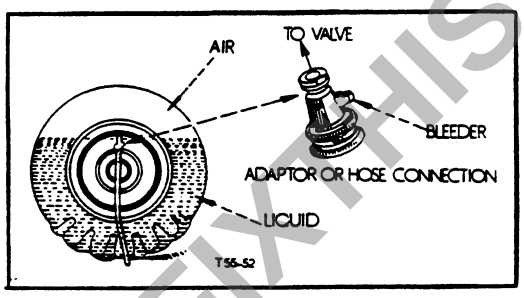
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ADDING WATER BALLAST

Jack up the rear of the tractor then revolve the wheels until the valve stem is at the top. Remove the valve core and screw on the adaptor (Illust.42). The adaptor is provided with a bleeder for releasing the air displaced by the liquid. Attach a hose to the adaptor.

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

When the liquid level is as desired, remove the hose and adaptor, install the valve core and inflate the tyre to the correct pressure.



Illust.42 Adding Water Ballast

WHEEL TREAD ADJUSTMENT

FRONT WHEELS

Adjustment of the front axle extensions allows variation of the tread in 4 inch increments. The Narrow Tread version being adjustable from 39 to 51 inches and all other versions from 52 to 68 inches. Further tread settings of 72 and 76 inches are obtained by reversing the wheels on all except Narrow Tread versions.

Milled in the tie rod are adjustment grooves 4 inches apart, to correspond with the axle settings. Whenever the axle extensions are altered, the tie rod must also be adjusted.

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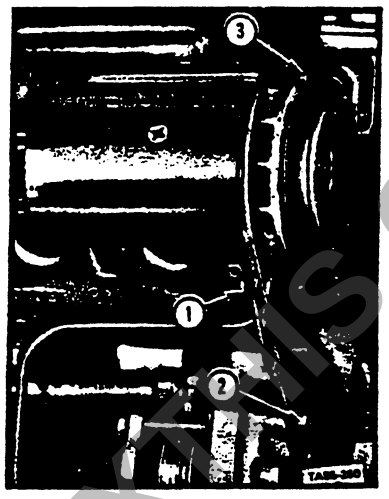
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GENERATOR

Install the generator on the engine then adjust the belt tension.

BELT TENSION

The generator belt tension should be checked every 50 hours operation, it is correct when the belt can be depressed, without effort by the thumb, approximately 1/4 inch midway between the two pulleys (A Illust.47).



Illust.82 Generator Belt Adjustment

BELT ADJUSTMENT

1. Loosen the generator brace bolts (1 & 2 Illust.82) and the generator pivot bolt (3 Illust.82).
2. Move the generator away from the engine to tighten the belt or toward the engine to slacken the belt as required.
3. When the correct tension has been obtained tighten the bolts.

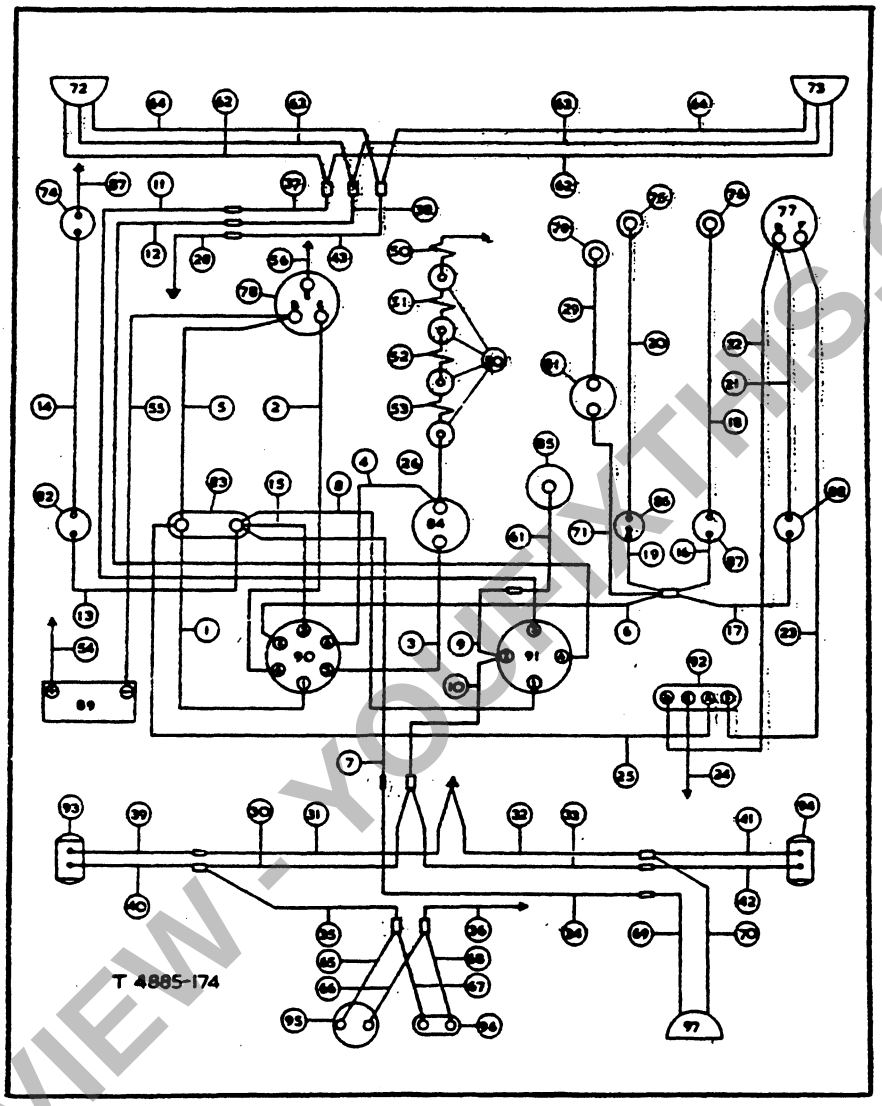
BELT REPLACEMENT

1. Remove the fan belt from the fan pulley as detailed in COOLING SYSTEM.
2. Loosen the generator brace and pivot bolts then remove the generator belt from the generator pulleys.
3. Work the generator belt through the fan belt and over the fan blades.
4. Work the new belt over the fan through the fan belt and onto the generator pulleys.
5. Install and adjust the fan belt.
6. Adjust the generator belt as previously described.

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DIESEL WIRING DIAGRAM



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FAN BELT ADJUSTMENT

Turn the fan until the setscrew (1 Illust.48) can be reached then loosen the setscrew.

Screw the flange (2 Illust.48) toward the fan belt to tighten or away from the fan belt to loosen.

When the tension is correct lock the flange by means of the setscrew, ensuring that the setscrew is in the nearest slot in the pulley hub.

FAN BELT REPLACEMENT

Loosen the setscrew then screw the flange as far from the fan belt as possible.

Ease the belt off the crankshaft pulley.



Illust.48 Fan Belt Adjustment

Work the belt over the fan blades, (a slot is provided at the bottom of the fan cowl for this purpose), until the belt is between the radiator and the fan. Remove the fan belt from the top between two of the fan blades.

Feed the new fan belt, from the top, between two of the fan blades until it is between the fan and the radiator.

Work the fan belt over each fan blade in turn, using the slot provided in the fan cowl, and on to the crankshaft pulley.

Adjust the fan belt tension as previously detailed.

AIR CLEANING SYSTEM

GENERAL

Clean air for combustion is assured by a three stage, oil bath type aircleaner. A centrifugal device in the pre-cleaner (if fitted) prevents large particles from entering the aircleaner.

The air then passes down a central tube and across a bath of oil.

As the air rises to the intake manifold it is drawn through a series of screens which remove any remaining dust. As oil, from the screens works back to the bath, it carries the dirt with it, which settles in the bottom of the oil cup.

Never allow dirt to build up more than 1/4 inch deep in the cup. To prevent any dirt entering the engine, frequently inspect all hoses for condition, and connections for tightness.

NOTE: NEVER OPERATE THE ENGINE WITH THE AIRCLEANER REMOVED, DISMANTLED OR DISCONNECTED FROM THE INTAKE MANIFOLD.

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SPECIFICATIONS

ENGINE

(Diesel)

Make	I.H.
Model	BD-154
No. of cylinders	4
Bore in (mm)	3-1/2 (88.9)
Stroke in (mm)	4 (101.6)
Displacement in^3 (cm^3)	154 (2523.6)
Valve clearance (HOT) in (mm)	0.020 (0.508)
Firing order	1 - 3 - 4 - 2
Low idle - with Speed Amplifier rev/min	750
Low idle - without Speed Amplifier rev/min	520 - 580
High idle rev/min	2200
Rated speed rev/min	2000

(Petrol)

Make	I.H.
Model	BC-144
No. of cylinders	4
Bore in (mm)	3-3/8 (85.75)
Stroke in (mm)	4 (101.6)
Displacement in^3 (in 3)	144 (2249.7)
Valve clearance (HOT) in (mm)	0.020 (0.508)
Firing order	1 - 3 - 4 - 2
Low idle rev/min	500
High idle rev/min	2200
Rated speed rev/min	2000
Spark plug gap in (mm)	0.024 (0.610)
Distributor point gap in (mm)	0.014 (0.356)

TRACTOR SPEEDS At rated speed on:	REGULAR MPH	REGULAR KPH	HIGH CLEAR MPH	HIGH CLEAR KPH	NARROW TREAD MPH	NARROW TREAD KPH
	11.00-28 tyres		11.00-38 tyres		10.00-28 tyres	
L1	1.42	2.29	1.73	2.70	1.35	2.19
L2	2.42	3.89	2.95	4.75	2.33	3.75
L3	3.45	5.52	4.21	6.77	3.32	5.34
H1	4.14	6.66	5.04	8.12	3.97	6.39
L4	5.15	8.30	6.29	10.12	4.95	7.97
H2	7.06	11.36	8.61	13.85	6.78	10.91
H3	10.00	16.19	12.27	19.74	9.66	15.55
H4	15.03	24.19	18.33	29.49	14.44	23.24
Low reverse	2.15	3.46	2.62	4.22	2.07	3.33
High reverse	6.27	10.09	7.65	12.31	6.03	9.70

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LEGEND FOR PETROL WIRING DIAGRAM

REF.	COLOUR	TRACER	FROM	TO
1	White		Keyswitch Term.1	Circuit Breaker
2	Red	Black	Keyswitch Term.3	Starter Sol. Term.
3	Not Used			
4	Black		Front Conn.	Earth
5	Brown	Red	Starter Sol. Term.	Circuit Breaker
6	Brown	White	Keyswitch Term.2	Warning Lights Conn.
7	Red	White	Keyswitch Term.4	Rear Connectors
8	Green		Light Switch Term.1	Circuit Breaker
9	Blue	Green	Light Switch Term.2	Panel Light Conn.
10	Red		Light Switch Term.2	Rear Connectors
11	Blue	Red	Light Switch Term.3	Front Connectors
12	Blue	Yellow	Light Switch Term.4	Front Connectors
13	Not Used			
14	Not Used			
15	Brown	Green	Coil SW Term.	Keyswitch Term.2
16	Green		Oil Warning Light	Warning Lights Conn.
17	Green		Ign. Warning Light	Warning Lights Conn.
18	Green	Yellow	Oil Warning Light	Oil Pressure Switch
19	Green		Warning Lights Conn.	SA Warning Light
20	Green	Brown	SA Pressure Switch	SA Warning Light
21	Yellow		Ign. Warning Light	Generator 'D' Term.
22	Yellow		Regulator 'D' Term.	Generator 'D' Term.
23	Yellow	Green	Regulator 'F' Term.	Generator 'F' Term.
24	Black		Regulator 'E' Term.	Earth
25	Brown	Red	Regulator 'A' Term.	Circuit Breaker
26	Green	Blue	Heat Indicator	Temperature Transmitter
27	Green		Warning Lights Conn.	Heat Indicator
28	Not Used			
29	Not Used			
30	Red		Rear Connectors	L.H. Fender Conn.
31	Black		Earth	L.H. Fender Conn.
32	Black		Earth	R.H. Fender Conn.
33	Red		Rear Connectors	R.H. Fender Conn.
34	Green		Rear Connectors	R.H. Fender Conn.
35	inclusive			
38	Not Used			
39	Black		L.H. Fender Conn.	Side & Tail Light L.H.
40	Red		L.H. Fender Conn.	Side & Tail Light L.H.
41	Black		R.H. Fender Conn.	Side & Tail Light R.H.
42	Red		R.H. Fender Conn.	Side & Tail Light R.H.
43	White	Black	Coil CB Term.	Distributor

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