



# VEHICLE SPECIFIC ELECTRICAL INSTALLATION INSTRUCTIONS

## FORD BRONCO

F-150 4x4

F-250/350 4x4 and 2WD

## FORD SUPER DUTY

1980-1991

### Model No. 1349

#### Straight Blade

Hydraulics Box No. 56588

Harness Kit No. 61570 (HB-1) or 61545 (2B)

Used with Headlamp Kit 9-Pin No. 61540-1

#### **⚠ CAUTION**

Read this document before installing the snowplow.

#### **⚠ CAUTION**

See your WESTERN® outlet for application recommendations. The Selection List has specific vehicle and snowplow requirements.



# TABLE OF CONTENTS

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## **SAFETY**

Safety Definitions .....	1
Battery Safety .....	1
Torque Chart .....	1

## **UNDER HOOD INSTALLATION**

Harness Kit and Selection .....	2
Vehicle Harness and Motor Relay .....	2
Plug-in Harness and Headlamp Relay Installation .....	5

## **WIRING DIAGRAM – STRAIGHT BLADE .....**



# SAFETY

## SAFETY DEFINITIONS

### WARNING

Indicates a potentially hazardous situation that, if not avoided, could result in death or serious personal injury.

### CAUTION

Indicates a situation that, if not avoided, could result in damage to product or property.

**NOTE:** Identifies tips, helpful hints and maintenance information the owner/operator should know.

## BATTERY SAFETY

### CAUTION

Batteries normally produce explosive gases which can cause personal injury. Therefore, do not allow flames, sparks or lit tobacco to come near the battery. When charging or working near a battery, always cover your face and protect your eyes, and also provide ventilation.

Batteries contain sulfuric acid which burns skin, eyes and clothing.

Disconnect the battery before removing or replacing any electrical components.

### CAUTION

Always disconnect the battery before removing or replacing electrical components such as a motor relay or battery cable.

## TORQUE CHART

### CAUTION

Read instructions before assembling. Bolts should be finger tight until instructed to tighten according to the torque chart. Use standard methods and practices when attaching snowplow including wearing safety glasses during cutting, drilling and welding.

Recommended Fastener Torque Chart (Ft.-Lb.)			
Size	 SAE Grade 2	 SAE Grade 5	 SAE Grade 8
1/4-20	6	9	13
5/16-18	11	18	28
3/8-16	19	31	46
3/8-24	24	46	68
7/16-14	30	50	75
1/2-13	45	75	115
9/16-12	66	110	165
5/8-11	93	150	225
3/4-10	150	250	370
7/8-9	202	378	591
1-8	300	583	893
Metric Grade 8.8 (Ft.-Lb.)			
Size	Torque	Size	Torque
M 6	7	M 12	60
M 8	17	M 14	95
M 10	35	M 16	155
These torque values apply to mount assembly fasteners except those noted in the instruction.			

# UNDER HOOD INSTALLATION

## HARNESS KIT SELECTION

### 1987 - 1991 Vehicles:

For DUAL replaceable bulb type HB-1 headlamps use Box No. 61540-1 Headlamp Kit 9-Pin and 61570 Harness Kit HB-1 9-Pin.

### 1986 and Earlier Vehicles:

For 2B headlamps use Box No. 61540-1 Headlamp Kit and 61545 Harness Kit 2B/2D 9-Pin.

Vehicles with DRL's require the use of 61584 DRL Kit on headlamp relays. (61584 sold separately)

## VEHICLE HARNESS AND MOTOR RELAY

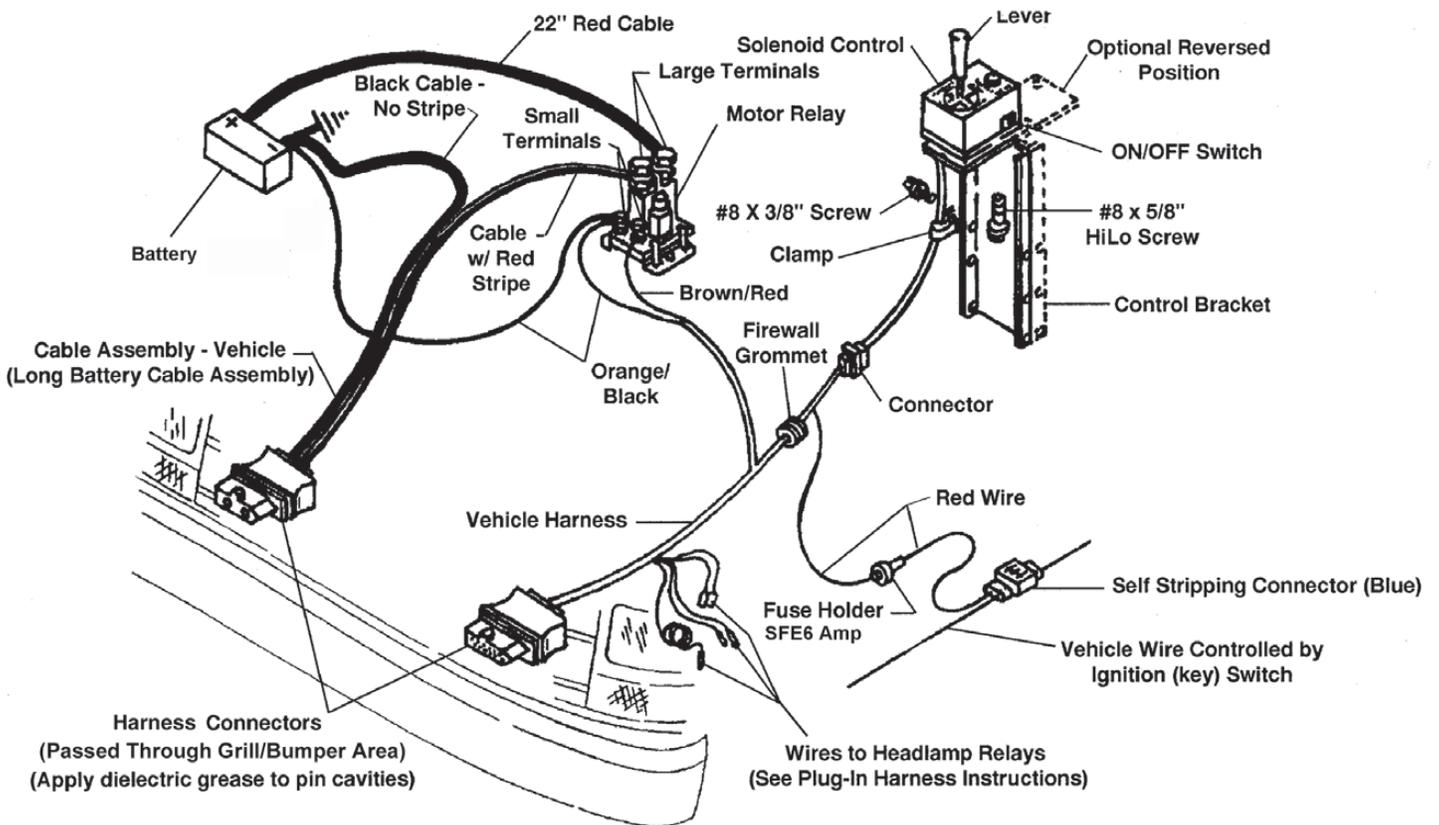
Except as noted, parts to be installed are found in hydraulics box.

**NOTE: Use dielectric grease to prevent corrosion on all under hood electrical connections. Fill receptacles and lightly coat ring terminals and blades before assembly.**

**NOTE: During electrical installation, the LONG BATTERY GROUND CABLE (no stripe) MUST BE GROUNDED TO THE NEGATIVE BATTERY TERMINAL.**

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## HARNESS, SOLENOID CONTROL & MOTOR RELAY INSTALLATION DIAGRAM



## UNDER HOOD INSTALLATION

### VEHICLE HARNESS AND MOTOR RELAY

(Continued)

Plow may be removed from vehicle for installation of electrical components.

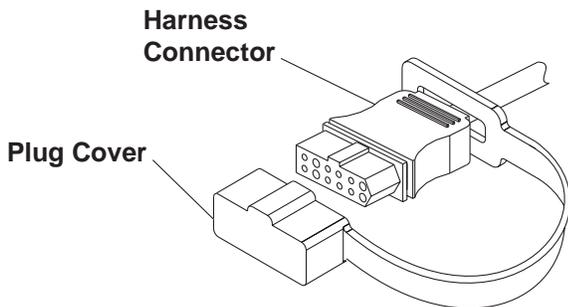
1. Identify wires for the parking lamp on the driver-side and the turn signals on both sides of the vehicle. Attach a black self-stripping bullet receptacle connector (found in harness kit) to each of these three wires.
2. Remove NEGATIVE battery cable from battery.
3. Find a location for the motor relay where it will be protected from road splash and within 18" of the vehicle primary battery.

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**NOTE: Motor relay terminals must be up or horizontal.**

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4. Using the motor relay terminal as a template, drill two 9/32" holes, and mount motor relay to holes using 1/4" x 3/4" bolts, flat washers and lock nuts.
5. Route 22" battery cable between a large motor relay terminal and the POSITIVE battery terminal taking care to avoid sharp edges and hot or moving parts.
6. Attach cable to motor relay terminal with a lock washer and a 5/16"-24 jam nut. Attach cable to battery POSITIVE terminal with existing fasteners.
7. Stretch rectangular openings of plug cover straps (found in harness kit) over harness connector ends of long battery cable assembly (found in hydraulics box) and vehicle harness (found in harness kit). Place plug covers over harness connectors.



8. Find a location in the vehicle grill/bumper area on the battery side for mounting the battery cable connector. The best location is at least 10-1/2" from the center of the grill/bumper area and at a convenient height for connecting the harness connectors.
9. Allow connector of each harness to hang out in front of grill or in bumper openings. Allow enough cable so it is easy to mate and remove connector. Secure with cable ties (found in mount box).
10. Route battery cable through the grill or bumper at the selected location and through or around the radiator bulkhead to motor relay taking care to avoiding sharp edges, and hot or moving parts.
11. Attach cable with red stripe to the unused large terminal on the motor relay, and secure it with a lock washer and 5/16"-24 jam nut.
12. Route cable without a stripe directly to the NEGATIVE battery terminal (carefully separate the two cables as needed to reach the battery ground connection). **DO NOT reconnect the battery ground at this time.**
13. Find a grill or bumper location on driver-side for the vehicle harness (similar position to battery cable mount). See Steps 8 and 9 above for how to install. Route vehicle harness through grill or bumper and around, or through radiator bulkhead (drill 5/8" hole if needed) into engine compartment.
14. Route the wires that break out of the vehicle harness to the area behind the driver-side headlamp. Route rest of harness to the firewall. Drill a 5/8" hole through the firewall in a convenient location away from hot or moving engine parts.
15. Route brown/red and orange/black wire loom to motor relay.
16. Attach the brown/red and orange/black wires small ring terminals to separate small terminals on motor relay using a lock washer and #10-32 nut for each connection.

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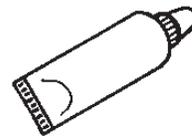
## UNDER HOOD INSTALLATION

### VEHICLE HARNESS AND MOTOR RELAY

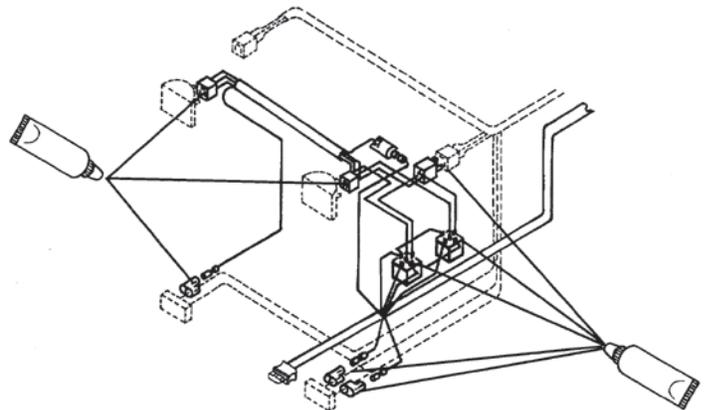
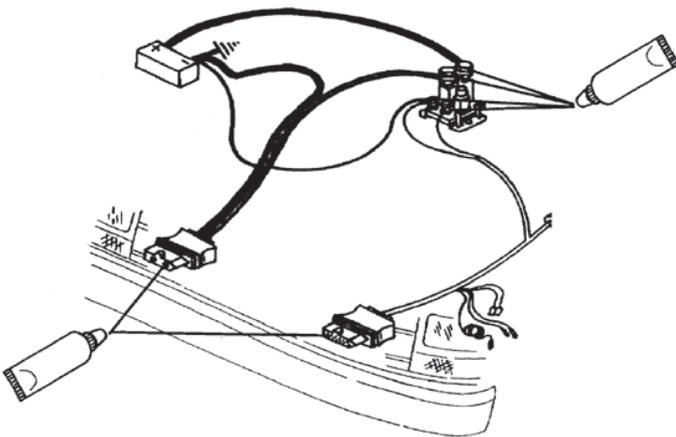
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17. Route the 24" long orange/black wire with 3/8" ring terminal to battery NEGATIVE post. **DO NOT attach wire to battery at this time.**
18. All vehicles with DRL's - Insert fuse holder on pink wire of DRL Adapter Kit (P.N. 61584) through firewall first. Route end of pink wire with receptacles to area of driver-side headlamp.
19. Feed vehicle harness fuse holder through hole and then feed the plastic connector and harness through to the cab. Disassembly of the fuse holder may make it easier to pass through 5/8" hole.
20. Inside the cab, route vehicle harness connector to solenoid or CabCommand control and couple the connectors together.
21. Reconnect vehicle ground cable to NEGATIVE battery terminal. Also attach the black battery cable and the orange/black wire to the negative clamp.
22. Locate an accessory wire capable of carrying 7 amps in addition to existing circuit loads and controlled by the ignition (key) switch. Route the vehicle harness SFE-6 fuse holder red wire to this location and trim off any excess length of wire (keep fuse holder in system). If used, DRL pink wire requires 0.4 amps.
23. Open blue self stripping connector and place the end of the red wire against the inner groove stop (end of wire must not extend from the closed connector), and the accessory wire in the outer groove. Close connector over the wires using a pliers and snap the locking tab in place. Repeat with DRL pink wire.

DIELECTRIC GREASE (1/4 oz)  
Part Number 56099



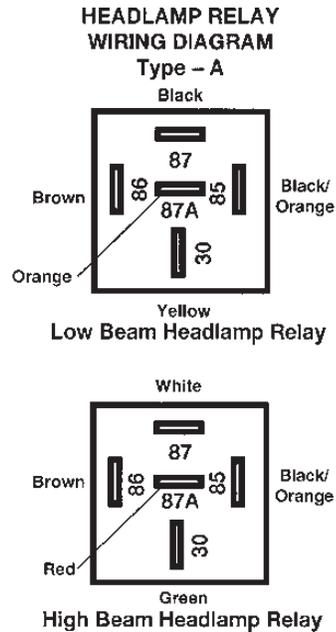
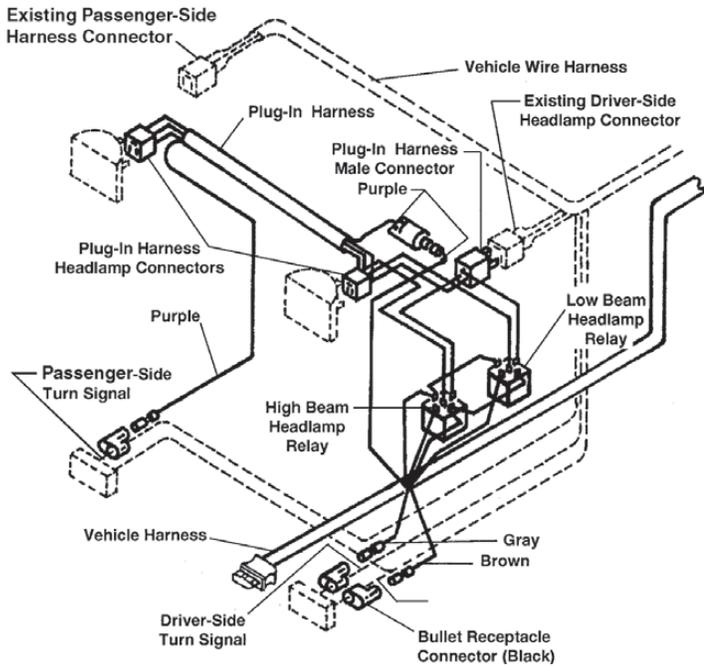
*A larger tube (2 oz) of dielectric grease is available.  
Part Number for larger tube is 49326.*



# UNDER HOOD INSTALLATION

## PLUG-IN HARNESS AND HEADLAMP RELAY INSTALLATION

### VEHICLE HEADLAMP WIRING DIAGRAM (TYPE A)

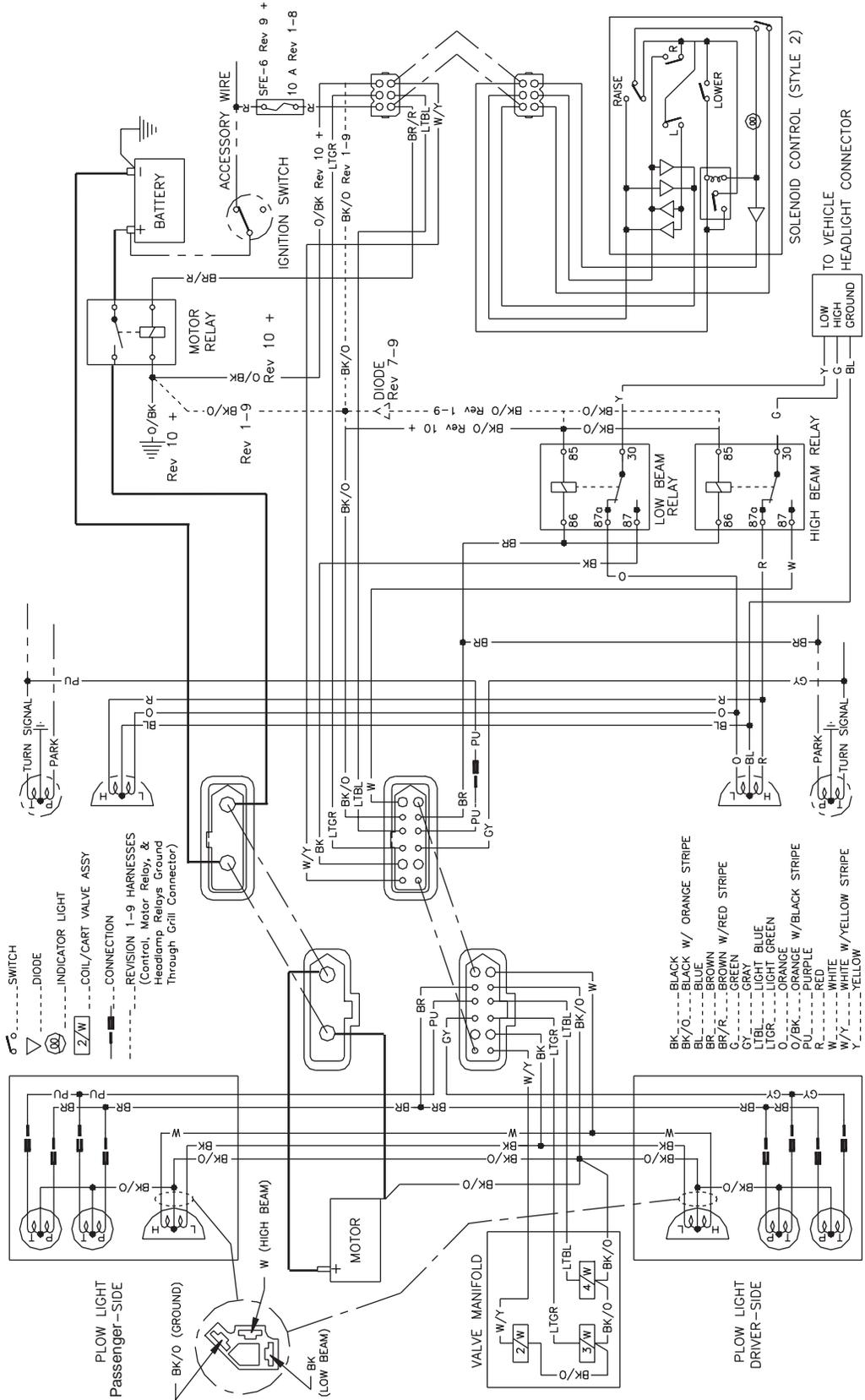


1. In the engine compartment behind the driver-side headlamp, insert wire bullets from vehicle harness into black bullet connectors (installed in step one of previous section) as follows:
  - Brown wire to parking lamp wire on driver-side.
  - Gray wire to left turn signal wire on driver-side.
2. At the vehicle driver-side headlamp, remove the connector from the headlamp and couple matching connector with plug-in harness 3-wire male plug (plug-in harness found in harness kit). Attach plug-in harness headlamp connector to headlamp terminals.
3. Route other end of plug-in harness along radiator bulkhead or over radiator shroud to passenger-side headlamp. Remove headlamp connector and secure connector with a cable tie. Attach plug-in harness headlamp connector to headlamp terminals.
4. On the passenger-side, insert purple wire bullet from plug-in harness into vehicle turn signal black bullet connector installed in step one of the previous section.
5. At the driver-side headlamp, insert the purple wire bullet from the vehicle harness into the purple wire receptacle on the plug-in harness.
6. At driver-side headlamp, connect vehicle and plug-in harness wires with receptacles to the two headlamp relays (found in harness kit) as shown in the above diagram. (If vehicle has DRLs, replace brown wires with pink wire from DRL kit. Brown wires from vehicle harness are not used in DRL installations.)
7. Place grommet around vehicle harness and insert into firewall hole (also put a grommet in the radiator bulkhead hole if one was drilled). Use cable ties (found in harness kit) to secure harnesses, relays and wires away from sharp edges, and hot or moving engine parts and to prevent accidental grounding of connections.
8. Replace vehicle turn signal flasher with flasher furnished in harness kit.
9. Lubricate terminal cavities of both harness connectors with dielectric grease.

**Please refer to AQ&L assembly instructions for additional information on operational tests and adjustments.**

# WIRING DIAGRAM – STRAIGHT BLADE

**Wiring Diagram**  
**Harness Type - A**  
**W/ 9 Pin Headlamp Kit**  
**& SAE Headlamp Types**  
**2B/2D**  
**HB-1**  
**HB-5**







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