



**RADIANT DIESEL
HEATER 20KW**



TSDH7



www.thetoolshed.co.nz



PRODUCT DETAILS

PRODUCT

ToolShed Diesel Heater 20KW
Radiant

MODEL NO.

TSDH7

DISTRIBUTED BY



NOTE:

This manual is only for your reference. Due to the continuous improvement of the ToolShed products, changes may be made at any time without obligation or notice.

WARRANTY

This product may be covered under the ToolShed warranty. For more information see our Terms & Conditions at www.thetoolshed.co.nz

CONTENTS:

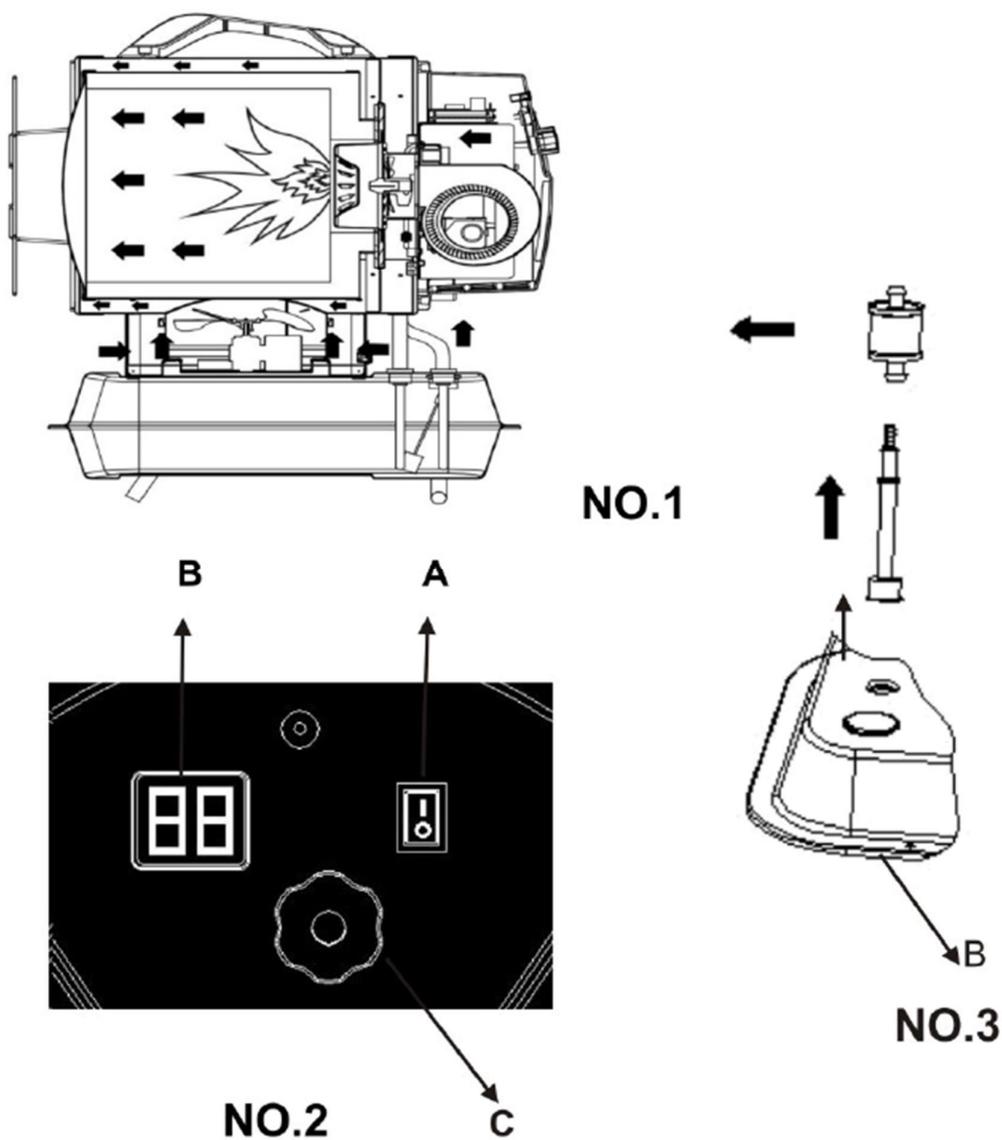
Specifications..... 4
Identification Figures 4
Safety Guidelines..... 5
Service..... 6
Additional Safety..... 7
Assembly..... 8
Operation..... 9
Cleaning & Maintenance..... 9
Transporting..... 9
Troubleshooting..... 10

This heater is intended to be used for commercial and light industrial space heating. It is a portable stand-alone appliance to be used inside a large well-ventilated space. It is important that it is not connected to any flue or duct that might restrict airflow within the heater.

SPECIFICATIONS

Power	20kW
Fuel Consumption	1.88LPH
Fuel Type	Diesel
Fuel Tank	10.5L
Electrical Supply	220-240V ~ 50Hz
Net Weight	18.2kg
Nozzle Type	0.4 GpH 60°S DANFOSS

IDENTIFICATION FIGURES



IMPORTANT INFORMATION

GENERAL SAFETY GUIDELINES

 **WARNING** READ ALL SAFETY WARNINGS AND ALL INSTRUCTIONS. Failure to follow instructions and warnings could lead to serious injury, electric shock, or fire. Save ALL warnings and instructions for future reference.

WORK AREA SAFETY

- **Ensure that your work area is kept well-lit and clean.** Lack of visibility and clutter greatly increase the risk of accident.
- **Keep bystanders and children clear when operating a power tool or machine.** They can cause distraction or risk injury themselves.
- **Ensure you are not operating the power tool or machinery in the presence of flammable gases, dust, liquids, or anything that creates an explosive atmosphere.** Power tools and machinery can create sparks which can lead to ignition in these environments.

PERSONAL SAFETY

- **Always wear personal protective equipment.** Eye protection, ear protection, dust masks and other protective equipment will help to reduce the risk of personal injury.
- **Dress appropriately. Do NOT wear jewellery or loose clothing that can get caught in moving parts.** Keep hair, loose clothing, jewellery, and anything else that could be of risk away from moving parts or they could be caught.
- **Always remain alert and do NOT operate the power tool or machinery under the influences of any substances (drugs, medication, alcohol).** Losing focus could lead to injury while operating power tools and machinery.
- **Always keep proper footing and balance.** Overreaching can lead to slipping and falling which can result in injury.
- **Ensure the power switch is in the off position before connecting any battery or power source to the power tool or machinery.** This can lead to accidents as tools and machinery can fire suddenly when it is not expected and lead to accident.
- **Use all provided dust collection and extraction attachments if included.** This with the use of dust masks can help keep you safe from dust and keep your work site clear while working.
- **Ensure loose parts such as a wrench or adjusting key are removed before starting the power tool or machinery.** Failure to remove these can result in serious injury.

ELECTRICAL SAFETY



- **Do NOT use the power tool or machinery in raining conditions or wet areas where the power tool or machinery could get wet.** Water in the power tool or machinery can lead to electric shock.
- **Only use the power tool or machinery when the plug correctly matches the power outlet.** Modifying plugs greatly increases the risk of electric shock.
- **Keep the power cord away from anything that could damage it such as sharp edges, moving parts or heat.** A damaged power cord increases the risk of electric shock.
- **Only operate outdoors with the use of an outdoor extension lead.** Not all extension leads are suited to outdoor use and using one which is not can greatly increase the risk of electric shock.
- **Avoid body contact with grounded or earthed surfaces.** Surfaces such as radiators, ranges, pipes, and refrigerators can increase risk of electric shock due to your body being earthed or grounded.

SERVICE

- **Have your tools and machinery serviced at The ToolShed with ToolShed replacement parts.** This will ensure that the safety of the power tool or machine is maintained.

WARNING: Carbon monoxide poisoning can be fatal.

First symptoms of carbon monoxide poisoning can be but are not limited to: severe headaches, dizziness, and/or nausea.

UPON NOTICING THESE SYMPTOMS, IMMEDIATELY LEAVE THE ROOM AND GO OUTSIDE.

ADDITIONAL SAFETY FOR DIESEL HEATER

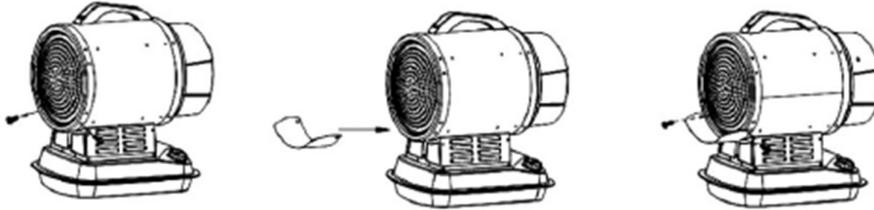
- In order to avoid overheating, do not cover the heater.
- CAUTION | Some parts of this heater can become very hot and cause burns. Particular attention has to be given where children and vulnerable people are present.
- Only the fuel types specifically listed on the heater's nameplates are to be used.
- Before refueling, shut down the heater and wait for it to cool down.
- Fuel is to be stored in a separate location.
- The heater should never be used in rooms with fuel, paint thinners, and other combustible fumes.
- Heaters in operation near tarpaulin, screens, or other similar materials need to be located a safe distance away. The use of inflammable covers is highly encouraged.
- The heater is to be used in well ventilated interiors only.
- Minimal safety distance between the heater and combustible materials is: front – 2.5m | side, above, and back – 1.5m
- To avoid fire, hot or working heater is to be placed on a stable and level flooring.
- Animals are to be kept at a safe distance away from the heater.
- Unplug the heater at all times when it is not in use.
- The heater must not be used in frequently visited rooms and in bedrooms.
- Do not obstruct the airflow (back of the heater) and air intake (front of the heater).
- If the heater is plugged in, hot, or currently running, it must not be moved, manipulated, refueled, or worked on.
- If the power supply cord is damaged, it must be replaced by a qualified technician.
- Heater must not be located directly below a power socket outlet.
- Do not use the heater with a timer or any other device that switches the heater on automatically.

FUEL

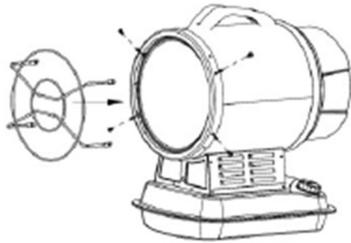
To avoid fire or explosion, use only diesel with this heater. Do not use gasoline, naphtha, paint thinners, alcohol, or any other combustible liquids.

ASSEMBLY

1. Open the two screws on the fixed rings.
2. Put the protection panel on the designated spot to meet screw holes.
3. Set the screws with the protection panel.



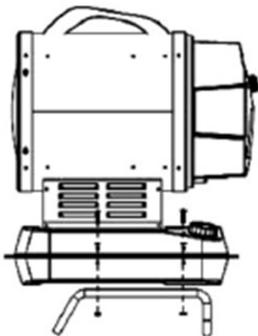
FRONT GRILL INSTALLATION



HANDLE INSTALLATION



STAND INSTALLATION



OPERATION

Running the Heater

1. Check the fuel is present in the tank.
2. Close the fuel tank filler plug.
3. Plug the power cable into the wall outlet.
4. Turn the ON/OFF switch ON – the heater should be on in a few seconds. If it is not, please refer to the troubleshooting section.
5. Check the position of the thermostat.

Turning the Heater Off

1. Turn the ON/OFF switch to off.

CLEANING & MAINTENANCE

ENSURE THAT THE HEATER IS OFF, COOLED DOWN and UNPLUGGED BEFORE UNDERTAKING ANY CLEANING OR MAINTENANCE.

Depending on the quality of fuel used, it may be necessary to clean the fuel filter.

1. Remove the plug on the fuel tank.
2. Remove the filter from the tank.
3. Take out the oil suction pipe.
4. Clean the oil suction pipe with clean fuel.
5. Replace with new filter if it is dirty.

TRANSPORTATION

1. Empty the fuel tank.
2. If remainders are still present, pour in clean fuel and empty it again.
3. Close the tank filler plug, dispose of the fuel as per the applicable regulations.
4. To ensure proper heater maintenance, keep it level to prevent fuel leaks.
5. Keep it in a dry place and protect it from getting damaged.

PREVENTATIVE MAINTENANCE SCHEDULE

Component	Maintenance Frequency	Maintenance Procedure
Fuel Tank	Clean every 150-200 hours of operation or when necessary.	Empty and rinse with fresh fuel.
Nozzle	Clean or replace once per season.	Contact service technician.
Photocell	Clean once per season.	Contact service technician.
Ignition Device	Clean or replace every 1000 hours of operation or when necessary.	Contact service technician.
Fuel Filter	Clean or replace twice per season.	Clean the fuel filter with clean fuel.
Fan Blades	Clean when necessary.	Contact service technician.

TROUBLESHOOTING

DISPLAY ERRORS

ERROR	CAUSE	SOLUTION
F0	OPERATION ERROR	
	<ol style="list-style-type: none"> 1. The ON/OFF switch is in the ON position when the heater is plugged in. 	<ol style="list-style-type: none"> 1. Disconnect the heater from power. Ensure switch is in OFF position then plug in and switch on.
F1	PHOTOCELL ERROR	
	<ol style="list-style-type: none"> 1. No fuel. 2. Fuel is contaminated. 3. Photocell is dirty or damaged. 4. Fuel filter is dirty. 5. Ignition error. 	<ol style="list-style-type: none"> 1. Turn the switch to OFF and refill the fuel tank. 2. Turn the switch OFF, empty and refill the fuel tank. Clean the fuel filter. 3. Contact service technician. 4. Clean fuel filter. 5. Contact service technician.
F2	TEMPERATURE CONTROL SENSOR ERROR	
	<ol style="list-style-type: none"> 1. Interrupted cable. 2. Sensor is damaged. 	<ol style="list-style-type: none"> 1. Contact service technician. 2. Contact service technician.
F3	THERMOSTAT ERROR	
	<ol style="list-style-type: none"> 1. Internal overheating. 2. Anti-tilting sensor. 	<ol style="list-style-type: none"> 1. Turn the heater off, wait until it is cooled down. 2. Replace the heater on a level and stable surface.
LO	<ol style="list-style-type: none"> 1. External temperature below -9°C. 	<ol style="list-style-type: none"> 1. Normal condition.
CH	<ol style="list-style-type: none"> 1. Continuous operations. 	<ol style="list-style-type: none"> 1. Normal condition.

PROBLEM IDENTIFICATION

PROBLEM	POSSIBLE CAUSE	POSSIBLE SOLUTION
Heater doesn't run.	1. Heater blocked.	1. Restart the heater.
	2. The power switch is in the OFF position.	2. Turn the switch ON.
	3. No power.	3. Plug the feeder cable properly into the socket. 3a. Check the power supply network.
	4. Feeder cable unplugged.	4. Contact service technician.
	5. Blocked control card.	5. Restart the heater. 5a. Identify the display error. 5b. Contact service technician.
	6. Wrong thermostat setting.	6. Calibrate thermostat by setting it higher than ambient temperature.
	7. Temperature sensor override.	7. Wait at least 10 minutes then try to run ignition again.
	8. Fuse damaged	8. Contact service technician.
Motor/Pump runs but the flame does not start.	1. No fuel	1. Turn off the heater, refill the fuel tank and then restart.
	2. Ignition device is dirty.	2. Contact service technician.
	3. Fuel filter is dirty.	3. Clean the filter using clean fuel.
	4. Nozzle is dirty.	4. Contact service technician.
	5. Photocell is dirty, damaged, or installed incorrectly.	5. Contact service technician.
	6. Foreign substances present in the tank.	6. Empty and refill fuel tank with clean fuel.
Fan blocked or spins too slowly.	1. Engine damaged.	1. Contact service technician.