

Ray-Tech Infrared Three Ton Total Maintenance Vehicle (TMV3)

**Fully self-contained infrared vehicle!
Make complete and permanent
repairs year round!**

The Three Ton TMV combines a three ton reclaimer and a 6'L x 8'W infrared heating chamber on a truck chassis.

Truck Requirements:

Minimum cab to axle length - 114"
Minimum GVW – 26,000 LBS

With the alternate propane tank option,
there is no need for a
Commercial Driver's License!



The reclaimer can keep new asphalt heated all day long as well as heat and reclaim cold asphalt to a workable temperature again.

The infrared heating chamber is lowered over the asphalt surface and uses infrared light rays to heat the asphalt. Once heated, the asphalt can be raked around and luted.

Infrared repair is more effective than other methods because it does not leave a seam where the repaired surface meets the old surface. This prevents water and dirt from gathering in the joints and ruining the repair.



Manufacturer of Infrared Road Maintenance Equipment

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At Ray-Tech Infrared we take pride in building the most efficient and user-friendly infrared road maintenance equipment available!

RECLAIMER

Heating System

- **Burners** – Four (4) 22,000 BTU Infrared burners located under reclaimer.
- **Fuel** – Propane gas (vapor withdrawal) drawn from the two (2) 100 gal. tanks located on the deck.
- **Safety Controls** – 100% shutoff gas valve, controlled by electronic ignition module, with a direct spark electrode and flame sensing probe. High-pressure hose, regulator to reduce withdrawal pressure to 11" water column. External emergency shut-off valve.

Temperature Controls

- Cold material placed in unit will be totally reclaimed in 12 to 14 hours.
- Skin temperature will not exceed 320 degrees while reclaiming.
- Controls will automatically reduce skin temperature to 300 degrees maximum after material has been reclaimed, allowing material to be held for an extended period of time (approximately 48 hours).

Construction

- **Storage Bin** – Double wall to hold heated air to prevent heat loss from asphalt. 10, 12 and 16 gauge steel double and triple wall throughout.
- **Insulation** – Outer skin contains two (2) inches of rigid insulation. Strategic areas coated with 1250° aluminum paint for proper infrared reflection and heat distribution.
- **Loading Doors** – manually opened top doors form chute for loading asphalt. 2" rigid insulation.
- **Shoveling Doors** – Four (4) doors, two (2) on each side of unit with double action linkage, sheer angle base for maximum positive cutoff.
- **Power** – Operates on 12 volt system

Deck

- Directly behind the reclaimer is a diamond plate deck with a ladder on each side to gain access to propane storage and electrical system located under and on deck.

Side Dump Waste Bin

- Directly behind the propane storage area on the deck is the side dump waste bin which

measures 34" x 54" x 15". The 24 volt pivoting winch controls the waste bin and also swings to the opposite side of the truck to load the compactor into the compartment opposite the waste bin.

Reclaimer Dimensions

- **Length** – 4' 10"
- **Width** – 7' 8"
- **Height** – 4' 9" (*Chassis rails to top of box – plus hardware*)
- **Weight** – 2,880 lbs.

INFRARED HEATING CHAMBER

Operating Principle

- The infrared is created by premixed gas and air delivered under pressure by heavy duty 24V blower motors to converters. *Infrared does not flame or alter the binding characteristics of asphalt.*
- Unit has dual systems which operate individually and will fire in any position from vertical to horizontal. This lets you run half the chamber at a time if needed.
- Each system consists of three rows of high efficiency and long- life stainless steel converters.
- Converters consist of a stainless manifold with a Ray-Tech exclusive welded ribbon style orifice covered by a nickel-alloy perforated grid that, when heated, produces infrared light waves.
- **Average chamber temperature: 1875°F**

Chamber Construction

- Vented and reinforced 16 gauge stainless steel 8' x 6'. Support structure, manifolds and all components are stainless steel.
- Chamber is raised and lowered by a heavy duty worm drive gear reducer and a 24 volt heavy-duty motor. This custom built winch is backed by a 10 year warranty.

Maximum Fuel Usage

- Entire 6' L x 8' W chamber consumes approximately 36 lbs (8.5 gals.) per hour.

Fuel Delivery

- The chamber is fed propane gas (vapor withdrawal) from the two (2) 100 gal. tanks connected to high pressure gas hose. Pressure is reduced to 11" water column by a 2 stage regulator. Gas passes through a 24V solenoid valve and is controlled by a limiting orifice valve. High pressure gas hose then connects to the heavy duty 24V long life brushless blower motors.

Power

- The two heavy duty 24V blower motors are powered by four (4) 220 amp 6V batteries wired in series to create a 24V deep power reserve. This assures rapid high production heating. A 12V to 24V power converter is used to convert the 12V truck battery power into 24V power for charging.
- Battery charger and 115V receptacle located on deck will allow for alternative method of charging overnight.

Operating Controls

- Each system consists of a pressure switch controlling the solenoid valve.
- Weatherproof switches located on the deck wall. Other controls located inside a lockable control panel on deck wall.

Overall dimensions

- **Length** – 15' 10" installed on truck
- **Width** – 8' 0"
- **Weight** – 6,650 lbs.

Available Options

- *Time Delay System*
- *Tool Storage Tray*
- *12 Volt Lighting (Set Of Four)*
- *Double Receiver Trailer Hitch*
- *Aluminum Wind Guards*
- *Arrow Stik Safety LED Light Bar*
- *Water Tank*
- *Five 100 lb. Propane Cylinders (replaces standard 100 gal. tanks)*
- *Hydraulic Top Loading Doors*
- *Hydraulic Shovel Doors*
- *Hydraulic Chamber Lift*

Performance Specification:

Infrared Heating Chamber: The asphalt surface will reach a 220°F minimum temperature at 2" depth, with 400°F maximum temperature at the surface within 6 to 8 minutes.

Asphalt Reclaimer: The asphalt will reach a 270°F minimum average temperature after twelve hours of heating time.

The Three Ton TMV combines the ability to transport and reclaim asphalt with the ability to make year-round permanent patches.

Having a completely self-contained unit all on one truck gives the operator the maneuverability and flexibility to carry out virtually any asphalt repair!

Contact us today to learn more!