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> WARN 97740 16.5TI-S Electric 12V Heavyweight Winch with Spydura Pro Synthetic Cable Rope: 3/8" Diameter x 80' Length, 8.25 Ton (16,500 lb) Pulling Capacity

WARN 97740

WARN 16.5TI-S Electric 12V Heavyweight Winch User Manual

Model: 97740

1. INTRODUCTION

This manual provides essential information for the safe and effective operation, installation, and maintenance of your WARN 16.5TI-S Electric 12V Heavyweight Winch. Designed for heavy-duty applications, this winch features a massive 16,500 lbs. pulling capacity and comes equipped with 80 feet of 3/8-inch Spydura Pro synthetic rope. Its robust construction and advanced features, including a thermometric indicator, ensure reliable performance for demanding recovery tasks.



Figure 1: The WARN 16.5TI-S Electric 12V Heavyweight Winch, showcasing its robust design and synthetic rope.

2. SAFETY INFORMATION

Always prioritize safety when operating the winch. Failure to follow these instructions can result in serious injury or property damage.

- **Read the Manual:** Thoroughly read and understand all instructions before installation or operation.
- **Wear Protective Gear:** Always wear gloves, eye protection, and appropriate clothing.
- **Inspect Before Use:** Before each use, inspect the winch, rope, hooks, and all rigging equipment for damage or wear. Do not use if damaged.
- **Maintain Safe Distance:** Keep hands, hair, clothing, and jewelry clear of the winch drum, rope, and fairlead during operation. Maintain a safe distance from the winch and rope under tension.
- **Do Not Overload:** Never exceed the rated pulling capacity of the winch.
- **Secure Vehicle:** Always set the vehicle's parking brake and block wheels before winching.
- **Use a Winch Damper:** Place a winch damper or heavy blanket over the rope during winching to absorb energy in case of rope failure.
- **Avoid Shock Loads:** Do not use the winch for lifting or as a hoist. Avoid sudden jerks or shock loads on the rope.
- **Proper Anchoring:** Ensure the anchor point is strong enough to withstand the pulling force.
- **Electrical Safety:** Disconnect power to the winch before performing any maintenance or installation. Avoid contact with electrical components.
- **Synthetic Rope Care:** Protect synthetic rope from sharp edges, heat, and UV exposure. Use a ballistic nylon sliding sleeve as provided.

3. PACKAGE CONTENTS

Verify that all components are present and undamaged upon unpacking.

- WARN 16.5TI-S Winch with Spydura Pro Synthetic Rope (3/8" Diameter x 80' Length)
- Ballistic Nylon Sliding Sleeve (pre-installed on rope)
- Wired Remote Control
- Roller Fairlead (for synthetic rope)
- Hook with Safety Latch
- Mounting Hardware (bolts, washers, nuts)
- Electrical Cables (battery and motor leads)
- User Manual (this document)

4. SETUP AND INSTALLATION

Proper installation is crucial for the winch's performance and safety. If you are unsure about any step, consult a qualified professional.

4.1 Mounting the Winch

1. **Choose a Suitable Location:** The winch must be mounted on a flat, rigid surface capable of supporting the winch's weight and maximum pulling force. A dedicated winch bumper or mounting plate is recommended.
2. **Position the Winch:** Align the winch with the mounting holes on your vehicle's bumper or mounting plate. Ensure the rope spools correctly onto the drum.
3. **Secure with Hardware:** Use the provided high-strength mounting bolts, washers, and nuts to secure the winch firmly. Tighten all fasteners to the manufacturer's specified torque settings.
4. **Install Fairlead:** Attach the roller fairlead to the mounting surface, ensuring it is properly aligned with the winch drum to guide the rope smoothly.

4.2 Electrical Connections

All electrical connections must be clean, tight, and protected from corrosion and abrasion.

1. **Disconnect Battery:** Before making any electrical connections, disconnect the negative terminal of your vehicle's battery to prevent accidental short circuits.
2. **Connect Motor Leads:** Connect the winch motor leads to the contactor/control pack according to the wiring diagram provided in the full installation guide (not included in this summary).
3. **Connect Battery Cables:** Connect the positive (+) winch cable to the positive (+) terminal of the vehicle's battery. Connect the negative (-) winch cable to a clean, unpainted chassis ground point or the negative (-) terminal of the battery.
4. **Secure Wiring:** Route all cables away from hot engine parts, sharp edges, and moving components. Use cable ties to secure them.
5. **Reconnect Battery:** Once all connections are secure, reconnect the negative terminal of the vehicle's battery.

5. OPERATING INSTRUCTIONS

Familiarize yourself with the winch controls and operation before attempting a recovery.

5.1 Preparing for Winching

1. **Assess the Situation:** Determine the best anchor point, the required pulling direction, and the necessary rigging.
2. **Secure Vehicle:** Engage the vehicle's parking brake and place the transmission in park (automatic) or a low gear (manual). Block wheels if necessary.
3. **Prepare Rope:** Disengage the clutch (free spool) and pull out enough rope to reach your anchor point. Ensure the rope is not kinked or twisted.
4. **Attach Hook:** Secure the hook to a suitable anchor point using a tree saver strap or shackle. Never wrap the rope directly around an anchor point.
5. **Engage Clutch:** Re-engage the clutch to lock the winch drum.
6. **Drape Damper:** Place a winch damper or heavy blanket over the rope, midway between the winch and the anchor point.

5.2 Winching Operation

1. **Connect Remote:** Plug the wired remote control into the winch's control box.
2. **Begin Winching:** While standing clear of the rope and winch, press the "IN" button on the remote to begin winching. Operate the winch in short bursts to allow the motor to cool.
3. **Monitor Thermometric Indicator:** The 16.5TI-S features a thermometric indicator. Monitor this indicator to prevent overheating. If the indicator shows high temperature, pause winching and allow the motor to cool.
4. **Maintain Tension:** Keep slight tension on the rope to ensure even spooling.
5. **Spooling Rope:** When rewinding the rope, ensure it spools evenly and tightly on the drum. Uneven spooling can damage the rope and winch.
6. **Disconnect Remote:** Once winching is complete, disconnect the remote control and store it properly.

6. MAINTENANCE

Regular maintenance ensures the longevity and reliable performance of your WARN winch.

- **Inspect Rope:** Regularly inspect the Spydura Pro synthetic rope for fraying, cuts, or excessive wear. Replace if damaged.

- **Clean Winch:** Keep the winch clean from dirt, mud, and debris. Use a mild detergent and water, then rinse thoroughly.
- **Check Electrical Connections:** Periodically inspect all electrical connections for corrosion or looseness. Clean and tighten as necessary.
- **Lubrication:** The winch is largely maintenance-free regarding internal lubrication. Refer to the full service manual for specific lubrication points if required for advanced servicing.
- **Store Properly:** When not in use, store the winch and remote in a dry, protected environment. Protect the synthetic rope from prolonged UV exposure.

7. TROUBLESHOOTING

This section addresses common issues you might encounter. For more complex problems, contact WARN customer support.

Problem	Possible Cause	Solution
Winch does not operate.	• Loose or corroded electrical connections. • Dead or low vehicle battery. • Remote control not connected or faulty. • Motor overheating (thermal protection activated).	• Check and tighten all battery and motor connections. Clean any corrosion. • Charge or replace vehicle battery. • Ensure remote is fully plugged in. Test with another remote if available. • Allow winch motor to cool down. Check thermometric indicator.
Winch operates slowly or with reduced power.	• Low vehicle battery voltage. • Overload condition. • Poor electrical connections. • Motor overheating.	• Ensure vehicle engine is running during winching. Check battery charge. • Reduce load or use a snatch block to double the line. • Inspect and clean all electrical connections. • Allow winch to cool.
Rope is damaged or frayed.	• Abrasion against sharp objects. • Overheating from drum friction. • Improper spooling.	• Always use the ballistic nylon sliding sleeve and protect rope from sharp edges. • Ensure proper spooling. Avoid prolonged heavy pulls without cooling. • Replace damaged rope immediately.

8. SPECIFICATIONS

Feature	Detail
Model	WARN 16.5TI-S (97740)
Rated Line Pull	16,500 lbs (7,484 kg)
Motor	12V DC, Series-Wound
Gear Train	3-Stage Planetary
Clutch	Sliding Ring Gear
Brake	Automatic Direct Drive Cone
Rope Type	Spydura Pro Synthetic Rope

Rope Dimensions	3/8" Diameter x 80' Length (9.5mm x 24.4m)
Fairlead	Roller Fairlead
Remote Control	Wired Remote
Dimensions (L x W x H)	24.2 x 8.5 x 9.7 inches (61.5 x 21.6 x 24.6 cm)
Item Weight	98 pounds (44.45 kg)
Special Features	Thermometric Indicator, Waterproof Contactor Control

9. WARRANTY AND SUPPORT

WARN stands behind its products with a comprehensive warranty. For specific warranty terms and conditions, please refer to the warranty card included with your product or visit the official WARN website. For technical assistance, parts, or service, please contact WARN customer support:

- **Website:** www.warn.com
- **Phone:** Refer to the WARN website for regional contact numbers.
- **Online Support:** Many FAQs and troubleshooting guides are available on the WARN support portal.

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ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page’s manual context to help answer it.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question

