



# Operations Manual

Vehicle Types: RTT-12E, RTT-18B, STT-20, RTT-50

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# INTRODUCTION

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## Welcome

Welcome to the growing family of EAGLE tractor operators. The tractor was built with the operator's safety, comfort and ease of operation in mind. We hope you agree and enjoy your EAGLE experience.

## Purpose & Use of Manual

This manual is designed as a quick guide to familiarize you with the correct and safe operation of your Eagle vehicle as well as to inform you of the preventative maintenance and servicing recommendations of the manufacturer.

Your EAGLE vehicle was designed to do very specific tasks. For that reason, it will look, feel, drive and function differently than over-the-road trucks and automobiles, as well as various other types of vocational vehicles. It is the operator's responsibility to operate this equipment in a safe and prudent (good sound judgment) manner. Be alert, your and other's safety is involved.

The descriptions and specifications contained in this manual were in effect at the time the manual was printed. EAGLE TUGS reserves the right to discontinue models at any time and/or to change specifications, designs or components used without notice and without incurring obligations.

## Contact Information

### **Corporate Offices**

*Sales, Support, Customer Service*

Eagle Tugs

1 Air Cargo Parkway East

Swanton, OH 43558

USA

(419) 866-6301 (800)426-6301

### **Website**

[www.eagletugs.com](http://www.eagletugs.com) contains useful sales and service information. Please refer to this website for the latest revision of this and all other manuals.

### **Email Addresses**

Parts Department      [parts@eagletugs.com](mailto:parts@eagletugs.com)

Technical Support      [productsupport@tronair.com](mailto:productsupport@tronair.com)

Sales Department      [sales@tronair.com](mailto:sales@tronair.com)

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# WARRANTY

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Please read the Eagle Tugs warranty statement (available on our website) carefully.

Before contacting Eagle Industrial Truck for any warranty issue please have the following information ready:

Tug Model	
Tug Serial Number	
Service Hours Reading	

All information can be found on the data plate located beside the driver seat with the exception of the hours which can be read using the OPT 10 display or the hour meter on the dash.

## Warranty Registration

Please visit our website at [www.eagletugs.com](http://www.eagletugs.com) to fill out your warranty registration information.

## Warranty Replacement Parts

Eagle Tugs' Service Parts Department will ship parts from Eagle Tugs to you. No consideration for warranty will be given until all appropriate procedures are followed and completed. If the part(s) are not returned to Eagle Tugs within 15 days for evaluation, Eagle Tugs will invoice the cost of the part(s) not returned.

## Parts Returned

Parts returned for warranty must include a copy of the RMA form issued by Eagle Tugs and be in the best possible condition. Any oil, dirt, and debris should be wiped clean prior to packaging. Include a list of parts you are returning and package the parts to prevent shipping damage. Parts damaged during shipment are not covered by warranty; such claims must be made to the carrier. Failure to return all required parts voids the warranty claim.

## Battery

Please refer to the battery manufacturer's documentation regarding battery warranty.

## IMPORTANT SAFETY NOTICE

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Appropriate service methods and proper repair procedures are essential for the safe, reliable operation of all industrial equipment as well as the personal safety of the individual performing the work. This Service Manual provides general directions for accomplishing service and repair work with tested and effective techniques. Following them will help assure reliability.

There are numerous variations in procedures, techniques, tools and parts for servicing equipment, as well as in the skill of the individual doing the work. This Manual cannot possibly anticipate all such variations and provide advice or cautions as to each. Accordingly, anyone who departs from the instructions provided in this Manual must first establish he/she compromises his/her personal safety, and/or the equipment integrity by his/her choice of methods, tools or parts.

The following list contains some general WARNINGS that you should follow when you work on equipment:

- Always wear safety glasses for eye protection.
- Use safety stands whenever a procedure requires you to be under the equipment.
- Be sure that the operation/ignition switch is always in the OFF position, unless otherwise required by the procedure
- Set the parking brake when working on the equipment. Place wood blocks to the front and rear surfaces of the tires to provide further restraint from inadvertent equipment movement.
- Keep yourself and your clothing away from moving parts
- Do not smoke while working on the equipment
- To avoid injury, always remove rings, watches, loose hanging jewelry, and loose clothing before beginning to work on the equipment. Tie long hair securely behind the head.



Read this manual in its entirety before putting your Eagle tow tractor into service. This manual contains important safety instructions. Improper usage or a failure to follow the safety requirements listed in this manual could result in severe injury or death.



# SAFETY

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## General Safety

The following safety recommendations are not intended to address every possible safety aspect of operating this vehicle, but rather serve as a guide. Eagle has taken extensive measures to make sure that ALL vehicles are designed and tested to be safe when they leave the factory. Modifications made to the vehicle after it leaves the factory can cause the vehicle to be unsafe. In any situation, common sense and caution should always be applied and is ultimately the owner/operator's responsibility.

THIS TRACTOR IS DESIGNED TO BE A DEDICATED "WORKING" VEHICLE. IT IS NOT DESIGNED FOR OR INTENDED TO BE USED FOR RECREATIONAL ACTIVITIES, RACING OR GENERAL "HORSE PLAY ACTIVITIES". USE FOR ANY OF THESE INAPPROPRIATE ACTIVITIES COULD RESULT IN INJURY, DEATH OR DAMAGE TO THE TRACTOR AND/OR SURROUNDING OBJECTS.

- Follow all company, facility and OSHA Safety Rules. If you don't have a copy of these, request a copy from your facility management and review them carefully.
- Review carefully and understand the "Operating Procedures" section of this manual before starting or operating this tractor.
- Be sure that the tractor is equipped with fully functional safety equipment required in the areas it will be operated. Such items as rotating beacons, back-up alarms, etc. are available from EAGLE's factory or your local EAGLE distributor.
- Always do the "PRE-OPERATION INSPECTION" before using the tractor (See "CHECKLIST" following this section of the manual).
- Do not begin to operate the tractor if it should have defective lights, horn, brakes, steering or tires. Report irregularities immediately to your supervisor and/or the proper maintenance personnel.
- Never start the tractor while standing on the ground. Only turn "ON" the key switch from the operator's seat with the directional switch in neutral and the parking brake in the "on" position.
- Your tractor seat and steering wheel (RTT only) is adjustable for your comfort and safety in either standing or seated operation. Adjust both seating and steering wheel prior to operating the tractor.
- Keep your feet OFF the accelerator and release the parking brake before selecting the Forward or Reverse direction from Neutral.
- Before selecting forward to reverse or reverse to forward, bring the vehicle to a complete stop.
- Before dismounting from the tractor, apply the parking brake.
- If you have not operated this equipment previously, practice driving and operating it in a safe and clear (not congested) area until you are familiar with all aspects of its operation.
- Keep hands and feet away from moving mechanical parts including tires.
- Avoid wearing loose clothing that might get caught in moving parts.
- Check your path of intended motion for personnel and/or possible obstructions, before proceeding.
- When operating the tractor, be particularly cautious when in congested areas. Be alert near blind corners and always anticipate other equipment and personnel movements. Sound the horn when approaching corners.
- Use particular care to operate the vehicle at a safe speed, commensurate with conditions. Speed should always be reduced when entering a turn to assure complete control of the vehicle and any towed loads.
- Speed should always be adjusted to allow for a safe and controlled stop, considering the space available for stopping and the weight of the load being moved. Avoid sudden stops.
- Reduce speed when approaching speed bumps.
- Never drive crossways on a slope.
- Avoid operating on bumpy, soft surfaces. Avoid potholes when present.
- Keep clear of the edge of loading docks.

# SAFETY

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## Load Towing Safety

If towing a load, check to see that:

- The towed load is securely connected to the hitch of the tractor. Be sure hitch is locked/fastened into the closed position.
- The towed cargo load is secure within the exterior frame of the dolly that is carrying the load.
- For maximum tractor and load control and stability, as well as towing power, be sure the tongue of the dolly is parallel to the ground when connected to the tractor's hitch.
- Watch that the trailer's rear swing clears any obstructions when cornering.

## Load Pushing Safety

If pushing a load:

- Confirm the tractor has a front hitch.
- If using the tractor to push, be sure the dolly tongue is securely fastened to the tractor and the tractor hitch is in the locked position.
- For maximum tractor and dolly control and stability, as well as towing power, be sure the dolly tongue is parallel to the ground when connected to the tractor's hitch.

## Servicing Safety

If pushing a load:

- Always stop the tractor, put directional switch in "Neutral", turn key switch off, and apply the parking brake before making any adjustments or servicing the unit.
- This tractor comes factory equipped with a 48/80 volt battery which may require watering, after equalization charging. When connecting or disconnecting battery, pull connector using the handle provided.
- PREVENT BATTERY EXPLOSIONS. Do not smoke near the battery. Charging fumes from batteries are explosive. Keep away from all sparks, open flames etc... Remove bracelets, watch bands, etc. prior to installing, removing or servicing a battery.
- AVOID ACID BURNS. The battery acid is poisonous and is strong enough to burn skin, eat holes in clothing and cause blindness if splashed in the eyes. If battery acid is spilled or splashed, always immediately wash your skin and clothing. Apply lime or baking soda to help neutralize the acid. Seek medical assistance.

# SAFETY

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## Repairs Safety

ONLY a trained and qualified mechanic for this type of equipment should undertake repairs to this tractor. Before undertaking any repair, the mechanic MUST read and understand the "SAFETY" and "OPERATING PROCEDURES" sections of this manual. All safety recommendations and rules MUST be followed.

The mechanic is to refer to the "PREVENTATIVE MAINTENANCE SCHEDULES AND SERVICE INFORMATION" section of this manual to insure the items are serviced as recommended and the correct fluids, lubricants and replacement items are used. **FAILURE TO FOLLOW THE MANUFACTURER'S RECOMMENDATIONS CAN RESULT IN EQUIPMENT DAMAGE AND/OR SERIOUS INJURY OR DEATH.**

Only parts recommended or specified by the manufacturer (or of equal quality and performance) in the Eagle Parts & Service Manual should ever be used for repair or replacement to insure the tractor performs up to designed capacity, performance and safety functions. **FAILURE TO USE PARTS SPECIFIED BY THE MANUFACTURER WILL INVALIDATE THE WARRANTY.**

**WARNING: MODIFICATIONS TO THIS TRACTOR ARE TO BE MADE ONLY BY THE MANUFACTURER OR WITH THE WRITTEN APPROVAL OF THE MANUFACTURER.**

The following items are in addition to safety procedures contained in other sections of this manual.

## Lifting the Tractor

- Always have the drive wheels off the floor when troubleshooting the drive system.
- Do not rely on hydraulic jacks to support the tractor. On a level surface, always use jack stands rated for the weight appropriate for the tractor, and make sure they are correctly positioned to fully support the tractor in a stable position.

## SAFETY

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### Emergency Towing

If it should be necessary to tow the tractor to a location for maintenance service, be sure the following procedures are followed:

- Make sure the parking brake is released and the key switch is in the off position.

Flat towing of tractor is not recommended unless it is an emergency or absolutely necessary; tow at less than 5 MPH for a short distance only. Lifting and transporting with a 5K capacity for STT, RTT12 and RTT18 models or an 8K for RTT50 models capacity forklift is preferred.

**! WARNING: BEFORE WORKING UNDERNEATH THE TRACTOR, BE SURE JACK STANDS ARE SECURE AND POSITIONED CORRECTLY (PERPENDICULAR TO THE FLOOR) WITH NO TILT!**

**! WARNING: IF YOU WILL BE WORKING UNDER THE TRACTOR, NEVER DO SO WHEN ALONE. BE SURE SOMEONE ELSE IS CLOSE BY IN CASE OF AN EMERGENCY!**

If using a hydraulic or air operated lift, always check the safety support or lock is in position before going underneath the tractor.

# OPERATING PROCEDURES

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## Overview

BE SURE YOU HAVE READ AND FULLY UNDERSTAND THE "SAFETY" SECTION OF THIS MANUAL BEFORE PROCEEDING TO OPERATE THIS TRACTOR.

The following "operating procedures" are to be read by anyone who intends to operate this tractor for the first time. A periodic review by all personnel operating the tractor is encouraged to keep all instructions fresh in their minds.

## Pre-Operation Inspection Checklist

The following inspections should be conducted each day prior to the first operation of the tractor. Additional inspections may be required due to unusual operating conditions

### EXTERIOR VISUAL OPERATOR OBSERVATIONS

- Directional control in neutral position.
- Speed switch in 6 MPH (fast) or 3.5 MPH (slow) position.
- Left foot on floor safety mat
- Turn key switch ON.
- Verify floor switchmat functionality by lifting left foot and monitoring display backlight
- Observe battery charge level for adequate battery power.
- If below 30%:
  - Charge battery for 30 minutes or until state of charge readout on charger shows 50% or more.
  - Charge battery according to ORC guidelines.
  - Battery should be charged during breaks, lunches, between shifts or any time there are 10 minutes or more of opportunity to charge.
- Water battery according to ORC guidelines.
  - Battery should only be watered when necessary per manufacturer instructions.
  - Battery should only be watered if 100% charged.
  - 100% charge only occurs when battery receives it's finish and equalization charge.
- Press horn in center of steering wheel to check operation.
- Wipe clean, if necessary, all lights, mirrors and reflectors.
- Wheel nut inspection (Models STT, RTT12 and RTT18)
  - Wheel nuts on front rim must be re-torqued to 80-85 foot lbs 30 days after being put into service
  - Wheel nuts on front rim should be visually inspected every day. Any loose nuts should be re-torqued to 80-85 Foot lbs.

# OPERATING PROCEDURES

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## WALK CLOCKWISE AROUND THE TRACTOR

- Observe LH tire for debris stuck in tread – remove.
- Observe front tire for debris in tread – remove.
- Observe front hitch for debris - remove.
- Observe headlight operation - ON.
- Observe RH tire for debris stuck in tread – remove
- Observe rear hitch for debris - remove
- Observe yellow strobe for operation – report if not operating.
- Observe taillight/ brake light for operation – report if not operating.

**! WARNING: KEEP HANDS AWAY FROM ANY MOVING PARTS!**

**ANY PROBLEMS NOTED DURING INSPECTION SHOULD BE CORRECTED AS SOON AS POSSIBLE. FAILURE TO ATTEND TO PROBLEMS PROMPTLY COULD COMPROMISE SAFETY AND/OR THE TRACTOR'S PERFORMANCE. DO NOT ATTEMPT TO MAKE REPAIRS. CONTACT A QUALIFIED MECHANIC.**

## Vehicle Operations

BE SURE YOU HAVE READ AND FULLY UNDERSTAND THE "SAFETY" SECTION OF THIS MANUAL BEFORE PROCEEDING TO OPERATE THIS TRACTOR.

The following "Operating Procedures" are to be read by anyone who intends to operate this tractor for the first time. A periodic review by all personnel operating the tractor is encouraged to keep all instructions fresh in their minds.

## TO OPERATE – STEP ONTO THE TRACTOR PLATFORM

- Adjust the seat for standup or sit down operation comfort.
- Adjust the steering wheel for comfort using the tilting button.
- Place your left foot (5 lbs of pressure) on the safety switch mat (RTT only).
- Select desired top speed using rocker switch (6 mph Fast / 3.5 mph Slow).
- Turn key switch to "ON" and wait 5 seconds for electronic safety cycling.
- Make sure all directions are clear.
- Push the parking brake lever forward to disengage.
- Select direction using the forward-neutral-reverse switch.
- Depress accelerator to move the tractor: remove pressure on accelerator pedal to brake:

# OPERATING PROCEDURES

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- Emergency stops – depress the service brake pedal, next to the accelerator.
- Tractor will also stop when you exit the vehicle.
- Set the parking brake lever by pulling towards rear when not using.
- Move directional switch to (N) Neutral.
- Turn key switch OFF.

## Instrumentation

Familiarize yourself with the BDI/Hour meter on the tractor. It is designed to alert you to PM conditions that must be addressed. When not operating the tractor, connect to the ORC battery charger to maintain optimum battery charge levels.

**CAUTION: DO NOT continue to operate the tractor if the BDI indicates that charge level is below 30%. CONTINUED operation will reduce tractor operating speed to 1 mph until battery is charged.**

## Hour Meter

The hour meter indicates the amount of tractor key on and running time. It is used as a guide as to when preventative maintenance procedures should be done. (See "Preventative Maintenance Schedules" following this section of the manual.

## BDI Gauge

This gauge indicates the battery amperage and voltage expressed as a percent available. The percentage should never be less than 30%.

## Key Switch

Your tractor is equipped with a key type switch.

- **ON POSITION** - The electrical system, accessories and BDI gauge is activated.
- **OFF POSITION** - This is used to shut all electrical power off (including accessories). NOTE: There will still be some power flowing through the system. Never leave the tractor unattended with the switch in the "ON" position, as this can result in a run-down battery.

## Directional Control Rocker Switch

- **Forward** – Rocker switch may be pressed for **Forward** movement of the tractor after the Key Switch is turned on, the operator's left foot is on the safety pad and the hand parking brake is released.
- **Neutral** – Rocker switch must be in **Neutral** before turning key switch **ON**.
- **Reverse** - Rocker switch may be pressed for **Reverse** movement of the tractor after the Key Switch is turned on, the operator's left foot is on the safety pad and the hand parking brake is released.

# OPERATING PROCEDURES

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## Speed Control Rocker Switch

The tractor is equipped with a rocker switch to select between two pre-set speed settings. These settings have no effect on capacity of the tractor, they merely inhibit acceleration past a certain speed. The factory standard speeds are 6 mph (Fast) and 3.5 mph (Slow). Depending on customer requirements, these speed settings may vary.

## Starting & Shut-Down Procedures

Never turn the tractor Key Switch ON while standing on the ground. Turn the Key Switch ON from the operator's seat with the Direction Rocker Switch in **Neutral** and the parking brake in the "on" position.

Your tractor's seat is adjustable for standup or sit down operation comfort and the steering wheel is adjustable for standup/sit down comfort using the tilting button (RTT only).

## Parking Brake

The parking brake is operated by hand lever action. By pulling back on the lever, you activate and set the brake. Pushing forward will release the brake. The brake is adjustable for braking pressure by rotating the knob on the end of the handle lever. A clockwise direction is used to increase the brake holding pressure and counter clockwise to reduce the pressure.

## Service Brake

Service brake is applied immediately when you release the accelerator. You may become familiar with this feature to make smooth transitions.

## Foot Brake

The service foot brake should be applied with a steady and firm downward pressure. Always anticipate that you may have to stop unexpectedly--BE PREPARED!

Speed should always be adjusted to allow for a safe and controlled stop. Adjust your speed based on the surface conditions, the space available for stopping and the weight of the load being moved. AVOID SUDDEN STOPS!

**CAUTION: IF DRIVING ON WET OR SLIPPERY SURFACES--LOWER SPEED AND ALLOW FOR MORE STOPPING DISTANCE. DO NOT SPIN THE WHEELS WHEN STARTING UP AS THIS CAN CAUSE DAMAGE TO THE DRIVE MECHANISMS.**

Your tractor is equipped with rear wheel automatic re-generative as well as mechanical brakes.



# OPERATING PROCEDURES

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## Parking

Every time you park: apply the hand brake, turn the key switch to "OFF" and return the direction control rocker switch to neutral position.

Do not park where you may block other vehicles paths or movement by emergency vehicles.

**NOTE: In the event that your tug will be idle for more that 24 hours at a time it is recommended that the tug be unplugged from the battery.**

## SERVICING PROCEDURES

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### Preventative Maintenance

Your tractor is equipped with a PM Schedule built into the dash display. Each time the key is turned on your display will show traction hours left until the next PM needs to be performed. With each PM reset the display will show 2000 hours and count down to zero to indicate it is time for a PM to be performed on your tug. In the event that the PM has not been performed and the timer has not been reset the unit will automatically go into a creep mode until such time as PM is performed and timer is reset. The full maintenance schedule and reset procedures can be found in your Parts & Maintenance Manual. Copies of all Operations Manuals, Parts & Service Manuals and Service Bulletins can be found on our website at [www.eagletugs.com](http://www.eagletugs.com).

Safety Procedure Review Signature Sheet

By signing below you are verifying that you have read and understand the contents of this manual.

Date:

Printed Name:

Signature:

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## REVISION LOG

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<b>Rev</b>	<b>Date</b>	<b>Description</b>	<b>Appr.</b>
06	09-Aug-2013	Revised speed switch description	PRB
07	12-Aug-2013	Removed safe towing information, page 17	PRB
08	15-Nov-2013	Removed Warranty Statement.	SEB
09	19-Apr-2016	Revised per-op instructions to add floor switchmat check	PRB
10	15-Feb-2019	Updated contact information	SEB