



INSTALLATION INSTRUCTIONS SEMI-HIDDEN WINCH MOUNT

Part Number: 70005

Application: Ford Super Duty

Your safety, and the safety of others, is very important. To help you make informed decisions about safety, we have provided installation and operating instructions and other information on labels and in this guide. This information alerts you to potential hazards that could hurt you or others. It is not possible to warn you about all potential hazards associated with this product, you must use your own good judgment.

CARELESS INSTALLATION AND OPERATION CAN RESULT IN SERIOUS INJURY OR EQUIPMENT DAMAGE. READ AND UNDERSTAND ALL SAFETY PRECAUTIONS AND OPERATING INSTRUCTIONS BEFORE INSTALLING AND OPERATING THIS PRODUCT.

This guide identifies potential hazards and has important safety messages that help you and others avoid personal injury or death. **WARNING** and **CAUTION** are signal words that identify the level of hazard. These signal words mean:

WARNING signals a hazard that could cause serious injury or death, if you do not follow recommendations.

CAUTION signals a hazard that may cause minor to moderate injury, if you do not follow recommendations.

This guide uses **NOTICE** to call attention to important mechanical information, and **Note**: to emphasize general information worthy of special attention.

WARNING

INJURY HAZARD

Failure to observe these instructions could lead to severe injury or death.

- Always** use extreme caution when drilling on any vehicle. Make sure that all fuel lines, brake lines, electrical wires, and other objects are not punctured or damaged when/if drilling on the vehicle. Thoroughly inspect the area to be drilled (on both sides of material) prior to drilling, and relocate any objects that may be damaged. Failure to inspect the area to be drilled may result in vehicle damage, electrical shock, fire or personal injury.
- Always** wear safety glasses when installing this kit. A drilling operation will cause flying metal chips. Flying chips can cause eye injury.
- Always** use extreme caution when cutting and trimming during fitting.
- Always** remove jewelry and wear eye protection.
- Never** lean over battery while making connections.
- Never route electrical cables:**
 - Across any sharp edges.
 - Through or near moving parts.
 - Near parts that become hot.
- Always** insulate and protect all exposed wiring and electrical terminals.
- Always** install terminal boots as directed in installation instructions.
- Always** use appropriate and adequate care in lifting components into place.
- Always** insure components will remain secure during installation and operation.
- Always** tighten all nuts and bolts securely, per the installation instructions.
- Always** replace all worn or damaged parts before operating.
- Never** operate this WARN product with damaged or missing parts.
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Caution

Moving Parts Entanglement Hazard

Failure to observe these instructions could lead to minor or moderate injury.

- Always** take time to fully read and understand the installation and Operations Guide included with this product.
- Never** operate this product if you are under 16 years of age.
- Never** operate this product when under the influence of drugs, alcohol or medications.

Read installation and operating instructions thoroughly.

Notice

Equipment Damage

- Always** refer to the Installation and Specification Guide, supplied in the winch kit, for all wiring schematics and specific details on how to wire this WARN product to your vehicle.

Read installation and operating instructions thoroughly.

NOTES

- We highly recommend installing the Skirt Kit (P/N 70490) in conjunction with this Semi-Hidden Winch Mount. It contains trim panels that fill the 5" space between the bumper and the vehicle as a result of winch installation. The Skirt Kit must be installed while the bumper is off the vehicle.
- This kit relocates the Winch Control Pack to the end of the Winch Carrier Assembly. Longer electrical cables (provided in this kit) must be installed in the control pack and attached to the winch.
- The original equipment fog lamps must be removed from the bumper and will not be reinstalled with this kit.

I. PARTS LIST

<u>Part Number</u>	<u>Qty</u>	<u>Description</u>
70004	1	Winch Carrier Assembly
69692	2	Support Bracket
69693	2	Tow Loop Bracket
70006	1	Fairlead Plate
70008	2	Outer Bracket
70009	2	Bumper Bracket
70011	1	Control Pack Bracket
70493	1	License Plate Bracket
70012	1	Hardware Kit
14867	1	Remote Control Socket
70495	1	Extension Harness (2 Wire)
70494	1	Ground Extension Wire (30 inch)
69642	3	2ga Electrical Cable (31 inch)

II. TOOLS REQUIRED

13mm socket	11/16" socket or
15mm socket	3/4" socket and end wrench
18mm socket	15/16" socket and end wrench
7/16" socket and end wrench	1/4" hex socket (Allen) wrench
9/16" socket or end wrench	drill motor
5/8" socket	1/8", 3/16", 1/2" drill bits

III. TORQUE SPECIFICATIONS

1/4	8 lb. ft. (10.8 N-m)	1/2	75 lb. ft. (101.7 N-m)
7/16	50lb. ft. (67.8 N-m)	5/8	150 lb. ft. (203.4 N-m)

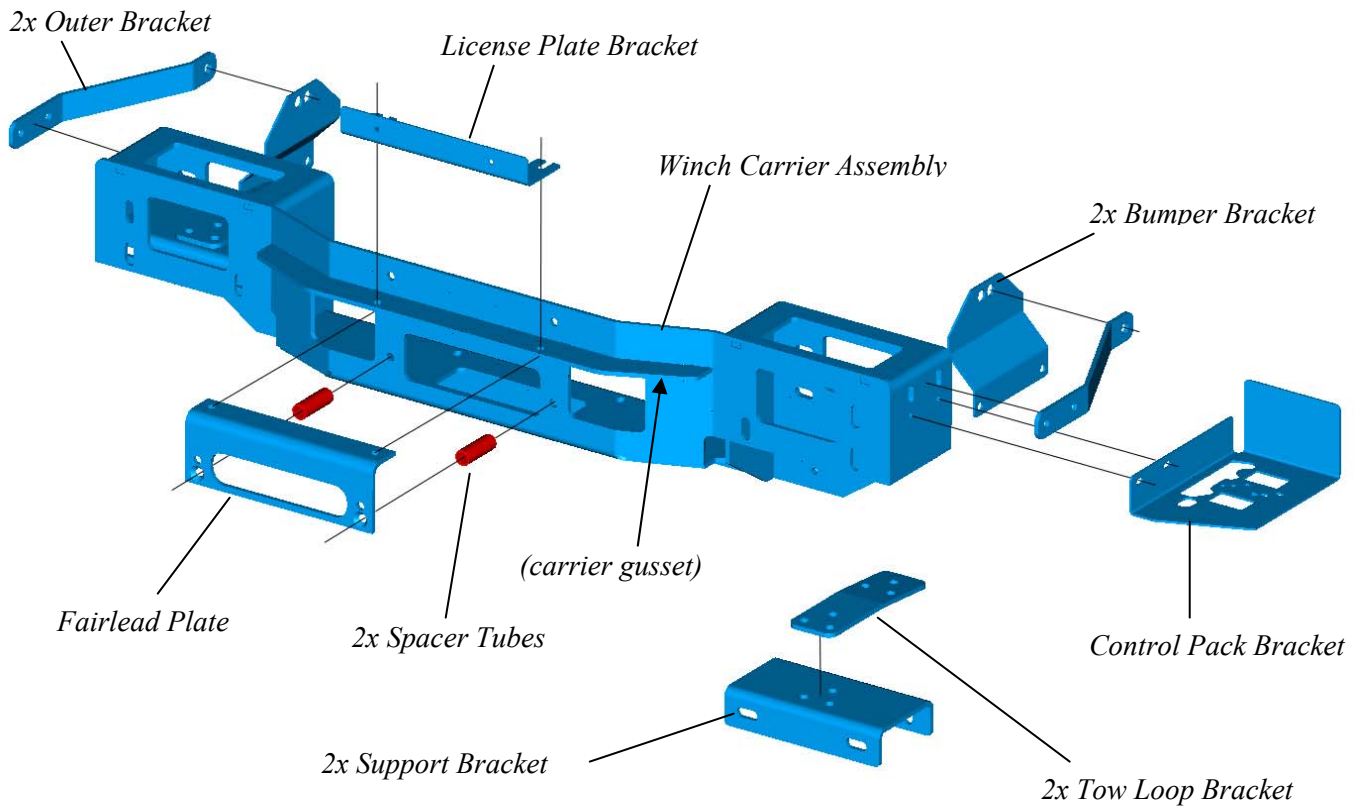


Figure 1 Winch Carrier Assembly and Brackets exploded

IV. INSTALLATION Control Pack Modifications

1. Remove the Control Pack from the winch (if attached). Depending on the winch model, this may involve disconnecting wires and cables from the motor and removing any attaching brackets.
2. Remove the screws around the Control Pack base. The plastic covers have three(3) screws through the sides. The 16.5ti has four(4) screws through the base. *Carefully* remove the cover. *The cover will still be connected by wires. Do not remove these wires.*
3. If you are installing a M12000 or 16.5ti Control Pack, install two(2) 1/4 x 1" bolts in the holes in the base. **Figure 2.** Install 1/4" nut/washer (washer side gripping the Control Pack base plate) on each bolt. Tighten.
4. Carefully replace the "A", "F1" and "F2" cables with a longer cable from this kit. Note the labels on each cable (F1, F2, A). Replace one cable at a time being careful to route the new cable *exactly* the same as the old one. Be sure to attach the cable ends with the extra long shrink tube insulation to the Control Pack. Do not over tighten the nuts and be sure the cable terminals are not contacting any other bare metal. As you install the cables apply the correct label (A, F1, F2,) to the winch end of each. It is *extremely* important the labels are applied to the correct cables.

Figures 2-3.

Note for 16.5ti: Plug either end of the Extension Harness (two wire harness with one male and one female connector on each end) into the pigtail connector from the Control Pack.

Note for gasoline V-8 and V-10 powered vehicles: Replace the standard red 72" cable in the Control Pack with the extended red 88" cable provided. The standard Control Pack cable may not reach the battery located on the passenger side of the vehicle.

5. Re-install the Control Pack cover.

INSTALLATION (cont.) Winch Installation

1. Attach the Control Pack Bracket on the left end of the Winch Carrier Assembly. **Figure 1.** Use two(2) 1/4-20 x 1 bolts, flat washers, lock washers and nuts.

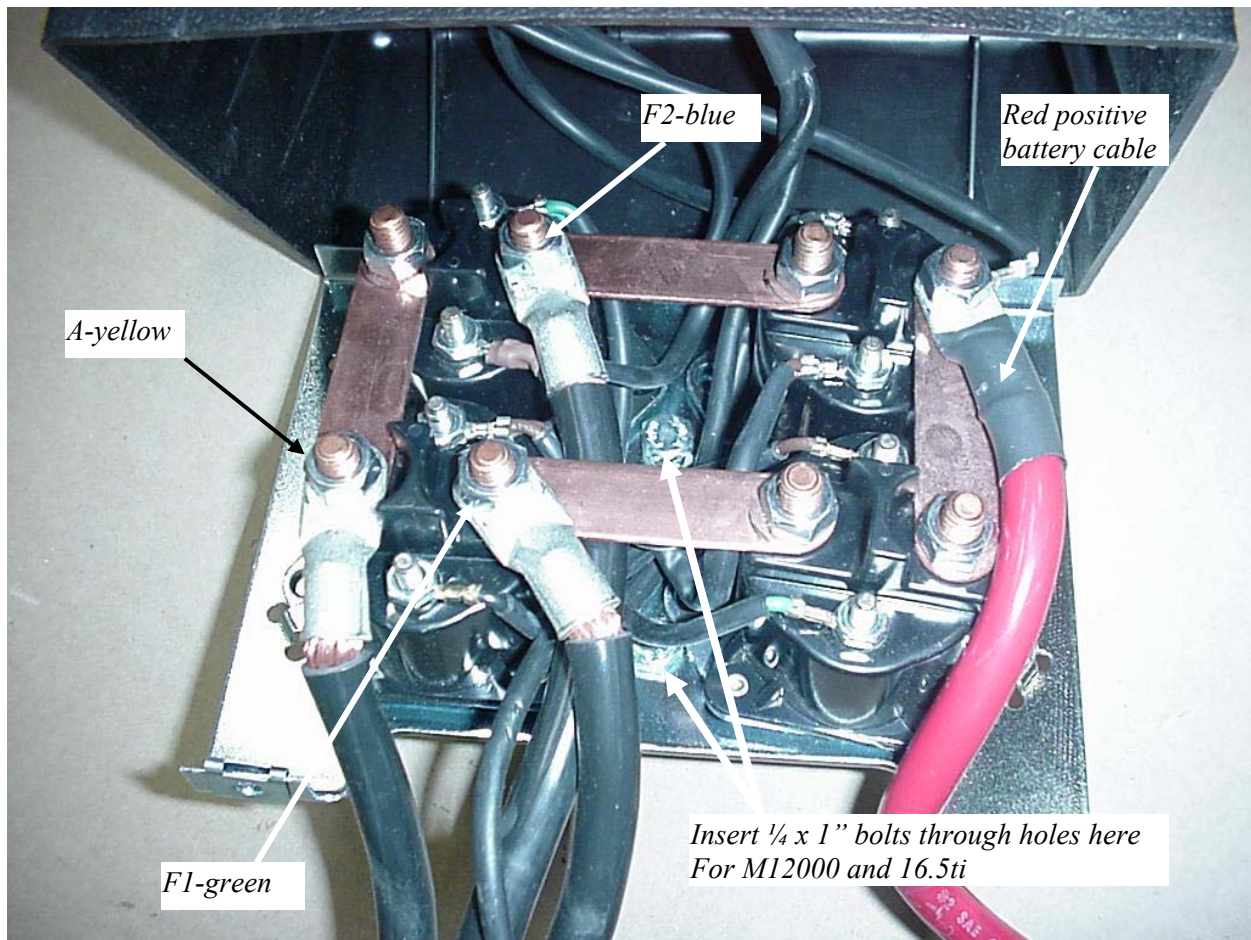


Figure 2 Inside the M12000 Control Pack (original cables shown)

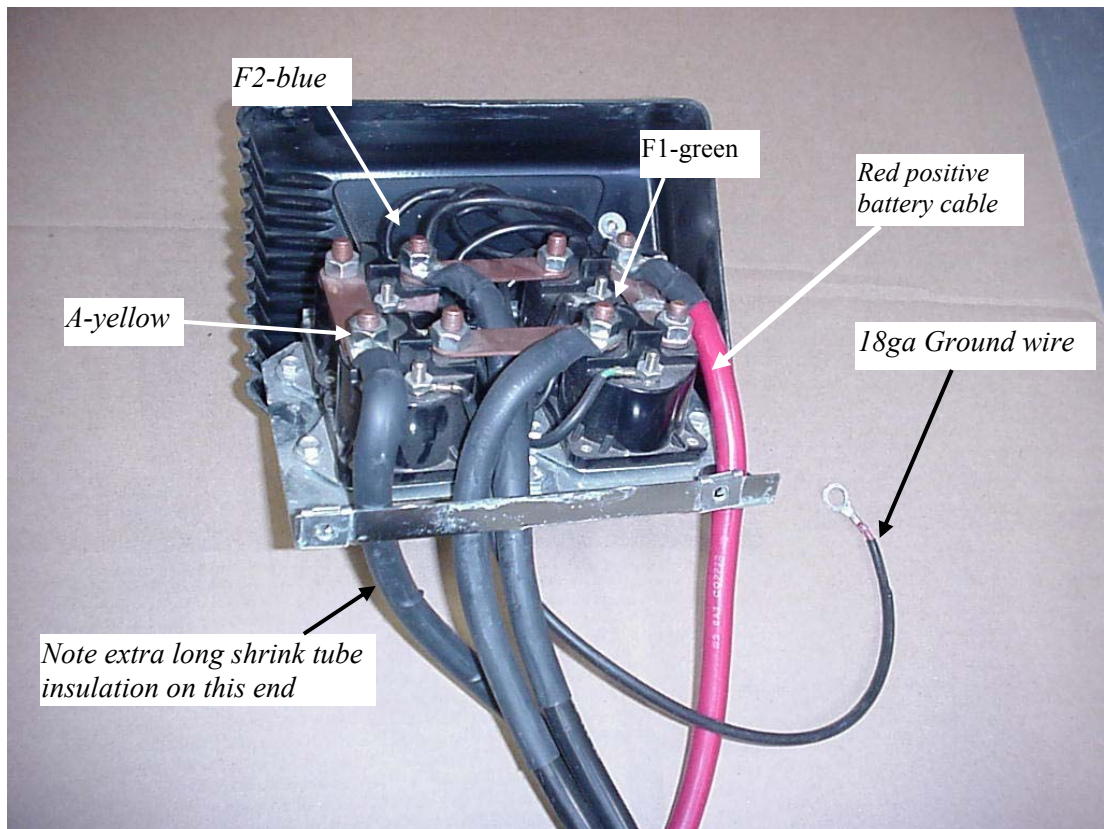


Figure 3 Inside the M15000 Control Pack (extended cables shown - apply correct labels to opposite end of cables)

2. Install the winch per the Winch Operator's Manual. Do not install bolts in the lower, front holes yet. Do not tighten the hardware yet.
3. Install the Fairlead Bracket below the carrier gusset. Insert two(2) 7/16 x 1-1/2" bolts and flat washers through the gusset and bracket from the top. Install lock washers and nuts from the bottom. Insert the Spacer Tubes in-line with the lower winch mounts and install the 7/16 x 3-1/2" countersunk screws into the winch. Tighten all winch mounting hardware now, but do not tighten the Fairlead Bracket-to-carrier gusset hardware yet. Do not install the fairlead yet.
4. Place the Control Pack in the Control Pack Bracket with the cables exiting toward the winch. **Figure 4** shows which mounting holes to use. Use the 1/4" nut/washers to secure the Control Pack. Under one of the nuts install the 18ga ground wire from the control pack and the 30-inch 18ga ground extension (single wire with 1/4" eye terminal on one end and a 5/16" eye terminal on the other – attach the 1/4" terminal here). Tighten the hardware.

Note for 16.5ti: Plug the Extension Harness from the Control Pack into the pigtail exiting the winch motor.

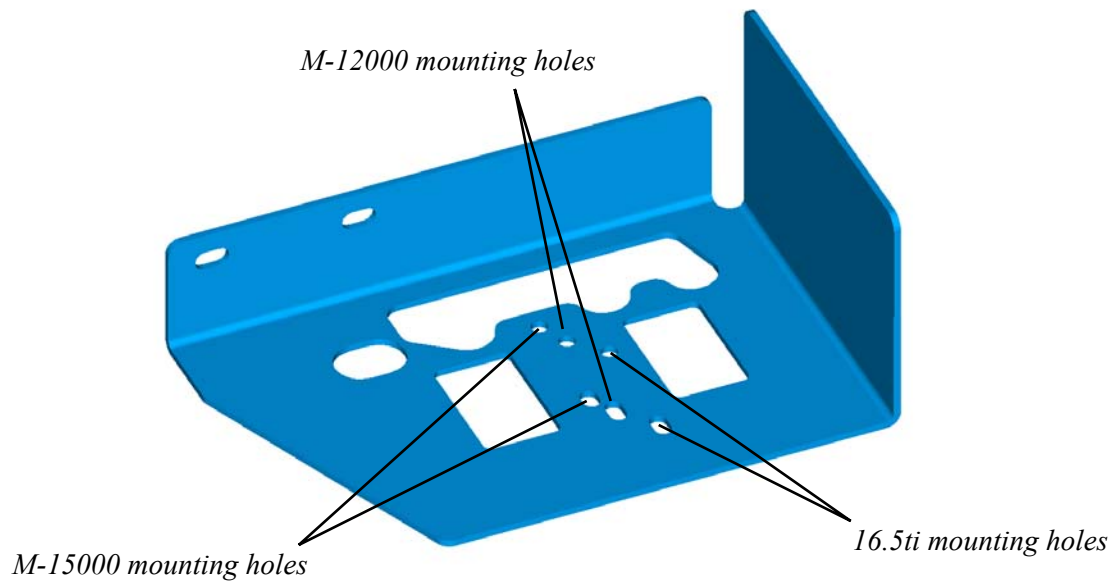


Figure 4 Control Pack mounting locations

5. Slide an electrical terminal boot over the "winch end" of each 2ga cable exiting from the Control Pack and attach the electrical cables to the correct winch terminals. Slide the boots over the terminals. A terminal boot is not needed for the ground cable. Remember to attach the 18ga ground wire to the ground terminal on the winch. **Figures 4-5**

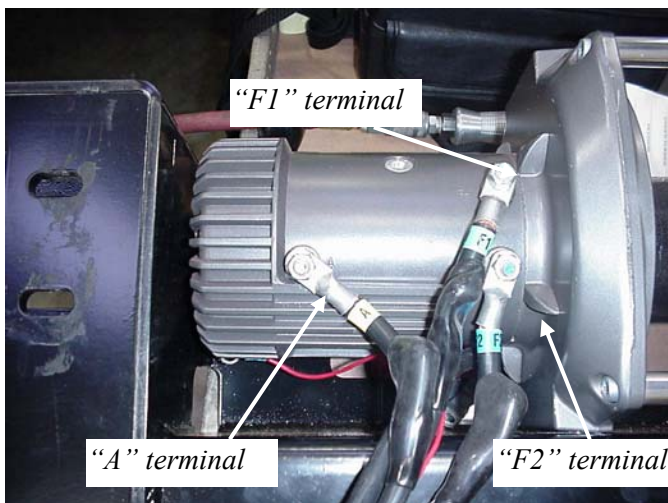


Figure 4 Cables connected to motor terminals

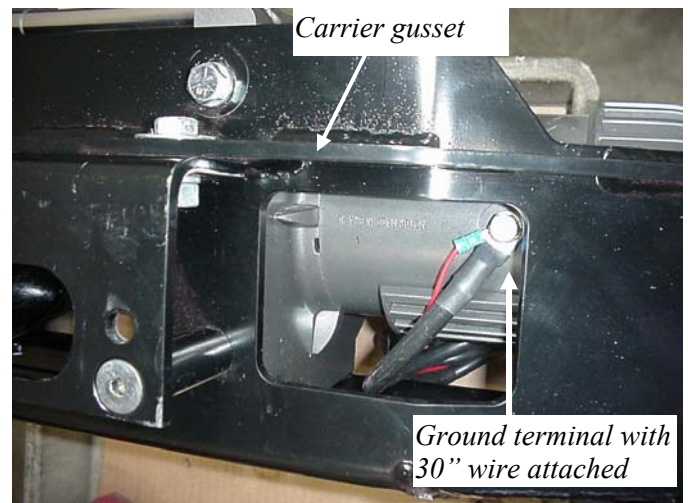


Figure 5 Ground cables connected to motor terminal

INSTALLATION (cont.) Carrier Assembly Installation

1. Disconnect the factory fog lamps. Make sure no wires restrict the removal of the bumper from the vehicle.
2. Remove the license plate holder if installed.
3. Remove the outboard bumper braces from the frame *and* bumper.
4. Remove the four(4) front bolts outboard of the tow loops. **Figures 6-7**

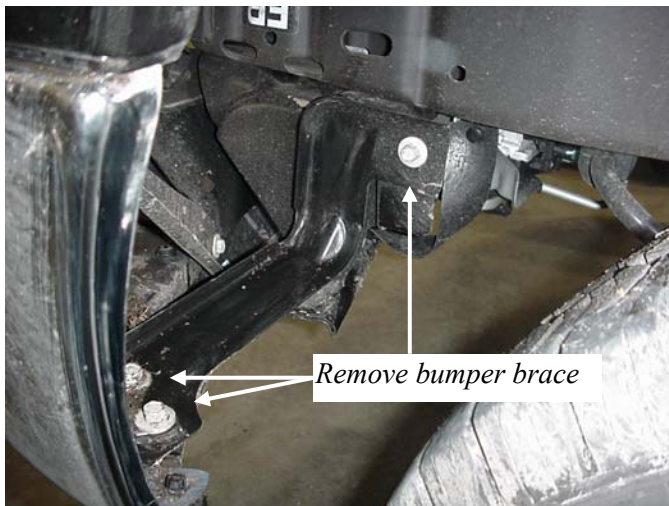


Figure 6 Bumper brace



Figure 7 Front bumper bolts



Figure 8 Bumper Bracket location

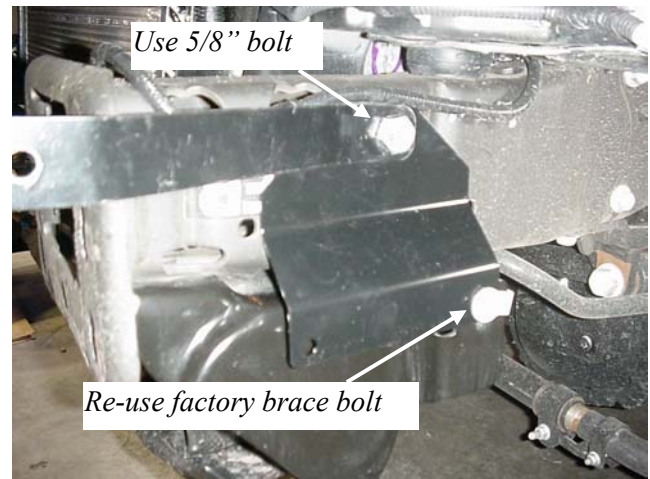


Figure 9 Bumper and Outer Brackets installed

5. Install the Bumper Brackets on the frame. Use the original factory bolts at the rear and the 5/8" bolts referred to in the next step to secure the top. Tighten the factory fasteners.
6. Insert the 5/8 x 2" bolts through the Outer Brackets and the upper rear hole in the Bumper Brackets through the diagonal slot in the frame. Install a flat washer, lock washer and nut inside the frame tube. Pull the Outer Brackets as far forward as possible and tighten the hardware with the Outer Brackets horizontal with the "free" end forward. Do not "pinch" any wires. **Figures 8-9**
7. Bolt the Tow Loop Brackets inside the frame (the Brackets bend down slightly). Use 1/2 x 2" bolts through the top of each Bracket in three(3) places. Install flat washers, lock washers and nuts on each bolt and tighten.
8. Lift and bolt the Winch Carrier Assembly into place. The Carrier Assembly should slide inside the Outer Brackets. Insert 1/2 x 2" bolts and flat washers from inside through the upper four(4) slots *only* and install flat washers, lock washers and nuts on the back. **Figure 10**. Level and center the Carrier Assembly relative to the vehicle body and tighten the hardware. When

adjusting the height of the Carrier Assembly, be sure the clutch lever is free to rotate outward without interfering with the vehicle grille.

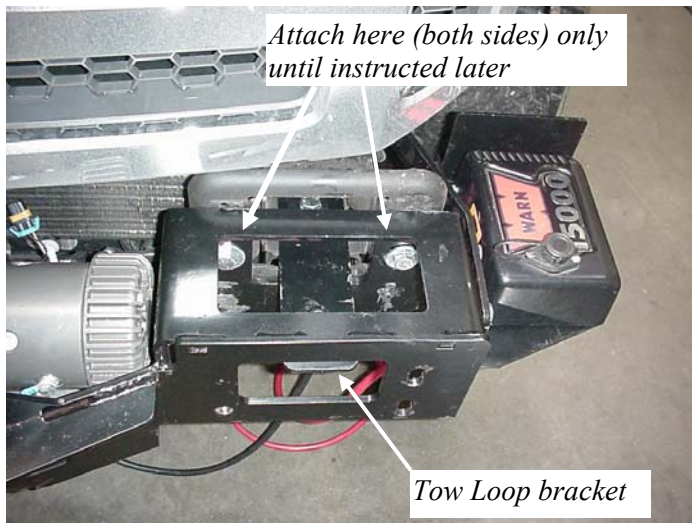


Figure 10 Carrier Assembly in place – note position of Control Pack

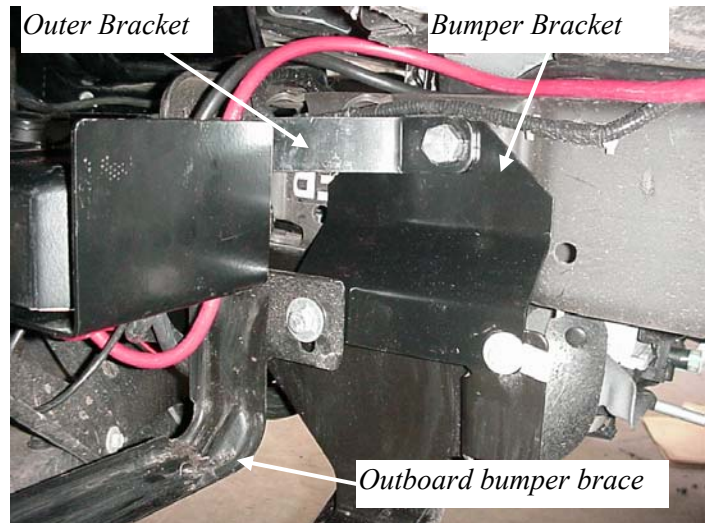


Figure 11 Bumper brace reinstalled

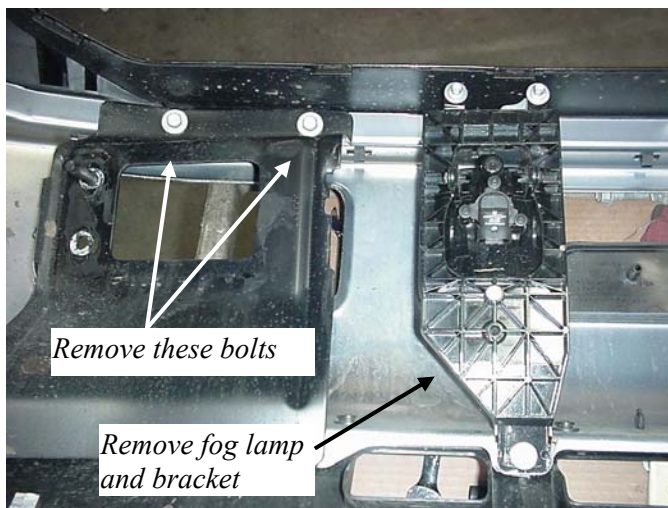


Figure 12 LH bumper bracket bolts

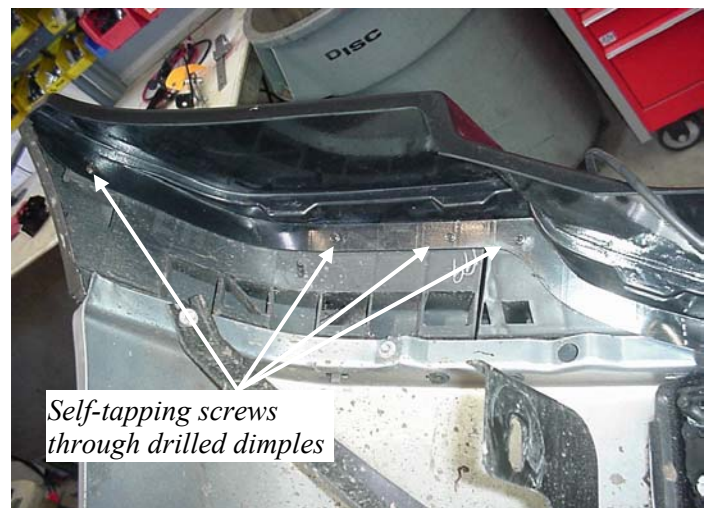


Figure 13 LH Skirt screw locations

9. Attach the Outer Brackets to the slots in the ends of the Winch Carrier Assembly. Insert 7/16" x 1-1/2" bolts (2 per side) from the outside with flat washers lock washers and nuts on the inside. Loosen and adjust Control Pack Bracket if necessary. Tighten the 7/16" hardware. Re-torque the 5/8" hardware previously installed.
10. Use the cable ties provided to secure the cables between the Control Pack and the winch. A small hole is available on the back of the Carrier Assembly for this purpose.

INSTALLATION (cont.) Skirt Kit Installation

11. If you are installing the Skirt Kit (P/N 70490), proceed with the next step. The Skirt Kit can only be installed with the bumper removed. If you are not installing a Skirt Kit move on to step 20.
12. Remove the upper bolts from the left and right bumper brackets. **Figure 12.**
13. Drill a 3/16" hole through each of the four(4) dimples formed into the skirt mounting flanges. **Figure 13.**
14. Place the Skirts against the bumper brackets and reinstall the bolts. Align the outboard corners of the skirt and bumper, hold the skirt tight against the bumper and tighten the bolts.
15. Hold the Skirt in position and drill 1/8" holes into the plastic bumper liner through each of the previously drilled 3/16" holes. Install self-tapping screws in each hole and tighten.

15. Drill a 3/16" hole through the dimples (3 each) in the Endcaps.
16. Hold the Endcaps in place against the bumper and mark the hole locations. Drill a 3/16" hole through each mark (two into the metal and one into the plastic). Use #10 screws, washers and nuts to attach the Endcaps. Tighten the hardware.
17. Pass the Remote Control Extension through the 1.12" hole in the LH Skirt from the top. Secure it with the #10 screws, washers and nuts.
18. Lift the bumper into position on the vehicle. Center the bumper and install 1/2 x 2" bolts with flat washers through the upper bumper bracket holes into the Winch Carrier Assembly. Put flat washers, lock washers and nuts on each. Center the bumper and tighten the 1/2" bolts.
19. Install a Support Bracket up through the bottom of each end of the Winch Carrier Assembly. Make sure the orientation is correct (the three holes should line up with the holes in the Tow Loop Brackets). Push the Support Bracket in until it makes contact with the Tow Loop Bracket. Tapping with a hammer may be required.
20. Install the tow loops on top of the Tow Loop Brackets. The tow loops should be angled down slightly. Install the original tow loop hardware up through the Support Brackets, Tow Loop Brackets and into the tow loops and tighten.
21. Install 1/2 x 2" bolts with flat washers through the Support Bracket slots (rear) into the vehicle frame (bumper mount - 2 each side). Install flat washers, lock washers and nuts and tighten.
22. Install 1/2 x 2" bolts through the lower bumper holes into the Support Bracket slots (front - 1 each side). Install flat washers, lock washers and nuts and tighten.
23. Measure 6.69" (170mm) inboard from and level with the centers of the front bolts just installed. Mark and drill a 1/2" hole in each bracket. The holes should line up with slots in the Winch Carrier Assembly and Support Brackets already in place.
24. Install 1/2 x 2" bolts through the new bumper mounting holes into the Support Bracket slots. Install flat washers, lock washers and nuts and tighten.
25. Re-install the bumper end braces. Use the original bolts at the bumper. Use 7/16 x 1" bolts and washers to attach to the Bumper Brackets. Tighten the hardware. **Figure 11**
26. If the Skirt Kit has been installed, fasten the top of the Skirts to the winch drum supports with 7/16 x 3/4" socket head bolts.
27. *Optional:* Loosen the bolts holding the Fairlead Plate to the carrier gusset and slide the License Plate Bracket beneath the flat washers. Tighten the hardware. Install the front license plate.
28. Install the Fairlead. Insert the bolts from the back of the Fairlead Bracket. Tighten the hardware.
29. Plug the Remote Control Extension into the Control Pack receptacle.

WARNING

READ THE VEHICLE'S OPERATOR MANUAL, WINCH OPERATOR MANUAL, AND ALL WARNING LABELS PRIOR TO OPERATION WINCH.

WARNING

FAILURE TO SECURELY TIGHTEN ALL BOLTS ON THE WINCH MOUNT, WINCH, AND FAIRLEAD CAN RESULT IN PRODUCT FAILURE WHICH MAY RESULT IN VEHICLE DAMAGE AND OPERATOR INJURY OR DEATH. DOUBLE CHECK THAT ALL BOLTS ARE SECURELY TIGHTENED PRIOR TO USE.

V. MAINTENANCE/CARE

1. Inspect all parts on the winch, winch mount, and related hardware prior to each use. Replace all hardware that appears rusted or deformed.
2. Inspect all nuts and bolts on the winch, winch mount, and related hardware prior to each use. Tighten all nuts that appear to be loose. Stripped, fractured, or bent bolts or nuts need to be replaced.
3. Check all cables prior to use. Replace cables that look worn or frayed.
4. Check all moving or rotating parts. Remove debris that may inhibit the part from moving freely.

WARNING

PERFORM REGULAR INSPECTIONS ON THE WINCH, WINCH MOUNT, AND RELATED HARDWARE. NEVER OPERATE THE WINCH WITH DAMAGED OR MISSING PARTS. FAILURE TO FOLLOW THIS WARNING MAY CAUSE VEHICLE DAMAGE AND OPERATOR INJURY OR DEATH.