



A Division of The Toro Company

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ISO 9001:2008 REGISTERED

bossplow.com

SL3 UPGRADE KIT INSTALLATION

MSC19050 - SL3 UPGRADE KIT MSC17070 - SL3 UPGRADE KIT, NGE

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PUSHING THE EDGE

MSC19052-1

Headlight Installation

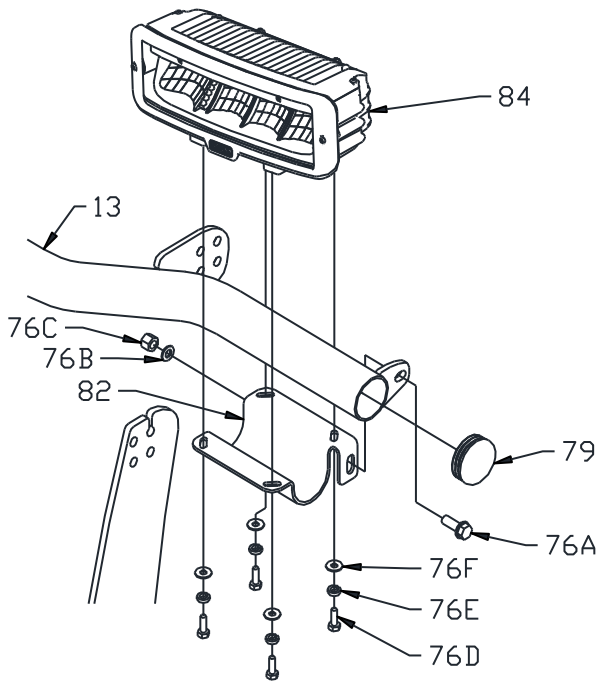


Figure 1. Headlight Mounting Assembly G10115

NOTE: For SL3 to function properly with NGE, Plow Control Module (MSC17039) must be at REV C or later. Refer to Figure 2 below for serial number location to confirm REV level.



Figure 2. Serial Number and REV Level Location G13933

1. Begin by removing old plow side wiring harness and lights from the plow.
2. Install **MSC09417** or **MSC17069** SL3 Plow-side Wiring Harness in the same orientation as the previous harness. Refer to Figure 4 for correct

electrical connections on the RT3 V and HTX-V manifold block. Refer to Figure 5 for correct electrical connections on the RT3 Straight and HTX manifold blocks.

3. Secure harness to light bar with cable ties as shown in Figure 3, making sure to allow appropriate relief at headlight connectors.
4. Place **MSC11109** Driver Side Headlight Bracket (82) below Light Bar (13) and secure with one **HDW02019** 3/8"-16 X 1" Hex Head Bolt (76A), one **HDW01733** 3/8" Flat Washer (76B), and one **HDW01720** 3/8" Nylon Lock Nut (76C). Refer to Figure 1 for reference.
5. Fasten **MSC16201** Driver Side Headlight (84) to Driver Side Headlight Bracket (82) using four **HDW01751** 1/4"-20 X 3/4" Hex Head Bolts (76D), four **HDW02018** 1/4" Split Lock Washers (76E), and four **HDW01750** 1/4" Flat Washers (76F). Leave fasteners finger tight until headlight orientation has been completed. See Figure 1 for proper fastener placement. **Torque to 6 ft-lbs. DO NOT USE THREAD-LOCKING COMPOUND.**
6. Repeat Steps 4&5 for **MSC11110** Passenger Side Headlight Bracket (83) and **MSC16202** Passenger Side Headlight (85).

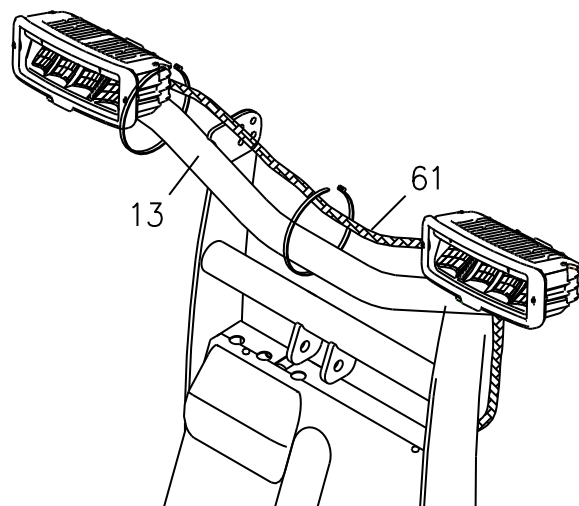
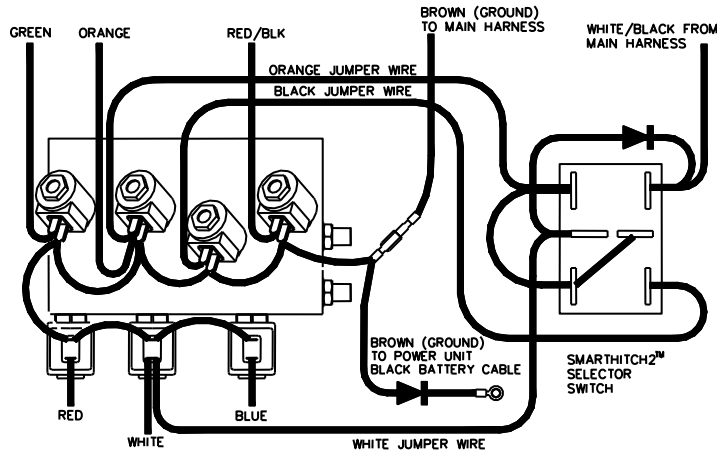


Figure 3. Secure Wiring Harness G10126

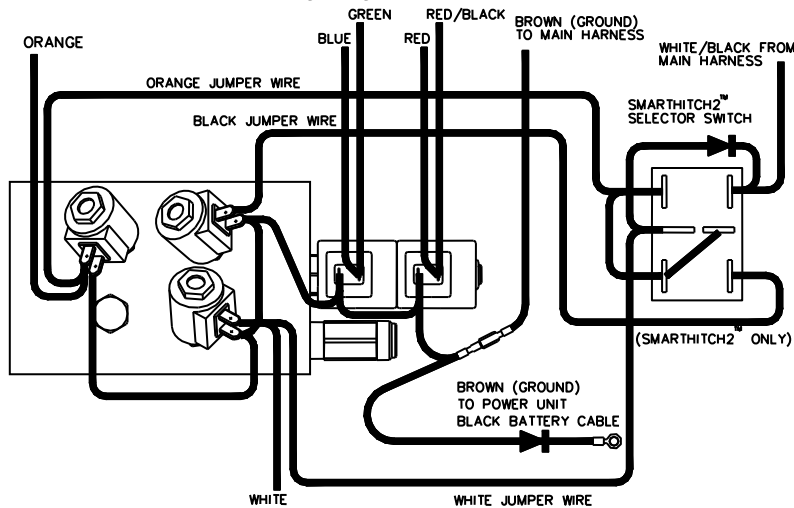
Headlight Installation



Wire Color	Wire Function
Green	Right Wing In
Red	Right Wing Out
White	Lift
Orange	Lower
Red/Black	Left Wing In
Blue	Left Wing Out
Black	SmartHitch2™ (12V)
White/Black	Pump Solenoid
Brown	Ground

Figure 4. HYD07044 V-Blade with SmartHitch2™ Wiring Diagram

G10445



Wire Color	Wire Function
Green	Blade Left
Red	Blade Right
White	Lift
Orange	Lower
Red/Black	Blade Right
Blue	Blade Left
Black	SmartHitch2™ (12V)
Brown	Ground

Figure 5. HYD07091 Super Duty & HTX with SmartHitch2™ Wiring Diagram

G10447

Headlight Aiming Procedure

"NOTICE"

The installer of these snowplow lights must certify that installation conforms to applicable Federal Motor Vehicle Safety Standards.

1. Place the vehicle on a level surface 25 feet in front of a matte-white screen, such as a garage door. The screen should be perpendicular to both the ground and the vehicle.
2. Verify that the mounted headlights to not exceed a height of 54 inches from the ground to the center of the light.
3. The vehicle should be equipped for normal operation. The snowplow blade should be in place and in the raised position.
4. Below are some points listed by the Society of Automotive engineers (SAE) pertinent to headlight aiming. These points can be found in publication #SAEJ5991D.

Preparation for Headlight Aim or Inspection
Before checking beam aim, the inspector shall:

- Remove ice or mud from under fenders.
- See that no tire is noticeably deflated.
- Check vehicle springs for sag or broken leaves.
- See that there is no load in the vehicle other than the driver.
- Check functioning of any "level-ride" controls.
- Clean lenses and aiming pads.
- Check for bulb burnout, broken mechanical aiming pads, and proper beam switching.
- Stabilize suspension by rocking vehicle sideways.

5. Mark (or tape) the vehicle centerline of the headlights and the vehicle itself on the screen. Mark the horizontal centerline of the headlights on the screen (distance from ground to headlight centers).

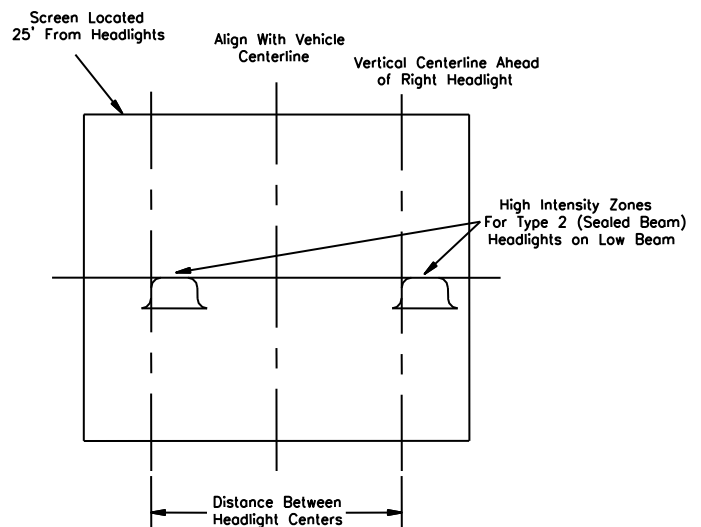


Figure 6. Headlight Aiming Procedure

G10153

6. The correct visual aim for Type 2 headlights is with the top edge of the high intensity zone of the lower beam below the horizontal centerline and the left edge of the high intensity zone on the vertical centerline. See diagram above.

Bolt Torque Specs



DIAMETER / PITCH	GRADE 5	GRADE 8	GRADE 8.8	GRADE 10.9
1/4-20	6	9		
5/16-18	14	19		
3/8-16	23	33		
7/16-14	38	53		
1/2-13	56	80		
9/16-12	82	116		
5/8-11	113	159		
3/4-10	201	283		
M10 X 1.25			36	
M10 X 1.5				49
M12 X 1.75				71
M14 X 2.0				80

ALL TORQUE VALUES ARE IN FOOT-POUNDS (FT.-LB.)

Figure 7. Recommended Bolt Torque

G10410

NOTE: The torque values listed above are based on dry, coated bolts, variables such as oil, or other lubrications may appreciably alter these values and must be taken in to consideration.

NOTICE: IT IS IMPORTANT THAT ALL FASTENERS BE PROPERLY TORQUED TO ASSURE A SAFE OPERATING PLOW. RE-TIGHTEN ALL FASTENERS AFTER 2 HOURS OF PLOWING.