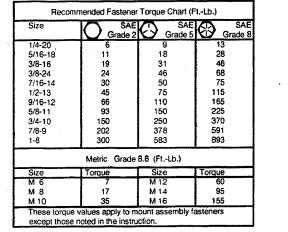
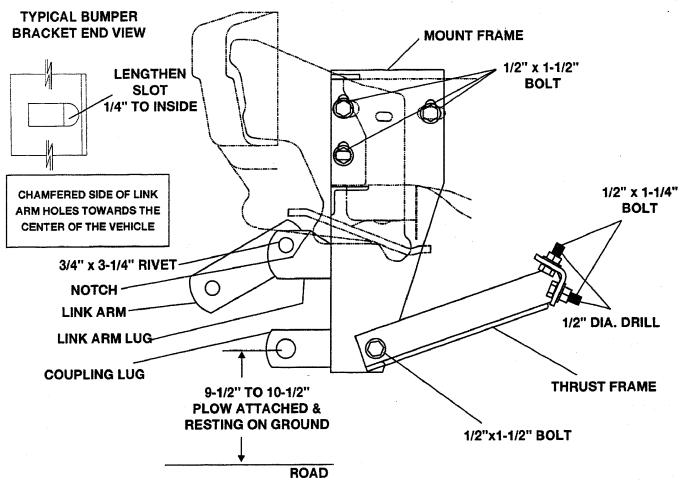


Mount Box No. 62485 INSTALLATION INSTRUCTIONS



IMPORTANT: 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.

AS VIEWED FROM DRIVER-SIDE



DRIVING LIGHTS:

1. Disconnect driving light harness from bumper lamps if equipped.

MOUNT FRAME

- 1. Open vehicle hood and remove four bumper bolts from the top of bumper bracket. Remove two outer bumper bracket bolts from side of frame. Remove bumber with brackets. Cut off rubber portion of air deflector attached to air dam and discard.
- 2. Remove snap fasteners and air deflector.
- 3. Remove rear bumper bracket nut near back side of radiator support. Drive out M12 serrated button head screw with a punch and hammer. Repeat for other side.
- 4. Remove two bumper bracket nuts at front of frame horns. Clamp bumper bracket to frame and drive out M12 serrated button head screw with a punch and hammer. Remove clamp. Repeat for other side. Retain parts for reinstallation if mount is removed from vehicle.

Continued on next page.

2

5. Place mount frame onto vehicle frame horns. Align slots in mount with slots in frame and holes in bumper brackets. Fasten with 1/2"-13 x 1-1/2" bolts, lock nuts, and washers. (Place nuts and washers inside frame to-ward slots and outside of vehicle.

THRUST ARMS:

- 1. Position shorter thrust arm to vehicle frame and crossmember on driver side. Align hole in angle with hole in mount frame. Fasten with 1/2" -1-1/2" bolt and lock nut. (Place lock nut toward outside of vehicle.)
- Position thrust arm tightly into corner of vehicle frame and crossmember. Clamp in place. Using hole in thrust frame as a template, drill 1/2" hole into both bottom of frame and front face of crossmember. Fasten with 1/2" x 1-1/4" bolt with top flange lock nut on inside of frame and crossmember. (Assembly tip: Tape lock nut to box end wrench and assemble through access hole in back of side crossmember.)
- 3. Repeat steps 1 & 2 for curb side, using longer of two thrust arms.

LINK ARMS:

Assemble a link arm between each pair of link arm lugs with a 3/4"x3-1/4" grade 5 rivet and cotter pin.

BUMPER:

- 1. Remove brackets from bumper and lengthen slots 1/4" to inside as shown on page 2. Reinstall brackets to bumper, positioning each bracket 1/4" closer together.
- 2. Position bumper on vehicle aligning brackets and frame brackets. Center bumper on vehicle. Mark location of link arm lugs and spreader frame sides on air dam. Remove bumper and notch air dam for clearance. Lug arm clearance should be 3" wide by 5" deep per side. Spreader side clearance should be 1" wide by 3" deep per side when viewed from the bottom of the bumper.
- 3. Reinstall bumper and corner brackets to vehicle with existing hardware.
- 4. Reinstall air deflector behind radiator. It will be necessary to cut away a portion from the right angle area forward on the curb side only.
- 5. Reattach driving light wire harness plug if so equipped.

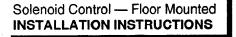
TIGHTEN ALL BOLTS TO CORRESPONDING TORQUE CHART VALUES.

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

HARNESS KIT SELECTION:

For DUAL replaceable bulb type HB-5 headlamps: Use Box No. 61540 Headlamp Kit 9-Pin and 61590 Harness Kit HB-5 9-Pin A.

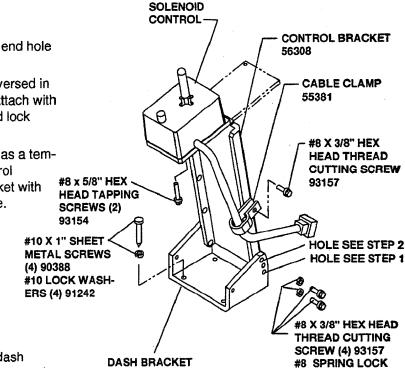
NOTE: After 5 to 10 hours of snowplow usage, retorque all mount assembly fasteners.



1. Align dash bracket hole shown in diagram to end hole of control bracket.

NOTE: Top flange of control bracket may be reversed in dash bracket from position shown in diagram. Attach with one #3 x 3/8" hex head thread cutting screw and lock washer on each side.

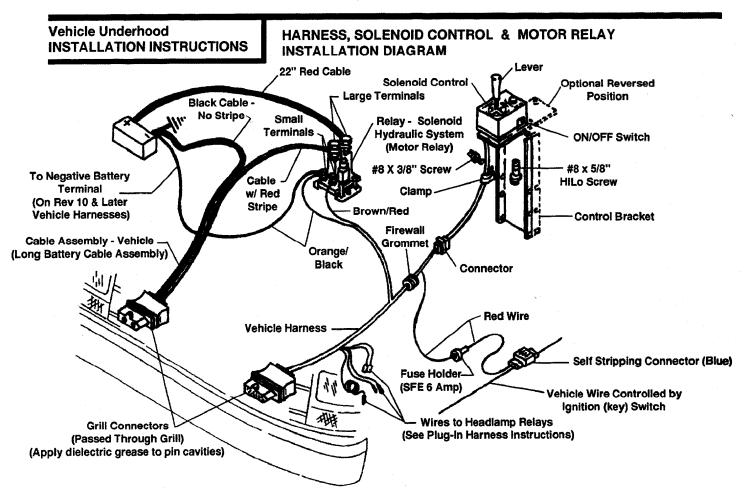
- Use top holes in dash bracket (see diagram) as a template to drill a 9/64" hole in each side of control bracket. Secure dash bracket to control bracket with a second screw and lock washer in each side.
- 3. Secure solenoid control to control bracket with two #8 x 5/8" hex head tapping screws.
- 4. Move seat forward. Locate control and bracket assembly on floor tunnel so that it does not interfere with the operation of vehicle controls. Mark this location.
- 5. Remove control bracket from dash bracket.
- 6. Place dash bracket in marked location. Use dash bracket as a template to drill four 1/8" holes in tunnel.



56080

CAUTION: Check for clearance before drilling holes.

- 7. Secure dash bracket to tunnel with four #10 x 1" sheet metal screws and lock washers.
- 8. Reassemble control bracket to dash bracket. Bend top flange of control bracket to desired position.
- 9. Secure harness to control bracket with cable clamp and one #8 x 3/8" hex head thread cutting screw.



WASHER (4) 91231



SAFETY NOTE: Whenever you see this symbol, it notes a SAFETY WARNING. To avoid serious injury to yourself or others, follow all warnings.

VEHICLE HARNESS AND MOTOR RELAY

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

CAUTION: To prevent corrosion on all underhood electrical connections, use dielectric grease to fill receptacles and lightly coat ring terminals and blades before assembling, or lightly coat the connections after assembling.

- 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 and isolate the connection.



WARNING: Electrical shock hazard. Disconnect battery before beginning electrical installation.

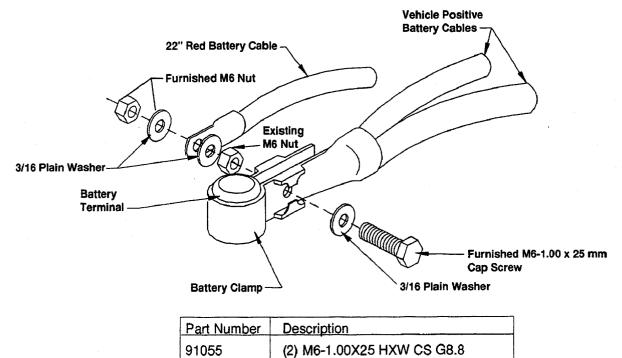
3. Find a location for the motor relay where it will be protected from road splash and will be within 18" of the vehicle primary battery.

NOTE: Motor relay terminals must be up or horizontal.

Using the motor relay mounting plate 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.

4. Route 22" red battery cable between a large motor relay terminal and the POSITIVE battery terminal taking care to avoid sharp edges, and hot or moving parts. See diagram and instructions below.

The original equipment battery terminal clamp bolt is not long enough to secure the hydraulic unit 22" red battery cable or black ground cable. Remove the original cap screw and replace it with the blue chromate finished items listed below.



Attach cable to motor relay terminal with a lock washer and 5/16"-24 jam nut. Attach cable to battery POSITIVE terminal with hardware provided.

(2) M6-1.00 HX NUT

(4) 3/16 PLAIN WASHER

 Stretch rectangular openings of plug cover straps (found in harness kit) over grill connector ends of long battery cable assembly (found in hydraulics box) and vehicle harness (found in harness kit). Place plug covers over molds on harnesses.

91056

91119



Continued on next name

6. Find a location in the vehicle grill on the battery side for the battery cable grill connector. The best location is at least 10-1/2" from the center of the grill and at a convenient height for connecting the plow plugs.

Allow grill connector of each harness to hang out in front of grill. Allow enough cable so it is easy to mate and remove connector. Secure with long cable ties (found in mount box).

- 7. Route battery cable through the grill 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.
- 8. 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.
- 9. 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.
- 10. Find a grill location on driver-side for the vehicle harness (similar position to battery cable mount). See Steps 6 & 7 above for how to install. Route vehicle harness through grill and around, or through radiator bulkhead (drill 5/8" hole if needed) into engine compartment.
- 11. 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.

IMPORTANT: 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.

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.

12. Route brown/red and orange/black (early revision harnesses have brown/red and black/orange wires) wire loom to motor relay. Early revision harnesses must be modified if CabCommand hand-held control is being installed. (See instructions furnished with CabCommand control.)

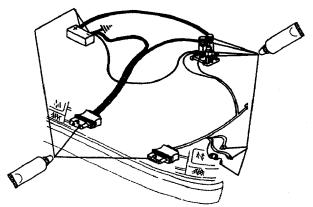
Attach the brown/red and orange/black (early revisions black/orange) wires small ring terminals to separate small terminals on motor relay using a lock washer and #10-32 nut for each connection.

- 13. Attach the 24" long orange/black wire with 3/8" ring terminal to the battery negative clamp. Replace battery clamp bolt same as positive clamp. Attach ground cable to battery negative clamp.
- 14. Inside the cab, route vehicle harness connector to solenoid or CabCommand control and couple the connectors together.
- 15. Reconnect vehicle ground cable to NEGATIVE battery terminal.
- 16. 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 .4 amps.

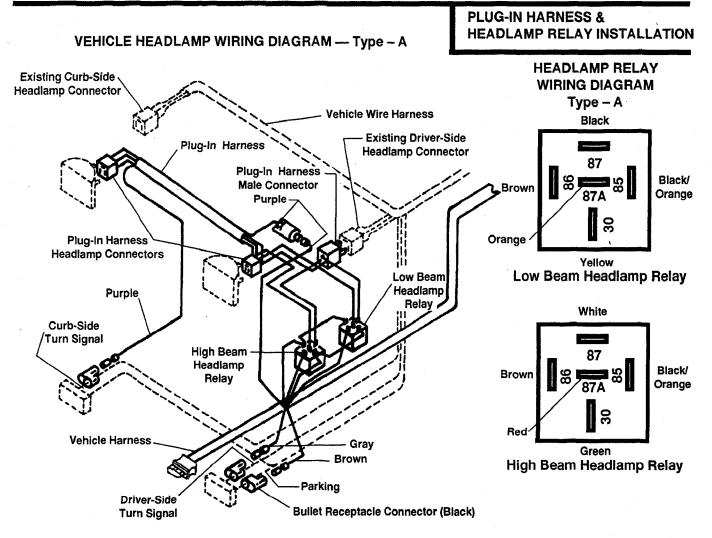
Open blue self stripping connector and place the end of the red wire against the inner groove stop (end of wire must not extend from the closed connector), and the accessory wire in the outer groove. Close connector over the wires using a pliers and snap the locking tab in place. Repeat with DRL pink wire.

*Early style harnesses have a 10 amp fuse which must be replaced with a SFE-6 fuse for CabCommand control.

REMINDER: To prevent corrosion on all underhood electrical connections, use dielectric grease to fill receptacles, including grill connectors, and lightly coat ring terminals and blades before assembly or lightly coat connections after assembly.







VEHICLE HEADLAMP PLUG-IN HARNESS & HEADLAMP RELAYS

REMINDER: Lubricate all receptacles and blades with dielectric grease before assembling.

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.

- 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.
- Route other end of plug-in harness along radiator bulkhead or over radiator shroud to curb-side headlamp. Remove headlamp connector and secure connector with a cable tie. Attach plug-in harness headlamp connector to headlamp terminals.
- 4. On the curb-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 DRL's, 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. Lubricate terminal cavities of both grill connectors with dielectric grease. Give the dielectric grease tube to vehicle owner for future lubrication of grill connectors.

Continued on next page.

OPERATIONAL TESTS AND ADJUSTMENTS

Mount plow assembly to vehicle. (See label on back of blade or owner's manual for mounting instructions.)

Filling Hydraulic Unit

- 1. Push lift channel all the way down.
- 2. Remove fill plug and fluid level plug.
- 3. Fill unit through fill plug hole until fluid runs out of fluid level plug hole. Replace both plugs.
 - Use: automatic transmission fluid (ATF) Dexron III to -10° F (-23° C), WESTERN[®] High Performance Fluid to -25° F (-32° C), Fluid Le Texaco 1537 Aircraft Hydraulic Oil for temperatures below -25° F (-32° C).
- 4. Turn ignition (key) switch to the ON or ACCESSORY position.
- 5. Turn the control ON/OFF switch to the ON position.
- 6. Move control lever to angle left and angle right several times to remove air from Hydra-Turn[®] rams. **DO NOT** raise blade as this may cause pump cavitation.
- 7. Refill unit with fluid following the procedure in step three of this section.
- 8. Move the control lever as indicated on label to control the plow. Raise and lower plow several times to remove air. Recheck fluid level according to step three of this section.

Capacity: Solenoid ISARMATIC[®] Mark IIIa reservoir 1-3/4 quarts Equipped with 10" Hydra-Turn rams 2-3/8 quarts

list).

pinned to lift frame.

WARNING: To prevent accidental movement of plow, always turn the solenoid control to the OFF position when not using the mounted plow.

Blade Drop Speed Adjustment

COUPLING LUG HEIGHT CHECK

3. After step 2, with: blade on level surface,

should measure 9-1/2" to 10-1/2".

The quill on the top rear of the valve manifold (see diagram) adjusts blade drop speed.

Turn quill IN (clockwise) to decrease drop speed.

1. Mount plow to vehicle (see label on back of blade or owner's manual for mounting instructions). Add recommended ballast (see selection

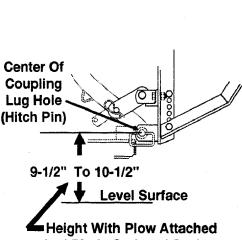
2. Lift plow and move vehicle a minimum of 10 feet. Lower blade.

slack in lift chain.

Turn quill OUT (counterclockwise) to increase drop speed.

rear ballast located behind rear wheels.

NOTE: Turning quill too far in can slow raise time.



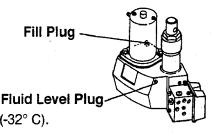
COUPLING LUG HEIGHT CHECK

And Blade On Level Surface

4. Adjust chain slack with plow mounted to vehicle, and lift channel pushed all the way down. To adjust, remove chain from hook. Straighten chain and pull tight. Rehook it to the lift channel. After it is hooked, it will have the correct amount of slack for blade "float." DO NOT remove chain from lift channel when removing plow from vehicle.

the center of the coupling lug holes (hitch pin shaft) to level surface

NOTE: Coupling height must be 9-1/2" minimum to allow stand to be



Quill

OPERATIONAL TESTS AND ADJUSTMENTS

VEHICLE LIGHTING CHECK

FINAL HYDRAULIC INSPECTION

- 1. Make sure all fasteners and hydraulic and electrical connections are tight.
- 2. Check ram packing nuts for oil leakage. If any leakage is observed, tighten the packing nut 1/4 turn after you feel the nut contact the packing. Do not over tighten over tightening affects cylinder operation and shortens the life of the packing. A short period of normal operation will allow chevron packings to become saturated, and leakage will normally stop.

VEHICLE LIGHTING CHECK

1. Check the operation of vehicle and plow lights with plow mounted to vehicle and both plow plugs connected.

Turn signals and parking lamps

Parking lamps ONBoth vehicle and plow parking lamps should be on at the same time.Right turn signal ONBoth vehicle and plow right turn signal lamps should flash at the same time.Left turn signal ONBoth vehicle and plow left turn signal lamps should flash at the same time.

Headlamps

Move vehicle headlamp switch to the ON position. Connecting and disconnecting the 9-pin plow plug from the grill connector should switch between vehicle and plow headlamps as follows:

9-pin plow plug DISCONNECTED 9-pin plow plug CONNECTED Vehicle headlamps should be on, plow headlamps off. Plow headlamps should be on, vehicle headlamps off.

Dimmer switch should dim whichever headlamps are operating. The high beam indicator on the dash should light when either set of headlamps is on high beam.

Solenoid Control or CabCommand Control

9-pin vehicle harness revision 10 and later or

9-pin vehicle harnesses – earlier revisions modified for CabCommand Control:

The control indicator light should light whenever the control ON/OFF switch and the ignition (key) switches are both turned ON. The plow plugs do not need to be connected to the grill connectors.

Solenoid Control used with earlier revision harnesses

9-Pin revision 7, 8, or 9 vehicle harnesses:

The control indicator light should light whenever the control ON/OFF switch and the ignition (key) switches are both turned ON and the plow plugs are connected to the grill connectors.

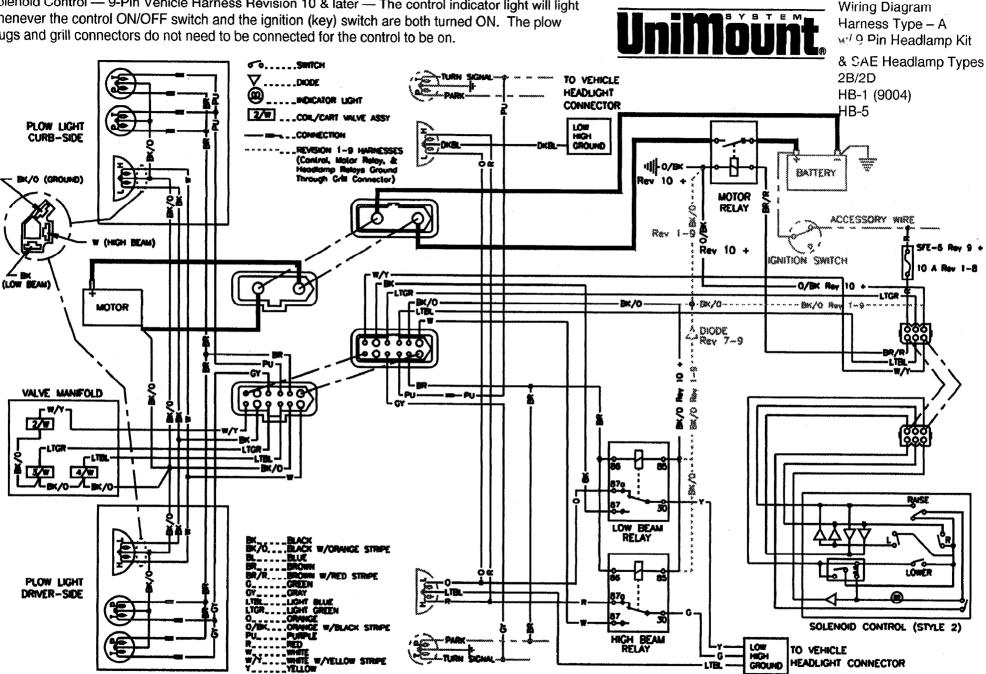
9-pin vehicle harnesses - all earlier revisions:

The indicator light will also light when the control and ignition (key) switches are on the plow plugs are disconnected. If the parking lights are turned on (with plug plugs disconnected), the indicator light will go out.

- 2. Connect plow plug to grill connector. Raise plow and aim plow headlamps according to SAE J599 Lighting Inspection Code (See Service Bulletin SP 608) and any applicable federal, state, or local regulations.
- 3. Check aim of vehicle headlamps with plow removed.
- 4. When plow is removed from the vehicle, install plug covers on grill connectors and insert the plow plugs into the boot on the hydraulic unit.

NOTE: After using the snowplow for 5-10 hours, retorque all mount assembly fasteners.

Solenoid Control - 9-Pin Vehicle Harness Revision 10 & later - The control indicator light will light whenever the control ON/OFF switch and the ignition (key) switch are both turned ON. The plow plugs and grill connectors do not need to be connected for the control to be on.



9-Pin Vehicle Harnesses - P.N. 61437, rev 7, 8, or 9 --- The indicator light on the solenoid control will only light when both plow plugs and grill connectors are connected and the ignition (key) switch and control ON/OFF switch are both turned on.

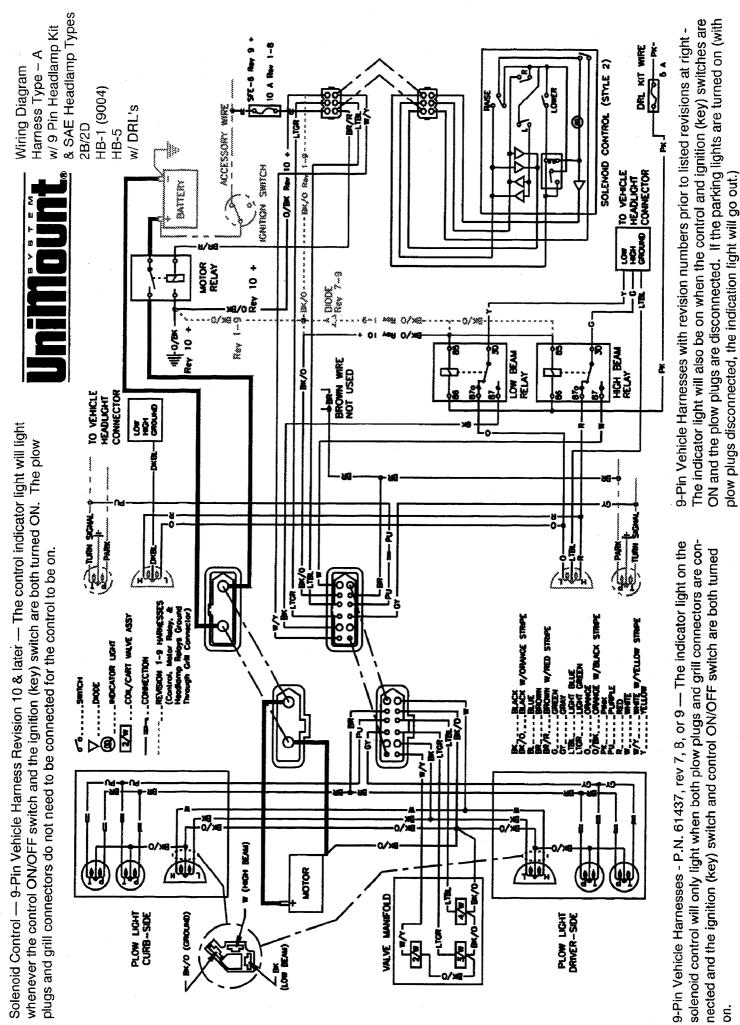
9-Pin Vehicle Harnesses with revision numbers prior to listed revisions at right -The indicator light will also be on when the control and ignition (key) switches are ON and the plow plugs are disconnected. If the parking lights are turned on (with plow plugs disconnected, the indication light will go out.)

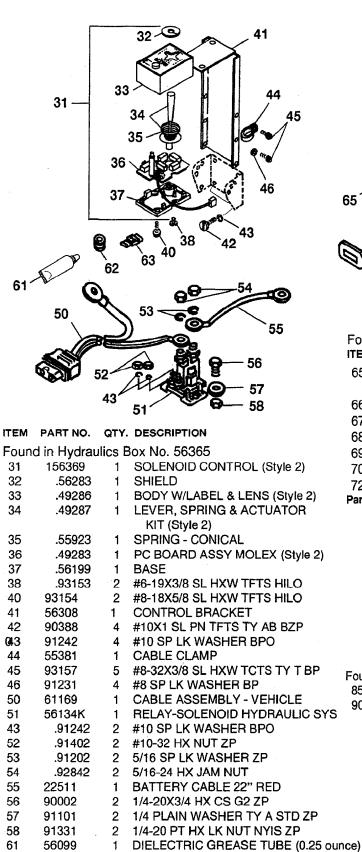
10

August 1,

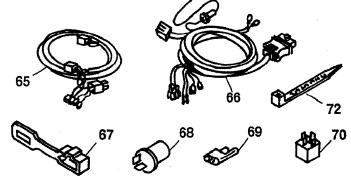
1997

Form No. 63108

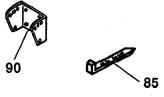




Mount Assembly Box No. 62485 Hydraulics Box No. 56365 Harness Kit Box No. 61590 PARTS DIAGRAM & LIST



Found in Harness Kit Box No. 61590 PART NO. QTY. DESCRIPTION ITEM 61591 FLUG-IN HARNESS HB-5 U -A 65 1 (For Harness Kit No. 61590) 66 61437 **VEHICLE HARNESS 9-PIN U** 1 67 61548 2 PLUG COVER U 68 60109 1 FLASHER HD 69 59224 3 BULLET RECEPTACLE CONNECTOR 70 61535 HEADLAMP RELAY SPDT 2 72 59223 8 CABLE TIE Parts listed above may be found in the following assembly. PARTS BAG 61547 1



ound	in Mount	Box No.	62485
85	61536	4	CABLE TIE - LONG
90	56080	1	DASH BRACKET

	Abbre	eviations	
ASSY	Assembly	SL	Slotted
BP	Black Phosphate	SP	Spring
BPO	Black Phosphate & Oil	SPDT	Single Pole Double Throw
BZP	Black Zinc Plate	STD	Standard
CS	Cap Screw	SYS	System
G HD	Grade Heavy Duty	TCTS	Thread Cutting Tapping Screw
HX HXW	Hex Hex Washer	TETS	Thread Forming Tapping Screw
LK	Lock	TY	Type
NYIS	Nylon Insert	U	UniMount [®] System
PC	Printed Circuit		W/With
PN	Pan	ZP	Zinc Plate

Indented part numbers are included in the assembly under which they are listed. Quantities shown are included with the assembly.

The following are registered[®] and unregistered[™] trademarks of Douglas Dynamics, L.L.C.: WESTERN[®], ISARMATIC[®], Hydra-Turn[®], Roll-Action™, PRO-GUARD™, and UniMount®.

WESTERN DIELECTRIC GREASE TUBE

SELF STRIP WIRE CONNECTOR

CARTON ASSY LOOSE PARTS U

BOLT BAG ASSY LARGE U

Western reserves the right under its Product Improvement Policy to change construction details and furnish equipment when so altered without reference to illustrations or specifications used here. Printed in the U.S.A.

F

61

62

63

49326

66130

59114

56368

.56367

...56358

1

2

1

1

1

(2 ounce)

Parts listed above may be found in one of these assemblies.

RUBBER GROMMET

BOLT BAG SMALL U