A50, A90 and A150 Portable Space Heaters

JOHN DEERE

OPERATORS MANUAL

A50, A90 and A150 Portable Space Heaters

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Safety Suggestions

Do not use the heater in confined areas without providing adequate ventilation. Provide a minimum of one and one-half square feet of ventilating area.

Do not use the heater to warm sleeping quarters.

Do not use the heater in the presence of flammable vapors such as paint, fuel, or certain cleaning solvents.

Do not move the heater while it is operating.

Make certain heater is properly grounded. If extension cord is used, make certain that it is a 3-wire cord and is of the proper wire size for the length. (See "EXTENSION CORD", page 3.)

Do not place the heater in or near a path where persons may walk nor closer than five feet to any combustible material.

Do not duct the heater.

Do not add fuel to the heater while it is operating. Use only recommended fuel.

Do not service the heater while it is plugged in.

Use only on a fused circuit of the proper voltage and frequency that is capable of handling the load.

Keep a portable dry chemical fire extinguisher available for use. Do not use a water or soda base extinguisher for fires in or about the heater.

The safety requirements for all John Deere portable heaters comply with the American National Standards Institute Safety requirements ANSI A10.10-1970. These requirements are in compliance with all OSHA Safety Standards.

Contents

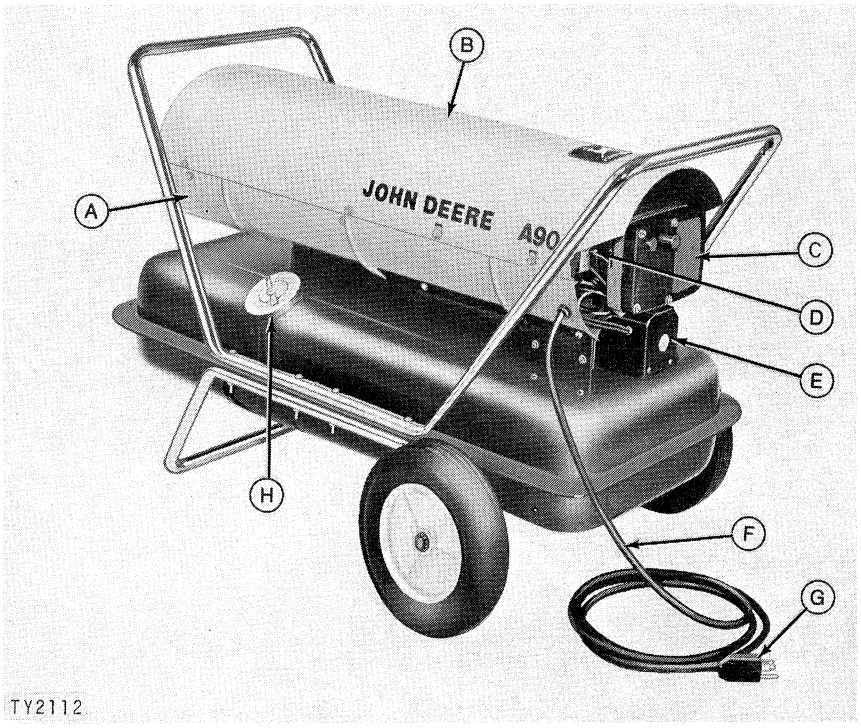
To the Purchaser

The John Deere Portable Heater is designed and manufactured to give years of dependable service. To keep it operating efficiently, read and follow the instructions in this operator's manual. This information includes operation, safety, service, and specifications data.

Record your heater serial number in the space provided on page 16. Your dealer needs this information to give you prompt efficient service when you order parts or accessories. If your heater requires replacement parts, go to your John Deere dealer.

This safety alert symbol identifies important safety messages in this manual. When you see this symbol be alert to the possibility of personal injury and carefully read the message that follows.

Because John Deere sells its products worldwide, U.S. units of measure are shown with their respective metric equivalents throughout this operator's manual. These equivalents are the SI (International System) Units of Measure.



John Deere A90 Portable Space Heater

A - Lower Shell
B - Upper Shell
C - Air Intake Filter
D - Circuit Breaker Reset Button
E - Transformer
F - Power Cord
G - Grounded Plug
H - Fuel Tank Cap

Operation

HOW THE SPACE HEATER WORKS

There are four basic systems within the heater: the fuel system, the air system, the ignition system, and the safety control circuit.

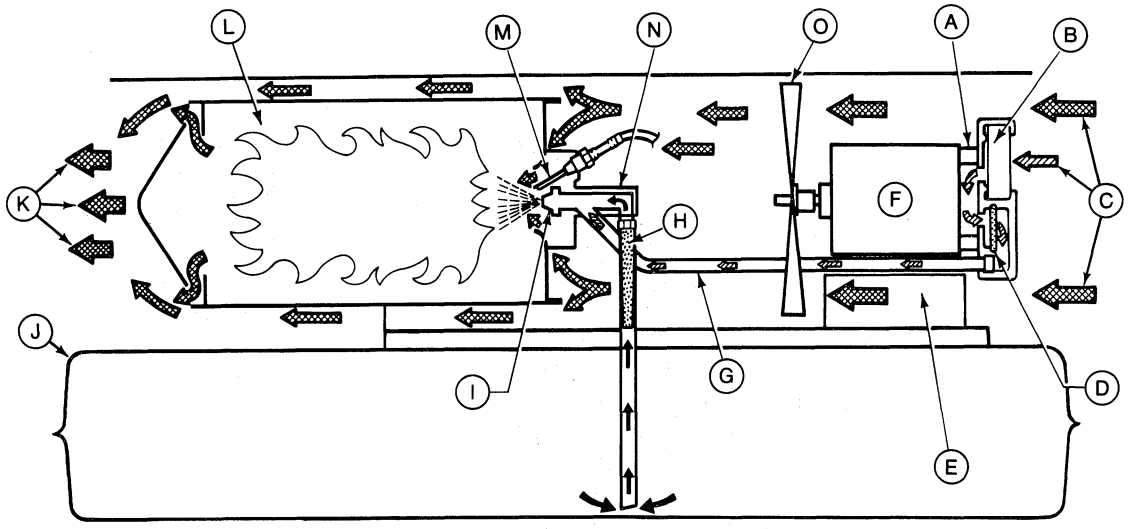
An air pump (A) on one end of the motor shaft forces air through the air line (G) and out the burner nozzle (I). The moving air creates a pressure differential in the burner head (N) causing fuel to be drawn from the tank (J). The fuel-air mixture is sprayed into the combustion chamber (L) in a fine mist.

Additional air is supplied to the combustion chamber (L) by a fan (O) on the opposite end of the motor shaft. Ports around the burner head (N) allow a portion of the air being moved by the fan (O) to enter the combustion chamber (L) where it mixes with the air and fuel from the nozzle (I). The remaining air is directed around and over the combustion chamber (L). This air mixes with the heated air from the combustion chamber (L) and is ejected as a jet of clean, heated air (K).

The ignition system consists of a transformer (E) and spark plug (M). The transformer (E) increases the input voltage to a very high potential which causes an arc to be drawn between the electrodes of the spark plug (M). The arc is used to ignite the fuel and air mixture within the combustion chamber (L). The arc fires constantly during operation.

In the safety circuit, the flame sensor is used to sense the presence of light from the flame inside the combustion chamber. The flame sensor varies its electrical resistance in relation to light rays contacting its light-sensitive surface. When light strikes its surface, the flame sensor has very low resistance to current flow; when no light strikes the surface, the sensor has a very high resistance to current flow.

When the flame sensor does not sense light because the flame is out or the cell is dirty, defective or out of position, the resistance it creates forces the electric current to flow through the solid state trigger circuit which now has less re-



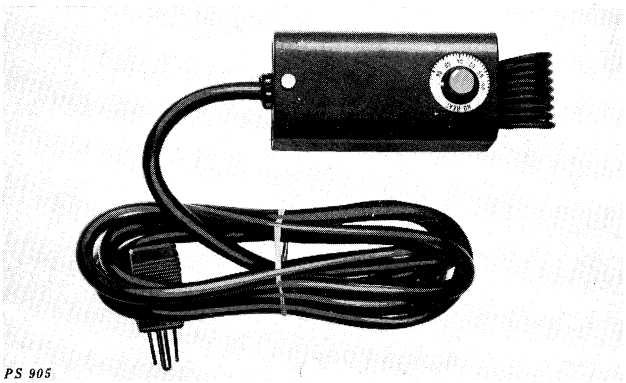
TY3263N

A - Air Pump
B - Intake Air Filter
C - Cool Air In
D - Output Air Filter
E - Transformer
F - Motor
G - Air Line To Burner
H - Fuel Filter
I - Nozzle
J - Fuel Tank
K - Clean Heated Air Out
L - Combustion Chamber
M - Spark Plug
N - Burner Head
O - Fan

sistance than the flame sensor. The current flows into the circuit breaker where it heats a coil of wire wrapped around a metal bar which warps with heat. This releases the spring-loaded red reset button which breaks the circuit as it pops out. This cuts off all power to the unit and the button must be reset by hand to restore power.

Shutdown should occur between fifteen to twenty seconds after flameout. (This time interval will vary as temperature drops.) After the red reset button pops out, power can be restored to the heater only by manually pushing the button back in to reset the circuit breaker. Allow 3 to 5 minutes for the metal elements to cool before attempting to reset the circuit breaker.

A thermostatic control attachment for the A50, A90 and A150 Heaters can be obtained from your John Deere dealer. The thermostat can be set to any desired temperature between 30°F and 90°F (−1°C and 32°C). When the temperature of the surrounding air reaches the preset temperature, the thermostat contacts open and cause the heater to shut down. When the air cools, the contacts close and the heater recycles.



Optional Thermostatic Control Unit

BEFORE OPERATING

Before operating your heater, make certain that you take the following necessary safety precautions:

CAUTION: DO NOT use the heater in a confined area without providing adequate ventilation. Provide a minimum of one and one-half square feet of ventilating area. If you become drowsy while the heater is operating, shut down the heater and get fresh air.

DO NOT use the heater in sleeping quarters.

DO NOT use the heater in the presence of flammable vapors such as paint, fuels, or certain cleaning solvents.

Use the 3-prong plug provided with the unit. If necessary, use an appropriate grounding adapter to connect to a 2-prong power source. The unit must be grounded. Connect the heater to a 115 volt, 60-cycle power source. The heater will draw between 2.18 and 3.2 amps (refer to "Specifications", page 16). Make certain not to overload your circuit. All extension cords must be grounded and of proper size.

DO NOT duct the heater.

DO NOT place the heater in or near a path where persons may walk nor closer than five feet to any combustible material.

EXTENSION CORD

If it is necessary that you use an extension cord, make certain that it is a 3-wire (grounded) cord of proper wire size.

Cord Length	100′ (30.5 m)	200′ (61.0 m)	300′ (91.4 m)	400′ (122.0 m)	500′ (152.4 m)
Min. Wire Size	14	12	10	8	6

FUEL

One of the most critical specifications for efficient trouble-free heater operation is the use of correct fuels that are clean. The most preferable fuels for use with all models include kerosene, No. 1 oil, and No. 1 diesel fuel. No. 2 oil or diesel fuel can be used without hurting the machine, but it will not flow in cold weather as well as kerosene. Also, there will be a marked increase in odor. Under conditions of extreme cold these fuels start to become jelly-like due to their wax content. Under these conditions, add an anti-freeze such as mineral spirits (Turpentine) or use JP-5 military jet fuel; Type A or Jet A commercial jet fuel; Type A-1 or Jet A-1 commercial jet fuel. The last three types are from kerosene stock. Due to the higher sulphur content of these latter fuels, they may produce a slight odor.

Be sure that the tank is clean. Prior to filling, clean the cap and the surrounding area. Wipe up any spills or overflows.

CAUTION: DO NOT add fuel while the heater is operating.

STARTING

⚠ CAUTION: Make certain that there is adequate ventilation and that the heater is properly located. Check to make sure there is no obstruction in the intake and output openings.

Heaters Without Thermostats

Plug the heater into a grounded power source of proper voltage and frequency, capable of handling the load. The heater will normally ignite as soon as it is plugged into the outlet.

Heaters With Thermostats

Plug the heater into a grounded power source of proper voltage and frequency, capable of handling the load.

Set the thermostat to the desired temperature. The heater will start immediately provided that the surrounding air is cooler than the setting of the dial. The heater will continue to operate until the temperature of the surrounding air reaches the dial setting. It will then shut down and recycle when the temperature drops.

Reset Button

If the heater fails to start, press the red reset button on the rear of the heater. The heater should start immediately. If it fails to start, the button will pop out within 15 to 25 seconds. If it pops out, disconnect the heater and check the reason for failure to start. Refer to the "Trouble Shooting" section. Wait for three to five minutes before resetting.

STOPPING

To stop the heater, unplug the power cord from the outlet. For units equipped with thermostats, the dial may be turned to the "OFF" or "NO HEAT" position to stop operation.

ELECTRIC MOTOR

The local power company should be consulted before adding an extra motor load to the electric service. It should be determined that:

The operation of an extra motor will not produce a line disturbance in excess of that permitted, and –

The system will maintain the voltage within acceptable limits.

NOTE: An electrical motor can produce rated output only when adequate voltage is provided at the motor terminals. Present electrical service, alterations to that service, and voltage regulation by the power company will determine the voltage available at the terminals. Generally, the motor will operate properly within a range from 105 volts to 126 volts. If using an extension cord, the voltage must be measured at the end of the cord, not at the outlet.

⚠ CAUTION: If an additional electrical outlet is needed to operate your heater, it should be installed by a qualified electrician and the installation should conform to the latest edition of the National Electric Code (NF PA No. 70), the REA requirements, and to state and local Codes as may be applicable. The installation should incorporate such significant safety features as follows:

The installation should be protected from the weather and damage from livestock, falling objects, and other sources.

Switches, push buttons, and control devices should be out of the reach of children.

The supply circuit should be fused. If the installation is made in an outbuilding, a means of disconnect such as a safety switch which can be locked in the "OFF" position should be incorporated.

STORAGE

When not in use, place the heater in storage. Store in a dry location free of corrosive fumes and dust.

Drain the fuel tank prior to storing. Provide a cover to prevent dirt from accumulating and to prevent the entrance of foreign matter.

When taking the heater out of storage, perform the following maintenance procedures:

⚠ CAUTION: Check for bird's nests, wasp's nests, rodent nests and other foreign matter. Check for leaks. Inspect the electrical cord for deterioration and damage.

Clean and oil the fan. (See page 5.)
Fill with proper fuel. (See page 3.)
Clean the air intake filter. (See page 6.)
Check the spark plug gap. (See page 7.)
Clean the exterior of the unit.

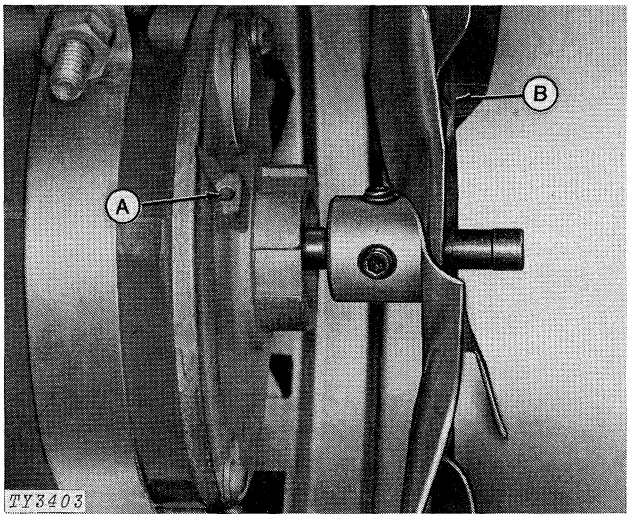
Service

The instructions contained in this portion of the manual are provided so that you may keep your heater operating at maximum efficiency.

It is important that you do not completely disassemble the heater without referring to the technical service manual.

⚠ CAUTION: Do not service heater when power cord is plugged in. Make an overall inspection of the heater. Make certain that the unit is clean. Check for leaks. Inspect the electrical cord for deterioration and damage.

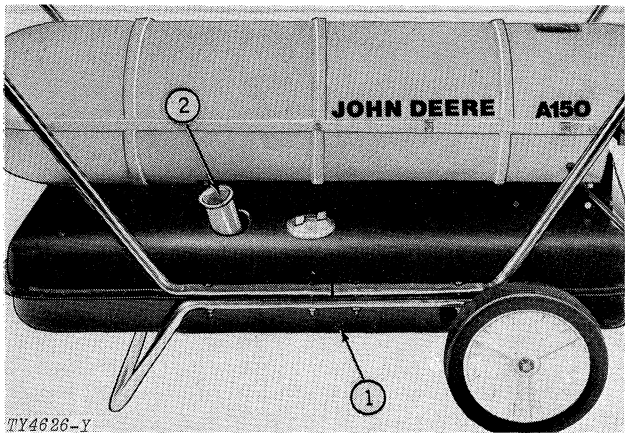
LUBRICATION



A - Oil Hole **B - Fan**

Oil the sleeve bearing through the oil hole (A) on the fan (B) end of the motor once each season with 10 to 20 drops of John Deere Torq-Gard SAE 10W-20 Engine Oil or an equivalent SAE 10W-20 oil.

FUEL TANK



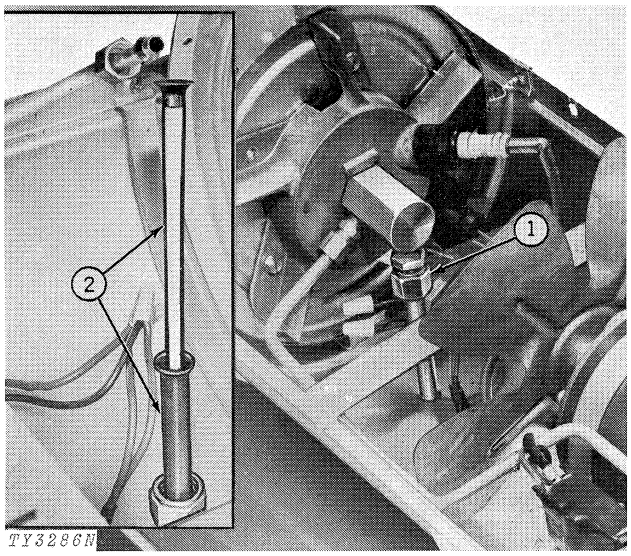
Drain the fuel tank after each 150 to 200 hours of operation.

1. Remove drain plug (on bottom of tank). Drain and flush tank with clean fuel. Replace drain plug.

2. Clean and replace fuel screen. Refill with fresh clean fuel.

Periodically, drain any accumulated water or moisture from the tank and check for damage.

FUEL FILTER



The fuel filter is located in the tube which leads up from the fuel tank to the nozzle adapter. Clean the filter at least twice a season, more often if burner performance indicates the need. Refer to the "Trouble Shooting" section for conditions indicating the need for filter cleaning.

Clean the filter as follows:

Unplug the power cord. Remove the screws that hold the upper shell to the lower shell and lift off the upper shell.

1. Loosen nut that attaches fuel filter tube to burner nozzle adapter. Slide tube down into tank so that tube will clear male connector in nozzle adapter. Tube can be flexed in large opening in fuel tank top. This opening is sealed by a rubber sleeve that holds tube in place, but provides enough "play" to allow fuel filter to be removed for checking and cleaning without removing burner head. Fuel filter can now be lifted easily from the top of tube.

2. Withdraw filter element from tube. Rinse element thoroughly in clean fuel and inspect it for damage. Inspect bushing in lower shell for damage and deterioration. Replace if necessary.

Direct a gentle stream of air through large end of the filter to blow it dry. Use care not to damage filter by using too much pressure.

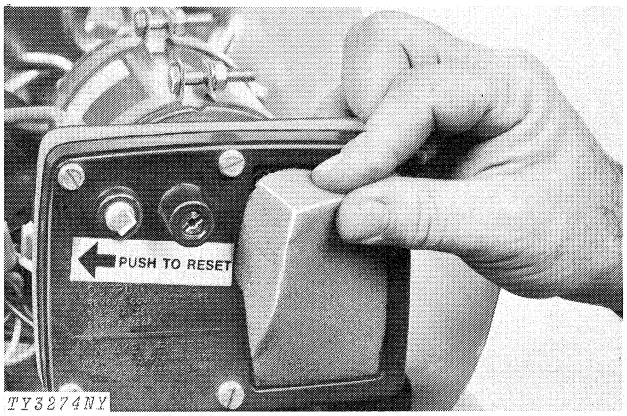
If fuel filter has been damaged or cannot be washed clean, replace filter element. Never operate heater without having filter element installed.

Replace filter element in reverse order. Make certain element seats properly on the male connection and tighten securely.

AIR INTAKE FILTER

Do not attempt to service the air output filter nor the lint filter inside the housing without referring to the technical service manual. Cleaning these filters requires removing the end cover and may cause a change in the air pump output pressure. See your John Deere Dealer for service of these filters.

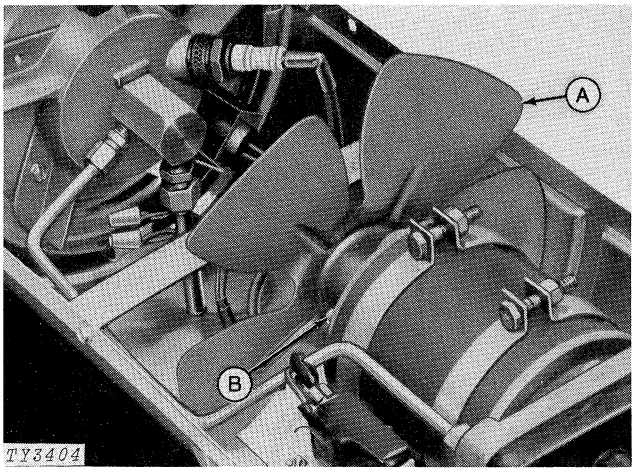
Clean air intake filter whenever you can see a film of dust on the intake side. Clean filter daily if it is used in a dusty atmosphere. Replace the filter at least once during the heating season, or after 250 hours of operation.



Grasp the air intake filter and pull it out of the housing. Clean it with a mild detergent and hot or cold water. Dry filter thoroughly and reinstall it in housing, making sure corners are fitted snugly to keep dusty air from coming in between front and rear cover plates.

IMPORTANT: Do not oil filter. Oil will foul air pump causing pump damage.

FAN



A - Fan **B - Set Screws**

CAUTION: Keep fingers away from fan when service cord is plugged in.

Do not attempt to repair the fan (A). If the fan is damaged or is worn, replace it.

After each 500 hours of operation, clean the fan. Clean more often if there is a build-up of dirt on the blades.

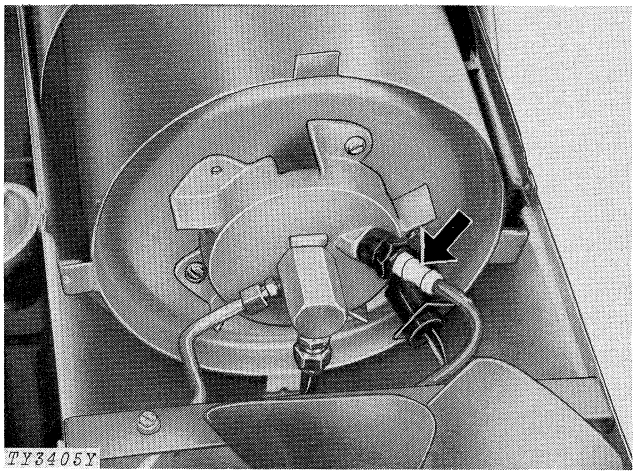
To clean, wipe the blades and hub with a cloth moistened with kerosene or a non-flammable cleaning solvent. Dry thoroughly.

Stubborn spots may be removed by scraping lightly with a wooden stick or dowel. Take care not to bend the blades while scraping.

If the leading edge of the fan is worn or feathered, replace the fan.

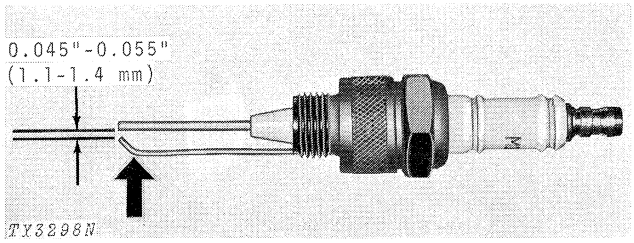
To replace the fan, loosen the set screws (B) and pull the fan from the shaft. When reinstalling, mount fan so that the set screws will fit into the back recess on the shaft. Make certain set screws are tight after installing.

SPARK PLUG



CAUTION: Disconnect power cord before removing spark plug. The spark plug wire carries high voltage during operation. Failure to unplug heater can cause serious shock.

Once a year, when taking the heater out of storage, or if heater performance indicates the need, remove the spark plug and readjust the gap. Make an inspection to check for cracked porcelain or eroded electrodes.



Disconnect spark plug wire; then remove spark plug.

Clean dirt from plug using a cloth moistened with a non-flammable cleaning solvent. Blow dirt from between electrodes.

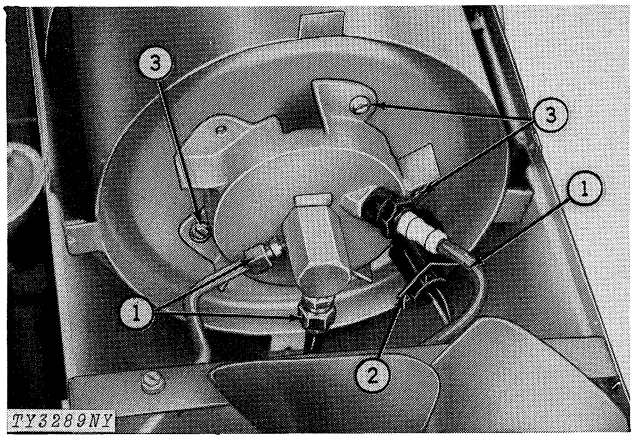
Clean seat. Check gap before reinstalling.

The correct gap is 0.045 to 0.055-inch (1.1 to 1.4 mm) approximately the thickness of a dime.

Adjust gap by bending outer electrode at bend as shown.

Reinstall spark plug.

BURNER HEAD



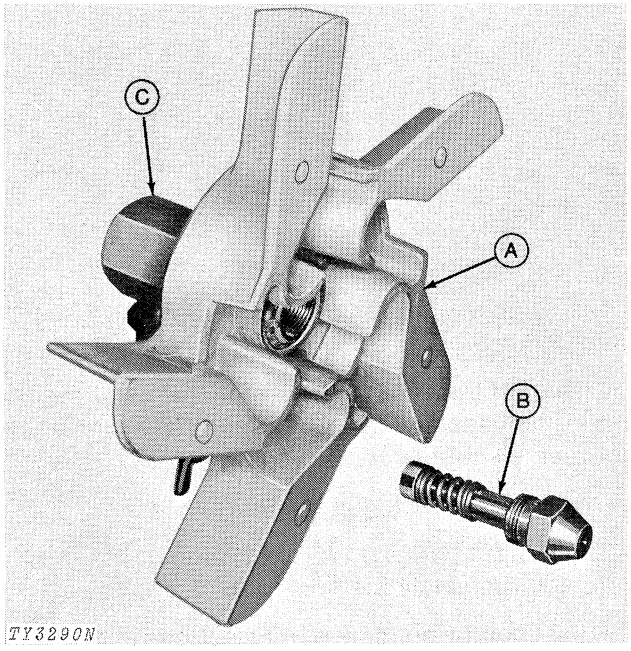
Remove and clean the burner head only if the heater performance indicates the need.

CAUTION: Disconnect heater from electrical outlet before making repairs.

1. Disconnect spark plug wire, air line and fuel filter tube from nozzle adapter.

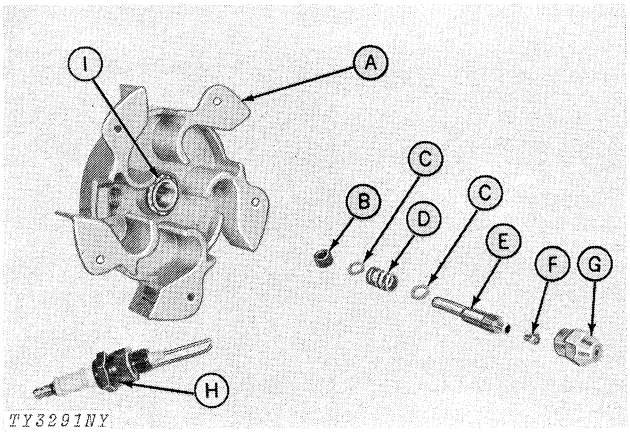
2. Remove photo cell from bracket.

3. Remove screws that attach burner head to combustion chamber.



A - Burner Head **B - Nozzle** **C - Nozzle Adapter**

Carefully unscrew burner nozzle (B) using a socket wrench while holding nozzle adapter (C) with another wrench.



A - Burner Head
B - Nozzle Seal Sleeve
C - Seal Washer
D - Spring
E - Nozzle Shank
F - Atomizer Tip
G - Nozzle Tip
H - Spark Plug

IMPORTANT: Never attempt to clean nozzle passage with a wire or any other tool. This will damage nozzle.

Soak nozzle in a non-flammable cleaning solution that is not injurious to rubber. Disassemble nozzle as follows:

Carefully slide nozzle seal sleeve (B) off nozzle shank (E). This will free nozzle seal washers (C) and spring (D). Examine seal sleeve (B) to make certain it has not deteriorated. The rubber seal sleeve (B), if deteriorated, is the only part that will need replacing.

Holding nozzle tip (G) with a wrench, loosen nozzle shank (E) with a pair of pliers. Unscrew nozzle shank (E). Remove atomizer tip (F). Be careful not to drop tip (F).

This atomizer tip (F) remains stationary within nozzle tip (G). The grooves in tip (F) swirl the air while siphoning fuel through the small hole in the center of tip. Clean grooves in atomizer tip (F). Make sure they are free of carbon dust. Check inside of nozzle tip (G) for carbon dust and inside of nozzle shank (E) for other contaminants.

Reverse above procedure to reassemble. Carefully insert nozzle into nozzle adapter, making sure that there is a tight seal between nozzle seal sleeve and rear inner wall of nozzle adapter. A poor seating here will lose air pressure, causing a siphoning problem and resulting in poor or no combustion.

Check spark plug gap. See "Spark Plug," page 7.

Attach burner head to combustion chamber in reverse order of removal.

Trouble Shooting

Trouble	Possible Cause	Possible Remedy	Page
Motor does not start.	No power or low voltage at heater.	Be sure power is reaching heater; check condition of heater cord. Repair or replace as needed.	–
		Use extension cord with wires heavy enough to carry the electrical load of the heater.	3
		Be sure voltage at outlet is same as shown on heater instruction plate.	–
	Damaged motor, motor starting relay, binding fan-end bearing; binding pump.	See your John Deere dealer.	–
	Thermostat (if used) damaged or incorrectly set.	Check setting. See your John Deere dealer.	–
	Dry bearing on fan-end of motor.	Lubricate motor.	5
		(If lubrication does not solve problem, see your John Deere dealer.)	
	Pump rotor binding or carbon blades worn out.	See your John Deere dealer.	–
	Fan obstructed by mechanical damage or dirt.	Check for bent outer shell.	–
		Check for damaged fan; replace if defective.	7
		Check for damaged motor mount.	–

Trouble	Possible Cause	Possible Remedy	Page
Heater will not ignite, but motor runs.	Fuel tank empty, water in fuel, wrong fuel.	Check for water in tank; clean tank and fuel filter if water is found. (Water in the tank will form globules in the bottom, which you can see.)	3, 6
		Fill tank with fresh, clean fuel.	3
	Fuel filter clogged.	Remove and wash in clean fuel. Blow dry and replace.	6
	Nozzle plugged or defective.	Clean by blowing compressed air through nozzle from *outlet* end of nozzle.	8
		Replace nozzle if cleaning does not solve the problem.	8
	Low air pump pressure.	Clean air intake filter. See your John Deere dealer.	6
	Air leak at fuel filter.	Check fuel filter for air leaks and for tightness of fitting where filter is connected to burner head.	6
	Defective spark plug. (Wrong gap, plug wet with fuel or electrodes carboned, or plug damaged.)	Measure gap between electrodes 0.045 to 0.055-inch (1.1 to 1.4 mm) Adjust electrode gap.	7
		Inspect plug for broken porcelain or electrodes. Replace a damaged spark plug.	7
	Spark plug wire disconnected from plug or from terminal of transformer.	Disconnect heater cord. Check at plug and transformer to be sure wire is tight at both ends.	7
	Defective transformer.	See your John Deere dealer.	—

Trouble	Possible Cause	Possible Remedy	Page
Heater burns, but puffs of smoke can be seen; heater will not burn steady; heater burns with odor; heater smokes continuously.	Heater running out of fuel; water condensation in fuel tank; wrong fuel.	Shut heater off; check fuel tank. If you can see globules of water in the bottom, drain and flush the tank and filter with clean fuel.	3, 6
		Refill with fresh, clean fuel.	3
	Dirty air filters causing reduced air flow through nozzle, resulting in low fuel flow.	Remove and clean the air intake filter. To service other filters, see your John Deere dealer.	6
		Be sure air intake is not blocked.	6
	Fuel filter loose, dirty or loose connection.	Remove and wash fuel filter in clean fuel.	6
		Check condition of connection between fuel filter and burner head.	6
		Replace with new filter tube, nut, or fitting if connection can't be tightened without leaks.	6
	Dirty nozzle.	Remove and clean the burner head.	8
		Blow compressed air through nozzle from outlet end.	8
		NOTE: Never use a drill, wire, or other tool to open a nozzle passage.	
		Replace a defective nozzle.	8
	Low pump output pressure. (Low motor speed, worn pump, pump out of adjustment.)	See your John Deere dealer.	–

Trouble	Possible Cause	Possible Remedy	Page
Heater burns, but puffs of smoke can be seen; heater will not burn steady; heater burns with odor; heater smokes continuously—continued.	Loose air output line connections between filter housing and burner.	Be sure connections are tight.	8
	(Remote possibility) Rubber sleeve on shank of nozzle is leaking.	If heater puffs intermittently, replace the rubber sleeve. (Handle parts carefully to prevent damage; assemble them carefully to preserve air tightness.)	8
	(Remote possibility) Combustion chamber not tight against burner head, allowing too much air to enter combustion chamber.	Tighten screws. If parts are warped from heat, replace warped parts. There must be no air gap between face of burner head and back of combustion chamber.	8
Flames come out front of heater.	Dirty fan, or air passageway through heater blocked by dirt or trash.	Clean the fan. Be sure the air passageway through the heater is clean. Keep the heater clean.	7
	Pump output pressure is too high, causing too much fuel to be supplied.	See your John Deere dealer.	—
	Fan loose or improperly located on shaft.	Check fan; correct if not right.	7
	Bent or damaged fan.	Replace fan.	7

Trouble	Possible Cause	Possible Remedy	Page
Heater cycles intermittently.	Thermostat (if used) set too low.	Set thermostat to a higher temperature for more even operation.	–
	Defective thermostat (if used).	Replace a defective thermostat attachment.	–
		Use extension cord with proper size wire.	3
	Defective electrical supply or defective connections.	Be sure extension cord and heater service cord are in good condition, without intermittent open circuits.	–
		Check mechanical and electrical soundness of all wiring connections in the heater and service cord.	–
	Motor trouble or binding pump.	Lubricate fan-end bearing.	5
		Keep motor and fan area clean.	7
		See your John Deere dealer.	–

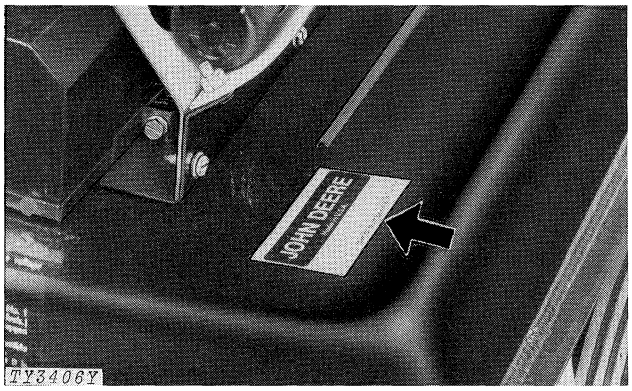
Trouble	Possible Cause	Possible Remedy	Page
Heater ignites, but reset button of circuit breaker pops out anyway.	Defective safety control circuits.	See your John Deere dealer.	–
Sensor control circuit breaker fails to trip when a no-flame condition exists.	Defective circuit breaker.	See your John Deere dealer.	–
	(Remote chance of this.) Relay contacts dirty or defective.	See your John Deere dealer.	–
	Open connection in circuit through circuit breaker.	See your John Deere dealer.	–
Button on circuit breaker won't stay in when pressed.	Resetting is tried too soon after the breaker trips.	Wait 3 to 5 minutes and try again.	4
	Defective sensor control and circuit breaker.	See your John Deere dealer.	–

Specifications

	Model A50	Model A90	Model A150
Output rating	50,000 BTU (52.8 MJ)	90,000 BTU (95.8 MJ)	150,000 BTU (158.3 MJ)
Air output (approximate)	100 cubic feet per minute (0.047 m^3/s)	200 cubic feet per minute (0.094 m^3/s)	350 cubic feet per minute (0.165 m^3/s)
Fuel	Kerosene or No. 1 or No. 2 fuel oil	Kerosene or No. 1 or No. 2 fuel oil	Kerosene or No. 1 or No. 2 fuel oil
Voltage	115 AC	115 AC	115 AC
Cycle	60 Hz.	60 Hz.	60 Hz.
Amperage (normal operation)	2.18	3.2	3.15
Motor speed	3,450 rpm	3,450 rpm	3,450 rpm
Weight (empty) (approximate)	55 lbs. (24.9 kg)	62 lbs. (28.1 kg)	85 lbs. (38.5 kg)
Length	30 in. (76.2 cm)	35 in. (88.9 cm)	43 in. (109.2 cm)
Width	15 in. (38.1 cm)	19 in. (48.3 cm)	22 in. (55.9 cm)
Height	20 in. (50.8 cm)	21 in. (53.3 cm)	25 in. (63.5 cm)
Fuel tank capacity	5 U.S. gal. (18.9L)	8.5 U.S. gal. (32.2L)	14 U.S. gal. (53.0L)
Fuel consumption	0.33 gal. (1.2L) per hr.	0.66 gal. (2.5L) per hr.	1 gal. (3.8L) per hr.
Motor	1/8 hp (93.2 W)	1/6 hp (124.3 W)	1/4 hp (186.4 W)

(Specifications and design are subject to change without notice.)

Serial Number



The serial number is located on the rear of the fuel tank.

When ordering parts, always bring with you the model and serial number as given on the serial number plate. By doing so, you will assist your John Deere Dealer in giving you prompt, efficient service. For your convenience, a space is provided below for recording this information.

MODEL_____

SERIAL NO._____

DATE PURCHASED_____

(To be filled in by purchaser)

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To order these publications, fill out this form and the payment information and mail it to the address above. Make checks payable to Deere & Co. Service Publications. Please allow three weeks for delivery. No COD orders, please. Do not send cash or stamps. To place credit card orders, call 1-800-522-7448. If you want manuals or catalogs for equipment not shown on this list, provide the model number, serial number, and name of the product.

John Deere Distribution Service Center
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P.O. Box 186, Moline, IL 61266-0186

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Address _____

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Title	Order No.	Qty.	Price Each
Parts Catalog A50, A90, A150 Portable Space Heaters	PC-1358		
Operator's Manual A50, A90, A150 Portable Space Heaters	OM-TY4206		
Technical Manual A50, A90, A150 Portable Space Heaters	TM-1077B		

NOTE: If you want manuals or catalogs for equipment not shown on this list, list the model number, serial number and name of the equipment below.

CUT HERE

FMO Manual - Tractors	FMO-101B		
FMO Manual - Tillage	FMO-111B		
FMO Manual - Planting	FMO-121B		
FMO Manual - Crop Chemicals	FMO-131B		
FMO Manual - Hay & Forage Harvesting	FMO-141B		
FMO Manual - Combine Harvesting	FMO-151B		
FMO Manual - Preventive Maintenance	FMO-161B		
FMO Manual - Machinery Management	FMO-171B		
FMO Manual - Machine Safety	FMO-181B		
FMO Set of 9 Manuals above	FMO-394 Set		
FOS Manual - Hydraulics	FOS-10B		
FOS Manual - Electrical Systems	FOS-20B		
FOS Manual - Engines	FOS-30B		
FOS Manual - Power Trains	FOS-40B		
FOUR FOS MANUALS (above)	FOS-90 Set		
FOS Manual - Shop Tools	FOS-51B		
FOS Manual - Welding	FOS-52B		
FOS Manual - Belts and Chains	FOS-53B		
FOS Manual - Bearings and Seals	FOS-54B		
FOS Manual - Tires and Tracks	FOS-55B		
FOS Manual - Mowing and Spraying Equipment	FOS-56B		
FOS Manual - Air Conditioning	FOS-57B		
FOS Manual - Fuels, Lubricants and Coolants	FOS-58B		
FOS Manual - Fiber Glass	FOS-59B		
FOS Manual - Fasteners	FOS-60B		
FOS Manual - Iden. of Parts Failures	FOS-61B		
SET OF ELEVEN FOS MANUALS FOS-51B, 52B, 53B, 54B, 55B, 56B, 57B, 58B, 59B, 60B and 61B	FOS-71 Set		
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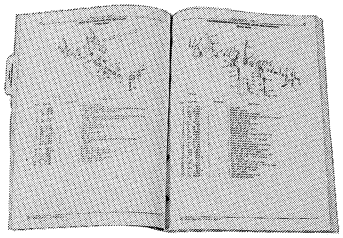
Prices subject to change without notice.

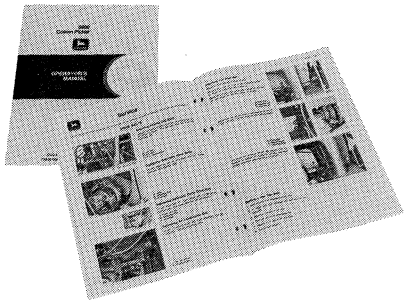
SP-319 Litho in U.S.A. JAN-79

PARTS CATALOG



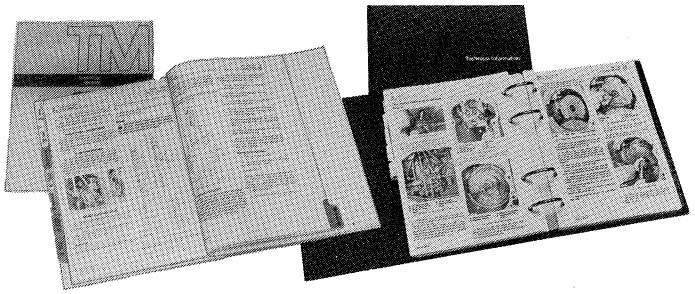
A parts catalog containing exploded view illustrations and lists of all parts is useful when purchasing service parts. Helps identify the correct parts. Useful in assembling and disassembling.

OPERATOR'S MANUAL



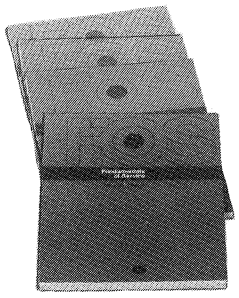
An extra copy of the operator's manual may be important if the copy furnished with your machine is misplaced.

TECHNICAL MANUAL



The technical manual is a service guide for your machine. Included in the manual are specifications, diagnosis and adjustments, illustrations of special assembly and disassembly procedures, hydraulic oil flows, and wiring diagrams.

FMO AND FOS MANUALS



These are basic manuals covering most all types and makes of agricultural machinery. FMO manuals tell you how to *operate* machines; FOS manuals tell you how to *service* machines. Each manual starts with basic theory and is fully illustrated with colorful diagrams and photographs. Both the"whys" and "hows" of adjustments and repairs are covered in this reference library.

For current prices of John Deere Service Literature, please call 1-800-522-7448

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