

Service 3.1

Introduction

Periodic inspection and service will assure long life and efficient performance of the Layton Remote Trax TC30-2. This section contains preventative maintenance, troubleshooting and preventative maintenance procedures.

Preventative Maintenance

In order to avoid breakdowns and reduce wear, equipment must be serviced regularly. Whenever the equipment is running continuously or operated in extreme conditions, the prescribed service intervals should be adjusted to provide more frequent inspection and lubrication.

LUBRICATION SPECIFICATIONS

1. Gear Oil

Use EP85/90 in the planetary gear boxes.

2. Hydraulic Oil

Use oil that conforms with ISO68 in the hydraulic oil reservoir and in the transmission.

3. Motor Oil

Use 15w40 motor oil in the crankcase.

4. Grease

Use multipurpose grease to lubricate ball and roller bearings and pivot points.

NOTE: Failure to use the recommended lubricants during the warranty period may void warranties, express or implied, on related components. Submit fluid samples with components returned for warranty consideration.

Service Instructions

1. Radiator

WARNING

THIS UNIT HAS A PRESSURIZED COOLING SYSTEM. REMOVE RADIATOR CAP SLOWLY IN ORDER TO PREVENT SUDDEN RELEASE OF PRESSURIZED COOLANT WHICH MAY CAUSE SEVERE BURNS.

Check coolant level daily. Flush and drain cooling system annually, and refill with 50/50 ethylene glycol/water mixture that includes a rust inhibitor.

NOTE: Accumulations of oil, coolant, and dust will cause engine to run hotter resulting in decreased efficiency. Keep the radiator free of debris.

For arctic (extreme cold weather) operation, you should consider installing a higher temperature thermostat and adjusting the coolant/water ratio to the coolant manufacturer's specifications for such climates.

2. Fan Belt

Check tension every 200 operating hours by pulling at the midpoint between pulleys. Adjust tension if deflection exceeds 3/4".

3. Engine

Check oil level daily. Replace crankcase oil and filter after the first 50 operating hours. Afterwards, change crankcase oil every 100 hours, and change oil filter every 200 hours.

4. Fuel Filter

- A good grade of diesel fuel should be used.
- If the tractor is being fueled from a storage tank, the tank system must have a fuel filter
- If the tractor is going to operate in extreme cold weather, a fuel additive to prevent gelling must be used.
- Check daily for sediment and excess water. Excess water accumulation indicates a high concentration of water in the fuel. Drain water and/or sediment, and a minimum of fuel from the filter bowl. Also drain water from the fuel tank when evident in the filter bowl.

NOTE: Maintain fuel level at or above 1/2 full to minimize the risk of drawing water and sediment from the bottom of the tank through the injectors as well as reducing the potential for water condensation in the fuel tank.

- Replace the fuel filter every 200 operating hours.

5. Transmission

- Check fluid level daily. Use a hydraulic servicing unit with an inline filter or prefilter fluid before refilling.

6. Hydraulic Filters

CAUTION

CONTAMINATED HYDRAULIC FLUID CAN DRASTICALLY REDUCE THE LIFE OF EXPENSIVE HYDRAULIC COMPONENTS SUCH AS THE HYDROSTATIC TRANSMISSION, MOTORS, PUMPS AND CYLINDERS. DISCONNECTED HYDRAULIC LINES MUST BE COVERED TO PREVENT CONTAMINATION. CAP OR PLUG OPEN PORTS, LINES, OR FITTINGS DURING INSTALLATION, SERVICE OR REPAIR. ALWAYS THOROUGHLY CLEAN

AROUND AREAS WHERE SERVICE IS TO BE PERFORMED BEFORE EXPOSING ANY PART OF THE HYDRAULIC SYSTEM TO THE ENVIRONMENT.

- Change filter after the first 25 operating hours, and then every 50 hours thereafter.

NOTE: Fill new filter elements with filtered oil and wipe a light film of oil onto the rubber gasket before installing.

7. Battery

WARNING

KEEP BATTERY AWAY FROM SPARKS OR OPEN FLAMES WHILE CHARGING OR SERVING. ELECTROLYTE AS VAPORS MAY EXPLODE. DO NOT ALLOW ELECTROLYTE LEVEL TO DROP BELOW THE BOTTOM OF PLATES BECAUSE PLATE WARPAGE MAY RESULT.

- Check terminals for corrosion and electrolyte level every 100 hours. Ensure vent holes in plugs are open, and fill battery cells to the bottom of the vent holes.

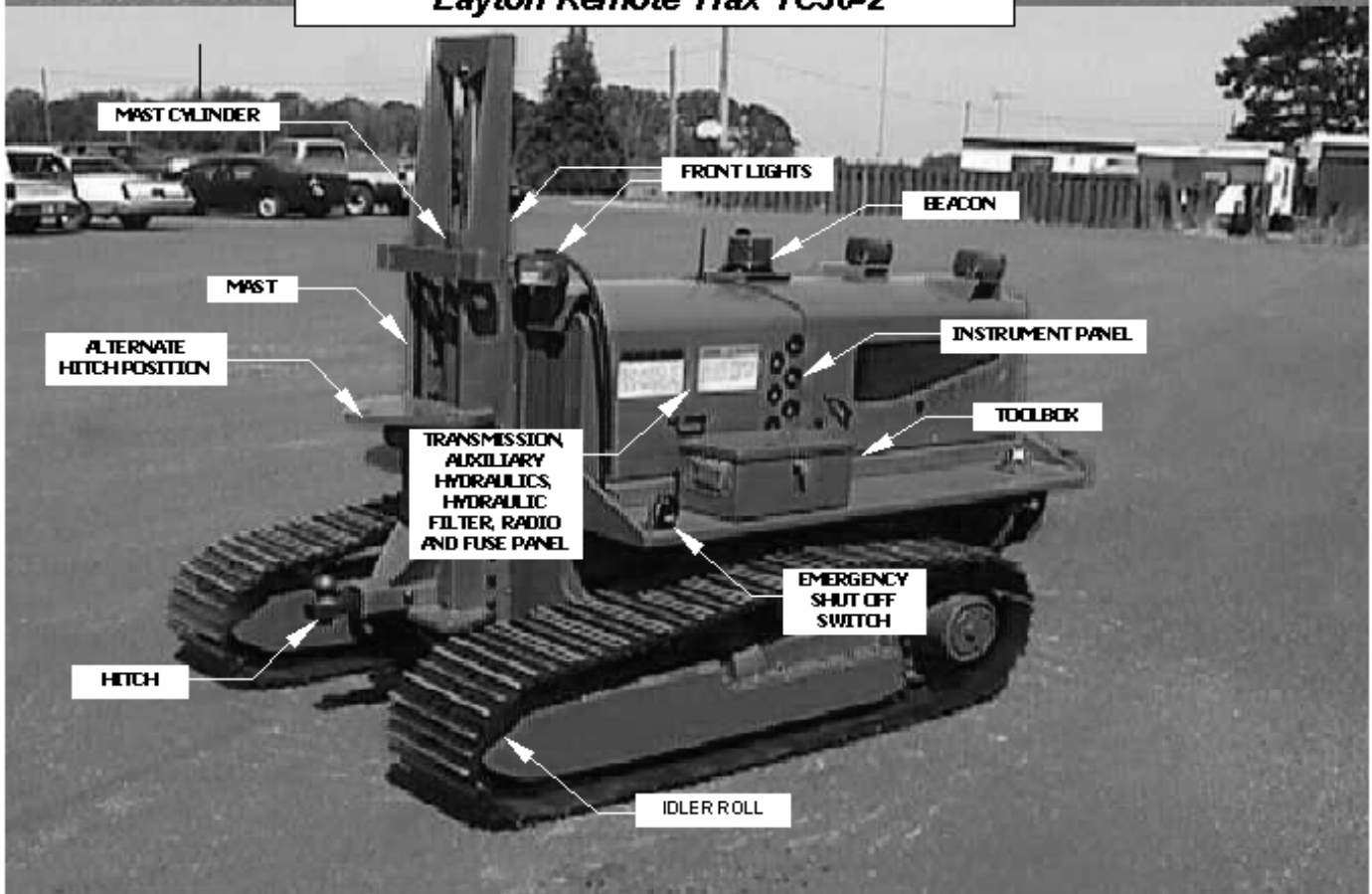
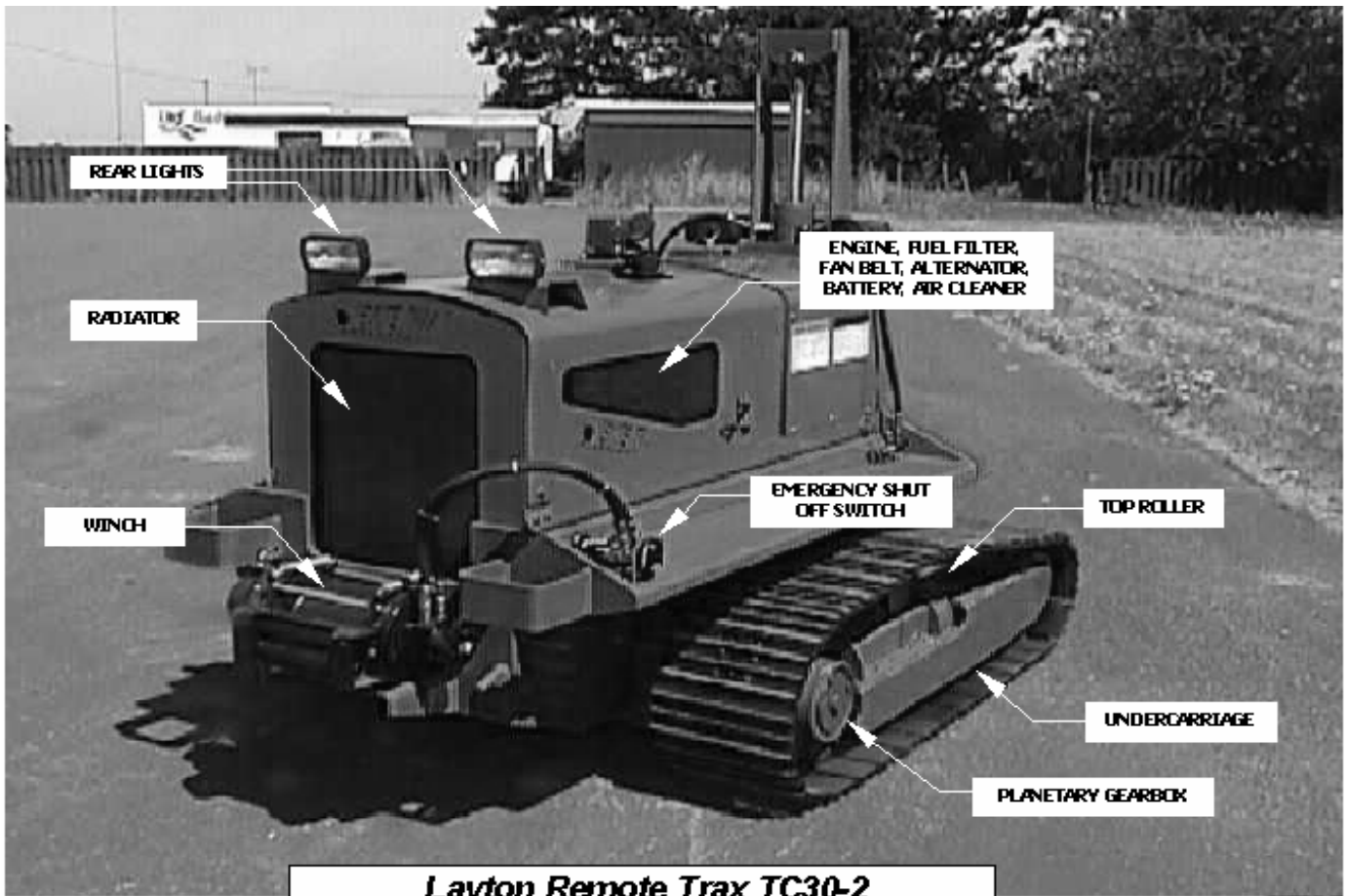
NOTE: Maintain specific gravity recommended by the battery manufacturer.

Clean battery as follows to ensure proper conductivity.

- Disconnect cables, ground cable first
- Verify that plugs are closed tightly
- Wash terminals with baking soda & water
- Rinse battery to remove cleaning solution.
- Reconnect cables, ground cable last.
- Coat terminals with petroleum jelly.

CAUTION

REVERSING BATTERY CABLES WILL DAMAGE THE ALTERNATOR.



Service 3.4

8. Air Cleaner

- Clean filter bowl daily or whenever engine smokes excessively. Check for leaks or dents daily.

NOTE: The engine manufactures warranty is void if the engine is damaged due to a neglected air cleaner.

- Replace the paper filter element every six months or 200 hours, whichever occurs first. Also Replace the element if you notice that the engine is loosing power or smoking excessively, or if you discover pin holes or tears in the element.
- When replacing a filter element, thoroughly clean the inside of the air cleaner with a damp towel or rag. Make sure the gasket is seated properly.

9. Winch

- See winch operators manual for maintenance and replacement parts information.

10. Hydraulic Reservoir

CAUTION

DO NOT OVERFILL WATER, MOST LIKELY TO ACCUMULATE IN A HIGH HUMIDITY ENVIRONMENT, MAY DAMAGE THE TRANSMISSION OR OTHER HYDRAULIC COMPONENTS IF NOT REMOVED.

- Check fluid level daily. Ensure tractor is on a level surface before adding fluid. Completely drain and refill system with hydraulic oil every 1000 operating hours, or anytime contamination is suspected.

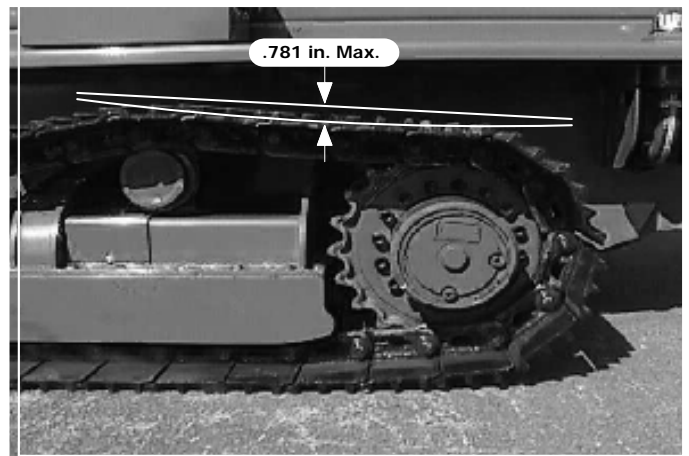
11. Planetary Gearboxes

- Inspect for leaks daily. Drain and refill after the first 50 operating hours, and every 100 hours thereafter.

NOTE: Place unit on level surface when refilling, DO NOT OVERFILL.

12. Tracks

- Cleaning- Track assemblies should be cleaned with a pressure washer or steam cleaner on a daily basis, or undue wear will occur. Worn track chains tend to derail from the undercarriage.
- Adjustment- Check track tension and inspect for wear daily to assure maximum track life. If tracks are over tightened, undue wear will occur. Under tightening will cause tracks to come off. Maintain track tension by limiting sag measured halfway between the top roller and the drive sprocket to .781". Track tension is adjusted by applying grease through a zerk fitting on the track tensioner.



- Track grouser- Check pads weekly- Make sure fasteners are tight.

NOTE: Track Grouser fasteners dry torque to 80ft. lbs with a 17 mm socket.

13. Hydraulic Cylinders

CAUTION

A LEAKING SEAL WILL NOT CAUSE VISIBLE DAMAGE, BUT MAY RESULT IN FAILURE TO HOLD A LOAD.

- Check for leakage around the rod, and for nicked or dented rod/cylinder. Replace entire seal kit whenever servicing the cylinder.

14. Mast

- Inspect for visible damage. Lubricate mast at all four zerk fittings daily or every twelve operating hours. Verify smooth operation through the entire range of travel. Verify that the hitch and pin are properly installed and the cotter key is intact.

15. Hydraulic Lines and Fittings

CAUTION

DO NOT ATTEMPT TO TIGHTEN A FITTING WHILE THE TRACTOR IS RUNNING.

DO NOT OVERTIGHTEN FITTINGS TO STOP A LEAK.

- Inspect for leaks and loose lines. Most leaks can be stopped by replacing an O-ring.

16. Fasteners

- Inspect for loose or missing fasteners daily. Unless otherwise specified, Re-torque applicable fasteners every six months.

3.3 Troubleshooting

The most common operating situations, probable causes and recommended corrective actions are described in the following paragraphs.

3.3.1 Power Train Overheating

- Overloading the tractor while in full speed. Reduce speed when tractor is loaded.
- Prolonged operation with heavy load. Allow 2-3 minutes cool down time before resuming operation.
- Plugged/ contaminated oil cooler fins. Service radiator/oil cooler as outlined in paragraph 3.2.2

CAUTION

CLEAN ONLY AFTER ALLOWING TRACTOR TO COOL DOWN.

- Low engine/hydraulic oil levels. Service engine/hydraulic reservoir as outlined in paragraph 3.2.2

CAUTION

WHEN EXCEEDING HIGH PRESSURE RELIEF, TEMPERATURE INCREASES APPROXIMATELY 2-4 DEGREES PER MINUTE

- Exceeding transmission high pressure relief. Allow temperature to stabilize and then minimize maneuvering. If overtemp resulted after attempting to maneuver over unstable terrain, try winching out.

Sluggish Starting

- Low battery output voltage. Service battery as described on page 3.2
- Engine malfunction overloading starter or defective starter. Service engine/starter.
- Corrosion on battery terminals causing high resistance resulting in low output voltage.
- Loose, frayed or corroded battery cables resulting in low battery output voltage. Service battery as described on page 3.2
- Extreme cold temperatures resulting in low battery output voltage.

Hydraulic System Overheating

CAUTION

CONTINUED OPERATION WHEN HYDRAULIC FLUID TEMPERATURE EXCEEDS 190° (90°C) WILL RESULT IN SEVERE TRANSMISSION DAMAGE. DISCONTINUE OPERATION UNTIL THE CAUSE OF OVERHEATING IS DETERMINED AND CORRECTED.

- Check cooler fan. If fan is not operating with the ignition switch on, check 20 amp inline fuse under hood.
- Plugged hydraulic filter. Service hydraulic filter as described on page 3.2.

CAUTION

DO NOT USE A PRESSURE WASHER ON THE OIL COOLER.

- Plugged/ contaminated oil cooler fins. Oil cooler fins should be kept free from debris. If they become plugged or contaminated they should be cleaned. Use a water soluble degreaser and water to clean. Debris can be cleared with *low pressure* air.
- Exceeding transmission high pressure relief. Allow temperature to stabilize, and then minimize maneuvering. If overtemp resulted after attempting to maneuver over unstable terrain, try winching out.
- Overloading the tractor at half speed or excessive “lugging” at full speed. Reduce load, increase speed and/or minimize maneuvering.