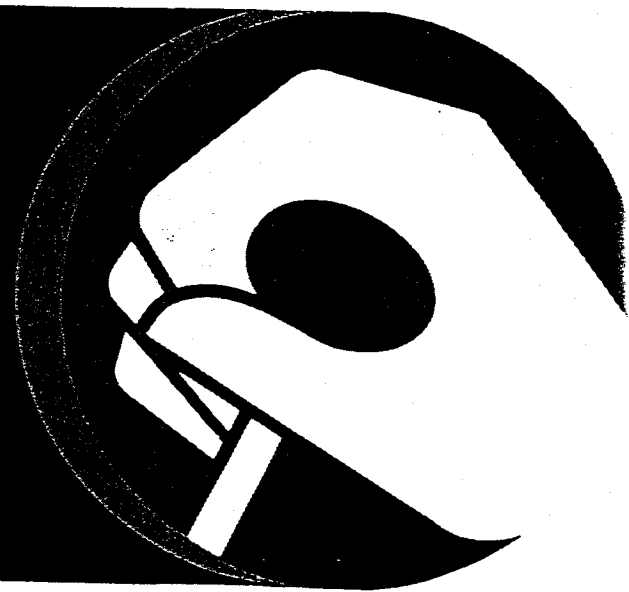


P35 and P155 LP Gas Portable Space Heaters



OPERATOR'S MANUAL



John Deere Merchandise Division
OMTY21662 Issue G5
(This manual replaces OMTY21662 Issue K4)

LITHO IN U.S.A.
ENGLISH



IMPORTANT: Read and understand this manual before assembling, starting, or servicing heater. Improper use of

heater can cause serious injury. Keep this manual for future reference.

⚠ GENERAL HAZARD WARNING:

FAILURE TO COMPLY WITH THE PRECAUTIONS AND INSTRUCTIONS PROVIDED WITH THIS HEATER, CAN RESULT IN DEATH, SERIOUS BODILY INJURY AND PROPERTY LOSS OR DAMAGE FROM HAZARDS OF FIRE, EXPLOSION, BURN, ASPHYXIATION, CARBON MONOXIDE POISONING, AND/OR ELECTRICAL SHOCK.

ONLY PERSONS WHO CAN UNDERSTAND AND FOLLOW THE INSTRUCTIONS SHOULD USE OR SERVICE THIS HEATER.

IF YOU NEED ASSISTANCE OR HEATER INFORMATION SUCH AS AN INSTRUCTIONS MANUAL, LABELS, ETC. CONTACT THE MANUFACTURER.

TYK110 -19-25OCT94

⚠ WARNING: FIRE, BURN, INHALATION, AND EXPLOSION HAZARD. KEEP SOLID COMBUSTIBLES, SUCH AS BUILDING MATERIALS, PAPER OR CARDBOARD, A SAFE DISTANCE AWAY FROM THE HEATER AS RECOMMENDED BY THE INSTRUCTIONS. NEVER USE THE HEATER IN SPACES WHICH DO OR MAY CONTAIN VOLATILE OR AIRBORNE COMBUSTIBLES, OR PRODUCTS SUCH AS GASOLINE, SOLVENTS, PAINT THINNER, DUST PARTICLES OR UNKNOWN CHEMICALS.

TYK111 -19-25OCT94

⚠ WARNING

THIS HEATER IS NOT DESIGNED FOR HOME OR RECREATIONAL VEHICLE USE.

TYK208 -19-14JUL95

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All information, illustrations and specifications in this manual are based on the latest information available at the time of publication. The right is reserved to make changes at any time without notice.

OMTY21662 G5-19-11JUL95

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Safety

READ AND FOLLOW SAFETY INSTRUCTIONS BEFORE OPERATING HEATER

The heater is designed and approved for use as a construction heater under ANSI Z83.7. The primary purpose of construction heaters is to provide temporary heating of buildings under construction, alteration or repair, and to provide temporary emergency heat. Properly used, the heater provides safe economical heating. Products of combustion are vented into area being heated.

We cannot foresee every use which may be made of our heaters. **Check with your local fire safety authority if you have questions about heater use.** Other standards govern use of fuel gases and heat producing products for specific uses. Your local authorities can advise you about these.

Carbon Monoxide Poisoning: Some people are more affected by carbon monoxide than others. Early signs of carbon monoxide poisoning resemble the flu, with headaches, dizziness, and/or nausea. If you have these signs, heater may not be working properly. **Get fresh air at once! Have heater serviced.**

Propane Gas: Propane gas is odorless. An odor-making agent is added to propane gas. Odor helps you detect a propane gas leak. However, odor added to propane gas can fade. Propane gas may be present even though no odor exists.

TY,21662,BA1A -19-12JUL95



READ AND FOLLOW SAFETY INSTRUCTIONS BEFORE OPERATING HEATER (CONTINUED)

Make certain you read and understand all warnings. Keep this manual for reference. It is your guide to safe and proper operation of this heater.

- For indoor use only. Provide adequate ventilation.
- Use only in well-vented areas. Before using heater, provide opening to fresh, outside air, of the size specified for your model.

• Model P35	1.0 sq. ft. (0.1m ²)
• Model P155	4.5 sq. ft. (0.42m ²)

This heater produces carbon monoxide, which is listed by the State of California as a reproductive toxin under Proposition 65.

- Do not use heater outdoors or in occupied dwellings.
- Do not use heater in living or sleeping quarters.
- Keep appliance area clear and free from combustible materials, gasoline, paint, thinner, and other flammable vapors and liquids. Do not use heater in areas with high dust content.
- Keep heater away from strong drafts, water spray, rain, or dripping water.
- Install and use heater with care. Follow all local ordinances and codes. In absence of local ordinances and codes, refer to ANSI/NFPA 58. This instructs on safe storage and handling of propane gases.
- Check heater for damage before each use. Do not use a damaged heater.
- Use only propane gas set up for vapor withdrawal.
- Keep propane tank(s) below 100° F (38°C).
- Do not use heater below ground level. Propane gas is heavier than air. If a leak occurs, propane gas will sink to lowest possible level.
- Use only electrical voltage and frequency specified on model plate.

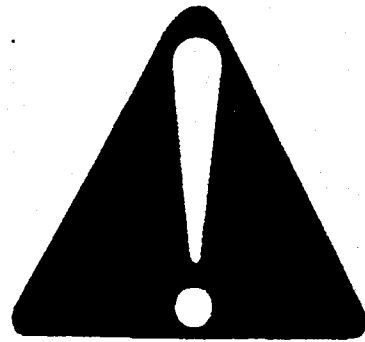
- Electrical connections and grounding of heater shall follow National Electric Code, ANSI/NFPA 70.
- Electrical grounding instructions—This appliance is equipped with a three-prong (grounding) plug for your protection against shock hazard and should be plugged directly into a properly grounded three-prong receptacle.
- Use only a three-prong, grounded extension cord.
- Use only hose and factory preset regulator provided with heater.
- Inspect hose before each use of heater. If highly worn or cut, replace before using heater. Use the replacement hose assembly specified in the parts catalog.
- Keep heater at least six feet from propane tank(s). Do not point heater at propane tank(s) within 20 feet.
- Minimum heater clearances from combustibles is:
P35—Top and Front—6 Ft., Sides and Rear—2 Ft.
P155—Top 6 Ft., Front 8 Ft., Sides and Rear—2 Ft.
- Locate heater on stable and level surface if heater is hot or running.
- Keep children and animals away from heater.
- Turn off propane supply and unplug heater when not in use.
- Never block air inlet (rear) or air outlet (front) of heater.
- Never move, handle, or service a hot, operating, or plugged-in heater.
- Do not alter heater. Keep heater in its original state.
- Do not use heater if altered.
- Never attach duct work to front or rear of heater.
- Use only original replacement parts. This heater must use design-specific parts. Do not substitute or use generic parts. Improper replacement parts could cause serious or fatal injuries.
- Inspect heater before each use. Have heater inspected yearly by a qualified service agency.



RECOGNIZE SAFETY INFORMATION

This is the safety-alert symbol. When you see this symbol on your machine or in this manual, be alert to the potential for personal injury.

Follow recommended precautions and safe operating practices.



DX,ALERT

-19-03MAR93

T81389 -UN-07DEC88

UNDERSTAND SIGNAL WORDS

A signal word—DANGER, WARNING, or CAUTION—is used with the safety-alert symbol. DANGER identifies the most serious hazards.

DANGER or WARNING safety signs are located near specific hazards. General precautions are listed on CAUTION safety signs. CAUTION also calls attention to safety messages in this manual.

▲ DANGER

▲ WARNING

▲ CAUTION

DX,SIGNAL

-19-03MAR93

TS187 -19-30SEP88

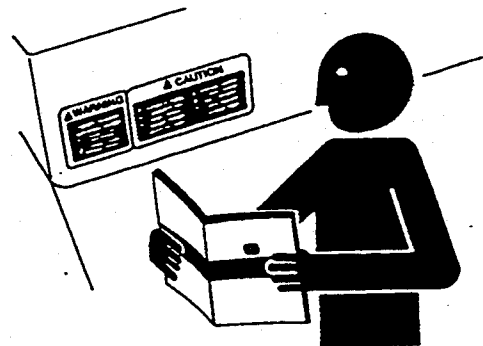
FOLLOW SAFETY INSTRUCTIONS

Carefully read all safety messages in this manual and on your machine safety signs. Keep safety signs in good condition. Replace missing or damaged safety signs. Be sure new equipment components and repair parts include the current safety signs. Replacement safety signs are available from your John Deere dealer.

Learn how to operate the machine and how to use controls properly. Do not let anyone operate without instruction.

Keep your machine in proper working condition. Unauthorized modifications to the machine may impair the function and/or safety and affect machine life.

If you do not understand any part of this manual and need assistance, contact your John Deere dealer.



DX,READ

-19-03MAR93

TS201 -UN-23AUG88



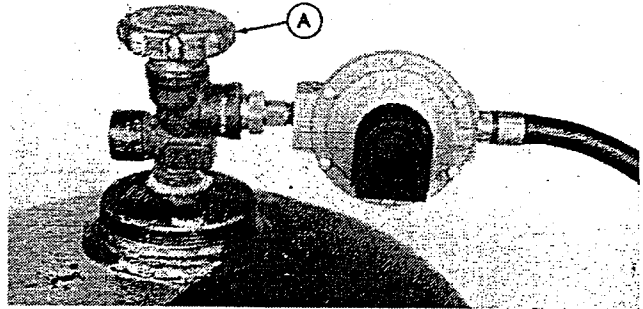
HANDLE PROPANE (LP) GAS PROPERLY

Turn off gas at shut-off valve (A) when heater is not in use.

Keep propane (LP) gas cylinder at a temperature below 100°F (38°C).

Use only propane (LP) gas, set up for vapor withdrawal.

Use only the hose and regulator provided with heater.



TY21662.B,A1 -19-11JUL95

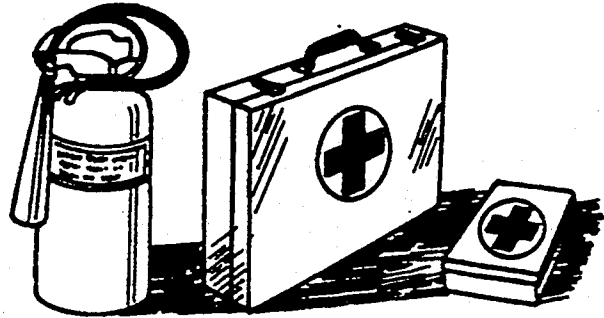
TYB247 -UN-14AUG89

PREPARE FOR EMERGENCIES

Be prepared if a fire starts.

Keep a first aid kit and fire extinguisher handy.

Keep emergency numbers for doctors, ambulance service, hospital, and fire department near your telephone.



DX,FIRE2 -19-03MAR93

TS291 -UN-29AUG88

TEST FOR LEAKS

Check for leaks with a soap and water solution painted on all connections. Never check for leaks with a match or open flame.

Test for leaks every time a connection is disconnected or reconnected, such as when replacing LP gas cylinder.



TY21662.C,A1 -19-11JUL95

TY3706 -UN-03MAY89



RESPECT ELECTRICITY

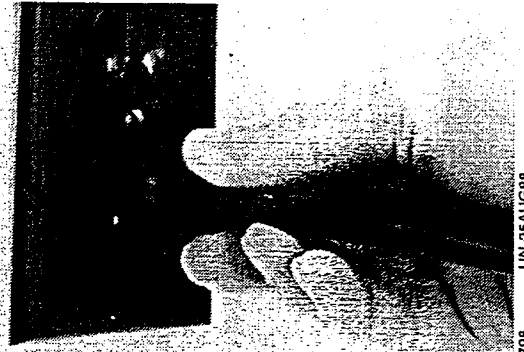
Models P35 and P155 heaters are equipped with a three-prong grounding plug to protect you against electrical shock. Plug directly into a properly grounded three-prong receptacle.

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.

Make certain that electrical connection between the heater power cord and extension cord is not exposed to water.

Disconnect electrical plug before servicing or relocating heater.

Use heater only with 120 volt AC, 60-hertz, current limited (fused) electrical circuit.



TY9798 -JN-25AUG88

TY21662.D,A1 -19-11JUL95

STORE HEATER SAFELY

When storing heater, disconnect LP gas cylinder from heater and store the cylinder outdoors in accordance with Chapter 5 of the Standard for Storage and Handling of Liquefied Petroleum Gases, ANSI/NFPA 58—1983.

TY21662.E -19-17NOV93



USING SPACE HEATER SAFELY

This space heater is not for use outdoors or in occupied buildings. It is intended for the temporary heating of buildings under construction, alteration, or repair.

Never use heater in areas of high dust content, such as grain handling facilities, or in areas of flammable vapors such as gasoline or paint thinner.

Use only in well ventilated areas.

Open an exterior door or window to obtain a ventilating opening, of the size specified for your heater.

- Model P35 1.0 sq. ft. (0.1m²)
- Model P155 4.5 sq. ft. (0.42m²)

TY21662,FA1,A -19-11JUL95

BEWARE OF CARBON MONOXIDE POISONING

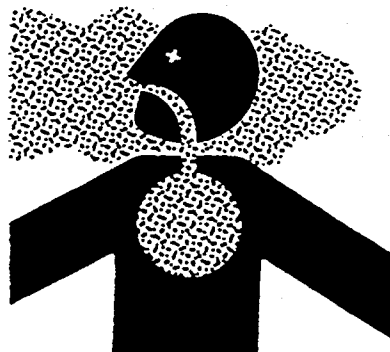
WARNING

IMPORTANT: Risk of asphyxiation. Carbon monoxide gas can cause sickness or death.

Open doors and windows to bring outside air into the heated area and keep carbon monoxide gas from accumulating.

Provide ventilating opening to fresh, outside air, of the size specified for your heater.

- Model P35 1.0 sq. ft. (0.1m²)
- Model P155 4.5 sq. ft. (0.42m²)



TS220 -JUN-23AUG88

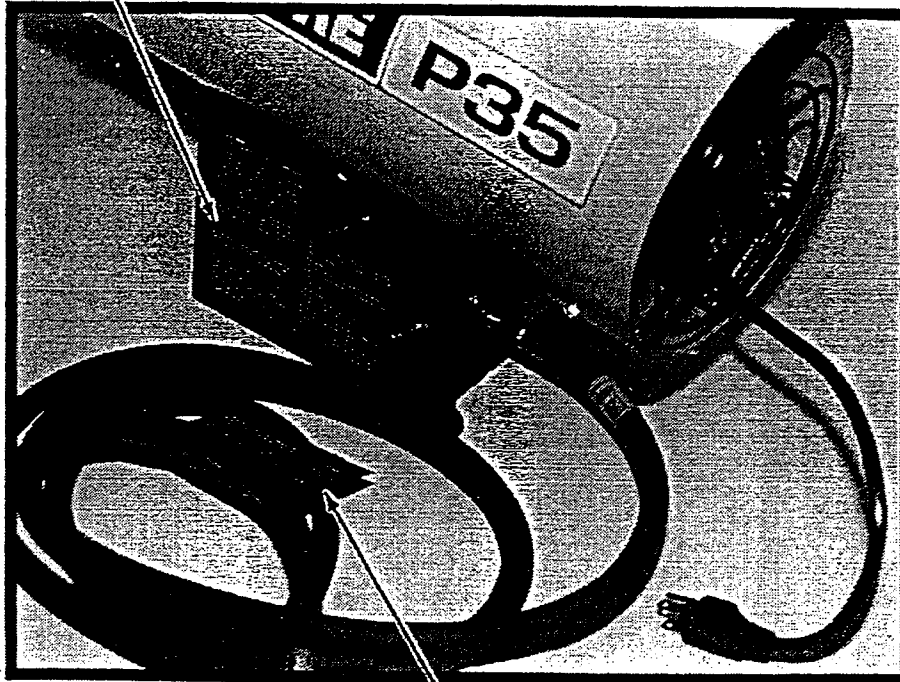
TY,21662,FA2,A -19-11JUL95

Safety Signs

SAFETY SIGNS—P35 HEATER

⚠ WARNING

Be sure motor and fan are running before pushing in automatic control valve button. Flames could flash outside heater if motor and fan are not running.



WARNINGS — Safety Information

IMPORTANT: Use this hose/regulator assembly for 35,000 BTU/Hr heaters only. Read general information decal on heater and both sides of this label before operating heater.

- Use only propane gas set up for vapor withdrawal.
- Keep propane tank(s) below 100°F.
- Keep heater at least six (6) feet from propane tank(s).
- Use only in well vented areas. Provide a fresh, outside air opening of at least one (1) square foot.
- Use only in places free of flammable vapors or high dust content.
- Inspect hose before each use. If highly worn or cut, replace with hose specified by manufacturer.
- Keep heater away from strong drafts, water spray, rain, or dripping water.
- Keep children and animals away from heater.
- Never block air inlet (rear) or air outlet (front) of heater.
- Do not move, handle, or service heater while hot, in use, or plugged in.
- Do not alter heater. Keep heater in its original state. Do not use heater if altered.

TY,21662SS,A1A -19-11JUL95

TYK112 -19-03NOV94

SAFETY SIGNS—P35 HEATER (CONTINUED)

WARNING — Safety Requirements

⚠ GENERAL HAZARD WARNING:

FAILURE TO COMPLY WITH THE PRECAUTIONS AND INSTRUCTIONS PROVIDED WITH THIS HEATER, CAN RESULT IN DEATH, SERIOUS BODILY INJURY AND PROPERTY LOSS OR DAMAGE FROM HAZARDS OF FIRE, EXPLOSION, BURN, ASPHYXIATION, CARBON MONOXIDE POISONING AND/OR ELECTRICAL SHOCK.

ONLY PERSONS WHO CAN UNDERSTAND AND FOLLOW THE INSTRUCTIONS SHOULD USE OR SERVICE THIS HEATER.

IF YOU NEED ASSISTANCE OR HEATER INFORMATION SUCH AS AN INSTRUCTIONS MANUAL, LABELS, ETC. CONTACT THE MANUFACTURER.

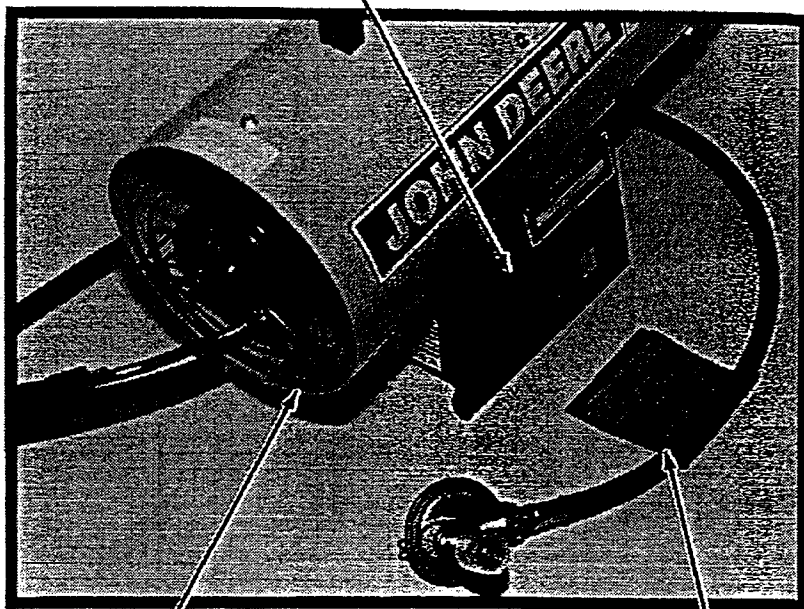
⚠ WARNING

NOT FOR HOME OR RECREATIONAL VEHICLE USE.

⚠ WARNING: FIRE, BURN, INHALATION, AND EXPLOSION HAZARD. KEEP SOLID COMBUSTIBLES SUCH AS BUILDING MATERIALS, PAPER OR CARDBOARD, A SAFE DISTANCE AWAY FROM THE HEATER AS RECOMMENDED BY THE INSTRUCTIONS. NEVER USE THE HEATER IN SPACES WHICH DO OR MAY CONTAIN VOLATILE OR AIRBORNE COMBUSTIBLES, OR PRODUCTS SUCH AS GASOLINE, SOLVENTS, PAINT THINNER, DUST PARTICLES OR UNKNOWN CHEMICALS.

FOR USE WITH PROPANE GAS ONLY

- For indoor use only. Adequate ventilation must be provided.
- This heater produces carbon monoxide, which is listed by the State of California as a reproductive toxin under Proposition 65.
- Use only a three-prong, grounded extension cord.
- Minimum heater clearances from combustibles:
Outlet: 8 ft. Sides: 2 ft. Top: 6 ft. Rear: 2 ft.
- Position heater properly before use. Locate heater on stable and level surface if heater is hot or running.
- Not for use with ductwork.



"The hose assembly shall be protected from traffic, building materials and contact with hot surfaces both during use and while in storage."

WARNING

Electrical Grounding Instructions
This appliance is equipped with a three-prong (grounding) plug for your protection against shock hazard and should be plugged directly into a properly grounded three-prong receptacle.

WARNINGS — Safety Information

IMPORTANT: Use this hose/regulator assembly for 35,000 BTU/hr heaters only. Read general information decal on heater and both sides of this label before operating heater.

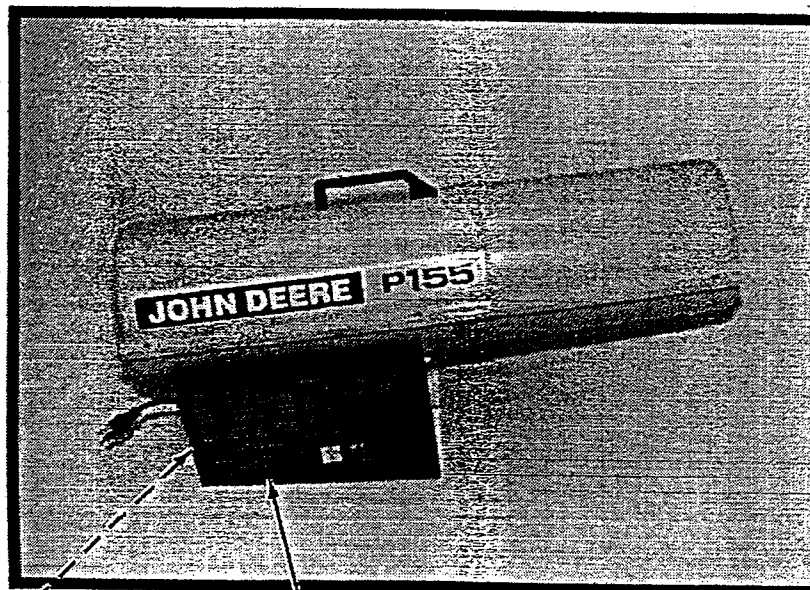
IMPORTANT: Read and understand the owner's manual before assembling, starting, or servicing heater. Improper use of the heater can cause serious injury or death from fire, explosion, burn, or carbon monoxide poisoning.

FOR YOUR SAFETY

Do not use this heater in a space where gasoline or other liquids having flammable vapors are stored or used.

- Primarily intended for temporary heating of buildings under construction, alteration, or repair. Do not use heater outdoors or in occupied dwellings. Never use heater in living or sleeping areas.
- Install and use heater with care. Follow all local ordinances and codes. In the absence of local ordinances and codes, refer to ANSI/NFPA 58. This instructs on the safe storage and handling of propane gases.
- Check heater for damage before each use. Do not use a damaged heater.

SAFETY SIGNS—P155 HEATER



"The hose assembly shall be protected from traffic, building materials and contact with hot surfaces both during use and while in storage."

WARNING

Electrical Grounding Instructions
This appliance is equipped with a three-prong (grounding) plug for your protection against shock hazard and should be plugged directly into a properly grounded three-prong receptacle.

WARNING — Safety Requirements

⚠ GENERAL HAZARD WARNING:

FAILURE TO COMPLY WITH THE PRECAUTIONS AND INSTRUCTIONS PROVIDED WITH THIS HEATER, CAN RESULT IN DEATH, SERIOUS BODILY INJURY AND PROPERTY LOSS OR DAMAGE FROM HAZARDS OF FIRE, EXPLOSION, BURN, ASPHYXIATION, CARBON MONOXIDE POISONING AND/OR ELECTRICAL SHOCK.

ONLY PERSONS WHO CAN UNDERSTAND AND FOLLOW THE INSTRUCTIONS SHOULD USE OR SERVICE THIS HEATER.

IF YOU NEED ASSISTANCE OR HEATER INFORMATION SUCH AS AN INSTRUCTIONS MANUAL, LABELS, ETC. CONTACT THE MANUFACTURER.

⚠ **WARNING: FIRE, BURN, INHALATION, AND EXPLOSION HAZARD.** KEEP SOLID COMBUSTIBLES SUCH AS BUILDING MATERIALS, PAPER OR CARDBOARD, A SAFE DISTANCE AWAY FROM THE HEATER AS RECOMMENDED BY THE INSTRUCTIONS. NEVER USE THE HEATER IN SPACES WHICH DO OR MAY CONTAIN VOLATILE OR AIRBORNE COMBUSTIBLES, OR PRODUCTS SUCH AS GASOLINE, SOLVENTS, PAINT THINNER, DUST PARTICLES OR UNKNOWN CHEMICALS.

⚠ WARNING

NOT FOR HOME OR RECREATIONAL VEHICLE USE

FOR USE WITH PROPANE GAS ONLY

- For indoor use only. Provide adequate ventilation.
- This heater produces carbon monoxide, which is listed by the State of California as a reproductive toxin under Proposition 65.
- Use only a three-prong, grounded extension cord.
- Minimum heater clearances from combustibles:
Outlet: 8 Ft. Sides: 2 Ft. Top: 6 Ft. Rear: 2 Ft.
- Position heater properly before use. Locate heater on stable and level surface if heater is hot or running.
- Not for use with ductwork.
- The minimum surrounding air temperature rating for this heater is -20°F (-29°C).

SAFETY SIGNS—P155 HEATER (CONTINUED)

WARNINGS — Safety Information

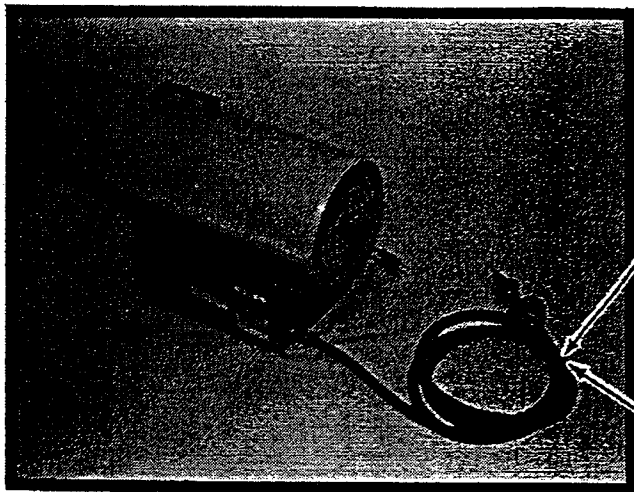
IMPORTANT: Use this hose/regulator assembly for 150,000 BTU/Hr heaters only. Read general information decal on heater and both sides of this label before operating heater.

IMPORTANT: Read and understand the owner's manual before assembling, starting, or servicing heater. Improper use of the heater can cause serious injury or death from fire, explosion, burn, or carbon monoxide poisoning.

FOR YOUR SAFETY

Do not use this heater in a space where gasoline or other liquids having flammable vapors are stored or used.

- Primarily intended for temporary heating of buildings under construction, alteration, or repair. Do not use heater outdoors or in occupied dwellings. Never use heater in living or sleeping areas.
- Install and use heater with care. Follow all local ordinances and codes. In the absence of local ordinances and codes, refer to ANSI/NFPA 58. This instructs on the safe storage and handling of propane gases.
- Check heater for damage before each use. Do not use a damaged heater.



WARNINGS — Safety Information

IMPORTANT: Use this hose/regulator assembly for 150,000 BTU/Hr heaters only. Read general information decal on heater and both sides of this label before operating heater.

- Use only propane gas set up for vapor withdrawal.
- Keep propane tank(s) below 100° F.
- Keep heater at least six (6) feet from propane tank(s).
- Use only in well vented areas. Provide a fresh, outside air opening of at least three (3) square feet for each 100,000 BTU/Hr of rating.
- Use only in places free of flammable vapors or high dust content.
- Inspect hose before each use. If highly worn or cut, replace with hose specified by manufacturer.
- Keep heater away from strong drafts, water spray, rain, or dripping water.
- Keep children and animals away from heater.
- Never block air inlet (rear) or air outlet (front) of heater.
- Do not move, handle, or service heater while hot, in use, or plugged in.
- Do not alter heater. Keep heater in its original state. Do not use heater if altered.

TYK183 -19-30MAY95

TY.21662SS.A5 -19-11JUL95

Introduction

TO THE CUSTOMER



CAUTION: For your safety.

Do not use this heater in a space where gasoline or other liquids having flammable vapors are stored or used.

Thank you for purchasing a John Deere product.

Read this manual carefully to learn how to operate and service your machine and should remain with the machine when you sell it.

This manual should be considered a permanent part of your machine and should remain with the machine when you sell it.

Measurements in this manual are U.S. customary units and their metric equivalents.

Write product identification numbers in the Specifications section. Accurately record all the numbers to help in tracing the machine should it be stolen. Your dealer also needs these numbers when you order parts. If this manual is kept on the machine, also file the identification numbers in a secure place off the machine.

Warranty is provided as part of John Deere's support program for customers who operate and maintain their equipment as described in this manual.

The warranty does not cover:

A—Products which have been altered or modified in ways not approved by John Deere, including setting fuel delivery above specifications or otherwise overpowering of products.

B—Depreciation or damage caused by normal wear, accident, lack of reasonable and necessary maintenance as specified in this manual, improper maintenance, improper protection in storage, or improper use or abuse.

C—Normal maintenance and replacement of service items such as ignitors and hoses unless such items are defective.

D—Transportation, mailing and service call charges for warranty service.

All information, illustrations and specification in this manual are based on the latest product information available at the time of publication. The right is reserved to make changes at any time without notice.

TY21662.A,A1 -19-11JUL95

Operation

HEATER IDENTIFICATION AND COMPONENTS—MODEL P35

- A—Handle
- B—Support
- C—Power Cord Plug
- D—Automatic Control Valve Button
- E—PIEZO Ignitor Button
- F—Hose/Regulator Assembly
- G—Hose Inlet Connector

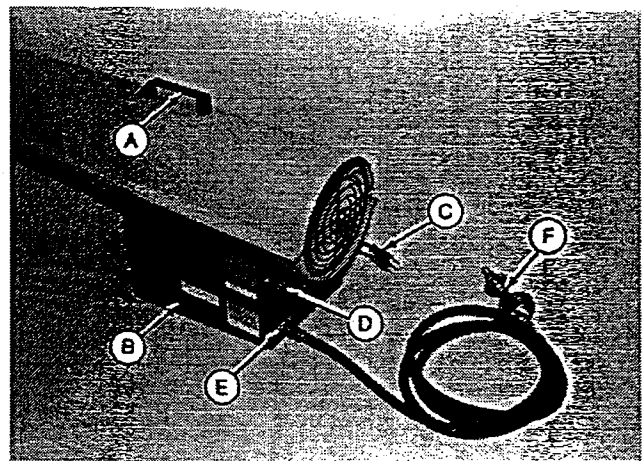


TY21662.G.A1 -19-11JUL95

TYB1520 -UN-25AUG93

HEATER IDENTIFICATION AND COMPONENTS—MODEL P155

- A—Handle
- B—Support
- C—Power Cord Plug
- D—On/Off Switch
- E—Hose Connector
- F—Hose/Regulator Assembly



TY21662OP.A2 -19-11JUL95

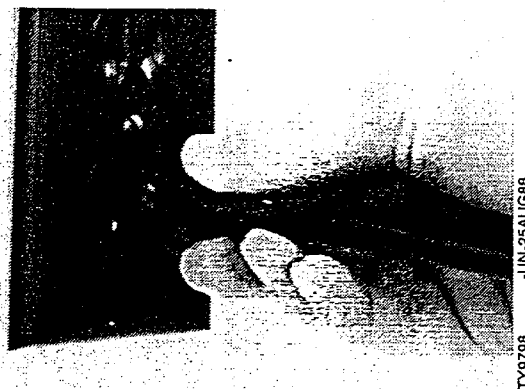
TYK191 -UN-30MAY95

ELECTRICAL SUPPLY—P35 AND P155 HEATERS

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 (NFPA No. 70), the REA requirements, and to state and local codes as may be applicable.

The heater requires a grounded 120 volt, 60-hertz receptacle for a power source. Check heater amperage requirements in the Specifications Section.

IMPORTANT: DO NOT overload circuit.



TY21662.H.A1 -19-11JUL95

EXTENSION CORDS—P35 AND P155 HEATERS

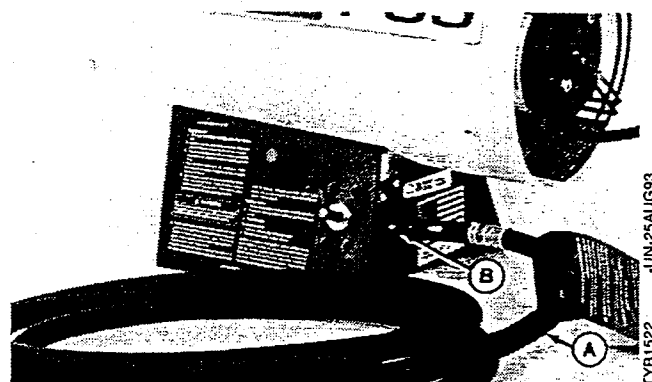
Use 3-wire (grounded) cord of proper wire size.

Cord Length (Max)	50 ft (15.2 m)	100 ft (30.5 m)	200 ft (61.0 m)
Min. Wire Size	18AWG	16AWG	14AWG

TY21662.OP.A3 -19-11JUL95

INSTALL FUEL SUPPLY HOSE—P35 AND P155 HEATERS

1. Install fuel supply hose (A) to heater inlet (B). Tighten hose end fitting.



P35 Heater Shown

TY21662.L.A1 -19-11JUL95

LP GAS SUPPLY

Use this heater only with a propane vapor withdrawal supply system. (See Chapter 5 of the Standard for Storage and Handling of Liquefied Petroleum Gas, ANSI/NFPA 58—1983, which may be obtained from your local library, fire department, or gas company.)

The amount of LP gas available from the cylinders depends on the surface area of the liquefied gas in the cylinder and the temperature of the cylinder.

Sweat or frost on cylinder indicates that a larger cylinder is required for the ambient air temperature. To avoid stoppage due to low gas supply, use dual cylinders or larger cylinders.

The following chart shows the size (lbs.) and number of gas cylinders required to operate the heater properly.

P35 HEATER

Average Outdoor Temperature	Number of 20 lb. LP Gas Cylinders
40°F (4°C) and above	1
32°F (0°C)	2
20°F (-7°C)	2
10°F (-12°C)	3
0°F (-18°C)	3
-10°F (-23°C)	* See Note
-20°F (-29°C)	* See Note

P155 HEATER

Average Outdoor Temperature	Number of 100 lb. LP Gas Cylinders
32°F (0°C)	2
20°F (-7°C)	2
10°F (-12°C)	3
0°F (-18°C)	3
-10°F (-23°C) and below	* See Note

The minimum surrounding-air temperature rating for each heater is -20°F (-29°C).

NOTE: See LP gas supplier for proper tank sizing.

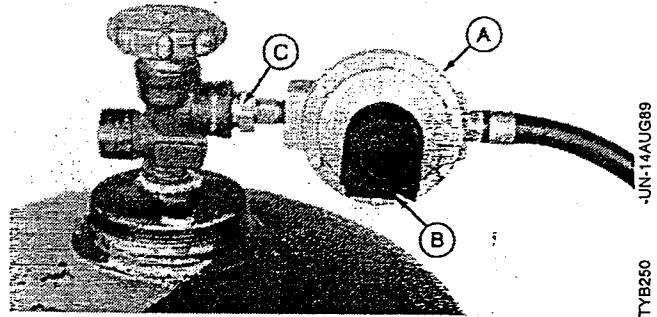
TY21662,KA1,A -19-11JUL95

ATTACH FUEL SUPPLY HOSE TO CYLINDER—P35 AND P155 HEATERS

CAUTION: To prevent cylinder from tipping, attach LP gas cylinder to a wall mounting or cart with a chain or strap.

IMPORTANT: Use only gas pressure regulator provided. If regulator is damaged, replace with a new regulator.

1. Install pressure regulator (A) onto fuel supply with breather vent (B) down (if possible).
2. Tighten fitting (C).



TY21662,MA1 -19-11JUL95

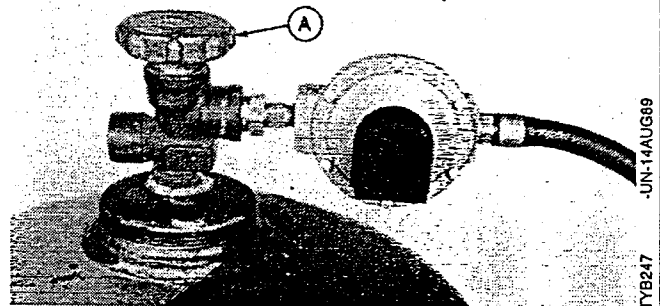
TEST FOR LEAKS

1. Slowly open cylinder valve (A) to prevent lockup of excess-flow check valve on propane tank.

CAUTION: Never use an open flame to check for leaks or you may be seriously injured or killed by explosion or fire. Use soap and water mix to locate leaks.

IMPORTANT: Keep soap and water solution out of regulator vent. It clogs vent.

2. Brush a soap and water solution onto all connections to check for leaks. Bubbles indicate leaks. Tighten all connections that leak. Recheck fittings after tightening.
3. Close cylinder valve.



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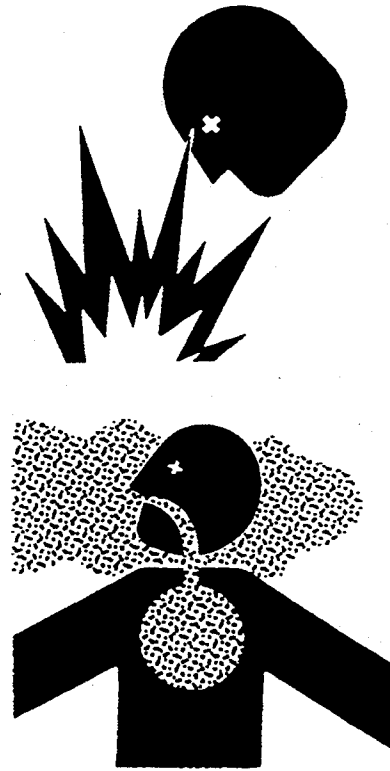
PREPARING HEATING AREA AND LOCATING HEATER—P35 AND P155 HEATERS

CAUTION: Never use heater where combustible materials or flammable and/or explosive vapors are present.

High concentration of airborne dust, such as found in a grain handling facility, or invisible vapors from gasoline or paint thinners, can explode when heated, causing serious injury or death.

Be sure area is clear of hazardous materials before starting heater.

CAUTION: Do not operate heater without proper ventilation. Carbon monoxide gas can accumulate, causing sickness or death. Provide ventilating opening to fresh outside air, of the size specified for your model, to reduce risk of asphyxiation due to carbon monoxide poisoning.



-UN-23AUG88

TS280

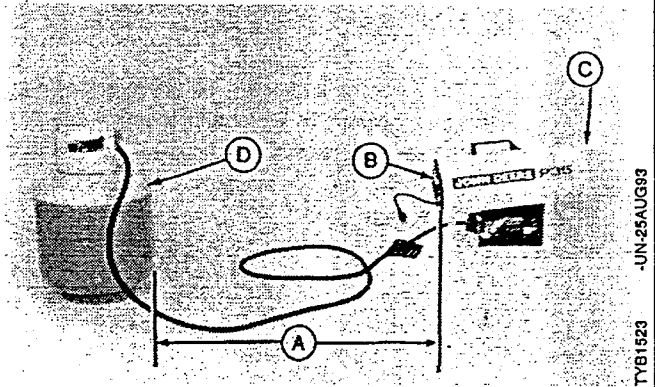
-UN-23AUG88

TS220

TY21662,JA1,A -19-11JUL95

CAUTION: Before starting heater, make sure it is:

- On a flat level surface, out of pedestrian walkways.
- Away from combustible materials, with specified clearances at top, front, rear and sides.
- At least 6 Ft. (1.8 m) away from LP gas cylinder, with front output opening directed away from cylinder, with no obstructions at rear air intake opening.



Model P35 Heater Shown

1. Clear heating area of combustible materials, gasoline, and flammable liquids and/or explosive vapors.

2. Open an exterior door or window to obtain a ventilating opening of the size specified for your model.

Model P35	1.0 sq. ft. (0.1m ²)
Model P155	4.5 sq. ft. (0.42m ²)

3. Position heater on a flat level surface, out of pedestrian walkways.

4. Check that clearance around heater is as specified for your model.

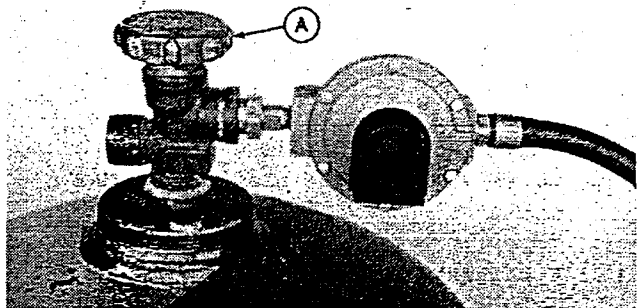
P35—Top and Front—6 Ft., Sides and Rear—2 Ft.
P155—Top—6 Ft., Front—8 Ft., Sides and Rear—2 Ft.

5. Be sure heater is at least 6 Ft. (1.8 m) (A) away from LP gas cylinder (D), with front output opening (C) directed away from cylinder (as shown) with no obstructions at rear air intake (B).

STARTING P35 AND P155 HEATERS

CAUTION: Before starting, read and follow instructions found in Preparing Heating Area and Locating Heater—P35 and P155 Heaters.

1. Slowly open cylinder valve (A) to prevent lockup of excess-flow check valve on propane tank.

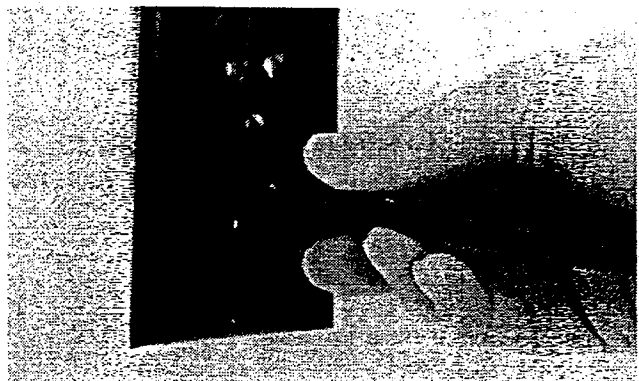


TY21662,Q,A1 -19-11JUL95

TYB247 -UN-14AUG89

CAUTION: Never leave heater plugged in without an adult present.

2. Insert plug into grounded receptacle.

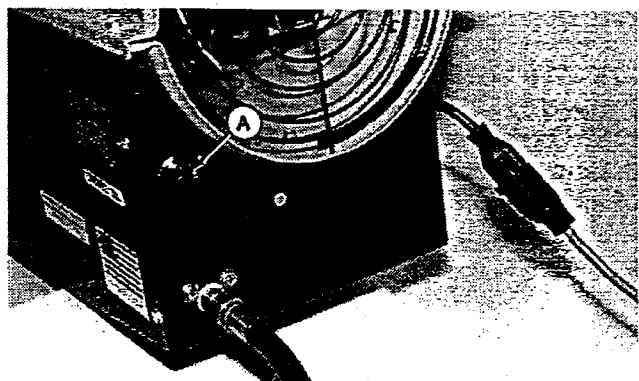


TY21662,R,A1 -19-11JUL95

TY9788 -UN-25AUG88

• P155 Heater

3. Move switch (A) to "ON" position; heater should start within twenty (20) seconds. If heater does not start, move switch to "OFF" position, wait ten (10) seconds for burner control to reset, then try again.



TY21662OP,A4 -19-11JUL95

TYK185 -UN-30MAY95

• P35 Heater

CAUTION: Be sure motor and fan are running before pushing in automatic control valve button. Flames could flash outside heater if motor and fan are not running.

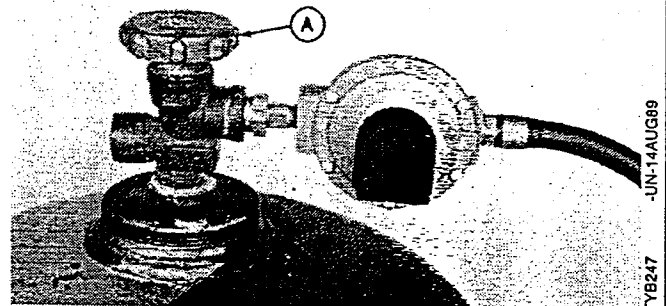
4. Push in and hold automatic valve button (A).
5. Push piezo ignitor button (B). Piezo ignitor button may need to be pushed 3 to 8 times until burner lights.
6. Keep automatic control valve button (A) pushed in for at least 30 seconds after burner lights.



TY21662,R,A2 -19-11JUL95

STOPPING P35 AND P155 HEATERS

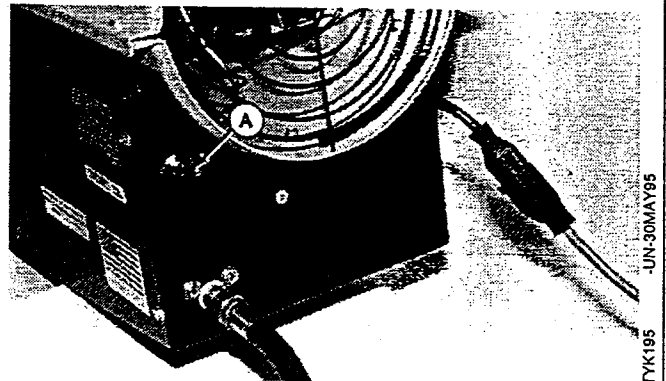
1. Close cylinder valve (A).
2. Wait a few seconds for all LP gas to leave supply hose. Flame will burn out.



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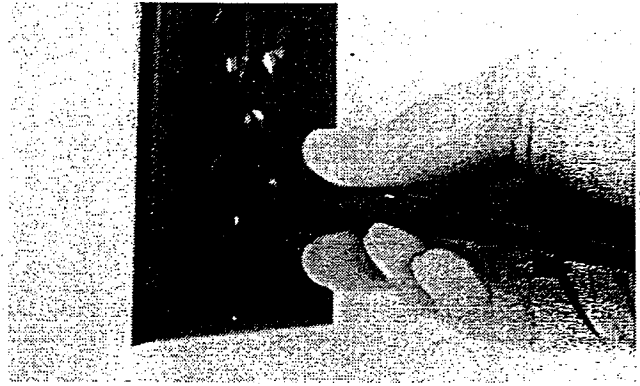
• P155 Heater

3. Move switch (A) to "OFF" position.



TY21662OP,A5 -19-11JUL95

4. Remove plug from receptacle.



TY21662,T,A1 -19-11JUL95

TY9798 -UN-25AUG88

Troubleshooting

TROUBLESHOOTING—P35 HEATER

Symptom	Problem	Solution
Fan does not turn when heater is plugged in.	No electrical power to heater.	Check voltage to electrical outlet. If voltage is good, check heater power cord for breaks.
	Fan hitting inside of heater shell.	Adjust motor/fan guard to keep fan from hitting inside of heater shell. Bend fan guard if necessary.
	Fan blades bent.	Replace fan. See Remove, Clean and Inspect Motor and Fan Assembly—P35 Heater, in Service section.
	Defective motor.	Replace motor. See Remove, Clean and Inspect Motor and Fan Assembly—P35 Heater, in Service section.
Heater will not ignite, motor runs, no spark observed.	Loose or disconnected ignitor wire.	Check ignitor wire. Tighten or reattach loose ignitor wire. See Repair or Replace Ignitor—P35 Heater in Service Section for wire location.
	Wrong spark gap.	Set gap between ignitor electrode and target plate to 0.17 in. (4.4 mm).
	Piezo ignitor loose.	Tighten nut holding Piezo ignitor to base of heater.
	Bad ignitor electrode.	Replace ignitor electrode. See Repair or Replace Ignitor—P35 Heater in Service Section.
Heater will not ignite, motor runs, spark observed.	Start procedure not followed.	Follow recommended start-up procedure.
	Low LP gas pressure.	Cylinder or supply line is incorrect size for heater. See LP Gas Supply in Operation section. Have installation checked by qualified LP service technician.
	Propane supply tank valve opened too quickly, causing excess flow valve to close.	Close propane supply valve and open again slowly.

Continued on next page

Symptom	Problem	Solution
Heater shuts down while running.	High surrounding air temperature, causing thermal limit device to shut down heater.	This can happen when running heater in temperatures above 85°F. Run heater in cooler temperatures.
	Restricted air flow.	Check heater inlet and outlet. Remove any obstructions.
	Damaged fan.	Replace fan. See Remove, Clean and Inspect Motor and Fan Assembly—P35 Heater, in Service section.
	Excessive dust or debris in surrounding area.	Clean heater. See Storage and Maintenance.
Heater stops and propane cylinder is sweating or frosted.	Propane gas cylinder too small for ambient temperature.	Use larger LP cylinder or dual cylinders. See LP Gas Supply in Operation section.
Flames extend out of heater.	Heater not shut down properly.	Turn propane supply valve off before disconnecting electrical power supply.

TY21662.TS.A1 -19-11JUL95

TROUBLESHOOTING—P155 HEATER

Symptom	Problem	Solution
Fan does not turn when heater is plugged in.	No electrical power to heater.	Check voltage at electrical outlet.
		Check heater power cord for breaks.
		Check "on/off" switch.
	Fan blades hitting inside of heater shell.	Adjust fan or heater shell to eliminate interference.
Fan turns, no fuel flow.	Defective motor.	See Replace Fan Motor—P155 Heater in Service section.
	Propane supply valve not turned on.	Turn on valve.
	Propane supply tank valve opened too quickly, causing excess flow valve to close.	Close propane supply valve and open again slowly.
	Propane gas cylinder too small for ambient temperature.	Use larger LP cylinder or dual cylinders. See LP Gas Supply in Operation section.
	Fuel line or nozzle blocked.	See your John Deere dealer.
	Solenoid valve defective.	See your John Deere dealer.
	Safety control defective.	See your John Deere dealer.
	Thermal switch dirty or defective.	See Clean or Replace Thermal Switch—P155 Heater in Service section.
Fan turns, fuel flows, no spark.	Damaged safety control.	See your John Deere dealer.
	Loose or broken ignitor wire.	See your John Deere dealer.
	Incorrect ignitor gap.	See Adjusting Ignitor Gap—P155 Heater, in Service section.
	Defective ignitor.	See Replace Ignitor—P155 Heater, in Service section.
Flame goes out after short period of time.	Propane gas cylinder too small for ambient temperature.	Use larger LP cylinder or dual cylinders. See LP Gas Supply in Operation section.

Continued on next page

Symptom	Problem	Solution
Heater cycles on and off.	High surrounding air temperatures (greater than 80°F) causes thermal limit switch to shut down heater.	Run heater with cooler inlet air.
	Dirty or damaged thermal switch.	See Clean or Replace Thermal Switch—P155 Heater, in Service section.
	Strong wind blowing into outlet.	Move outlet away from wind.
Flames extend out of heater.	Dirty or damaged thermal switch.	See Clean or Replace Thermal Switch—P155 Heater, in Service section.
	Damaged fan.	See Clean, Inspect and/or Replace Fan Blade—P155 Heater, in Service section.
	Damaged LP regulator.	See your John Deere dealer.
	Damaged motor.	See Replace Fan Motor—P155 Heater, in Service section.
	Damaged thermal switch.	See Clean or Replace Thermal Switch—P155 Heater, in Service section.

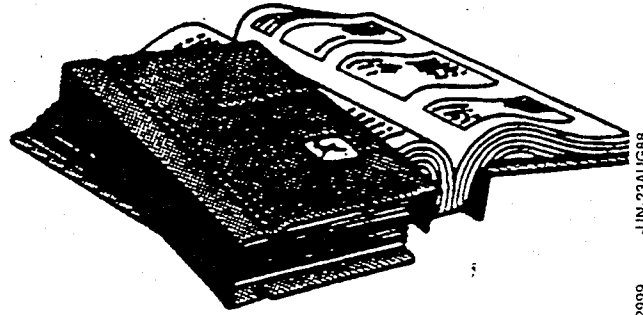
TY21662,TS,A2 -19-11JUL95

Service

ADDITIONAL SERVICE INFORMATION

This manual is not a detailed service manual. It has only information you need for normal operation and maintenance.

If a technical manual is desired, see your John Deere dealer for the correct manual.



TY21662.X -19-17NOV93

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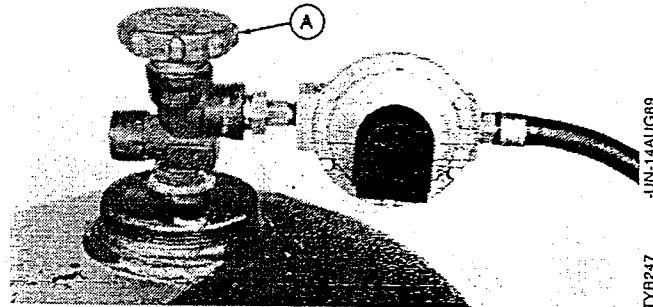
PREPARE P35 AND P155 HEATER FOR SERVICE

CAUTION: Do not handle, move, or service heater while it is operating or hot.

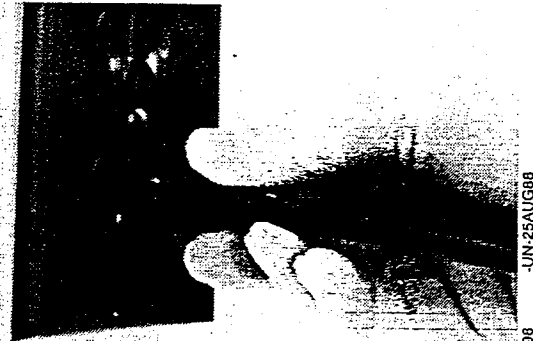
1. Close cylinder valve (A). Wait a few seconds for all LP gas to leave supply hose. Disconnect hose from cylinder.

CAUTION: Disconnect heater power cord from electrical outlet or extension cord before performing any maintenance or repair procedure.

2. Disconnect heater power cord from receptacle or extension cord..



TYB247 -UN-14AUG89



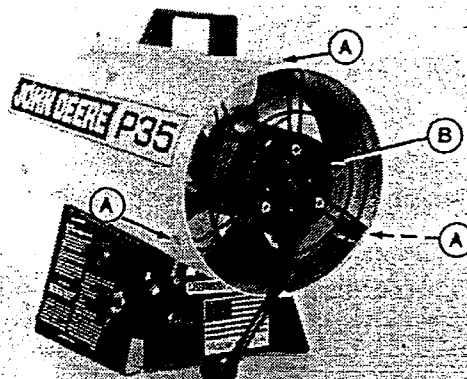
TY9798 -UN-25AUG88

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REMOVE, CLEAN AND INSPECT MOTOR AND FAN ASSEMBLY—P35 HEATER

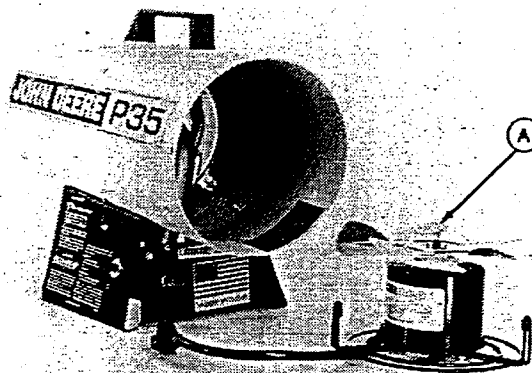
CAUTION: DO NOT plug in fan when removed from heater shell. Contact with rotating fan blades can cause serious injury.

1. Remove three screws (A) attaching fan assembly (B) to heater shell.
2. Remove fan assembly (B).



TY21662_AA,A1A -19-11JUL95

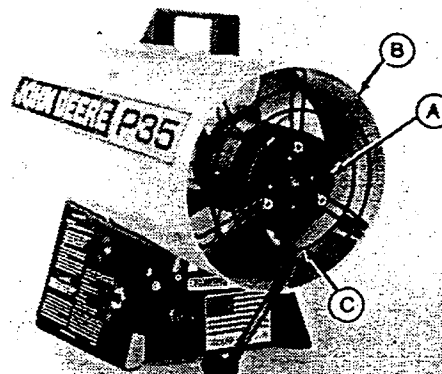
3. Clean blades (A) with damp cloth.
4. Inspect fan blades for wear. If blade edges are worn, feathered, bent or cracked, replace fan.



TY21662_AB -19-17NOV93

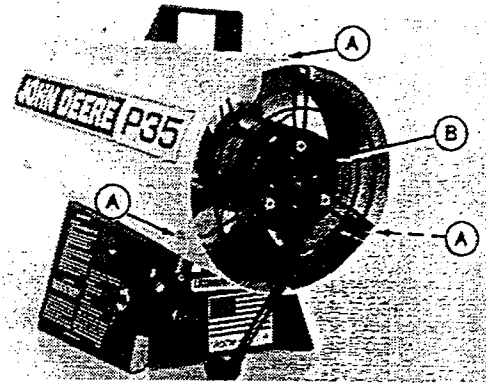
INSTALL MOTOR AND FAN ASSEMBLY—P35 HEATER

1. Install motor and fan assembly (A) into heater shell (B). Be sure power cord is properly routed through fan guard (C).



TY21662_AC,A1 -19-11JUL95

2. Install three screws (A) through heater shell into fan guard (B). Tighten screws.



TY21662,AD,A1 -19-11JUL95

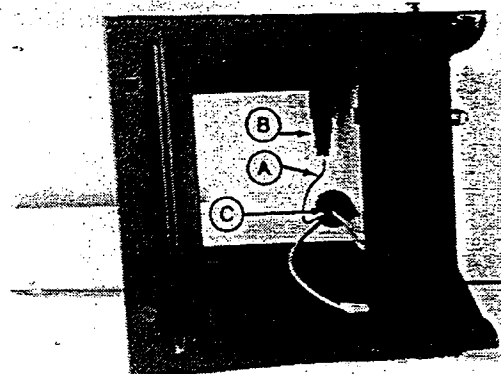
TYB1525 -UN-25AUG93

REPAIR OR REPLACE IGNITOR—P35 HEATER

1. Remove fan assembly from heater shell. (See Remove, Clean and Inspect Motor and Fan Assembly—P35 Heater, in this section.)

TY21662,AE,A1 -19-11JUL95

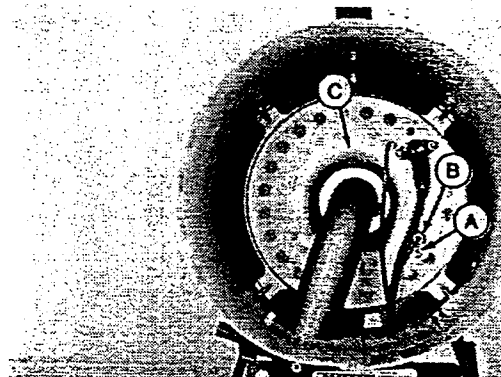
2. Lay heater on side. Remove black ignitor wire (A) from piezo ignitor (B).
3. Push wire up through bushing (C) in heater shell.



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TYB1528 -UN-25AUG93

4. Remove ignitor mounting screw (A) from rear head (C).
5. Remove ignitor assembly (B).

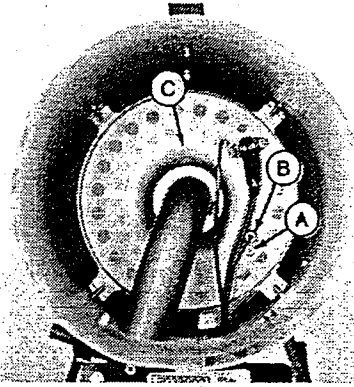


TY21662,AG,A1 -19-11JUL95

TYB1529 -UN-25AUG93

6. Install new ignitor assembly (B). Be sure head plate is clean and free of any rust or debris. Ignitor must ground to head plate to provide spark.

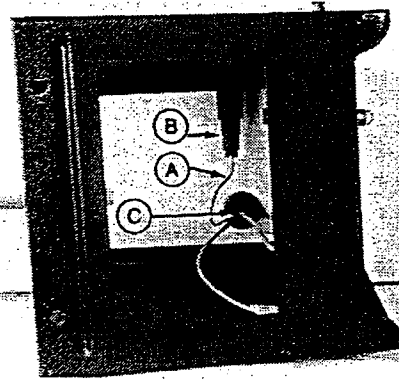
7. Attach ignitor to head plate with screw (A).



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TYB1529 -UN-25AUG93

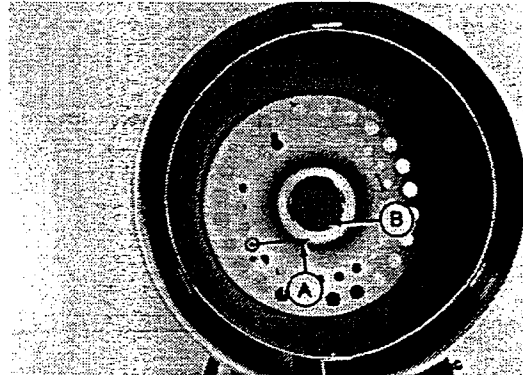
8. Route ignitor wire (A) through bushing (C) to piezo ignitor (B). Install wire on ignitor terminal.



TY21662,AI -19-17NOV93

TYB1528 -UN-25AUG93

9. Set gap between ignitor electrode (A) and target plate (B) to 0.17 in. (11/64 in.) (4.4 mm).



TY21662,AJA1 -19-14OCT94

TYB1530 -UN-25AUG93

CAUTION: When testing for spark, heater could ignite causing severe burns. Be sure heater is disconnected from gas supply and electrical supply before testing.

10. Test for spark. Push piezo ignitor button (B) and watch for spark between ignitor electrode and target plate.



TY21662,AKA1 -19-11JUL95

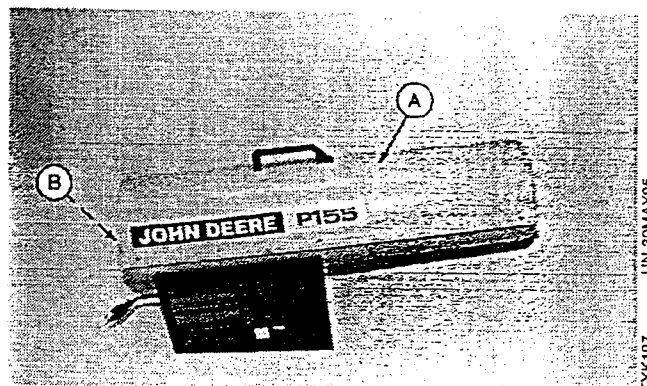
TYB1524 -UN-25AUG93

11. Install fan motor assembly. (See Install Fan Assembly—P35 Heater in this section.)

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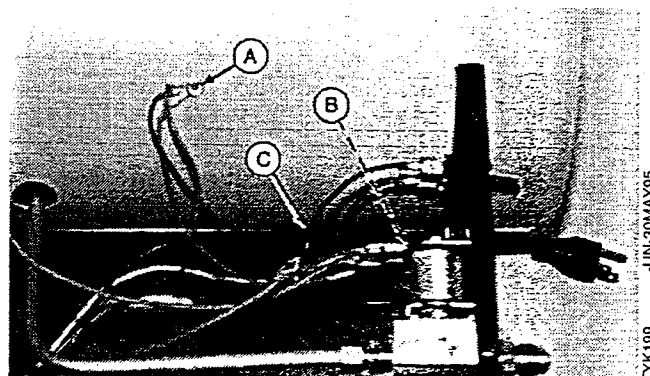
REPLACE FAN MOTOR—P155 HEATER

1. Remove eight screws, top shell (A) and fan guard (B).



TY 21662SV.A3 -19-11JUL95

2. Remove four screws and base side cover.
3. Disconnect motor ground (green) (A) and neutral (white) (B) wires. Push wires up through bushing (C) into motor area.



TY 21662SV.A4 -19-11JUL95

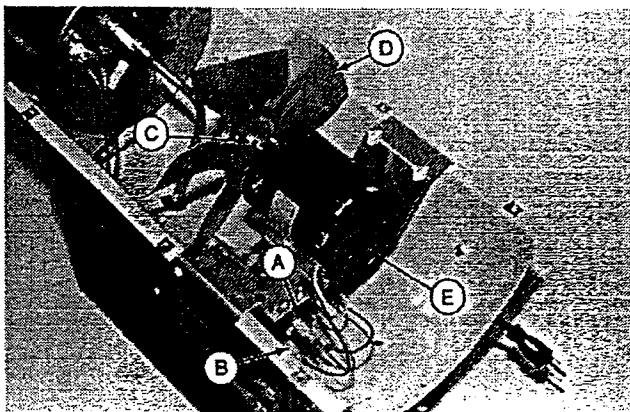
4. Disconnect red (A) and black (B) wires from relay.

IMPORTANT: Remove fan blade from shaft before removing motor from heater. The weight of the motor resting on the fan can damage fan by bending blades.

5. Loosen set screw (C) and remove fan blade (D).

6. Remove motor assembly (E) from heater.

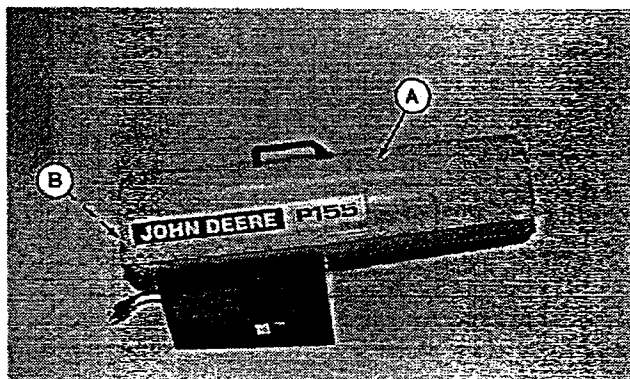
7. Install new motor by performing removal steps in reverse order.



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CLEAN, INSPECT AND/OR REPLACE FAN BLADE—P155 HEATER

1. Remove eight screws, top shell (A) and fan guard (B).



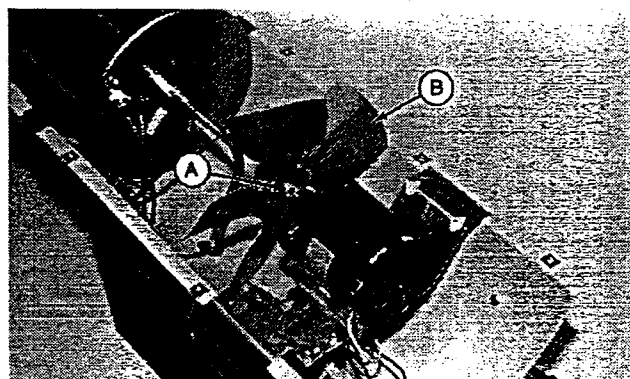
TY,21662SV,A6 -19-11JUL95

2. Loosen set screw (A) and remove fan blade (B) from motor shaft.

3. Clean fan blade using a soft cloth moistened with cleaning solvent. Dry fan thoroughly after cleaning.

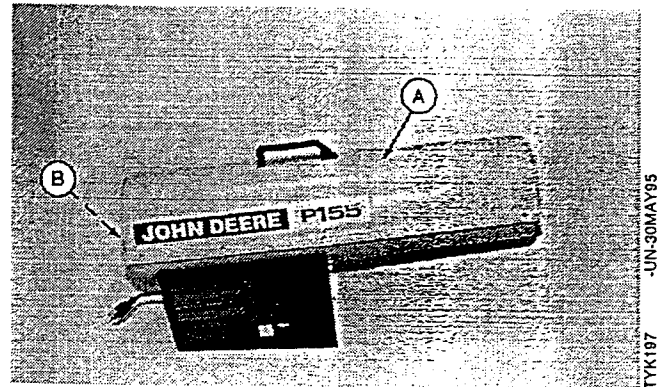
4. Inspect fan blades for wear. If blade edges are worn, feathered, bent or cracked, replace fan.

5. Install fan blade on motor shaft. Position set screw on shaft flat and tighten to 45 lb-in. (5.1 N·m).



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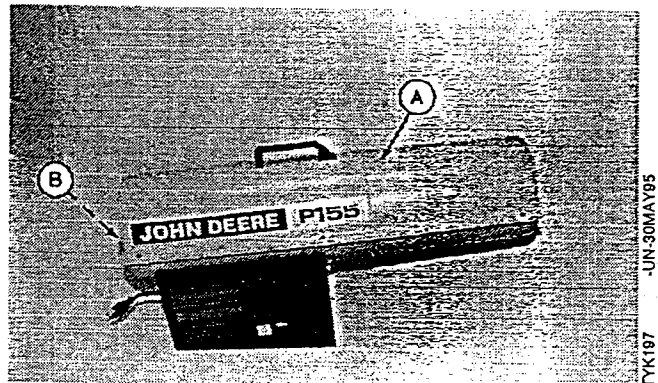
6. Install fan guard (B) and top shell (A) with eight screws.



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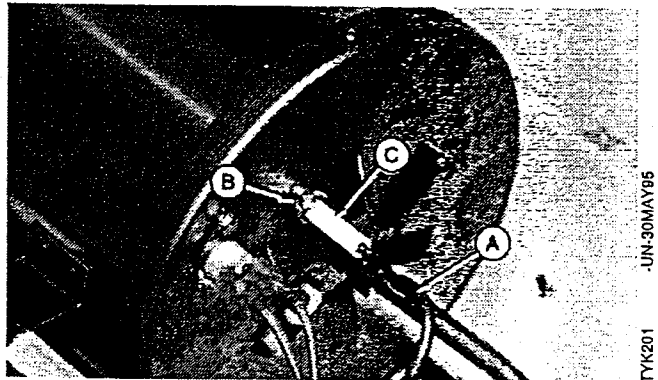
REPLACE IGNITOR—P155 HEATER

1. Remove eight screws, top shell (A) and fan guard (B).



TY.21662SV.A9 -19-11JUL95

2. Disconnect wire (A) from ignitor terminal.
3. Remove retaining screw (B) and ignitor (C).
4. Install ignitor and check gap. Refer to Adjusting Ignitor Gap—P155 Heater in this section.

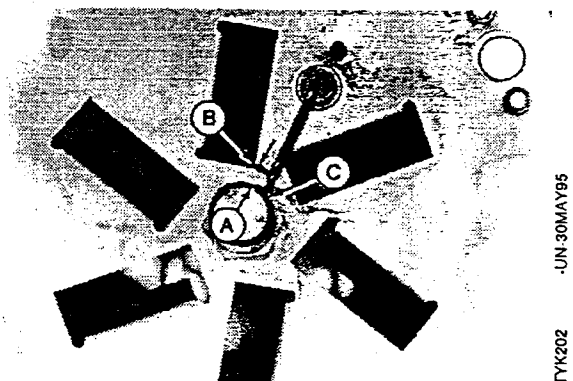


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ADJUSTING IGNITOR GAP—P155 HEATER

NOTE: Ignitor gap should be checked periodically to ensure proper operation.

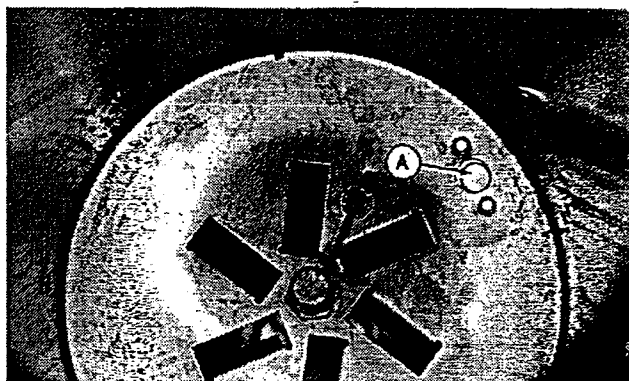
Make sure gap (A) between ignitor electrode (B) and burner nozzle (C) is 0.13—0.15 in. (3.3—3.8 mm). If need be, adjust electrode position to obtain specified gap.



TY.21662SV.A11 -19-11JUL95

CLEAN OR REPLACE THERMAL SWITCH—P155 HEATER

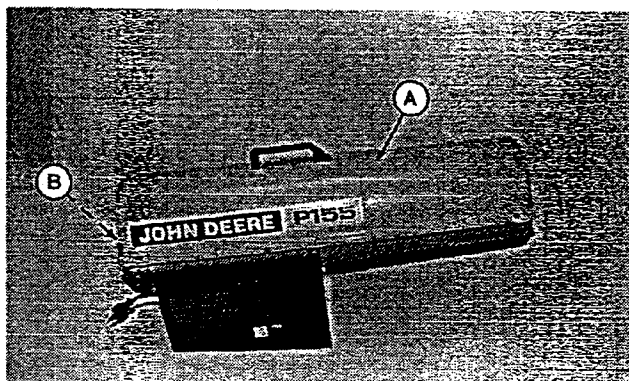
1. Clean accumulated dirt from thermal switch sensor (A).
2. If cleaning sensor does not correct problem, proceed with following removal steps.



TY,21662SV,A12 -19-11JUL95

TYK203 -UN-07JUN95

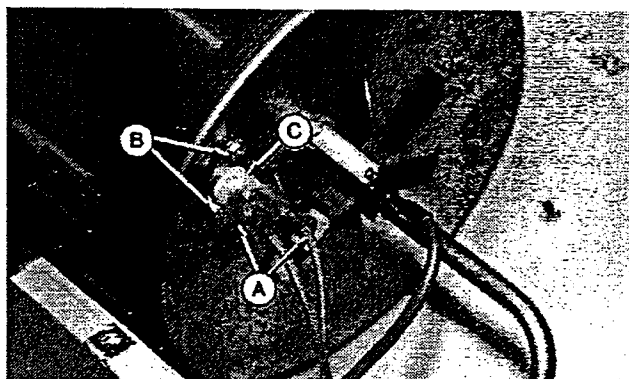
3. Remove eight screws, top shell (A) and fan guard (B).



TY,21662SV,A13 -19-11JUL95

TYK187 -UN-30MAY95

4. Disconnect insulated wires (A) from switch.
5. Remove nuts (B) and star washers to replace thermal switch (C).



TY,21662SV,A14 -19-11JUL95

TYK204 -UN-30MAY95

Storage

STORAGE AND MAINTENANCE

IMPORTANT: Have heater inspected yearly by a qualified service person.

When storing heater, always disconnect LP gas cylinder from heater and store the cylinder in accordance with Chapter 5 of the Standard for Storage and Handling of Liquefied Petroleum Gases, ANSI/NFPA 58-1983.

When not in use, store heater and regulator in a dry, clean location free of corrosive fumes and dust.

Cover heater to keep out dirt.

Cover brass fittings of heater and regulator to prevent dirt or foreign material from entering system.

When taking heater out of storage, perform the following maintenance procedures. (See Service section.)



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

- Clean fan.
- Clean exterior of unit.

TY21662,AM,A1 -19-11JUL95

Specifications

SPECIFICATIONS—P35 HEATER

Input Rating	35,000 BTU/HR (36.9 MJ)
Hot Air Output (approximate)	175 CFM (298 m ³ /HR)
Fuel	Propane vapor only (LP gas)
Fuel Consumption	0.38 gal. (1.4 L) or 1.6 lbs/HR (0.73 Kg/HR)
Supply Pressure (to regulator)	
Maximum	Bottle pressure
Minimum	"The minimum inlet gas supply pressure for the purpose of input adjustment is 10 PSIG."
Voltage	120 AC
Cycle	60 Hz.
Amperage (normal operation)	2.0
Motor	Thermally protected 2735 rpm at 120 V/60 HZ
Weight (approximate)	14.5 lbs. (6.6 kg)
Length	18.5 in. (470 mm)
Width	7.7 in. (196 mm)
Height	12.8 in. (325 mm)
Ignitor Gap	0.17 in. (11/64 in.) (4.4 mm)

(Specifications and design subject to change without notice.)

TY21662,AN,A1 -19-11JUL95

SPECIFICATIONS—P155 HEATER

Input Rating	150,000 BTU/HR (158.3 MJ)
Hot Air Output (approximate)	550 CFM (935 m ³ /HR)
Fuel	Propane vapor only (LP gas)
Fuel Consumption	1.6 gal. (6.1 L) or 7.0 lbs/HR (3.2 Kg/HR)
Supply Pressure (to regulator)	
Maximum	Tank pressure
Minimum	"The minimum inlet gas supply pressure for the purpose of input adjustment is 10 PSIG."
Voltage	120 VAC
Cycle	60 Hz
Amperage (normal operation)	2.2
Motor	1/8 Hp (93.2 W) Thermally protected 3430 rpm (@ 120 V/60 Hz)
Weight (approximate)	24 lbs (10.9 kg)
Length	36.25 in. (921 mm)
Width	14.5 in. (368 mm)
Height	20.0 in. (508 mm)
Ignitor Gap	0.13—0.15 in. (3.3—3.8 mm)

(Specifications and design subject to change without notice.)

TY21662SP,A2 -19-11JUL95

RECORD SERIAL NUMBER

Write your model number, serial number, and date of purchase in the spaces provided below. Your dealer needs this information when ordering parts.

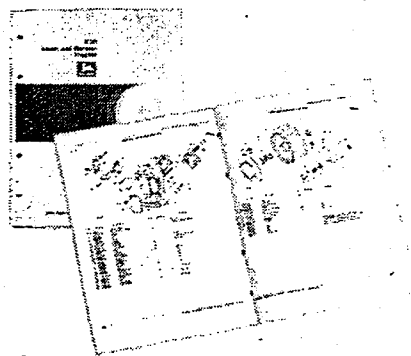
Model No. _____
 Serial No. _____
 Date of Purchase _____
 (To be filled in by purchaser)

TY21662,AOA1 -19-14OCT94

John Deere Service Literature Available

PARTS CATALOG

The parts catalog lists service parts available for your machine with exploded view illustrations to help you identify the correct parts. It is also useful in assembling and disassembling.



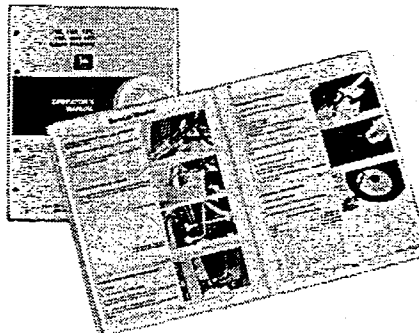
DX,PARTS -19-03MAR93

TS189 -UN-17JAN89

OPERATOR'S MANUAL

The operator's manual provides safety, operating, maintenance, and service information about John Deere machines.

An extra copy of the operator's manual is available. The operator's manual and safety signs on your machine may also be available in other languages. (See your John Deere dealer to order.)



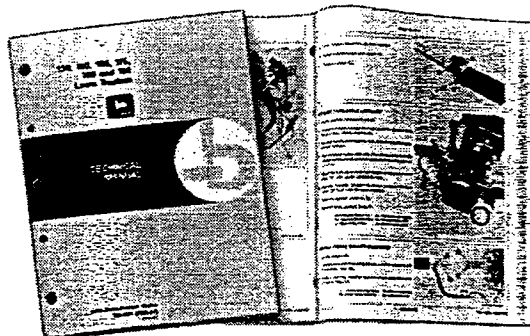
DX,OM -19-03MAR93

TS190 -UN-17JAN89

TECHNICAL AND SERVICE MANUALS

Technical and service manuals are service guides for your machine. Included in the manual are specifications, diagnosis, and adjustments. Also illustrations of assembly and disassembly procedures, hydraulic oil flows, and wiring diagrams.

Component technical manuals are required for some products. These supplemental manuals cover specific components.

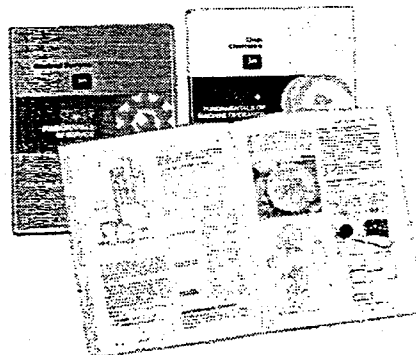


DX,TM -19-03MAR93

TS224 -UN-17JAN89

FMO AND FOS MANUALS

These are basic manuals covering most types and makes of machinery. FMO manuals tell you how to OPERATE agricultural machinery; FOS manuals tell you how to SERVICE machine systems. 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.



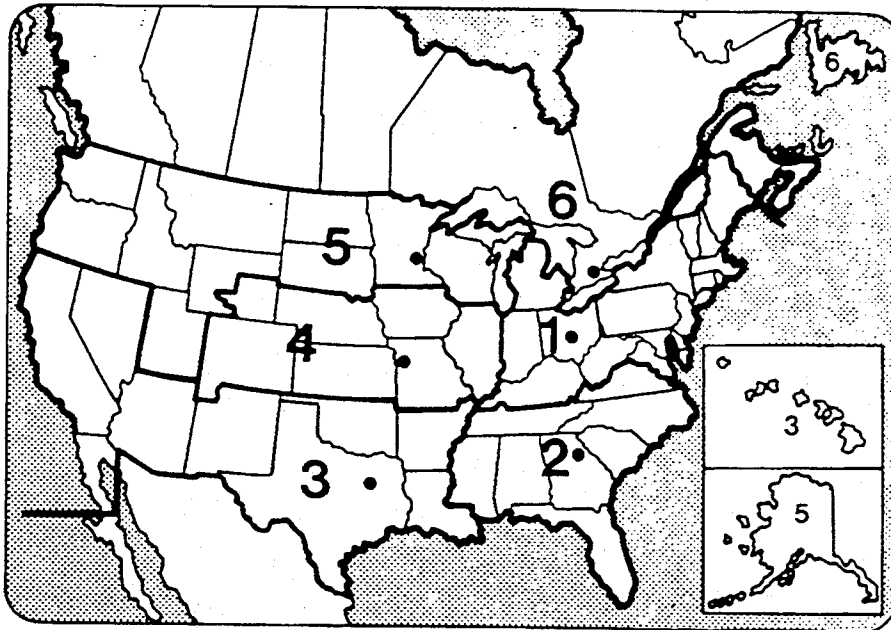
DX,FMOFOS -19-03MAR93

TS195 -UN-02DEC89

170795

John Deere Service Keeps You On The Job

JOHN DEERE IS AT YOUR SERVICE WHEN YOU NEED IT



1. JOHN DEERE COMPANY

701 Georgesville Road
Columbus, OH 43228-2499
614-275-1500 (Fax. 614-275-1450)
612-887-6200 (Fax. 612-887-6385)

3. JOHN DEERE COMPANY

P.O. Box 540598
Dallas, TX 75354-0598
214-385-1701 (Fax. 214-663-2390)

5. JOHN DEERE COMPANY

2001 West 94th Street
Bloomington, MN 55431-3211

2. JOHN DEERE COMPANY

2001 Deere Dr.
Conyers, GA 30208
404-922-7040 (Fax. 404-388-2138)

4. JOHN DEERE COMPANY

3210 East 85th Street
Southeast Station
Kansas City, MO 64132-2586
816-361-4000 (Fax. 816-995-9381)

6. JOHN DEERE LIMITED

South Service Road at Hunter
Grimsby, Ontario, Canada L3M 4H5
905-945-9281 (Fax. 905-945-0341)

CUSTOMER SATISFACTION is important to John Deere. We take pride in providing superior service. We'll be around when you need us:

- We maintain a large and varied parts inventory to help minimize downtime.
- Precision tools and testing equipment enable technicians to locate and correct troubles.
- We hold regular training schools for service technicians so they know your equipment and how to maintain it.
- Our goal is to provide prompt, efficient service through competent dealerships.

COMPLAINT-RESOLUTION PROCEDURE

Your dealer is the best and fastest source to solving any problems you may experience with your product.

1. Be prepared with the following information:
 - Machine model and product identification number
 - Date of purchase
 - Nature of problem
2. Discuss problem with dealer service manager.
3. If unable to resolve, see the dealership manager. Explain the problem and request assistance.
4. If you have a persistent problem your dealership is unable to satisfy, ask your dealer to contact the John Deere territory aftermarket manager for resolution.
5. If a problem is not resolved to your satisfaction, contact the appropriate John Deere sales branch for your area and ask to speak with the division aftermarket manager. (See map.)

