

74170

TRACTOR HARNESS KIT

Parts List and Installation Instructions

⚠ CAUTION

Read this document before installing the tractor harness kit.

⚠ CAUTION

See your sales outlet/website for specific vehicle application recommendations before installation. The online selection system has specific vehicle and snowplow requirements.

PARTS LIST

74170 Harness Kit			
Part	Description	Qty	
		74170	90730NN
72168	Vehicle Cable Assembly	1	
28587	Vehicle Control Harness	1	
74077	Jumper Connector Assembly, 4-Position	1	
61548K	Plug Cover	1	
29071	8" Cable Assembly		1
95837	Fuse Holder		1
90729	200A Fuse		1
-	Cable Ties, 15"	20	
-	Splice Kit	1	
-	Heat Shrink Tubing	1	

SAFETY DEFINITIONS

WARNING

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

CAUTION

Indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

NOTE: Indicates a situation or action that can lead to damage to your snowplow and vehicle or other property. Other useful information can also be described.

FUSES

The snowplow electrical and hydraulic systems contain several automotive-style fuses. If a problem should occur and fuse replacement is necessary, the replacement fuse must be of the same type and amperage rating as the original. Installing a fuse with a higher rating can damage the system and could start a fire. Snowplow Fuse Replacement, including fuse ratings and locations, is located in the Maintenance section of the snowplow Owner's Manual.

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.

TORQUE CHART

CAUTION

Read instructions before assembling. Fasteners should be finger tight until instructed to tighten according to the torque chart. Use standard methods and practices when attaching snowplow, including proper personal protective safety equipment.

Recommended Fastener Torque Chart

Inch Fasteners Grade 5 and Grade 8

Size	Torque (ft-lb)		Size	Torque (ft-lb)	
	 Grade 5	 Grade 8		 Grade 5	 Grade 8
1/4-20	8.4	11.9	9/16-12	109	154
1/4-28	9.7	13.7	9/16-18	121	171
5/16-18	17.4	24.6	5/8-11	150	212
5/16-24	19.2	27.3	5/8-18	170	240
3/8-16	30.8	43.6	3/4-10	269	376
3/8-24	35.0	49.4	3/4-16	297	420
7/16-14	49.4	69.8	7/8-9	429	606
7/16-20	55.2	77.9	7/8-14	474	669
1/2-13	75.3	106.4	1-8	644	909
1/2-20	85.0	120.0	1-12	704	995

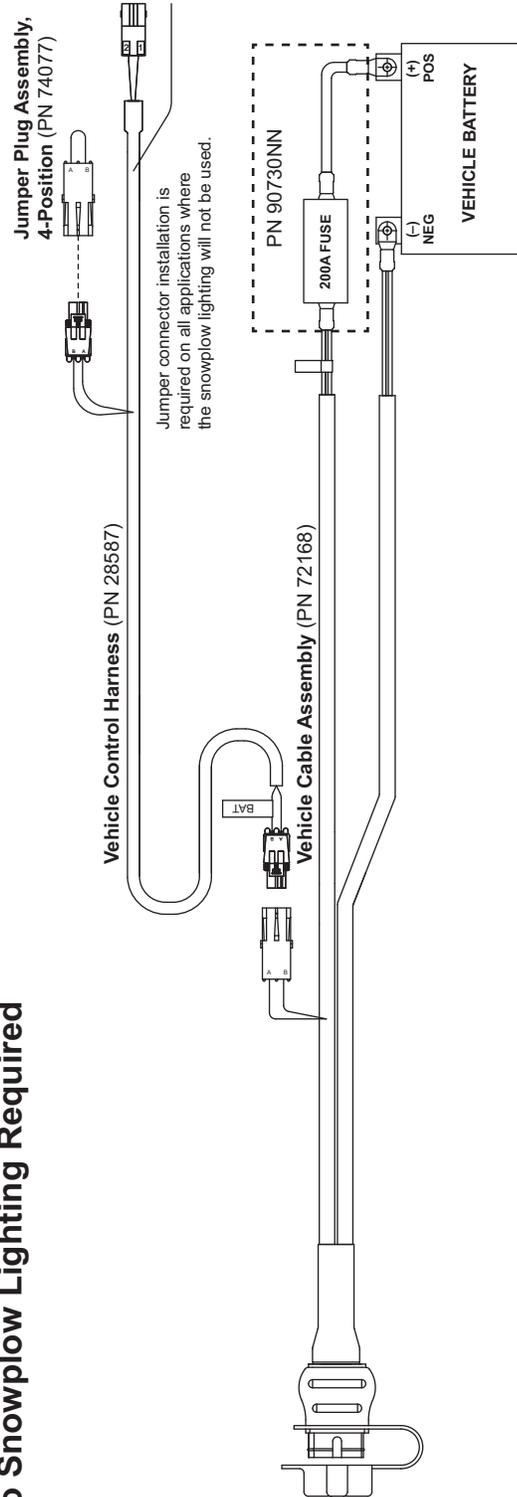
Metric Fasteners Class 8.8 and 10.9

Size	Torque (ft-lb)		Size	Torque (ft-lb)	
	 Class 8.8	 Class 10.9		 Class 8.8	 Class 10.9
M6 x 1.00	7.7	11.1	M20 x 2.50	325	450
M8 x 1.25	19.5	26.9	M22 x 2.50	428	613
M10 x 1.50	38.5	53.3	M24 x 3.00	562	778
M12 x 1.75	67	93	M27 x 3.00	796	1139
M14 x 2.00	107	148	M30 x 3.50	1117	1545
M16 x 2.00	167	231	M33 x 3.50	1468	2101
M18 x 2.50	222	318	M36 x 4.00	1952	2701

These torque values apply to fasteners except those noted in the instructions.

TYPICAL TRACTOR SNOWPLOW CONTROL SYSTEM DIAGRAM

**Harness Kit (PN 74170)
No Snowplow Lighting Required**



INSTALLATION INSTRUCTIONS

Vehicle Battery Cable Installation

⚠ 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.

NOTE: Fuse holder and fuse are to be installed between the POSITIVE (+) vehicle battery terminal and the end of the supplied snowplow vehicle battery cable assembly.

NOTE: When instructed, make all snowplow battery cable connections to the auxiliary battery, if vehicle is so equipped.

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

1. Turn OFF the vehicle ignition.
2. Disconnect both the NEGATIVE (–) and the POSITIVE (+) battery cables.
3. Route the supplied vehicle battery cable from the front of the vehicle to the battery, avoiding any sharp edges and hot or moving parts. Cable tie only the end section closest to the grille.

4. Remove the fuse holder cover, loosen and remove the fuse holder nuts and lock washers. Install a 200A fuse into the fuse holder.
5. Attach one end of the supplied 8" cable to the fuse holder so that the ring terminal is on top of the fuse. Replace the lock washer and nut on this terminal and hand tighten the nut.
6. Attach the red lead from the vehicle battery cable to the second fuse holder terminal, placing the cable ring terminal on top of the fuse lead. Replace the lock washer and nut on this terminal and hand tighten the nut.
7. Torque the fuse holder nuts to 106–159 in-lb and snap the fuse holder cover into place.
8. Route the 8" cable from the fuse holder to the POSITIVE (+) battery terminal. *Do not connect at this time.*
9. Route the black wire from the vehicle battery cable to the NEGATIVE (–) battery connection. *Do not connect at this time.*

The 4-position connector from the vehicle battery cable will connect to the mating connector (labeled "BAT") on the end of the vehicle control harness.

VEHICLE CONTROL HARNESS INSTALLATION

1. Connect the black 4-position connector (labeled BAT) from the end of the vehicle control harness to the 4-position connector from the vehicle battery cable. *Do not cable tie the harness at this time.*
2. Locate the second 4-position connector on the vehicle control harness and plug in the 4-position jumper plug, refer to the system drawing on page 4.

⚠ CAUTION

Before installing self-drilling screws or drilling mounting holes, check the selected mounting area for any wires, hoses, or other obstructions.

3. Route the vehicle control harness to the cab area of the vehicle. Locate an existing opening into the cab, large enough to pass the 4-pin control connector through. If required, drill a 5/8" hole in a convenient location away from any sharp edges and hot or moving parts to pass the 4-pin connector through.
4. Push the braided harness breakout with the cab control connector through the opening into the cab. Use a grommet, existing plug cover, or proper anti-chafing material to protect the harness where it passes through the opening. Route the harness to the selected control mounting location.
5. Locate a switched 12V source in the cab area. Route the red ACC wire from the vehicle control harness to this location and trim away excess length.
6. Following the recommended splicing procedure given at the end of this document, splice the red ACC wire to the switched source wire using the supplied parallel splices and heat.

NOTE: Cable tie the vehicle cable assembly, control harness and accessory tap away from any sharp, hot, or moving parts.

BATTERY CONNECTIONS

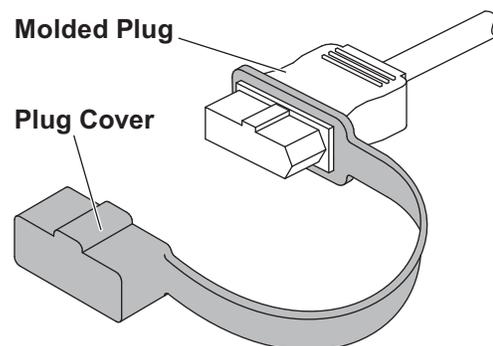
NOTE: Use cable ties to secure cable assemblies and control harnesses away from any sharp edges and hot or moving parts.

NOTE: Follow OEM battery cable connection recommendations when attaching to the battery.

1. Make the following attachments to the POSITIVE (+) battery terminal:
 - POSITIVE (+) OEM cable assembly
 - Red 8" cable from fuse holder.
2. Make the following attachments to the vehicle NEGATIVE (-) battery terminal:
 - NEGATIVE (-) OEM cable assembly
 - Black cable from vehicle cable assembly.

PLUG COVER INSTALLATION

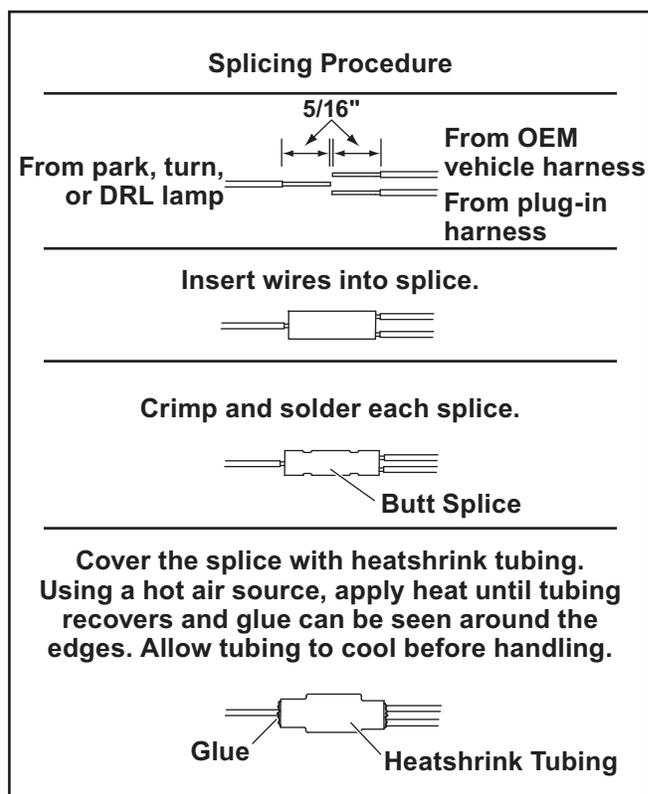
Stretch the rectangular opening of the plug cover strap over the end of the vehicle cable harness. Place the plug cover over the molded plug whenever the snowplow is not in use.



RECOMMENDED SPLICING PROCEDURE

1. Locate wire to be spliced into.
2. Cut wire at least 1-1/2" from any other splice, connector, or terminal. If wires are covered by tubing or braid, remove enough of it to achieve the minimum clearance required.
3. Strip away 5/16" of insulation from the ends of the wires to be spliced.
4. Slide two wires into one end of the supplied parallel splice.
5. Place a piece of heatshrink tubing (3/16" x 1-1/4" long) over the remaining wire to be spliced. Cut tubing into 1-1/4" lengths if required.
6. Insert the wire into the open end of the splice and crimp using an appropriate crimp tool. One or two crimps may be necessary to ensure a good connection. No wire strands should be visible outside of the splice.
7. Preheat a soldering tool for at least one minute to help promote even solder flow.
8. Apply heat to the splice. Avoid heating too close to the insulation. Apply solder to the wires. Use just enough solder to produce an even flow through the splice. **Use rosin core solder ONLY. Do not use acid core solder.**
9. Check the circuits for continuity.
10. Cover the splice with heatshrink tubing. The tubing should extend beyond the splice on both sides.
11. Using a hot air source, starting in the center and working out to either side, apply heat until the tubing recovers and glue can be seen around the edges. Allow the tubing to cool before handling.

NOTE: The splices supplied will accommodate 18-gauge wires as shown. For larger gauge wires, cut the wire, strip the ends 3/8" to 1/2", and twist together. Apply solder to the splice and cover with heatshrink tubing.



NOTE: Avoid using an excessive amount of solder, as it can result in wicking. Wicking occurs when solder travels up the wire core. This may cause the wire to become stiff or brittle, which could lead to a broken or open circuit.

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