



WESTERN PRODUCTS

7777 NORTH 73RD STREET

P.O. BOX 23045

MILWAUKEE, WISCONSIN 53223



A DIVISION OF DOUGLAS DYNAMICS, L.L.C.

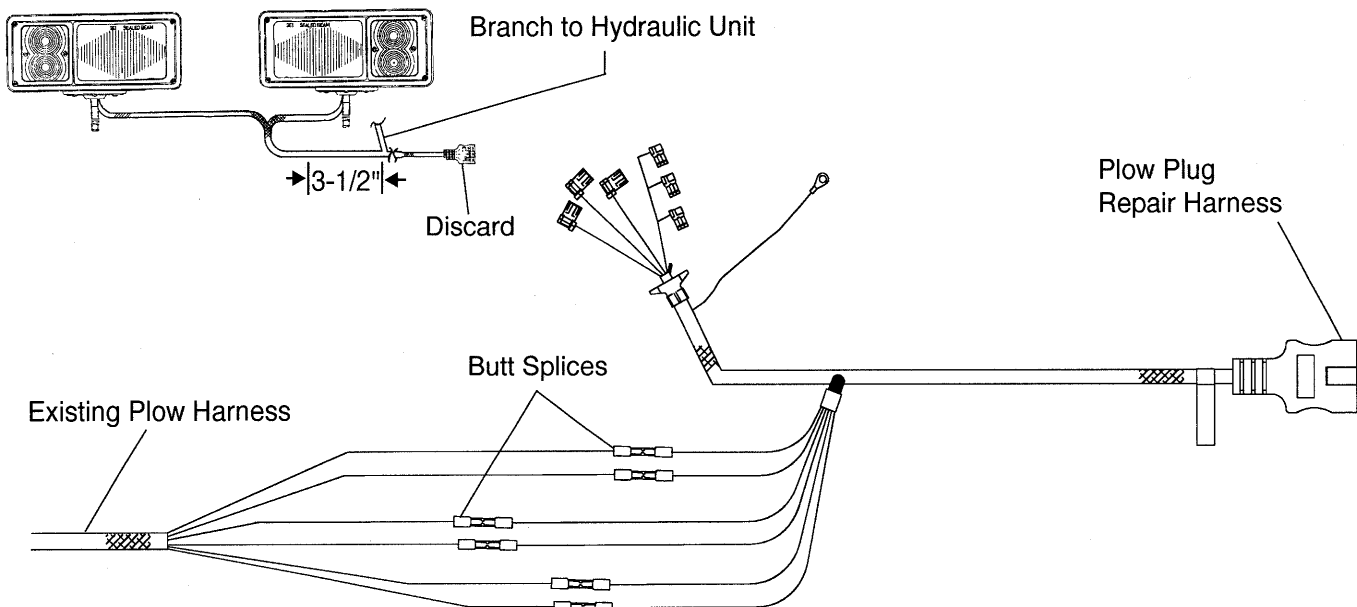
**VEHICLE HARNESS AND
PLOW HARNESS
REPAIR KIT INSTRUCTIONS**

APRIL 15, 1997

PLOW HARNESS REPAIR KIT INSTRUCTIONS

(Vehicle Harness Instructions are on other side of this page.)

1. Remove the cover from the valve on hydraulic unit and remove wires from coils.
 2. Cut the cable ties holding the harness to the side angle of the lift frame.
 3. Cut through the braid and wires 3-1/2" above "Y" to hydraulic unit. Discard mold and wires. See diagram below.
 4. Remove the braiding material up to 1" below the "Y" at the top of the lift frame.
 5. Strip 0.3" of the insulation from ends of the white and black/orange wires.
 6. Insert stripped end of the white wire on existing plow harness into the white wire butt splice on repair harness. Crimp wire into butt splice. See diagrams at bottom of other side of this page.
 7. Repeat step 6 for the black/orange wire.
 8. Stretch harnesses so the wires lay side-by-side. Select a vehicle harness wire and matching wire color with butt splice. Cut vehicle harness wire at the mid-point of butt splice.
- NOTE: Wires cut too long or too short may create problems when securing protection over connections.
9. Strip 0.3" of insulation from end of the cut wire. Matching wire color, insert stripped end of wire into butt splice. Crimp wire into butt splice.
 10. Repeat steps 8 and 9 with all the remaining wires.
 11. Use a heat gun or other heat source to heat splices from the center out toward the ends until the shrink tubing shrinks and the adhesive has melted. See diagram at bottom of other side of this page.
 12. Cover wires and splices with electrical tape or other suitable material.
 13. Attach the flag terminals on the branch of the repair harness to the coil tabs on the hydraulic unit as shown on the inside of the manifold cover. Being careful not to pinch any wires, install the manifold cover.
 14. Use furnished cable ties to secure the harness to the side angle of lift frame.
 15. Lubricate the pins inside of the plow connector hood with dielectric grease. Pass tube on to vehicle owner.





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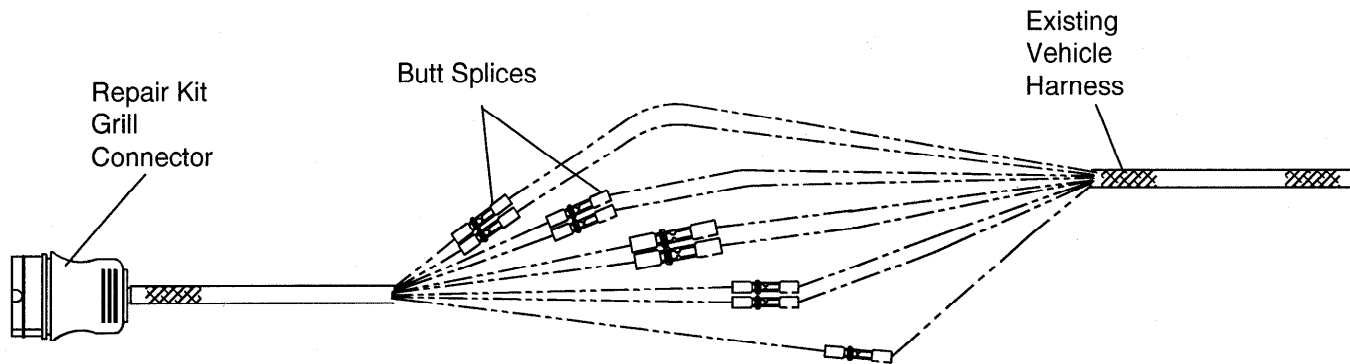
VEHICLE HARNESS REPAIR KIT INSTRUCTIONS

(Plow Harness Instructions are on other side of this page.)

1. 12" from existing grill connector, cut braiding and wires. Discard mold and wires.
2. Remove 14 inches (9 pin) or 16 inches (12 pin) of braiding material.
3. Strip 0.3" of insulation from ends of white/yellow and gray wires. Matching wire colors, insert stripped ends into butt splices. Crimp wires into butt splice (see diagrams below).
4. Stretch harnesses so wires lay side by side. Select a vehicle harness wire and matching wire color with butt splice. Cut vehicle harness wire at the mid-point of butt splice.

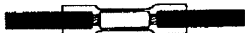
NOTE: Wires cut too long or too short may create problems when securing protection over connections.

5. Strip 0.3" of insulation from end of the cut wire. Matching wire colors, insert stripped end into butt splice. Crimp wire into butt splice (see diagrams below).
6. Repeat steps 4 and 5 on remaining wires.
7. Use a heat gun or other heat source to heat splices from the center out toward ends until the shrink tubing shrinks and the adhesive has melted.
8. Cover wires and splices with electrical tape or other suitable material.
9. Secure repair harness to prevent damage.
10. Lubricate the receptacles in the grill connector with dielectric grease. Pass tube on to vehicle owner.



Butt Splice Installation

Strip wires 0.3" from the end and insert into the crimp barrel.



Make sure the wire end is properly seated, make the crimp connection using a tool designed for insulated splices.



Apply heat directly to the splice, working from the center out to edges, using a hot air gun or other heat source, until the tubing recovers and the adhesive flows. Allow to cool before inspecting splice and checking integrity.