DURST

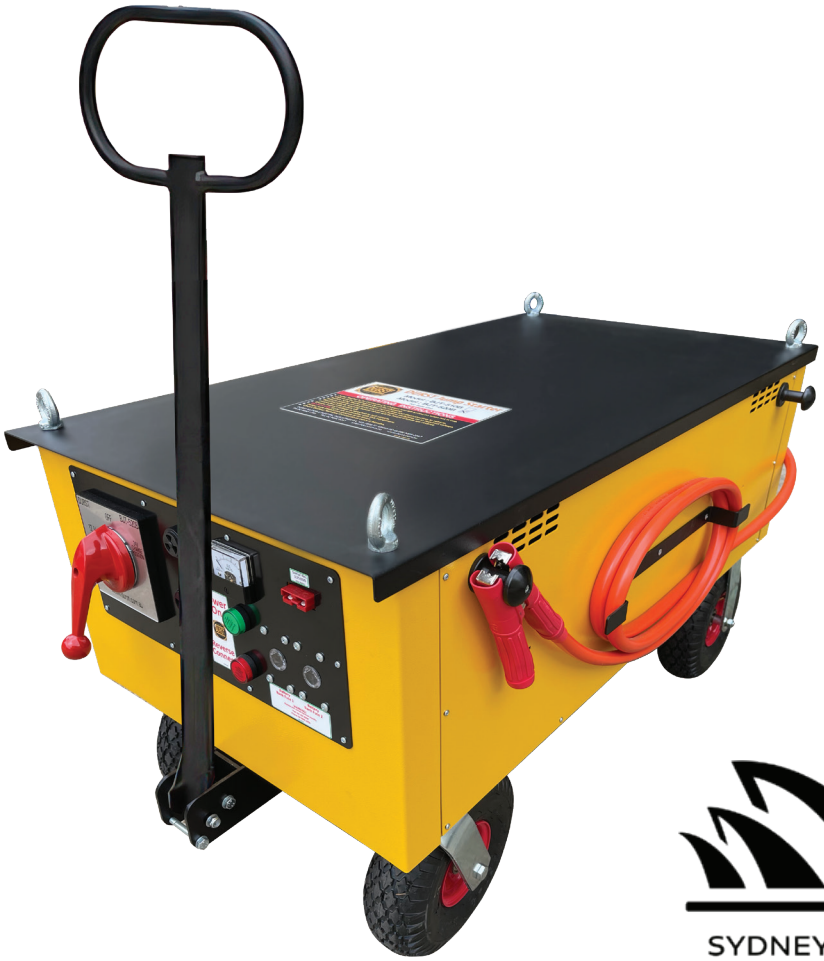
ENGINEERED TECHNOLOGIES

Operations Manual

BJT-520B

12 Volt & 24 Volt Ground Power Units

T-REX



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DESIGNED & MADE

DURST Since 1918

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INTRODUCTION

The T-Rex BJT-520B is a high-capacity mobile jump starter designed for 12V or 24V systems. It is suitable for a wide range of applications—cars, trucks, buses, defense vehicles, mining, and aviation. The heavy-duty steel enclosure, large pneumatic wheels, and integrated safety features make it ideal for demanding industrial and commercial environments.

BJT-520B-A — Anderson Output Port
BJT-520B-C — CAT Output Port
BJT-520B-N — NATO Output Port

1. PART NUMBERS

BJT-520B-A Slave Lead Options:

- LS-3AI-95 (3m, 95mm², Anderson to Clamp)
- LS-6AI-95 (6m, 95mm², Anderson to Clamp)

BJT-520B-C Slave Lead Options:

- LS-3CC-70 (3m, 70mm², CAT to CAT)
- LS-6CC-70 (6m, 70mm², CAT to CAT)

BJT-520B-N Slave Lead Options:

- LS-3NN-95 (3m, 95mm², NATO to NATO)
- LS-6NN-95 (6m, 95mm², NATO to NATO)

Choose the Slave Lead configuration that matches your vehicle or aircraft's connector type. Always confirm the correct Slave Lead before connecting to ensure compatibility and a safe start procedure.

512-86 130 Ah Battery
BJF-500-TREX Fuse pack

2. SAFETY WARNINGS

- **NO SMOKING OR OPEN FLAMES**: Batteries can emit explosive gases; operate in a well-ventilated area away from sparks or flames.
- **AUTHORIZED PERSONNEL ONLY**: Ensure operators have training or prior experience with high-current jump starters or GPUs.
- **CORRECT VOLTAGE**: The T-Rex BJT-520B can supply 12V or 24V. Check your vehicle or aircraft manual for the correct voltage setting.
- **OEM GUIDELINES**: Always follow the manufacturer's recommended procedure for external jump-start connections on ground vehicles or aircraft.

3. KEY FEATURES & SPECIFICATIONS

- **VOLTAGE OUTPUT**: 12/24V (selectable via main switch)
- **CRANKING AMPS (CA)**: 5,400 (12V) / 2,700 (24V)
- **COLD CRANKING AMPS (CCA)**: 4,800 (12V) / 2,400 (24V)
- **PEAK AMPS (EST.)**: ~24,000 (12V) / 12,000 (24V)
- **ENCLOSURE**: Powder-Coated Steel with Large Pneumatic Wheels
- **WEIGHT**: ~257 kg (use mechanical assistance for moving)
- **DIMENSIONS**: L 1170 mm × W 720 mm × H 670 mm
- **CHARGER**: Automatic Built-in SwitchMode BCS-2425C (24V, 25A)

Each unit includes built-in Reverse Polarity Protection, Anti-Spike Protection, and Fuse Protection for safe operation.

4. OPERATING INSTRUCTIONS

4.1 PRE-CONNECTION CHECKS

1. Confirm the Unit is OFF
   - The main isolation switch must be set to OFF before handling connections.
2. Check Emergency Switch Indicator (if equipped)
   - Ensure that any emergency or safety switch is in the OFF/SAFE position before attaching cables or leads.
3. Select Correct Slave Lead
   - Depending on your T-Rex BJT-520B version (A, C, or N), attach the corresponding Slave Lead (e.g., Anderson to Clamp, CAT to CAT, or NATO to NATO).

4.2 CONNECTING TO VEHICLE OR AIRCRAFT

1. Attach Slave Lead
   - Connect the lead from the OUTPUT CONNECTOR on the T-Rex GPU to the matching SLAVE CONNECTOR on the vehicle or aircraft.
   - OR, if using clamps (BJT-520B-A with Anderson-to-Clamp leads):
     - BLACK (–) clamp to negative terminal or unpainted vehicle ground.
     - RED (+) clamp to positive battery terminal.
2. Check for Alarms
   - If a buzzer sounds or a warning light shows Reverse Polarity, STOP immediately and verify connections.
3. Observe Voltmeter
   - With the T-Rex switch still OFF, the voltmeter displays the battery's standing voltage.

4.3 ACTIVATING THE T-REX GPU

1. Select Voltage

› Turn the MAIN SWITCH to 12V or 24V according to the vehicle/aircraft requirements.

2. Confirm Output

› The voltmeter changes to the T-Rex GPU output voltage.
› A green indicator typically confirms the active voltage level.

4.4 MONITORING & USAGE

› Continuous Monitoring
  › Watch the voltmeter to confirm stable voltage.
  › If the battery or T-Rex GPU shows irregular readings, switch OFF and inspect.

› Load / Engine Start
  › Start the vehicle or aircraft as per normal procedures.
  › Once running, switch the T-Rex GPU back to OFF before removing leads.

4.5 DISCONNECTION PROCESS

1. Switch OFF

› Turn the main switch to OFF.

2. Remove Leads

› Disconnect the slave connector or clamp leads from the vehicle or aircraft.
› Store them securely on the T-Rex GPU to prevent damage.

5.1 CHARGING THE T-REX BJT-520B

1. Switch OFF

› Always place the main switch in the OFF position prior to charging.

2. Connect AC Power

› Plug the AC power lead into the IEC socket labeled “AC IN.”
› A red charge indicator lights when connected to mains.

3. Battery Optimization Display (if equipped)

› Monitors charging voltage, current, and temperature in real time.
› Shows faults or error codes if charging is interrupted.

4. Keep Charged

› Maintain the T-Rex GPU on AC power whenever possible to keep batteries at full capacity.

5.2 MAINTENANCE

1. Battery Care

- Check charge levels and top up as needed.
- Operating the T-Rex GPU at low battery voltage can reduce performance.

2. Lead/Clamp Inspection

- Inspect the leads for frayed insulation, loose connectors, or corrosion.
- Clean any corrosion using a mild solution (e.g., baking soda) and a wire brush.

3. Fuse Replacement

- Use only fuses approved by Durst (Part No. BJF-500-TREX, if relevant).
- If unsure about fuse specifications, contact an authorized Durst service center.

4. Exterior Cleaning

- Wipe down the unit with a soft cloth. Avoid high-pressure water jets or harsh chemical cleaners.

5.3 STORAGE GUIDELINES

- Environment
  - Store indoors, in a dry, clean area.
- Switch Position
  - Keep the main switch OFF when not in use.
- Long-Term Charging
  - If possible, leave connected to AC power for battery maintenance.

TROUBLESHOOTING

ISSUE	POSSIBLE CAUSE	SUGGESTED ACTION
Buzzer or Warning Light	Reverse polarity / incorrect lead connection	Disconnect and re-check clamp or connector.
Low or No Output Power	T-Rex GPU battery undercharged / fuse blown	Recharge fully; replace fuse if necessary.
Vehicle Won't Start	Insufficient capacity or large load draw	Confirm vehicle battery health; fully charge T-Rex GPU.
Overheating	Extended high-load operation / poor ventilation	Switch OFF, allow unit to cool; ensure vents are clear.
Voltmeter Inactive	Main switch OFF, or cables disconnected	Check switch/cable connections; re-test.

SPECIFICATIONS AT A GLANCE

	T-REX+ BJT-520B
Voltage	12/24 V
Cranking Amps	5,400 (12 V) / 2,700 (24 V)
Cold Cranking	4,800 (12 V) / 2,400 (24 V)
Peak Amps	~24,000 (12 V) / 12,000 (24 V)
Weight	~257 kg
Cable Set	Primary: 3.0 m, 95 mm^2; plus Secondary leads for split bank
Charger	Automatic BCS-2425C (24 V / 25 A)
Dimensions	L: 1170 mm x W: 720 mm x H: 670 mm

DISCLAIMER & SUPPORT

Intended Use: The T-Rex BJT-520B jump starter is engineered for professional applications requiring high cranking current at 12V or 24V. Consult the vehicle/aircraft manufacturer for instructions on external GPU usage.

Liability: Durst Industries (Aust.) Pty Ltd. is not liable for damage due to misuse, unauthorized modifications, or improper handling.

Contact: For parts, servicing, or technical support, visit durst.com.au or call +61 2 9660 1755.

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