



# Wingline™

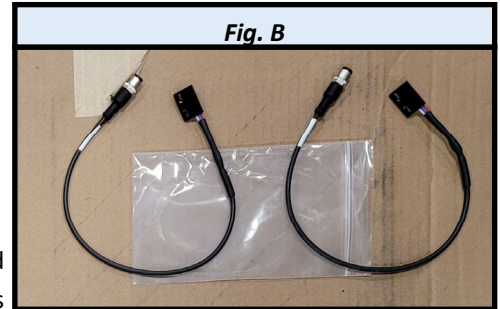
## Owners Manual

### 1

**IMPORTANT:** With your wing plow in the up or 'stowed' position and firmly chained and secured: Ensure that the hydraulic lift cylinder is fully retracted (or extended), keeping the wing in the stowed position.

Select either the "normally open" OR "normally closed" magnetic switch needed for your application using the chart below and depicted in Figure B.

Switch Function	Use Case
NC—Normally Closed	Plow is in retracted position when cylinder is fully retracted.
NO—Normally Open	Plow is in plowing position when cylinder is fully retracted.



Loosely install one of the two **Magnetic Switches** onto a pair of the studs of the 2nd magnetic switch holder included in the kit and attach to the lift cylinder that stays fixed to the truck.- Figure A #2. *NOTE: This may be the rod end, or the base end of the cylinder depending on the application.*

### 2

Fig. A

Install the **Magnetic Activator** Fig A #1 and hose clamp on the end of the cylinder attached to the wing plow. (this is *typically* the rod end of the cylinder) - *Figure A. Note: There are rubber strips in both 1/8" & 1/4" thicknesses. There are used to build up the switch and / or activator so they are even with each other.*



Carefully elevate and position the magnetic activator so that when the plow is fully in the stowed position, the front portions of the switch and activator are within 3/8" proximity of each other. Leave the switch semi-loose on the studs for final testing. Tighten hose clamps with a screwdriver.

### 3

Route the **10 Meter Cable** from the magnetic switch along the plow mounting frame and up into the cab of the truck. Follow any pivot points of the cylinder, hoist mechanism, hood, and other moving parts leaving enough slack for full range of motion. The end of the cable will be plugged directly into the **Laser Harness** within the cab.

### 4

Route the **WingLine Wire Harness** inside the cab, commonly under the dash, as shown in *Figure C*. Use the labels on the wiring harness to guide your connection and mounting locations.



Figure C

Attach the **Ram® Mount** to the **INSIDE** of the windshield. For best results, clean the windshield, wet the **Ram® Mount Kit's** suction cups and install above the operator line of sight (in line with the rearview mirror if equipped) as shown in *Figure D*.



Figure D

## 5

Adhere the on/off switch in a convenient location for the operator. This switch overrides the magnetic switch on the wing plow in case the operator wants the laser *activated* regardless of the plow position, (or if the external switch or wires fail during the snow event).

Power the laser by plugging in the provided 12 volt plug to a 12VDC power source, or hard-wire to the battery or other 5 amp fused power source—Figure E.



Figure E

## 6

**Test** the laser by removing the cap from the laser module, and ensure that there is 12VDC coming into the harness. A red light on the 12VDC plug will indicate the presence of power. Turn the override switch to 'on'. The laser beam should activate.

If not, ensure that there is power to the wiring harness, and that the laser module is plugged into the harness. If there is no light at the 12 VDC plug, check the power source, and / or the cylinder fuse inside the 12VDC plug.

If the laser stays on regardless of the on/off position of the override switch, the wing plow has probably settled some and separated the magnetic activator and switch OR the incorrect magnetic switch was used.

- In case the plow has settled, check your surroundings and active the hydraulic cylinder to lift the plow fully back into the stowed position. The magnetic switch components need to be within 3/8" proximity of each other to activate.
- In case of the incorrect magnetic switch, simply try the other one that is provided.

**Test** the magnetic switch by first turning the override switch to 'off'. Check your surroundings to ensure that nothing is in the way of the plow wing, and 'drop' the plow wing to the plowing position. The laser should immediately activate.

## 7

With the laser on, adjust the aiming of your laser and **Ram® Mount** using a curb or other straight line to assist—Figure F. It is operator preference as to how far away the laser is to be positioned.

Finally, with the laser beam adjusted to the ideal distance, trim the anti-refraction tube with a scissors and place over the laser and against the windshield. This will prevent any reflection of the laser off the windshield.



Figure G

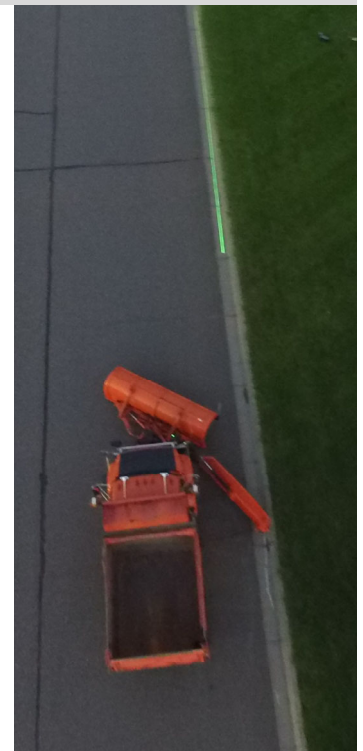


Figure F

# WingLine

HPL-100 Revision 2

## Magnetic Switch



Callout No.	Part No.	Part Name	Quantity
1	HPL-40MW	Laser with M12 Connector	1
2	HPL-101	WingLine Wire Harness	1
3	RAM-B-KIT	Ram® Mount Device	1
4	NEO-.125-1-15	1/8" Neoprene Rubber Strip	2
	NEO-.25-1-15	1/4" Neoprene Rubber Strip	2
5	ART12B	Anti Refraction Tube 11"	1
6	M12-10-F-M	10 Meter M12 Cable	1
7	91831A005	4-40 Nylock Stainless Steel Nut	4
	MSM100	Magnetic Switch Mount	1
8	T30L0M4	8" Zip Ties	20
9	WSP20	Adhesive Cable Routing Points	20
10	HPL-MS-NO	Magnetic Switch - Normally Open	1
	HPL-MS-NC	Magnetic Switch - Normally Closed	1
11	5663K12	2" to 4-1/8" Stainless Steel Hose Clamp	1
12	MSM100	Magnetic Switch Mount	1
	91831A005	4-40 Nylock Stainless Steel Nut	4
	57135-000-ND	Magnetic Activator	1