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International 444 Tractor

Operators Manual

1082661R2

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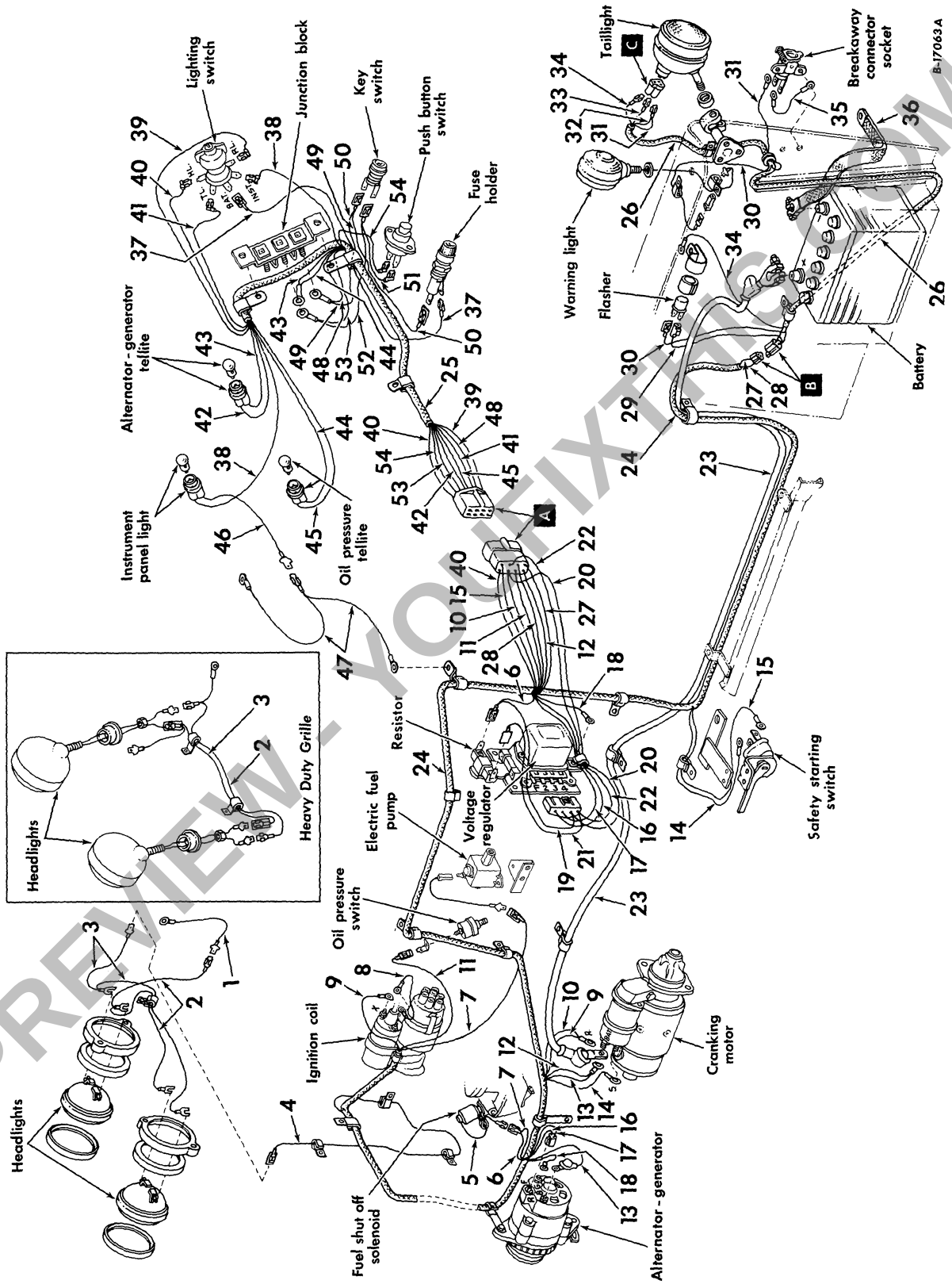
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ELECTRICAL SYSTEM

Gasoline Engine Tractor

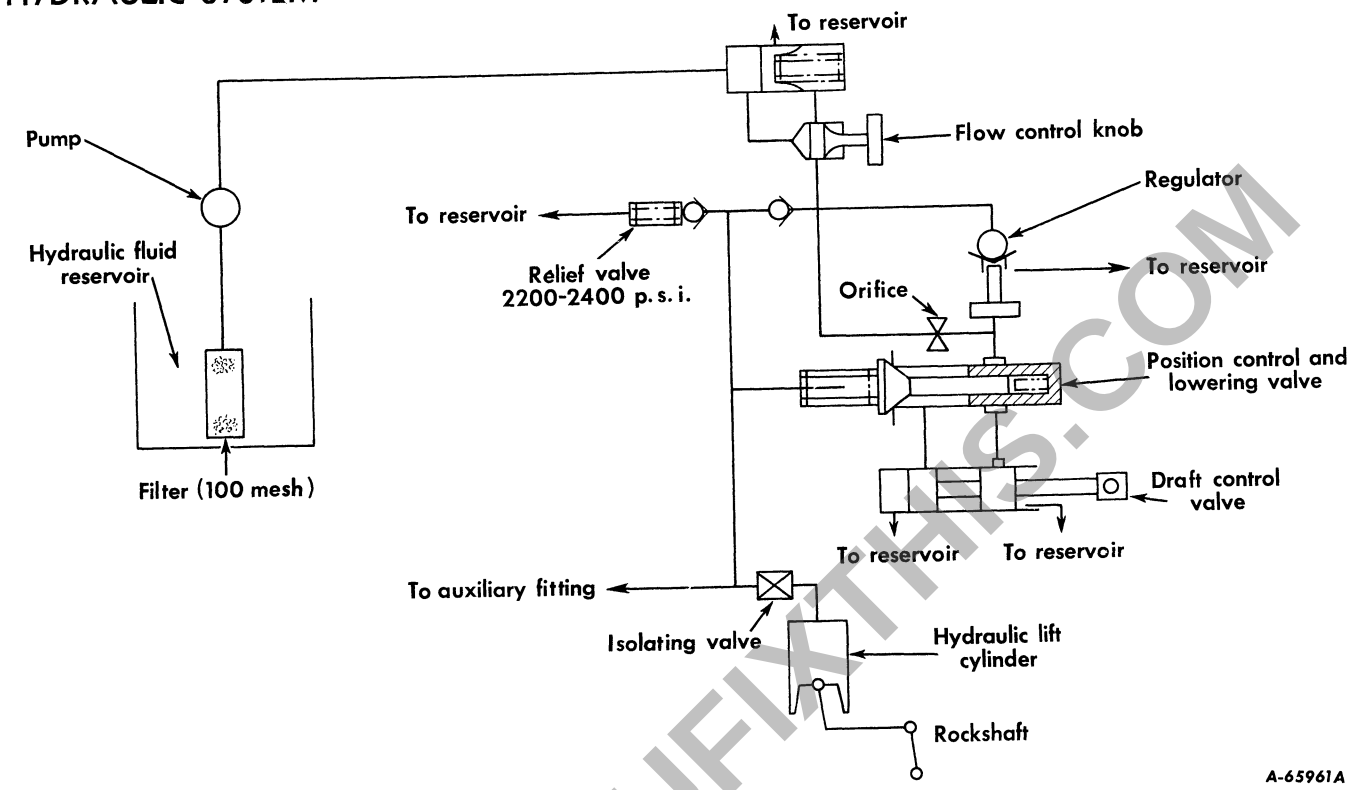


Illust. 40 – Electric starting and lighting wiring diagram. – (gasoline engine tractor).

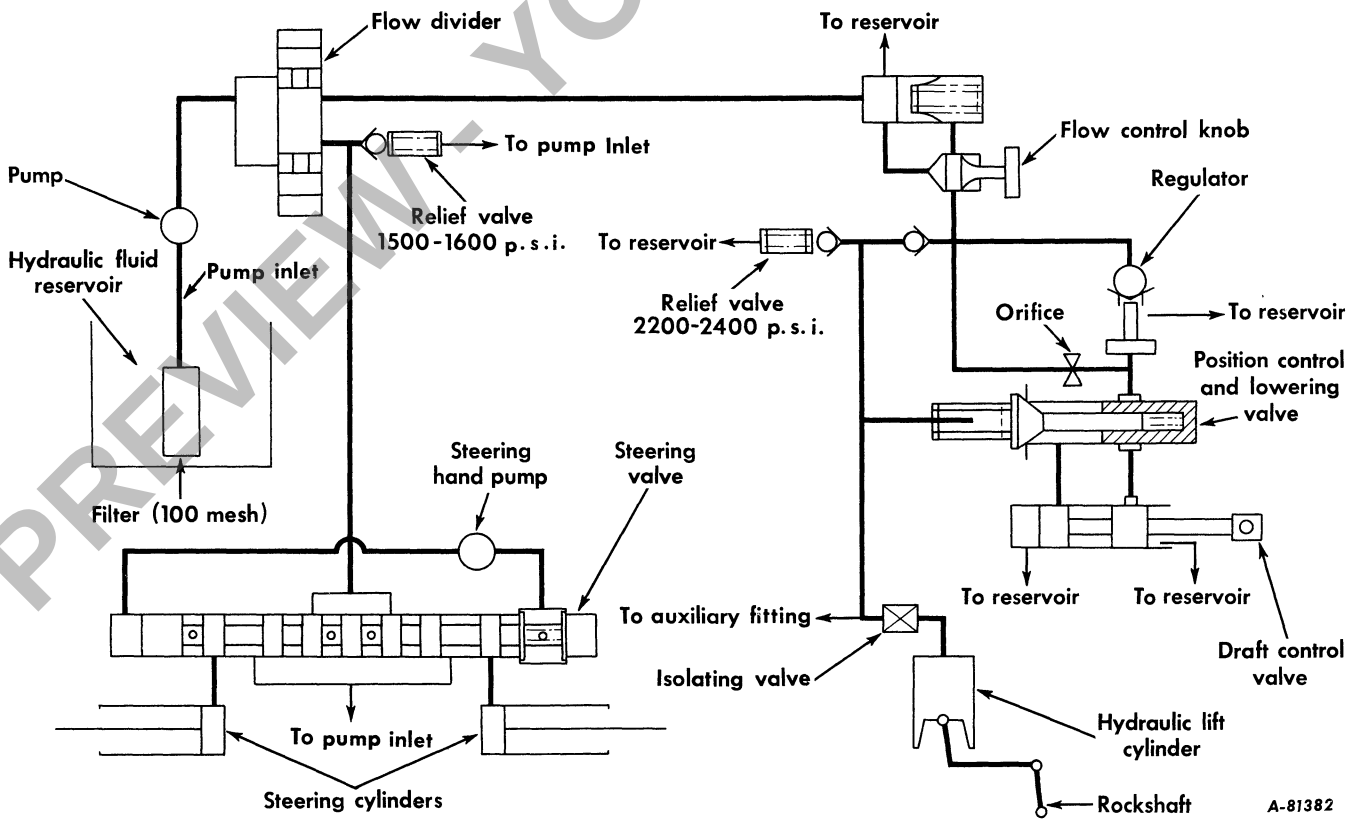
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HYDRAULIC SYSTEM



Illust. 17
Schematic diagram of hydraulic system with manual steering.



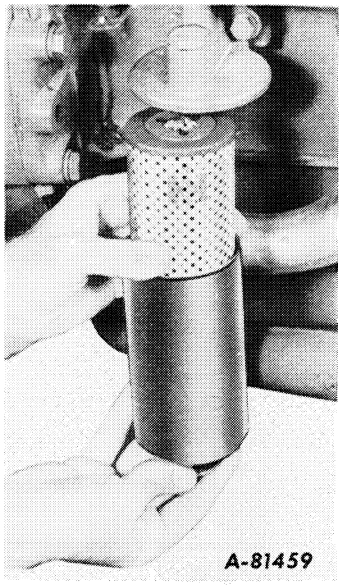
Illust. 17A
Schematic diagram of hydraulic system with power steering.

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LUBRICATION

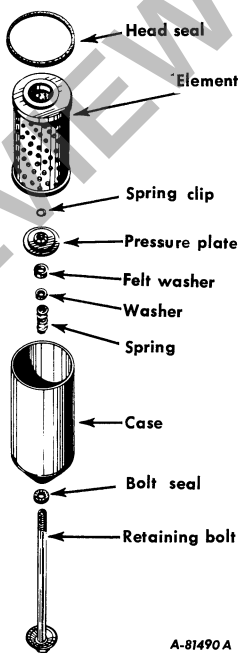
CHANGING THE FILTER ELEMENT

Diesel Engine – Continued



Illust. 74
Installing the new oil filter element (diesel engine)

washer, metal washer, and pressure plate spring from the retaining bolt. Then remove the bolt from the case and replace the rubber seal with a new one. Reassemble the bolt, filter case, pressure plate spring, metal washer, felt washer, pressure plate assembly and the spring steel clip in the reverse order of removal. Be sure the spring steel clip is seated in the groove in the retaining bolt, to prevent the pressure plate assembly and spring from falling out when changing elements.



Illust. 74A
Exploded view of the oil filter (diesel engine)

8. Drain and refill the crankcase oil pan with new oil as instructed in the "Lubrication Guide" on page 78.

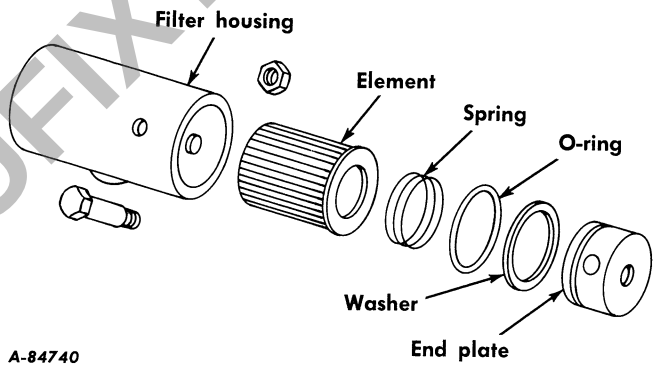
9. Start the engine and check the oil pressure Tellite to see whether lubricating oil is circulating through the engine; then inspect the filter for oil leaks.

HYDRAULIC SYSTEM

After every 1000 hours, the hydraulic system should be drained and refilled as instructed on page 80.

Note: Do not run the tractor engine without hydraulic fluid in the reservoir, as damage to the pump will result.

HYDRAULIC FLUID FILTER



Illust. 74B

An optional, cartridge type, hydraulic fluid filter is available for tractors equipped with auxiliary valves. The filter element should be replaced with a new one after the first 10 and 100 hours of engine operation, and every 250 hours thereafter.

To replace the element, remove the retaining bolt from the filter housing, screw it into the removable end plate on the left side of the filter body, and pull out the end plate. **See Illust. 74B.** Remove the O-ring and backup washer from the end plate and replace them with the new ones provided. Then insert the new filter element and the end plate. Replace the retaining bolt through the filter housing and secure it with the nut.

Cleaning the Filters

The hydraulic system has two fine mesh cylindrical wire screen filters to prevent entry of dirt into the hydraulic system. These are the suction filter in the hydraulic reservoir and the small orifice filter in the draft control valve assembly.

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BATTERY - Continued

Cleaning and Servicing the Battery - Continued

Caution! Electric storage batteries give off highly inflammable hydrogen gas when charging and continue to do so for some time after receiving a steady charge.

Caution! Do not under any circumstances allow an electric spark or an open flame near the battery. Do not lay tools across battery terminals as this may result in a spark or short circuit which may cause an explosion. Be careful to avoid spilling any electrolyte on hands or clothing.

For dependable battery service, see your International Harvester dealer.

Cold Weather Operation

It is especially important to keep the battery close to full charge for cold weather operation. Add water to the battery in freezing temperatures only when the tractor is to operate for several hours, to thoroughly mix the water and electrolyte, or damage to the battery will result from the water freezing.

If your tractor is not to be operated for some time during the winter months, it is advisable to remove the battery and store it in a cool, dry place above freezing (+32°F.). Place the battery on a rack or bench.

Note: Higher capacity batteries are available and should be used for extreme cold weather starting.

Ground Strap

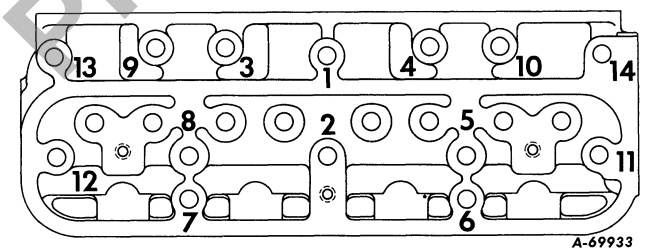
When replacing a battery, make certain that the ground strap is connected to the negative (-) terminal on the battery.

MINOR ENGINE SERVICE OPERATIONS

CYLINDER HEAD GASKET

Check the tightness of the cylinder head bolts on a gasoline engine after the first 100 hours of engine operation for a new tractor and 100 hours after installing a new cylinder head gasket. The bolts should be tightened to, from 80 to 90 foot-pounds torque.

Check the tightness of the cylinder head bolts on a diesel engine after the first 25 hours of engine operation for a new tractor and 25 hours after installing a new cylinder head gasket. The bolts should be tightened to, from 75 to 80 foot-pounds torque.



Illust. 48
Tightening sequence for cylinder head bolts (gasoline engine).

For most satisfactory results in tightening the cylinder head after installing the cylinder head gasket, tighten down all the cylinder head bolts fairly snug with a torque wrench, following the tightening sequence shown in **Illusts. 48 or 49.** Retighten in the same order, giving each bolt a fraction of a turn at a time. Continue this until all bolts are tight. Do not screw one bolt down perfectly tight and then go on to the next as an even pressure on the gasket can not be obtained in this manner.

We recommend this operation be performed by your International Harvester dealer.

After replacing the cylinder head, it is necessary to insure against leaks by retightening the bolts after the engine has been operating and the water jacket has become thoroughly heated.

Note: Be sure to adjust the valve tappet clearance after the last tightening of the cylinder head bolts. See "Valve Clearance Adjustment."

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WEIGHTS

REAR WHEEL WEIGHTS - Continued

Tractors with 28-inch Rear Wheels - Continued

The second set of rear wheel weights consists of four weight halves, eight 5/8 NC x 4-1/4-inch square head bolts, and sixteen nuts, and eight lock washers for attaching the second set of weights at "F". **See Illust. 59C.**

Tractors with 24-inch Rear Wheels

The first set of rear wheel weights consists of four weight halves, (each half weighing approximately 60 pounds), eight 5/8 NC x 3-3/4-inch bolts, sixteen nuts, and lock washers for attaching the weights to the wheel at "E". **See Illust. 59B.**

The second set of rear wheel weights consists of four weight halves and eight 5/8 x 5-3/4-inch sq. head machine bolts, sixteen nuts, and eight lock washers for attaching the second set of weights at "F". **See Illust. 59C.**

PNEUMATIC TIRES

Note: Upon receiving your tractor, immediately adjust the air pressure in the tires as indicated in the tables.

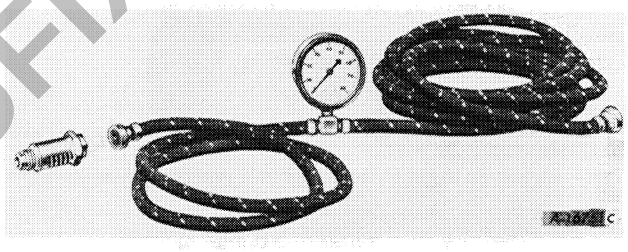
INFLATION

Keep the pneumatic tires properly inflated to the pressures shown in the tables **on pages 60 and 61.** Both underinflation and overinflation are detrimental to tire life.

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 tightened securely. The caps prevent the loss of air through the valve core, and keep loose soil, mud, gravel, snow, and ice from entering and damaging the valve core.

The tires can be inflated with a pressure pump, hand pump, or spark plug tire pump. Spark plug pumps can be purchased from International Harvester dealers for use with any carbureted engine to inflate tires.



Illust. 60
Tire pump, hose and air gauge.

FRONT TIRE LOADS IN POUNDS AT VARIOUS INFLATION PRESSURE

Underscoring indicates maximum recommended load per tire.*

Tire Size	Ply Rating	Pounds per square inch							
		20	24	28	32	36	40	44	48
		Kilograms per square centimeter							
		1.40	1.68	1.97	2.25	2.53	2.81	3.09	3.38
F-2 Tread									
5.50-16	4	655	725	795	860				
6.00-16	4	750	835	915	990				
6.00-16	6	750	835	915	990	1065	1130	1200	1260
I-1 Tread									
5.50-16	4	875	970	1060					
6.00-16	4	1020	1130	1240	1340	1430	1520		
7.50-16	6	1500	1670	1820	1970				

* The tire load used to select the proper inflation pressure must include any added front-end weight or mounted equipment.

Tire Code Marking	Tire Industry Type
F-2	Agricultural
I-1	Rib Implement

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SPECIFICATIONS

	Gasoline Engine	Diesel Engine
CAPACITIES (U.S. Measure - Approximate)		
Cooling system	13 qt.	10 qt.
Fuel tank	14 gal.	14 gal.
Crankcase pan (with filter change)	5-1/2 qt.	7-1/2 qts.
Transmission and differential case	Approx. 5 gal. (See **note** on page 80)	Approx. 5 gal. (See **note** on page 80)
Steering gear housing	1-3/4 pt.	1-3/4 pt.
Belt pulley housing	1-1/4 pt.	1-1/4 pt.
Air cleaner oil cup		1-1/2 pt.
Hydraulic system reservoir	3 gal.	3 gal.
ENGINE		
Make and model	IH, C-153	IH, BD-154
Cylinders	4	4
Bore	3-3/8 in.	3-1/2 in.
Stroke	4-1/4 in.	4 in.
Displacement	153 cu. in.	154 cu. in.
Engine speeds:		
Full load (governed speed)	2000 r.p.m.	2000 r.p.m.
High idle (governed speed)	Approx. 2,180 r.p.m.	Approx. 2,200 r.p.m.
Low idle speed	Approx. 425 r.p.m.	Approx. 650 r.p.m.
Battery ignition distributor:		
Breaker point gap	.020 in.	
Spark timing at high idle	17 degrees advance	
Spark plug gap	.023 in.	
Valve clearance (engine hot)		
Intake	.014 in.	.020 in.
Exhaust	.020 in.	.020 in.
Carburetor	Marvel-Schebler 7/8-inch (O.S.) updraft	
Injection pump, C.A.V.		Model "DPA"
Injection nozzles		C.A.V. pintle
Injection pump timing retard, start of injection, engine stopped		16 degrees before TDC
POWER TAKE-OFF SHAFT SPEEDS		
Full load (governed speed) 2,000 r.p.m.	545 r.p.m.	545 r.p.m.
High idle (governed speed)	Approx. 600 r.p.m.	Approx. 600 r.p.m.
Low idle speed	Approx. 116 r.p.m.	Approx. 177 r.p.m.
BELT PULLEY SPEEDS		
Full load (governed speed) 2,000 r.p.m.	1,286 r.p.m.	1,286 r.p.m.
High idle (governed speed)	Approx. 1,414 r.p.m.	Approx. 1,414 r.p.m.
Low idle speed	Approx. 273 r.p.m.	Approx. 418 r.p.m.
Belt speed at 2,000 r.p.m. engine speed	3,198 ft. per min.	3,198 ft. per min.
Pulley diameter	9-1/2 in.	9-1/2 in.
Pulley face	6-3/4 in.	6-3/4 in.

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