Operating Manual

TrackBoss® T28

Track Drive Self-Propelled
Refractory Walled Air Curtain Burner

Equipped With HATZ 3H50TIC Diesel Engine

"Better Economically - Better Environmentally"

MADE IN THE USA

Factory and Main Office

Air Burners, Inc.
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AirBurners.com

GSA

(Vers. 11.07.2023)

Caution

Please read all Warning Notices
before operating the T28 TrackBoss.

Caution

The self-propelled TrackBoss T28 has been designed for off-road use only. For travel on public roadways it must be moved on a suitable trailer that can handle a payload of approximately 15,350 lb. (6963 kg).

Do not operate the remote controls of the TrackBoss T28 before thoroughly familiarizing yourself with all details of this Operating Manual. Before activating the remote controls with the engine running, ensure that there are no persons, animals or objects in the anticipated path of the TrackBoss T28.

Remain at a safe distance from the tracks while driving the TrackBoss T28. Never sit or stand on any part of the TrackBoss T28 while it is in motion or while there is a fire in the firebox. Ensure that the vehicle beacon warning lights are flashing properly while driving the TrackBoss T28.

The firebox (burn chamber) of the TrackBoss T28 has no bottom and must be lowered onto level earthen ground (dirt) and never onto combustibles like dry grass or peat moss and the machine must also not be operated on a surface like a concrete pad, gravel, crushed stone or asphalt (See Page 9 for more details).

Contact Air Burners should you require any assistance. Send Email to support@airburners.com, call 772-220-7303 or 888-566-3900 and ask for Customer Support.

WARNING: The steel access doors with top hinges on the sides of the TrackBoss will stay open in upright position if the TrackBoss is on level ground. Do not move the TrackBoss with the doors open. When closing them manually, keep your hands and fingers clear. Dropping the doors on your arms, hands or fingers could cause serious injury.

INDEX

T28 TrackBoss

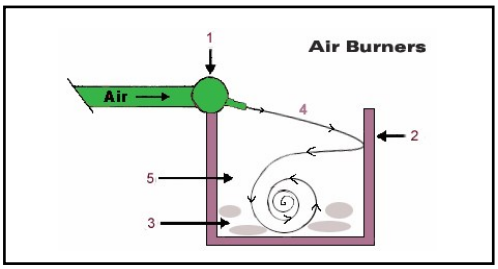
T26 CharBoss

PRINCIPLE OF AIR CURTAIN INCINERATION

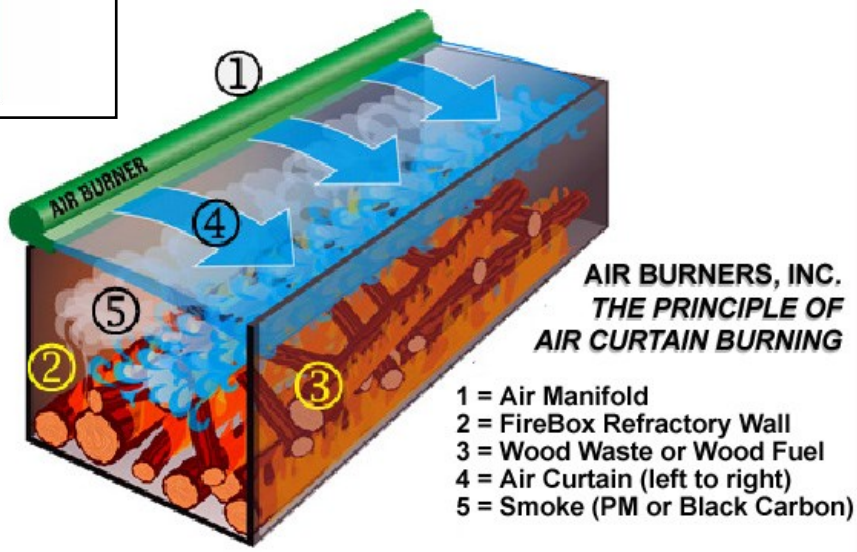
OPERATION

Air curtain burners are designed primarily as a pollution control device. Using a diesel engine driven fan, these machines generate a curtain of air with a very particular mass flow and velocity. This curtain of air acts as a trap over the top of an earthen trench or thermal ceramic lined firebox. The wood debris is dumped into the trench or firebox and then ignited (usually with a propane torch and with a small amount of diesel) just as you would light any other pile of wood you intended to burn. Once the fire has gained strength, the air curtain is turned on.

The air curtain traps most of the smoke particles and causes them to re-burn under the air curtain where the temperatures exceed 1,800º F. These machines do not inject any fuels into the fire, the fire is sustained only by adding more wood debris. The air from the air curtain is not heated. The only fuel used in the continuous operation is that of the diesel engine driven fan.



Scan for video
“Open Pile Burning
vs FireBox Burning”



GENERAL DESCRIPTION OF TrackBoss

The TrackBoss design is intended to allow for the use of our self-contained refractory walled air curtain system design, but mounted on a frame with hydraulically driven tracks to be self-propelled at the work-site for ease of mobility.

The standard S-Series machines are offered in several sizes as indicated below. Most of the functions and principles for the TrackBoss are the same as the standard BurnBoss or FireBox.

Above-Ground Air Curtain Burner Dimensions					
Model	**Overall Size** L x W x H	**Firebox** L x W x H	**Weight** lbs.	**Fuel** gal/hr.	**Average Thru-put*** tons/hr.
S330	40' 4" x 11' 10" x 9' 6"	30' 2" x 8' 5" x 8' 1"	59,000	3.0	11-13
S327	37' 4" x 11' 10" x 9' 6"	27' 2" x 8' 5" x 8' 1"	54,600	3.0	9-11
S223	33' 3" x 8' 6" x 8' 6"	22’ 11” x 6’ 2” x 7’ 1"	40,250	2.0	7-9
S220	30' 1" x 8' 6" x 8' 6"	19’ 8” x 6’ 2” x 7’ 1"	36,650	2.0	5-7
S119	27' 3” x 7' 2" x 7' 4"	19 x 5’ x 6'	30,100	1.9	3-5
S119R**	27' 6” x 7' 2" x 8' 3"	19 x 5’ x 6'	39,900	1.9	3-5
S116	24 7”' x 7' 2" x 7' 4"	16' x 5’ x 6'	27,500	1.9	2-4
S116R**	24' 11” x 7' 2" x 8' 3"	16' x 5’ x 6'	36,300	1.9	2-4
T28	17' 10" × 8' 5" × 5' 8"	12' × 4' × 4'	15,350	1.1	½-1
T26	21’ 8" × 7' 8" × 6' 8"	12’ × 4' × 4'	17,500	1.1	½-1
T24	19' 8" × 7' 8" × 5' 8"	12' × 4' × 4'	9,980	0.56	½-1

* Approximate values. Achievable through-put depends on nature of waste stream and other factors.
** Cable-hoist version; Hook-lift version is 5” shorter

Standard FireBox S220

T24 BurnBoss

GENERAL DESCRIPTION OF TrackBoss

The TrackBoss is a proven design that adds self-propelled mobility at the workplace to the Air Burners FireBox line of above ground air curtain burners. When delivered to a job site, the machine is ready for use as soon as it is off-loaded. The FireBox system is built on a patented frame that allows the firebox to be raised and lowered for easy movement over the ground. The firebox is lined with proprietary thermal-ceramic refractory panels. The panels are cured prior to installation at the factory to drive out any moisture to ensure they are stable at first use in the field.

The forward equipment deck under the cowling supports a three cylinder Diesel engine, controls, the battery and the hydraulically-driven air fan. A 30 gallon fuel tank is mounted in a compartment above the tracks on the manifold side. The tracks are controlled remotely by a portable remote control console. When viewed from the front of the unit, the patented air disbursement manifold is mounted on the left top side of the firebox.

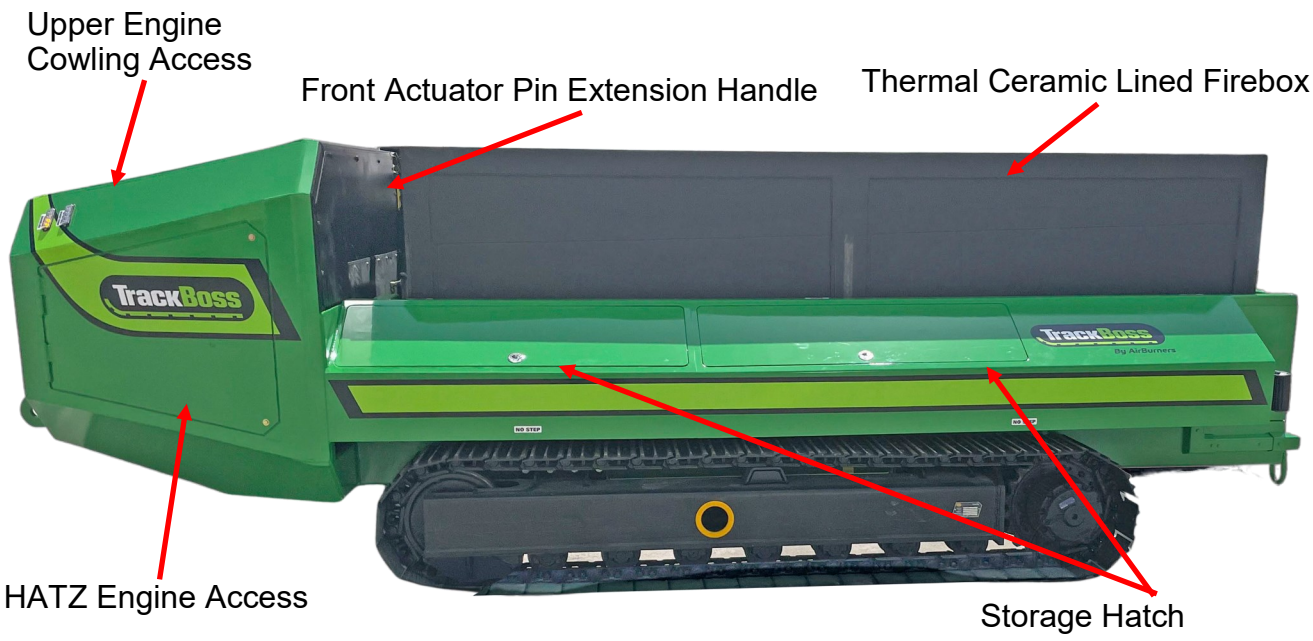
The Diesel engine powers a hydraulic pump that serves the air fan, firebox lift system and the tracks. The high velocity air is sent down the manifold through the vanes and directed to the outlet nozzles. A balanced and distributed air flow is directed across the top of the firebox and then reflected down into the combustion zone.

The curtain of air acts as a top over the firebox, trapping a large percentage of the escaping particulate matter (smoke) and causing it to burn down even further under the curtain before finally escaping through the curtain as a hot gas. The air from the nozzles travels across the firebox creating the air curtain effect, then it reflects off the far side thermo-ceramic wall adding oxygen to the combustion zone helping to generate a hotter more complete fire. This additional agitation helps prevent the fire from starving for oxygen as the ash builds up during burning operations.

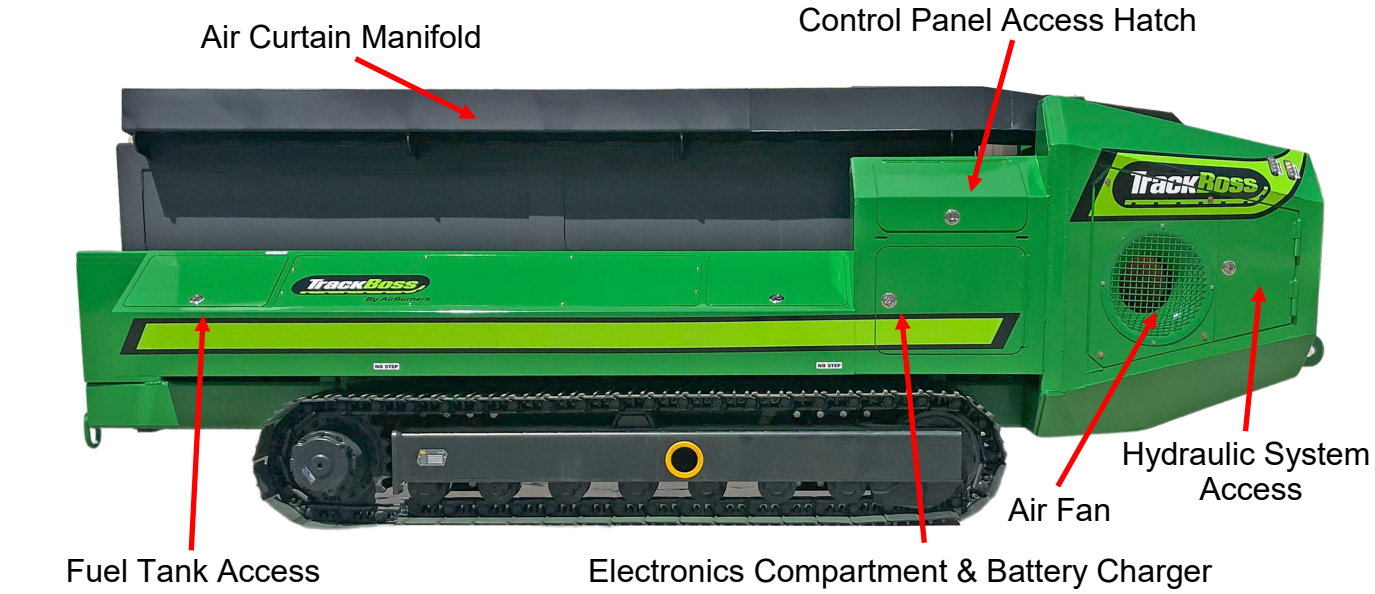
All of this is carefully engineered to provide the correct amount of air at the correct velocity. It is sometimes thought that more air flow will actually increase the burn rate. This is INCORRECT. Modifying the air flow will actually have the opposite effect and reduce the machine's throughput. Additionally, it will reduce the machine's ability to meet air quality minimum standards. There is a maximum rate at which wood can burn. Trying to exceed that rate by adding more air to an air curtain burner causes two major problems:

1. It will cool the fire reducing combustion efficiency creating more smoke (carbon dioxide and nitrogen enriched). This will begin a circular effect of further reducing the oxygen and further reducing combustion efficiency. The result is that your throughput drops and smoke increases.
2. Increasing the air flow beyond design standards will over pressurize the firebox causing significantly more particles (embers) to be ejected from the firebox. Besides violating the EPA limits for PM (particulate matter) the larger hotter embers ejected will pose a much greater fire hazard.

MAIN COMPONENTS OF THE TrackBoss



Strobe Warning Light



T28 TrackBoss in Travel Mode with Firebox in Up Position.

DETAILS OF SELECTED COMPONENTS OF THE TrackBoss
ACTUATOR SAFETY PINS

Front Actuator Safety Pin Extension (Locked Position

Front Actuator Safety Pin Extension (Unlocked Position

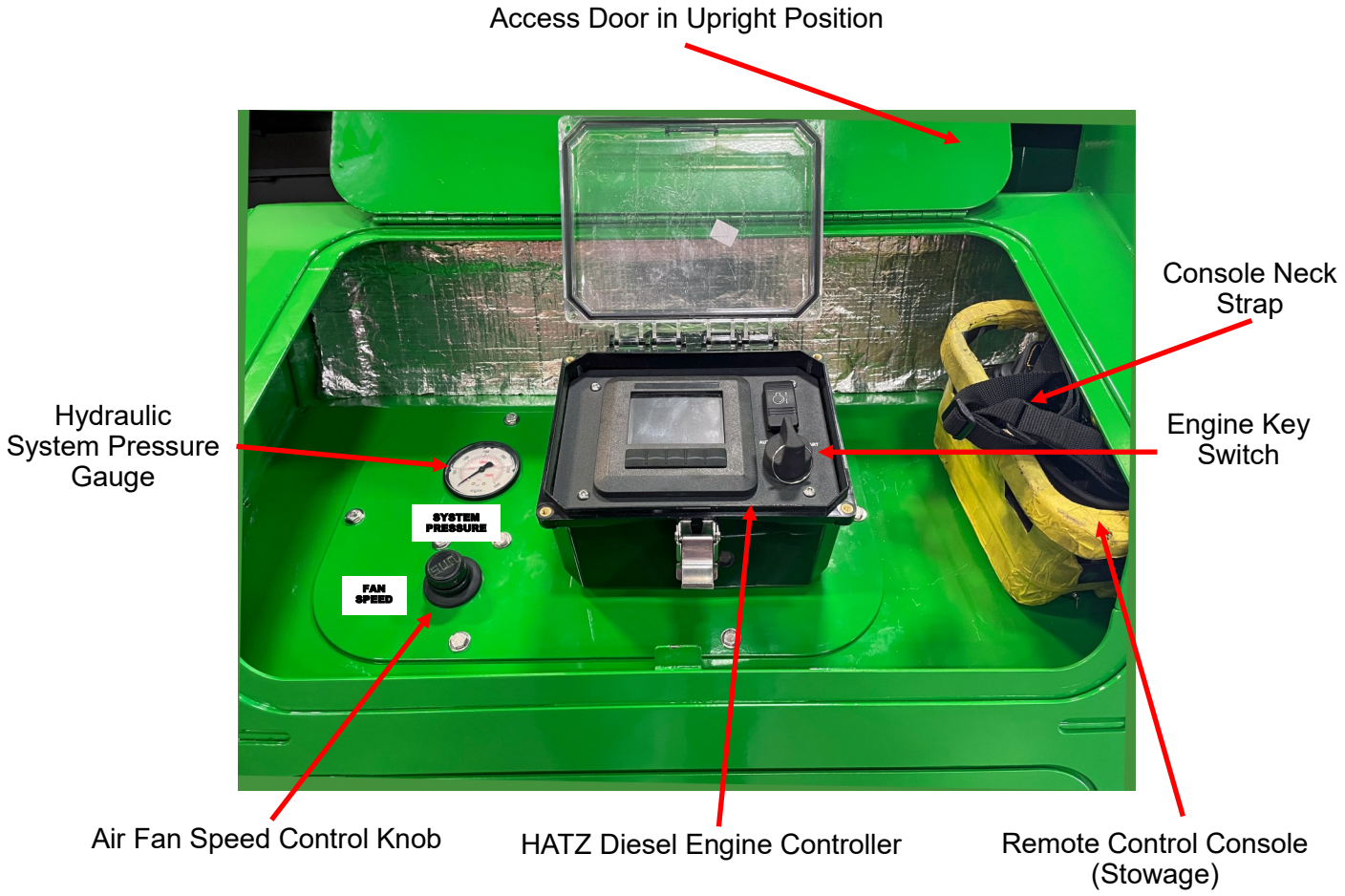
REAR Actuator Safety Pin (Locked Position

REAR Actuator Safety Pin (Unlocked Position

The front actuator safety pin is attached to an extension for easy access. To unlock turn yellow handle forward then pull it toward you and position the spring-loaded handle onto the resting rod.

To lock the pin upon raising the firebox, simply unhook the yellow handle and let it retract by its spring. The firebox must be in the full UP position for the holes for the pin to line up.

DETAILS OF SELECTED COMPONENTS OF THE TrackBoss
SYSTEM POWER CONTROL COMPARTMENT

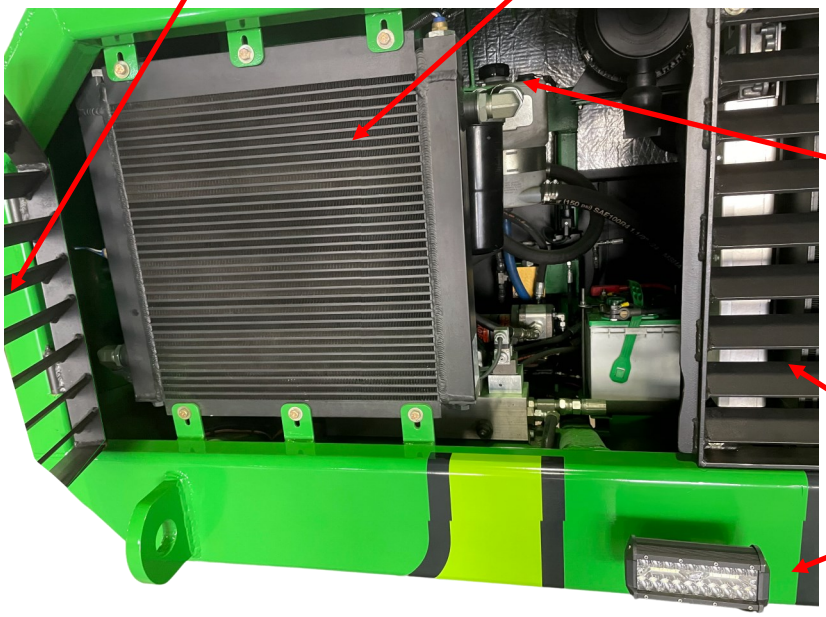


Keep System Power Control Compartment Free of Rainwater and Washdowns.

WARNING: The steel access doors with top hinges on the sides of the TrackBoss will stay open in upright position if the TrackBoss is on level ground. Do not move the TrackBoss with the doors open. When closing them manually, keep your hands and fingers clear. Dropping the doors on your arms, hands or fingers could cause serious injury.

DETAILS OF SELECTED COMPONENTS OF THE TrackBoss SYSTEM POWER CONTROL COMPARTMENT

Left Access Door to HATZ Diesel Engine



T28 TrackBoss in Full Operation

DANGER:
Watch for the Danger and Warning Notices throughout this manual.

SAFETY CONSIDERATIONS

READ ALL SECTIONS OF THIS MANUAL BEFORE YOU BEGIN BURNING OPERATIONS

The TrackBoss operator is dealing with fire on a daily basis; it is very important that each and every individual involved with the machine be alert and practice very rigid safety precautions.

When you are running the TrackBoss you are responsible for ensuring that it is operated in the safest possible manner at all times. If you notice something wrong, correct it immediately, and if you cannot correct it, find someone who can and/or shut down the machine.

Basic Safety Points:

1. **The TrackBoss must be driven onto cleared, level ground.**

   The TrackBoss should be driven onto level ground to facilitate loading, dumping and moving of the unit. When lowered, the firebox must touch the ground on all four sides or smoke and embers will escape.

2. **The unit should be positioned such that no combustible material is stored within a minimum 100 ft. clearance in any direction.**

   The firebox of the TrackBoss does not have a bottom and should not be located over combustibles such as dry grass or peat moss which may cause a fire to spread to other areas. It is equally important not to place the TrackBoss on anything other than earthen soil, never on a concrete pad, on gravel, crushed stones or asphalt. There is a good reason for this warning. Concrete or gravel can contain water which the heat in an operating TrackBoss could vaporize quicker than it can be drawn out. This could result in increased vapor pressure that can cause the concrete or stones to explode. Fragments could possibly fly out of the firebox and cause injury or death to persons nearby.

   In addition *hot embers* will escape from the unit and, depending on the wind, will land on the ground around the unit. The machine should not be located within 100 ft. of any stored combustible materials. The waste material to be burned during the day's operation can be staged within the 100 ft. perimeter to facilitate loading. The operator must monitor the loading pile to ensure embers do not ignite the loading pile. The combustible materials to be stored for burning at a later date must be stored outside the 100 ft. perimeter or in accordance with the chart on Page 6 of this manual which suggests adjustments for wind speed.

2. **The unit should not be operated when the wind speeds reach 20 MPH, as the potential to carry hot embers is significantly increased.**

   As an operator you should always be aware of wind speed and direction. Increased wind speed will affect the integrity of the "air curtain" and will cause hot embers to travel farther. See the wind speed chart regarding suggested set-back on Page 10.

SAFETY CONSIDERATIONS

4. **NEVER use highly combustible materials to light the wood waste.**

   Highly combustible materials such as gasoline, refined spirits, etc. ignite at an explosive rate which may cause serious injury or death. The safest method to start the fire in the firebox is to use materials such as kindling wood. In the absence of these materials or when starting materials with a high moisture content, use diesel fuel as an acceptable option.

5. **NEVER climb onto the TrackBoss or lean over to view or light the fire. Always load and operate the machine from the MANIFOLD side.**

   Hot embers will escape at a low height opposite the manifold. The left side of the machine (opposite the manifold) must be restricted access to prevent injury to persons.

6. **Shut the TrackBoss down in an emergency.**

   Stop loading the unit, stop the air flow by shutting down the engine. Dump dirt or sand onto the

Warning:

When operating the TrackBoss by Remote Control Console, the supplied console neck strap should be securely used by the operator. Accidently dropping the console could lead to erratic operational behavior of the TrackBoss which could be dangerous and cause injury.

To protect the track systems, never raise the firebox if there is a hot fire inside. Wait until the fire burnt down to a hot ash bed then swiftly drive the TrackBoss forwards leaving the ashes behind. Follow all operating and safety instructions in this manual.

WIND SPEED VS. SAFE DISTANCE			
	Approximate Safe Distance for:		
Wind Speed (MPH)	Structures (Houses, etc.)	Woods/Trees	Stored Brush Piles
10	300'	150'	100'
12	300'	150'	100'
14	300'	200'	150'
16	400'	250'	150'
18	400'	250'	200'
20	500'	250'	200'

DANGER: The above distances serve as a GUIDELINE ONLY! You MUST ALWAYS observe the down range area regardless of the wind speed. You must always observe local fire ordinances and directives from the local fire department or other competent authorities.

SAFETY CONSIDERATIONS
PERSONAL SAFETY

7. **Personal Safety**
   Operators need to be aware of the following potential hazards:

Flying hot embers being released from the fire. Operators or anyone within the 100 foot radius of the fire should wear appropriate fire resistant clothing. The ideal outerwear for an operator would include a Nomex jacket, leather gloves, eye protection, hard hat, cotton work jeans and steel toe boots. Operators should never wear synthetic material (i.e., polyester) around the fire as this type of material can melt and cause injury. Additionally, some synthetic materials will support combustion and could be very dangerous around fire. One hundred percent cotton materials would be the minimum, cotton treated with a fire retardant would be better and fire proof materials like Nomex would be best.

a. **Noise: Ear protection is recommended around the TrackBoss.** It is a good practice to wear approved ear protection when working in close proximity to the fan and engine.

b. **Hot Panels:** The backs of the thermo-ceramic panels and parts of the steel structure can each temperatures as high as 500ºF. Caution should be taken to ensure operator and visitors do not come in contact with these hot areas.

c. **Ash and dust** can be released during the operation and during cleaning. Operators should wear appropriate Personal Protective Equipment (PPE) like breathing masks or respirators to protect themselves from inhaling the dust and ash.

DANGER: You must ensure combustible debris does not build up on the TrackBoss. It must be keep clean at all times during operation to prevent a fire that would damage or destroy the engine and accessories.

HOW TO POWER THE TrackBoss

OVERVIEW

A. PRE-OPERATION CHECKS:

Air filter for cleanliness (VERY IMPORTANT)

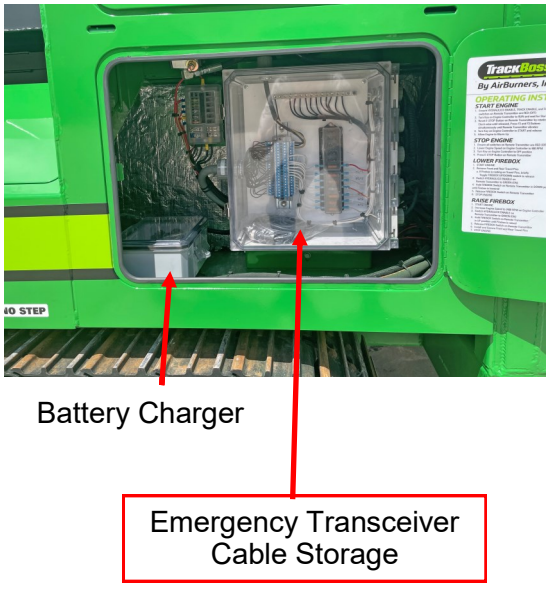
1. Engine oil and hydraulic oil levels
2. Engine coolant level and antifreeze rating
3. Diesel fuel level (Check fuel gauge on digital display), Fuel tank must be 100% full if contemplated path includes ascending or descending a hill or slope.
4. Battery cable connections
5. Check warning strobe light
6. Check hydraulic lines
7. Check status of batteries in remote control console. Charge if needed.
8. The joysticks of the remote control were properly calibrated for first use at the factory. If recalibration is needed, refer to Appendix A for calibration instructions.
9. Ensure anticipated travel path of T28 is of suitable terrain for weight of machine and clear of all obstacles
10. Warn all persons/bystanders of planned movement of T28 and instruct them to stand clear of the machine. Consider that an inexperienced operator could inadvertently abruptly and unexpectantly change the travel path of the machine which may cause injury or death to bystanders in unsafe proximity of the TrackBoss. Never stand or sit on any part of the TrackBoss while moving it.

Remote Control Console Battery and Charger

The remote control console has a battery compartment at the bottom which accepts one of the two supplied batteries at a time. A battery charger is permanently installed in the “tool compartment” of the TrackBoss and permanently wired into the onboard 12V DC system where one battery at a time can be charged. The charging circuitry provides for overcharging protection.

The charge level is displayed on the LED panel of the remote control console.

Ensure the electronics compartment is kept dry and free of water from rain, snow or washdowns.



<u>Emergency Hardwire Remote Controls</u>
Should the radio link fail, use the provided custom cable to hardwire the remote console to the onboard transceiver.
See Page 31, Troubleshooting.

HOW TO POWER THE TrackBoss

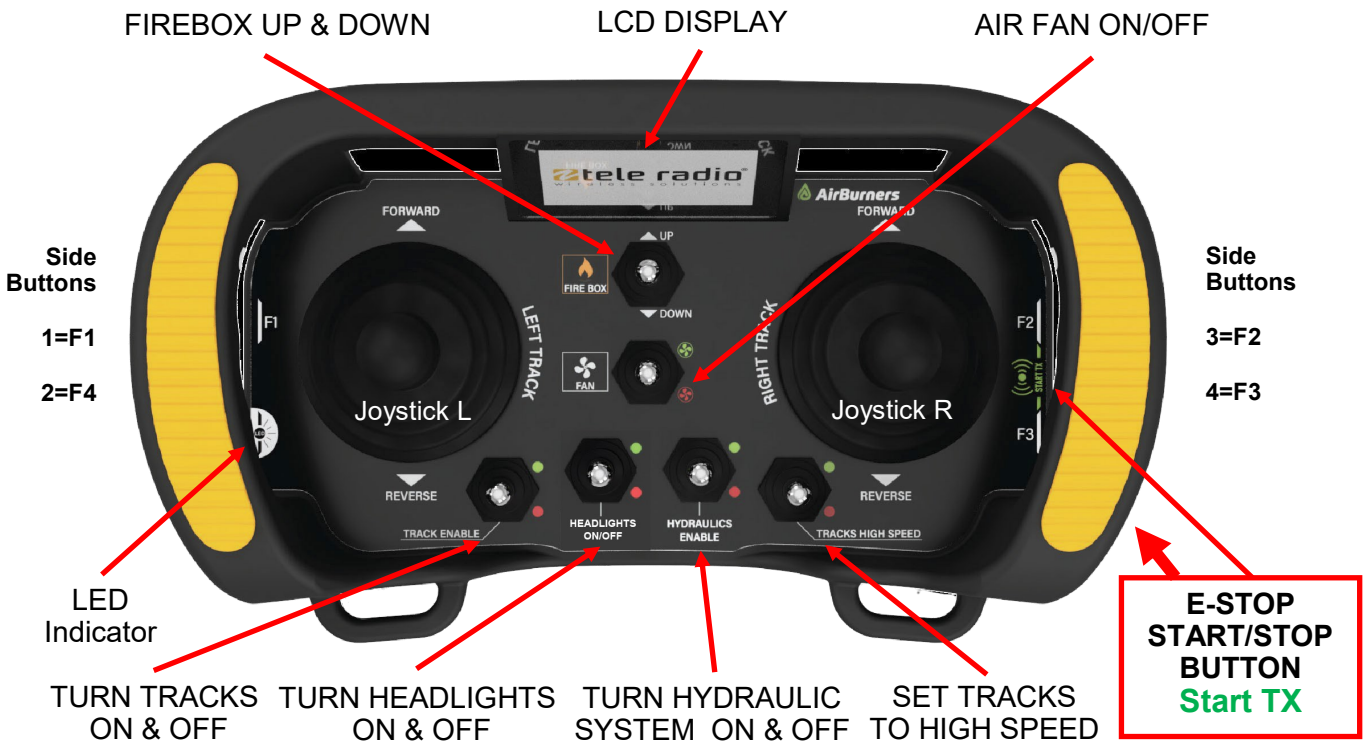
B. Remote Control Console Operation

The transmitter has FCC Certification ONFC1602A. Referring to the image below, the remote control console has a number of switches and button on the topside and also on the left and right sides. The four round metallic looking Side Buttons (not visible below) are SB 1, 2, 3 and 4 (corresponding to F numbers on the top of the console) are used for joystick calibration only (see Appendix A). The round red button on the lower right side is the **Emergency Stop Button (E-STOP)**. Pushed-in = OFF and pulled out by rotating = ON. It is shown on the panel as *Start TX* and is also used for routine console shutdowns.

The two joysticks controlling the track to move forward and reverse. The switches either *Latch*, meaning they can be placed in two or three positions, or they are *Momentary*, meaning they are pushed as needed then return to the previous state. The Green Dot indicates ON, the Red Dot OFF and the White Line Neutral.

The control for lowering and raising the firebox (burn chamber) is the center top (momentary) switch. It has an indicator UP (Switch to TOP) or DOWN (Switch flipped down). This switch will return to the center (neutral) position. The bottom center left switch turns the headlights on and off. The tracks are locked out unless the firebox is secured in the UP position to prevent driving the TrackBoss with the firebox to the ground, as this would result in serious damage.

The LCD Display shows operational conditions such as radio link established, battery charge level, lock-pin engagement, and hydraulic fluid level warnings.



HOW TO POWER THE TrackBoss

C. Starting and Operating Engine via Remote Control Console

1. Ensure HYDRAULICS ENABLE, TRACK ENABLE, and FAN switches on Remote Control Console are in OFF position (Red Dot).
2. Set engine key switch to ACC (accessory) position to turn on the onboard electric power.
3. Turn on power on Remote Control Console by pulling out and turning clockwise the large red E-STOP Button on right side until released ("Emergency STOP Button", see Page 13)
4. Press F2 and F3 Side Buttons simultaneously until Remote Console vibrates. This will indicate that a radio link has been established between console and transponder on the TrackBoss.
5. Turn key switch on HATZ Engine Controller to RUN position and wait for Start Up Screen.
6. Turn key switch on HATZ Engine Controller to START position and start engine and let it idle to warm it up.
7. Ensure the mechanical Fan Speed Control Knob on Engine Control Panel (Image below) is in OFF position by rotating it completely counter-clockwise (Do not apply any force). This knob regulates the RPM's of the hydraulic drive motor that powers the air fan by adjusting fluid flow.
8. On HATZ engine controller, set engine to 2400 RPM by once pressing Button 1 (UP). The engine RPM's are governed and will remain at this preset operational speed throughout.
9. On Remote Control Console set HYDRAULICS ENABLE switch to ON position (Green Dot)
10. On Remote Control Console set FAN switch to ON position (Green Dot).
11. For burning operations, the air fan speed may be varied as required by rotating the Fan Speed Control Knob. Check the Fan Speed RPM Gauge and set speeds, as may be required:

    a. 500 PSI - Air Fan Speed IDLE
    b. 1650 PSI - Air Fan Speed FIRE LOW
    c. 2200 PSI - Air Fan Speed FIRE HIGH

Engine Controller (HATZ)

WARNING: The steel access doors with top hinges on the sides of the TrackBoss will stay open in upright position if the TrackBoss is on level ground. Do not move the TrackBoss with the doors open. When closing them manually, keep your hands and fingers clear. Dropping the doors on your arms, hands or fingers could cause serious injury.

HOW TO POWER THE TrackBoss

D. Stopping Engine and Shutting Down Operation

1. Return all switches on Remote Control Console to OFF position (Red Dot).
2. Lower engine speed on HATZ Engine Controller to 900 RPM. Press Button 2 once.
3. Turn key switch on HATZ Engine Controller to OFF position.
4. Press red E-STOP Button on right side of Remote Control Console to OFF position ("Emergency STOP Button", see Page 13).

The maximum HATZ engine speed is governed to ensure the correct hydraulic fluid pressure for all operations.

The HATZ engine will run at a pre-set maximum RPM throughout the T28 operation, no matter whether the TrackBoss is being track-propelled or stationary in production phase powering the hydraulic motor of the air fan reducing wood waste.

Engine Controller (HATZ by MBW)

HOW TO POWER THE TrackBoss

E. Lowering the Firebox

1. Ensure Fan Speed Control Knob is set all the way CW (Counterclockwise).
2. Switch HYDRAULICS ENABLE on Remote Ensure engine is running and Remote Control Console is activated and communicating with TrackBoss.
3. Remove Front and Rear Travel Pins. This may require briefly toggling the switch marked FIREBOX UP/DOWN ON THE Remote Control Console to release firebox resting weight off the pins so that they can be pulled out by hand.
4. Transmitter to ON position (Green Dot).
5. Press and hold FIREBOX Switch on Remote Control Console in DOWN position until Firebox is lowered.

F. Raising the Firebox

1. Ensure Fan Speed Control Knob is set all the way CW (Counterclockwise).
2. Ensure engine is running and Remote Control Console is activated and communicating with TrackBoss.
3. Set Engine Speed to 2400 RPM on HATZ Engine Controller.
4. Ensure TRACK ENABLE switch and FAN switch on Remote Control Console are in OFF position (Red Dots)
5. Set HYDRAULICS ENABLE switch on Remote Control Console to ON position (Green Dot)
6. Press and hold FIREBOX Switch on Remote Control Console in UP position (Green Dot) until Firebox is raised.
7. Install and Secure Front and Rear Travel Pins on actuators.

HOW TO PROPELL THE TrackBoss

G. Driving the TrackBoss from Remote Control Console

Before Driving the TrackBoss Read this WARNING:
Verify Planned Path is Clear and Safe

1. Be mindful of the fact that the T28 TrackBoss is a powerful workhorse and not a remote-controlled toy. If running inadvertently amuck the machine can cause serious injury or death to operators and bystanders, cause damage to objects in its path and the machine can destroy itself if, i.e., if mistakenly run into a waterway, canal or lake.
2. Only move the machine over terrain that can support its weight of approx. 16,200 lb. (7350 kg).
3. Do not operate the machine near buildings, storage tanks, power poles, other vehicles or bodies of water, like canals.
4. Never stand or sit on any part of the TrackBoss while driving it.
5. Never move the machine with its firebox lowered to the ground and both actuator safety pins not properly secured. This is not possible under normal operational conditions, as the tracks are automatically locked out while the firebox is lowered to the ground. However, visual confirmation of the UP-Position of the secured firebox is advised before track activation, as an aberration in the radio signal transmission, a battery issue in the remote control console or a wiring issue may cause the lockout circuitry not to function as designed.

Driving up or down a hill or slope

The fuel tank must be nearly full if the contemplated travel path includes short-range ascending or descending a hill or slope. This will ensure that the engine will not shut down abruptly, because the fuel pickup line in the fuel tank cannot reach any fuel. The HATZ engine does not have a manual primer pump, only the main electric fuel pump. It may take some effort to restart the engine if it ran out of fuel. That is the reason why avoiding this mishap in the first place is advised.

Maximum achievable gradeability by the TrackBoss is approximately 36% (Slope angle of 20°).

TrackBoss T28 Firebox Lowered to Ground

HOW TO PROPELL THE TrackBoss

G. Driving the TrackBoss from Remote Control Console

1. Set engine key switch to ACC (accessory) position to turn on the onboard electric power.
2. Turn on power on Remote Control Console by pulling out and turning clockwise; red E-STOP Button on right side until released ("Emergency STOP Button", see Page 10).
3. Ensure a freshly charged battery is installed in the console.
4. Check battery charging condition on Remote Control Console LED display
5. Ensure the engine is running and the firebox is in the raised UP-position and both fore and aft actuator pins are properly in place.
6. Set the Hydraulics Enable Switch to ON position (Green Dot).
7. Set the Track Enable Switch to ON position (Green Dot).
8. Use joysticks to activate the track and propel the TrackBoss forwards or backward. Steer left and right as needed.
9. Set High Speed Enable Switch to ON position (Green Dot) as may be appropriate.
10. Never stand or sit on any part of the TrackBoss while driving it.

H. Parking the TrackBoss at Burn Site

1. Ensure the TrackBoss is at a level ground location. The Tracks MUST be level to the ground when positioned for burning.
2. Set High Speed Enable Switch to OFF position (Red Dot) , if activated.
3. Set joystick to NEUTRAL (center) position.
4. Set the Track Enable Switch to OFF position (Red Dot).

Tracks must be parallel to the ground to prepare for lowering of firebox

NOTE: The Tracks MUST be level to the ground once driven to the burn-site for the firebox to be property lowered and prepared for burn operations.

HOW TO PREPARE THE TrackBoss FOR BURNING

A. Overview of Main Steps

1. The firebox must be lowered onto level ground directly on dirt, not on any combustible, like dry grass or peatmoss and not on a concrete pad, gravel, crushed stone or asphalt.
2. Wear Personal Protective Equipment (PPE).
3. Important: Shovel dirt around the inside edges where the firebox contacts the ground to prevent heat and smoke from leaking out.
4. Ensure Fan Speed Control Knob is set all the way CW (Counterclockwise).
5. Start engine and set RPM to operating level.
6. Verifying hydraulic pressure.
7. Remove the actuator safety pins and lower the firebox, if needed.
8. Do not activate the air fan yet.
9. Follow instructions on Pages 23 how to start a fire.
10. Once the fire started sufficiently as not to be blown out by the air curtain, turn FAN switch to ON position on Remote Control Console.
11. Secure remote control console in tool box.
12. Use Fan Speed Control Knob to adjust air fan RPM's as needed:
    a. 500 PSI - Air Fan Speed IDLE
    b. 1650 PSI - Air Fan Speed FIRE LOW
    c. 2200 PSI - Air Fan Speed FIRE HIGH

Hydraulic Oil

If you are operating in cold weather you may need to warm the hydraulic oil before use. In most cases running the engine for 30 minutes will generate enough heat. If you still have difficulties operating the hydraulic system you will need to change the oil to a colder spec oil.

Your machine's hydraulic system comes standard from the factory with Am Soil Synthetic hydraulic oil ISO32 (Am Soil P/N HVH05-EA). If your machine will operate in cold temperatures or remain outside for long periods in cold temperatures you will need to use a synthetic hydraulic oil such as Am Soil P/N HVG05-EA, ISO22. Your machine's hydraulic system holds approximately 7 gallons (25.5 L) of fluid.

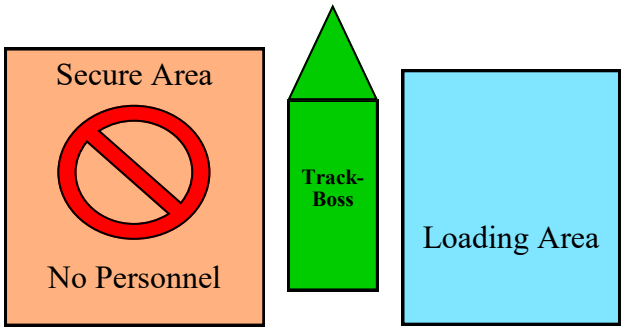
NOTE The TrackBoss lower frame rail MUST be level to the ground once driven to the burn-site position for the firebox to be property lowered and to prepared for burn operations.

HOW TO PREPARE THE TrackBoss FOR BURNING

POSITIONING THE UNIT

The TrackBoss unit is self-contained and ready to use upon delivery to the job site.

1. The TrackBoss must be setup on level ground (see Page 15).
2. The firebox is lowered to the ground using the remote controls (see Page 13).
3. The bottom edges of the firebox must touch the ground to ensure smoke and embers will not escape underneath the firebox walls. If necessary shovel some dirt into (INSIDE) the firebox to seal the edges. This must be done prior to loading the firebox with wood waste.
4. With respect to the prevailing wind direction, the unit should be positioned such that the wind comes over the back of the manifold. This is the preferred position. It is also acceptable to have the wind blow into the manifold. It is discouraged, however, to have the wind come from either end of the machine, as this will tend to disrupt the air curtain.
5. The firebox will be loaded either by hand or by machine OVER THE MANIFOLD. The firebox should not be loaded opposite the manifold as there are many hot embers in this area making it dangerous for personnel.
6. Secure the area (orange safety cones, signs, fencing, etc.) opposite the manifold (20' x 20' see diagram below) and along the side of the machine to ensure personnel do not get near the hot fire or embers.



DANGER: Falling into the TrackBoss will cause serious injury or death. DO NOT stand within 20 feet of the TrackBoss on the side opposite the manifold.

DANGER: Load the machine over the Manifold to prevent hot embers from endangering personnel.

SITE PREPARATION

GOALS TO GOOD SITE PREPARATION

THE GOALS TO GOOD SITE PREPARATION ARE:

To place the TrackBoss for easy access at worksite.

To sort the waste wood pile.

To organize the inflow of new wood waste.

When locating the TrackBoss:

1. Ensure the workplace to which you drive the TrackBoss is of sufficiently solid terrain to carry its weight of approximately 15,350 lb. Make sure the ground includes no combustibles like peat-moss or dry grass.
2. Consider where the waste piles will be located. We generally recommend two waste piles (explained in next Section on Page 20).
3. Consider the predominate wind direction. Hot embers *will be* escaping from the firebox during all burning operations.
4. Consider clearances to empty the TrackBoss. The unit must raised and propelled ***forward*** until all the ash remains behind. In most cases cold ash can be reapplied to the land. Check your local ordinances.
5. Once the TrackBoss is in position, it is important to place dirt around the inside bottom of the firebox where the thermal-ceramic panels meet the ground to “seal” the bottom. This will prevent smoke and heat from escaping. Pay particular attention to the seal between the front wall and engine bay.

DANGER: Never dig a pit in the center of the firebox. This will allow high level heat to destroy the bottom structure of the T28 TrackBoss, voiding the warranty.

DANGER: Never operate the TrackBoss on combustibles like peat moss or dry grass, and never operate it on a concrete pad, gravel, crushed stones or asphalt.

DANGER: This machine DOES NOT prevent hot embers from escaping. This machine is designed primarily as a pollution control device to reduce the smoke generated from open pile burning clean wood waste.

SITE PREPARATION

FASTER OPERATION THROUGH STAGING THE WOOD PILES

Air Burners air curtain burners were designed primarily as a pollution control device, but operated correctly they will burn clean wood faster than open pile burning. To achieve the best throughput the fire must remain at the highest temperature possible. You achieve this by remembering three rules:

1. **Don't smother the fire with a huge load or a load of very dense material.**
2. **Load "less more often" smaller bucket loads more often.**
3. **Sort out a pile of your best burnable wood, use it to create a hot fire.**

The basic principle of operation is not too different from a campfire. You use your best wood to get it started and if the fire dies down you add some more good wood like fine branches to bring it back up. The big difference is that on your campfire you are probably not adding root balls, leaves or pine needles. These are the high moisture content and dense materials that bring the fire temperature down.

The temperature drops (smoke increases) and your burn rate slows down, if you overload the machine with materials that have high moisture content such as tree branches with leaves and needles, or green branches such as palm fronds. While these are certainly ok to burn in the TrackBoss, you want to add them to a hot fire, so they dry out and ignite quickly.

To keep the temperature up and to maintain the highest throughput of waste, you should mix the very burnable wood with the less burnable materials throughout the course of the burning operation. The most common way to accomplish this is to stage a pile of the most burnable materials or what we call the "two pile system."

T26 TrackBoss in Full Operation

"If it's burning clean, it's burning hot, If there is smoke, you're losing money."

SITE PREPARATION

THE "TWO PILE SYSTEM"

For an efficient operation you would have two piles:

The **first pile** or "Main Debris" pile, is the material being generated from the land clearing or forest clearing operation and is located away from the ember path but with good access to your loading machinery.

The **second pile** or "Good Wood" pile is your best and most burnable wood. When you first setup the site the operator should spend some time sorting through the main debris pile pulling out what appears to be your best and most burnable materials. This is the material you will start the fire with, this is the material that will give you a good hot burning base fire. You will also draw from the "Good Wood" pile throughout the day if you should need to stoke up the fire (more on this in the following sections).

As the TrackBoss operator is drawing from the main debris pile throughout the day he should continue to replenish the "Good Wood" pile as necessary. The "Good Wood" pile only needs to be enough material to stoke-up the fire if needed and enough material to get you started the next day.

IMPORTANT WARNING ABOUT BURNING OF PALLETS

Wooden Pallets, especially spent pallets burn extremely hot. DO NOT load the TrackBoss above approximately 3/4 of the height of the firebox. Heat damage to the manifold and other structure may occur which would not be covered under your Limited Factory Warranty.

DANGER: You must ensure debris does not build up on the machine. It must be kept clean at all times during operation to prevent a fire that would damage or destroy the engine and accessories.

LOADING AND STARTING THE TrackBoss FOR BURNING

THE GOALS IN STARTING A FIREBOX

The Goals in Starting a Fire in the TrackBoss are:

1. **To achieve an even fire across the length of the firebox.**
2. **To start the fire from the bottom of the initial pile.**
3. **To build a hot base fire.**

COLD START

1. Turn on engine.
2. The air fan should be OFF (but as described on Page 13, engine should have been warmed up).
3. Shovel dirt along the inside bottom edges of the panels to “seal” them. It will only need a couple inches to prevent the smoke from escaping underneath the unit.
4. Load the TrackBoss from the side of the air manifold. This is safer as there is less chance of the operator coming in contact with hot embers.
5. Load your most burnable material (materials from the “Good Wood” pile as discussed in the previous section) which is the smaller, dryer and cleaner wood, into the TrackBoss to a level of about half way up. Ensure the entire bottom area of the firebox is covered.
6. If you are using diesel fuel to assist in the lighting, spray it (approximately 3 gallons) across the top of this first load of woody feedstock.

Cold start continued on next page.

DANGER: If you are using an accelerant (where permitted), first ensure there are NO HOT COALS remaining in the TrackBoss.

DANGER: DO NOT use highly volatile accelerants, such as gasoline or kerosene, to light the fire. These fluids ignite almost explosively and may cause injury or death.

LOADING AND STARTING THE TrackBoss FOR BURNING

THE GOALS IN STARTING A FIREBOX

Cold Start (continued)

7. Once you have this smaller material loaded and your accelerant added (if used) load some larger heavier material on top, such as logs or big branches. Load these heavier materials, also from your “Good Wood” pile, to a height just below the manifold nozzles. This heavier material will help compress the smaller feedstock which will give you a better light-off. If there are large air spaces between the materials in the firebox, the heat will not build up as quickly and the fire may be more difficult to light.
8. This material, once burning, will become your hot base fire to support continued burning. Use your best and driest materials (“Good Wood”) for startup, as this will form a strong base for continued burning plus it will start quicker and burn hotter. If you will be burning stumps then it is best to load them after the first hour of burning when the fire is up to full temperature.
9. The level of material in the firebox for light-off should be kept just below the manifold nozzles (unless you are burning pallets—then just 3/4 of the height of the firebox).
10. Using an appropriate method, such as a propane torch (like a weed burner) or oil soaked rags on poles to light the fire.
11. Once the fire is burning start the air fan. Do not increase the fan speed too fast as the air from the manifold could “blow-out” your fire.
12. There is always smoke on start-up, as ***all*** of the material in the firebox contains moisture, compared to later in the burn operation, when only the new material you are loading contains moisture. Plus, the air curtain cannot be fully engaged, until the fire has strengthened or you run the risk of blowing out the fire.
13. Do not load new material into the TrackBoss too fast during the first hour of burning operations until a good hot base has been achieved.
14. Once a good hot fire base is achieved load new material at a rate that causes good ignition and does not “smother” the fire.

“Less material, more often, will give you the fastest burn rate.”

LOADING AND STARTING THE TrackBoss FOR BURNING

THE GOALS IN STARTING A FIREBOX

HOT START

A hot start uses the coals from the previous days burning operation. Depending on how much ash is in the unit, a hot start can usually be done only once before the unit will need to be emptied. The more ash in the firebox that you start with the LESS room you have for burning new materials. Hot starting may not be practical for the TrackBoss due to its smaller size.

First, ensure there are enough coals remaining to generate enough heat to get the new waste materials burning. You CANNOT add an accelerant, if the waste materials do not light, as that would be too dangerous. If the material does not light, the TrackBoss must be emptied before trying a cold start with the use of an accelerant.

HOT START LIGHTING

Similarly to a cold start you begin with your best and most burnable materials.

1. Load the firebox to about one third or half way with the “Good Wood”. The wood should begin burning as soon as you start loading.
2. Start the air fan and run at Fan Speed MEDIUM. This should help fan the flames and spread the fire. If you experience heavy smoke then set to Fan Speed LOW. Be cautious not to “blow out” the fire.
3. As the fire begins to heat up, set fan speed to Fan Speed HIGH.

DANGER: Never use an accelerant to overcome a lighting of the initial load that failed, as it may ignite unexpectedly and cause injury or death.

“If it’s burning clean, it’s burning hot, If there is smoke, you’re losing money.”

HOW TO FEED A FIRE

BEST PRACTISE

It will generally take 30 minutes for the fire to build to a point where the temperatures are sufficient for the unit to be operating with minimal smoke.

1. Add material from your “Good Wood” pile slowly for the first hour. It takes about an hour for the fire to reach minimum temperature. Your goal is to achieve an even and hot fire across the unit.
2. For continuous operation the engine and hydraulic drive motor powering the air fan are run at maximum RPM’s (preset at the factory). If the fire is burning very hot with no smoke the air fan RPM can be reduced to Fan Speed MEDIUM, however the diesel engine RPM’s will not change.
3. If you get excessive smoke and ash when you load the wood waste while dropping the load through the air curtain, then you may need to turn the air fan RPM’s down temporarily as you load. This is most likely earlier in the burn operation.
4. Take caution when loading the unit that the material to be burned is not “dumped” in the firebox too quickly causing hot embers to be thrown from the unit. If you have an area in the firebox that is smoking, this indicates the temperature is low in that area. Add material from the “Good Wood” pile to get the fire temperature up. Once that area is burning add some of the heavier material.
5. The rate at which you load the unit varies depending on moisture content of the materials and the temperature of the fire. If you overload the firebox you will notice an increase in white smoke. White smoke is an indication that the temperature is dropping. If the smoke increases stop loading until the fire has caught up. You can also bring the temperature up by adding materials from the “Good Wood” pile.
6. For the highest throughput load “*LESS MORE OFTEN.”* Smaller bucket loads more often will give the materials a better chance to ignite and will result in your highest throughput of material. Oversized bucket loads may smother the fire for a short period before it ignites this will slow the burning down and reduce your daily throughput.
7. The load in the firebox should not go higher than the bottom of the manifold (except for pallets where the limit is 3/4 of the firebox height). If the material is piled higher, it will begin to break the air curtain and more smoke will escape.
8. The fire should be loaded continuously throughout the day, in order to maintain operating temperatures. If the fire is not loaded continuously, the temperature will drop, the throughput will go down and more smoke will escape.

SHUTDOWN

HOW TO BURN FIRE DOWN FOR SHUTDOWN

All loading should stop one or two hours before you intend to put the fire out.

As the fire burns down, maintain the air speed until the firebox begins to smoke. As the smoke increases, reduce the air fan speed from Fan Speed HIGH to MEDIUM and then LOW. This will help to reduce the smoke.

The air in the manifold needs air flow, both to accelerate the burn down and to protect the manifold from warping due to excessive heat. **DO NOT shut off the air flow while there are still flames within 12 in. of the manifold.** Doing so may cause elevated temperatures to warp the manifold, nozzle assembly, etc. Your warranty does NOT cover damage due to excessive heat.

Once the fire has burned down to about one or two feet and flames are not visible near the manifold, and the air fan set at Fan Speed LOW it will be safe to shut down the HATZ diesel engine by moving the key switch to the OFF position.

Make sure the fire is extinguished before you leave the job site. The best way is to load dirt or sand into the firebox, **but do not spray the refractory walls with water as this will damage them.**

Most local authorities allow the TrackBoss to be secured and the embers to smolder all night. There is generally no smoke from this smoldering. Ensure the work site is secured or has a constant security guard to prevent any people or animals from getting near the TrackBoss. The inside temperatures of the firebox will remain very high most of the night.

If you are not allowed to smolder through the night, then verify the fire inside the firebox is completely out. If there is still burning or smoldering you can raise the firebox and drive the TrackBoss forward allowing the embers to remain behind. Then water down the embers. Ensure the fire is out and the job site secure before you leave.

DANGER: Falling into the TrackBoss will cause serious injury or death.

ASH REMOVAL

HOW TO EMPTY THE TrackBoss

We recommend removing the ash every morning before burning operations begin. This will give you maximum capacity in the firebox and the ash will be easier to handle.

The TrackBoss will operate with up to 1½ ft. of ash inside its firebox, but as the ash gets deeper the efficiency of the unit goes down. 1½ ft. of ash would represent approximately 35% of the firebox capacity that would be unusable.

The ash is emptied by raising the firebox and driving the TrackBoss forward.

DANGER: When removing ash from the TrackBoss, be aware of the wind direction and ensure all operators wear appropriate face masks (PPE) to prevent inhaling the ash.

Ash Removal

1. Raise firebox into full up position, insert the fore an rear safety pins into the actuators and drive the TrackBoss forward leaving the hot embers and ash behind.
2. Ensure the ash pile is not left HOT, use water to ensure all fire is out and embers extinguished.
3. Ash can be land applied as a useful soil additive or loaded in a dumpster for disposal.

DANGER: When removing ash from the TrackBoss, move the machine as soon as the firebox is raised to prevent the hot embers from damaging the tracks and track drive motors.

TROUBLESHOOTING
BURNING ISSUES

1. **Fire will not start.**

   Material in firebox has too much air space. To correct, load heavy material such as stumps to make the lower material pack down. Use torches and light from the bottom, so the fire burns up.

2. **Fire burning at one end.**

   Load heavy materials directly on top of the burning area. This causes the flames to fan out in an effort to reach the top of the pile. As the fire begins to spread, keep material piled on top of the flames until the entire firebox is burning.

3. **Fire smoking too much.**

   The most common reason for a smoking fire is too much dirt or dense materials going into the firebox and reducing the heat. You must make sure the wood waste material is free from large amounts of dirt. Load from your “Good Wood” pile to bring the temperature back up.

   You may also have overloaded the firebox or loaded the firebox too fast. Example: if you only have 1 ton of material burning you can not load in 3 tons of material. The new material will smother the fire. Stop loading and let the fire catch up. The material you are loading may have a very high moisture content. You can either load at a slower rate or mix the wetter material with dryer material.

   If you are letting the fire burn down or the load in the firebox is less than 3 ft. deep, you may need to reduce the air fan speed to a lower setting.

4. **Smoke from one area of the firebox.**

   The area is probably not burning well. Add smaller material from your “Good Wood” pile to this area to help build the fire. As the smoke clears add heavier material.

5. **Smoke from under the base rails or bottom of panels.**

   Loose dirt was not properly shoveled around inside of firebox to seal between panel bottoms and the ground. To fix this, shovel dirt around the outside where the smoke is escaping. Once the ash inside builds up this will stop.

TROUBLESHOOTING
BURNING ISSUES

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   Material in firebox has too much air space. To correct, load heavy material such as stumps to make the lower material pack down. Use torches and light from the bottom, so the fire burns up.

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   Loose dirt was not properly shoveled around inside of firebox to seal between panel bottoms and the ground. To fix this, shovel dirt around the outside where the smoke is escaping. Once the ash inside builds up this will stop.

TROUBLESHOOTING
TRACKBOSS REMOTE CONTROL RADIO LINK FAILURE

1. Unable to establish Radio Link from Remote Control Console to TrackBoss Transponder

a. Ensure a properly charged fresh battery is installed in the remote control console.

b. Ensure the Diesel engine is running and hydraulic pressure has been established.

c. Check the antenna condition and ensure it is in place and undamaged.

d. Follow the routine remote console startup and connection procedure from Pages 13 & 14.

e. If the link still is not up, try moving the console to different locations around the TrackBoss, in case radio interference from another source is blocking the signal.

f. If these steps do not work, go to next section.

2. Emergency Hardwiring Remote Control Console to TrackBoss Transceiver

a. Locate the coiled up coaxial cable in the electronics compartment that houses the battery charger (see image to right) and remove the 15 ft. (4.5 m) cable.

b. Ensure engine key switch is in OFF position.

c. Connect one end of cable to the terminal on the left side of remote control console (unscrew dustcover).

d. Connect the other end to the terminal on the antenna transceiver located in the upper left corner of the electronics compartment (remove dustcover).

e. Follow the same operational steps that you would use with an established sound radio link to the remote control console.

Transceiver Terminal

Emergency Transceiver Cable Storage

f. Be mindful to keep the cable away from the tracks as not to accidentally run over it or get it entangled in the track.

3. Emergency Towing of TrackBoss

The TrackBoss does not have a “neutral” gear position. If it is stuck at a location where it is unsafe, where it blocks traffic, or egress or ingress at a needed location, it can be towed out of the way with a suitable equipment. It is best to attach tow cables to both rear tow rings and tow the machine straight backwards. Stay clear of the tow cables in case they should snap, as that may be dangerous and cause injury or death. The tracks may not turn and may skid on the surface meaning considerable force must be used to tow the TrackBoss. Towing the TrackBoss should be seen as last resort.

Right Side Tow Ring

MAINTENANCE, CARE AND SAFETY CHECKS
CHECK LISTS

1. Daily Check list:

1. Oil level (top off as needed).
2. Engine coolant level (top off as needed).
3. Diesel fuel level in fuel tank.
4. Tap dirt out of air intake housing and check for excessive dirt.
5. Clean out any debris under engine cowling and tracks.
6. Ensure the hydraulics are in proper condition, no leaks.
7. Ensure batteries for Remote Control Console are charged and properly installed.
8. Ensure warning strobe lights are functional.
9. Visually inspect tracks for aberrations.

2. Periodic Maintenance and Check List

1. Change engine oil and oil filter
2. Clean/replace fuel filter as needed
3. Clean and inspect air filter and replace as needed
4. Clean debris off radiator and hydraulic fluid cooler
5. Check alternator V-belt and adjust as needed
6. Check hydraulic system for leaks and sufficient fluid in reservoir
7. Perform track maintenance by following instructions on Page 29 and Appendix B.

DANGER: Ensure there is no build-up of debris under the engine cowling and around the tracks as this will create a fire hazard that could destroy your machine and cause bodily injury.

Contact Air Burners, Inc., should you require assistance with any of these necessary maintenance tasks. Send Email to support@airburners.com, call 772-220-7303 or 888-566-3900 (Customer Support)

Consult the supplied HATZ Engine Service Manual.

MAINTENANCE, CARE AND SAFETY CHECKS
TRACK MAINTENANCE CHECK LIST

In order to maintain the reliability of the track systems, regular maintenance is essential. It is imperative that the tracks are maintained as outlined within this maintenance section.

ALWAYS

1. Perform maintenance on a level and solid surface and wear protective safety equipment (PPE).
2. Ensure the track system is solidly supported if work is necessary under the track systems.
3. Remove any build-up of grease, oil or debris.
4. Repair all damage and replace worn or broken parts immediately.
5. Check for oil leaks and damaged hydraulic hoses.
6. Use only specified lubricants. Do not mix different brands or types.
7. Use great care when maintaining the hydraulic system since oil may be very hot when the TrackBoss has just been working.
8. Use only Air Burners, Inc. supplied/approved replacement parts. Use of unapproved parts will invalidate the warranty.

INSPECTION	*FREQUENCY*	*ACTION*
Tightening screws	After first 50 operating hours of the gearbox	Screws tightened to correct torque
Oil Level	Every 150 operating hours of the gearbox	Refill oil as necessary
1st oil change	After 150 operating hours of the gearbox	Replace oil
Oil plugs with washers and seals	Every oil change	Replace Oil plugs with washers or seals

OIL TYPE	*WORKING CONDITIONS*	*OIL CHANGE FREQUENCY*
Mineral Oil	Standard Conditions	Every 1000 operating hours or 12 months
	Heavy Duty Conditions	Every 500 operating hours or 12 months
Synthetic Oil	Standard Conditions	Every 2000 operating hours or 24 months
	Heavy Duty Conditions	Every 1000 operating hours or 24 months

9. If repairs are needed, contact Customer Support at Air Burners, Inc.

For additional Instructions, refer to Appendix B

MAINTENANCE, CARE AND SAFETY CHECKS

GENERAL CHECK LIST

In order to maintain the reliability of the track systems, regular maintenance is essential. It is imperative that the tracks are maintained as outlined within this maintenance section.

A. Oil level (top off as needed).
B. Engine coolant level (top off as needed).
C. Diesel fuel level in fuel tank.
D. Tap dirt out of air intake housing and check for excessive dirt.
E. Clean out any debris under engine cowling and tracks.
F. Ensure the hydraulics are in proper condition, no leaks.

2. Periodic Maintenance and Check List Before Moving TrackBoss

A. Change engine oil and oil filter.
B. Clean/replace fuel filter as needed.
C. Clean and inspect air filter and replace as needed.
D. Clean debris off radiator and hydraulic fluid cooler.
E. Check alternator V-belt and adjust as needed.
F. Check hydraulic system for leaks and sufficient fluid in reservoir.

DANGER: Ensure there is no build-up of debris under the engine cowling and around the tracks as this will create a fire hazard that could destroy your machine and cause bodily injury.

Contact Air Burners, Inc., should you require assistance with any of these necessary maintenance tasks. Send Email to support@airburners.com, call 772-220-7303 or 888-566-3900 (Customer Support)

MAINTENANCE, CARE AND SAFETY CHECKS

THERMAL-CERAMIC PATCHING COMPOUND

For minor repair of Air Burners TrackBoss refractory panels.

Part # 6900-1003
Thermal-Ceramic Wet Pre-Mix

NOTE: This is an air cured product, reseal unused portion immediately.
Once opened the shelf life is one (1) year.

Directions:

1. Cracking of the panels is normal as they flex in the heat. Filling the cracks every 6 months or as needed will extend the life of your Thermo-ceramic Panels.

2. Air Burners patching compound is pre-mixed and ready to use (may require some stirring).

3. Storage: Compound should be stored indoors in a frost free location.

4. Preparation: The area in and around the damaged area to be patched must be cleaned and brushed to provide the best surface for the compound to adhere. Remove all loose refractory and debris from the area to be patched.

5. Wet the cleaned surface with a light spray or damp cloth.

6. Installation: Using a trowel or similar tool, pack the refractory compound material into cracks and into areas where the refractory is missing. o achieve proper thickness trim off the excess material using a sharp flat blade or the side of the trowel.

7. Allow the material to harden overnight before placing the FireBox back into service. After the compound has hardened operate the FireBox under normal conditions.

SERVICING SPECIFICATIONS

Parts List for Routine Service of HATZ Industrial Diesel Engine 3H50TIC

Also Refer to Engine Manufacturer's Service Manual for Engine Service Details

(Engine should be serviced after first 50 hours)

Description	Air Burners P/N	Manufacturer's P/N	Service Interval
Air Filter (Main Element H50)	5000-2338	HATZ 50638200	500 Hours
Air Filter (Secondary Element H50)	5000-2339	HATZ 50638300	500 Hours
Oil Filter H50	5000-2340	HATZ 50638800	500 Hours
Oil Separator H50 (Crank Case Vent)	5000-2341	HATZ 50640500	500 Hours
Fuel Filter H50	5000-2342	HATZ 50638100	500 Hours
Pre-Fuel Filter	5000-2343	HATZ 50638000	500 Hours
Poly-V-Belt (Engine) H50	5000-2344	HATZ 50629401	500 Hours
Fuel/Water Separator Filter (Optional)	5000-1297	RACOR R20P	As needed
Hydraulic Fluid Filter Element	5000-2713	Donaldson P165762	As needed
Battery, 12V, Max 120 Ah; Max. CCA 800; Min. CCA 750; RC 130	5000-2472	Interstate Batteries 24M-XHD	As needed

Break-Away Switch	12V (5Ah) Battery - See owner's manual
Remote Control Console	Battery by TeleRadio D4-02 3.7 V Li-Ion
Fuel	Ultra-low Sulfur Diesel Fuel
Engine Oil	15W40 or 10W40 Diesel Grade
Engine Oil Capacity	5.2 qt. (4.9 L)
Engine Coolant*	Low Silicon Anti-Freeze (Green). Units are shipped from factory with 50-50 mixture green antifreeze/water.
Hydraulic Oil	ISO32 Synthetic Hydraulic oil, factory installed is Amsoil HVH05-EA. (cold weather option is ISO22 synthetic, i.e. Amsoil HVG05EA). Change Hydraulic Oil every 1 to 2 years, depending on environment.
Hydraulic Oil Capacity (reservoir + system)	Minimum 7 gal. (23.5 L)
Fuel Tank Capacity	Minimum 30 gal. (113.5 L)
Hi-Temp Anti-Seize	Electrically Conductive Anti-Seize Lubricant, -65°F to 2000°F

* Contact Air Burners Customer Service Dept. for complete list of HATZ approved Radiator Protection Fluids.

Contact Air Burners, Inc., should you require assistance with any maintenance task.
Email: suport@airburners.com Phone: 772-220-7303 or 888-566-3900 (Customer Support)

APPENDICES A & B

TrackBoss T28 Remote Console Joystick Calibration
TrackBoss T28 Track Maintenance

Proper maintenance is important, in order to keep the TrackBoss T28 safe and in good working order and to keep the machine's Limited Factory Warranty in place.

INDEX

Contact Air Burners, Inc., should you require assistance with this maintenance tasks. Send Email to support@airburners.com, call 772-220-7303 or 888-566-3900 (Customer Support)

APPENDIX A
TrackBoss T28 Remote Console Joystick Calibration

1.

- *First make sure the EMERGENCY STOP button is off.*
  Turn the EMERGENCY STOP button on and release it.

2.

- *Press and hold the SB1 button on the left side of the transmitter and proceed to step 3.*

3.

- *Press and hold the double START buttons on the right side of the transmitter until you hear a BEEP from the buzzer.*
  Release all keys after you hear the sound.

Continued on Next Page

4.

- *Gently move the JOYSTICK or PEDAL corresponding to the valve to be calibrated to start the calibration procedure.*

5.

- a. *Move the joystick to the position where the valve will start to open and hold it still. Adjust the output signal with the side buttons.*
  SB3: INCREASE SB4: DECREASE
- b. *Move the joystick to its full position, hold it and adjust the maximum output signal with the side buttons SB3/SB4.*
- ***Repeat steps 4 and 5 for all valve outputs to be calibrated.***

6.

- *If you want to change directions, move and hold the JOYSTICK or PEDAL corresponding to the valve output to be reversed. Press the SB1 side button once. This reverses the direction of the voltage.*

7.

- *To exit after the settings are finished, turn off the EMERGENCY STOP button. The calibration data will be saved in the receiving unit.*

APPENDIX B
TrackBoss T28 Track Maintenance

MAINTENANCE CHECKS

Please note that the maintenance intervals specified below are for track systems working under normal conditions. If the track system is used in severe working conditions, the maintenance and safety checks must be performed more frequently.

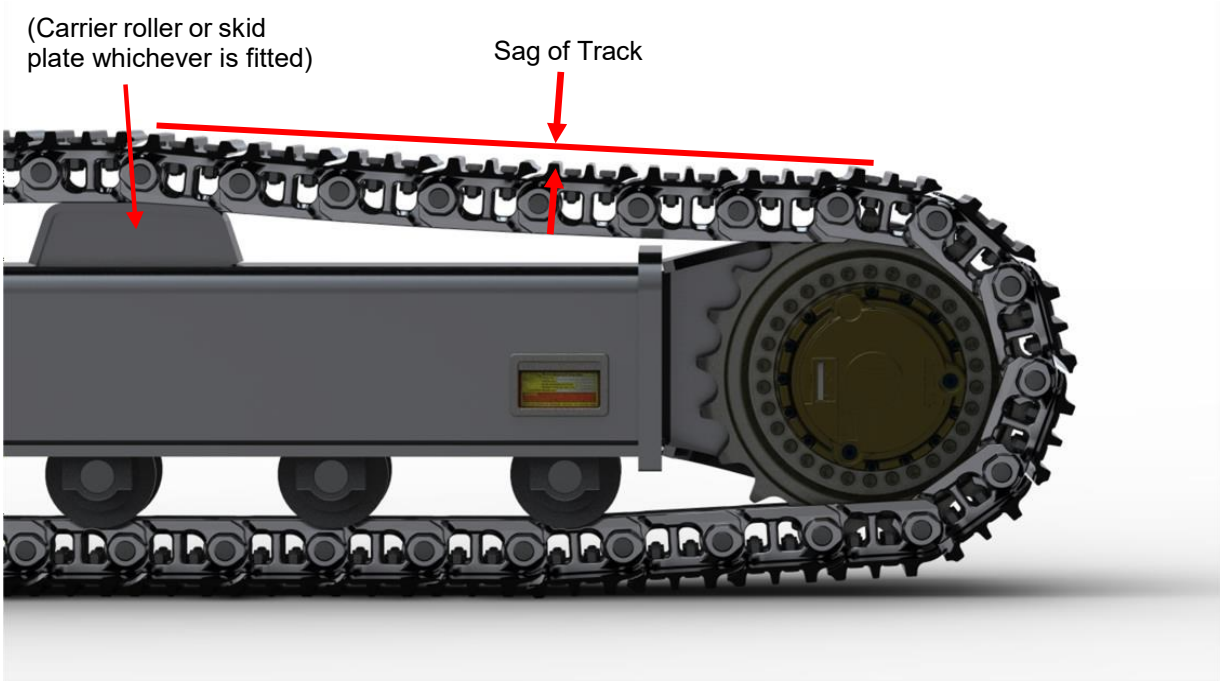
Components	Checklist	Daily Checks	Weekly Checks	Monthly Checks
Idler	Oil Leakage	✓		
	Wear Limits			✓
Lower Roller	Loose nuts and bolts	✓		
	Oil Leakage	✓		
	Wear Limits			✓
Sprockets	Loose nuts and bolts	✓		
	Wear Limits			✓
Track Drive	Loose nuts and bolts	✓		
	Oil Quantity		✓	
	Oil Leakage	✓		
Track Group	Any damage to track links, pins and track shoes	✓		
	Loose nuts and bolts	✓		
	Tight or Seized track joints	✓		
	Track tension		✓	
	Wear Limits on track links			✓
	Wear Limits on track shoes			✓
Track System Fabrication	Structural damage or failure			✓

After identifying any problems, take corrective action immediately; tighten bolts and nuts to correct

APPENDIX B
TrackBoss T28 Track Maintenance
CHECKING TRACK TENSION

Stop your machine on solid and level ground and drive 6 to 7 ft. (2 m) (minimum) in a forward direction. Measure the sag on the top part of the track on the longest section of unsupported track as shown below. The sag of the track must be between 0.2 in and 0.6 in. (5 mm and 15 mm.

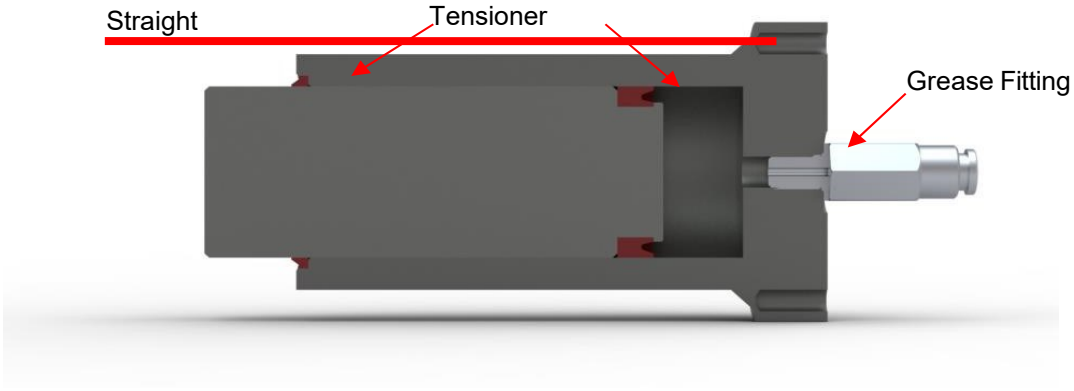
The above conditions must be fulfilled on a new track system. This must also be regularly checked and corrected if necessary, by adding grease to the grease tensioner, as described previously.



ADJUSTMENT OF TRACK TENSION

Track systems use a grease cylinder to keep each track chain in tension. Screwed into the end of the grease cylinder is a grease fitting, enabling grease to be pumped into the grease chamber and released from it, tightening and slackening the track.

The grease inside the track tensioner (Lithium EP2) is pressurized so care must be taken when loosening the grease fitting.

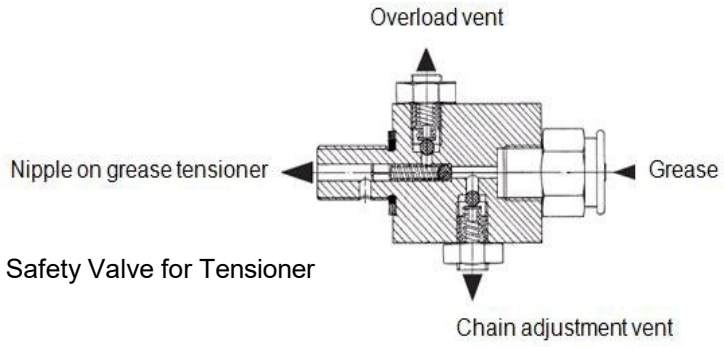


If the tracks repeatedly become slack, carry out the below mentioned checks:

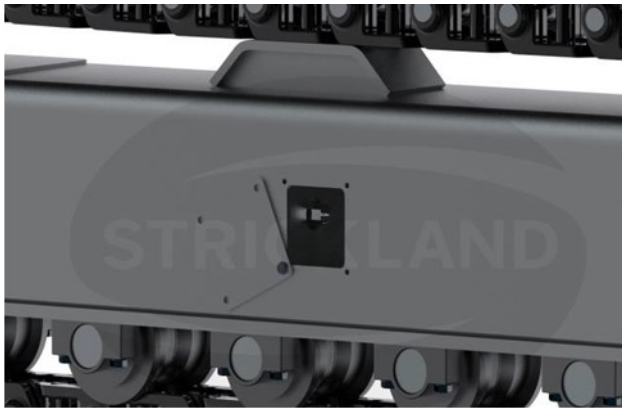
1. Check for any leakage on the outer face of grease fitting, if so, replace grease fitting.
2. Check if there is any grease leakage at contact surface between the grease tensioner and grease fitting, if so, replace bonded seal.
3. Make sure the tensioner seals are not damaged. To replace tensioner seals, simply unscrew grease fitting, push or pull out inner cylinder to expose lip seal and inner seal.

Replacement seals should be ordered from the machine manufacturer, if required. Prior to replacing tensioner seals, place a straight edge along the cylinder barrel as shown above to ensure outer sleeve has not swollen due to overloading. If tensioner is damaged, the complete tensioner unit need to be replaced.

If there is a risk of over tensioning or over loading of the grease tensioner, a safety valve can be used. To order safety valves, please contact Customer Service at Air Burners, Inc. quoting the serial number of your track system.



Tightening the Track



1. Loosen the three screws and swing access cover away from access aperture on the side of the track frame.
2. Ensure the grease fitting and grease gun adaptor is clean; ingress of dirt into the grease fitting can result in failure. Connect a grease gun to the grease fitting and add grease until the track tension is within the specified values given in **Section 3.3**.
3. Drive 55 yd. (50 m) forwards and 55 yd. (50 m) backwards and repeat the above procedure if the track slackens.

Slackening the Track

1. Loosen the three screws and swing access cover away from access aperture on the side of the track frame.
2. Loosen the grease fitting, by turning in an anti-clockwise direction, using gradual increments until the grease begins to be expelled. Care must be taken not to loosen the grease fitting too quickly.
3. When the correct track tension has been obtained, tighten the grease fitting by turning in a clockwise direction and clean away all trace of extruded grease. Be sure not to over tighten the grease fitting.

If the track fails to slacken after grease fitting has been loosened; **DO NOT** attempt to remove the tracks or disassemble the track tensioner, and **DO NOT** remove the grease fitting from the tensioner. It is possible that running the tracks a short distance in both directions with the grease fitting loosened may help to expel the grease.

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