

# 33213

## MOUNT KIT

Hino 200 Series

2013 - \_\_

Installation Instructions

**⚠ CAUTION**

Read this document before installing the snowplow.

**⚠ CAUTION**

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

## 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.

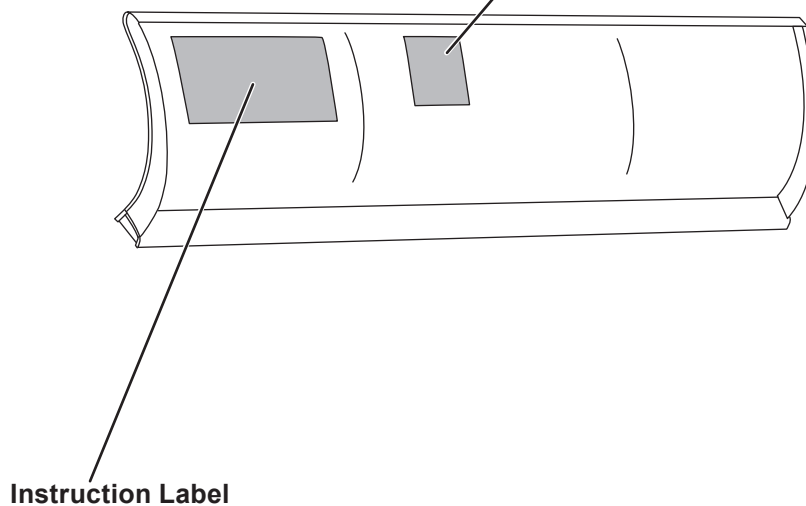
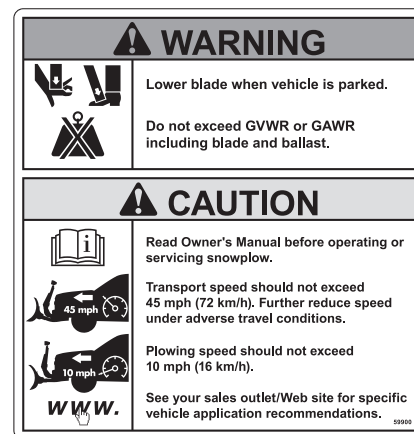
**NOTE:** Indicates a situation or action that can lead to damage to your snowplow and vehicle or other property. Other useful information can also be described.

## WARNING/CAUTION & INSTRUCTION LABELS

Become familiar with and inform users about the warning and instruction labels on the back of the blade.

**NOTE:** If labels are missing or cannot be read, see your sales outlet.

Warning/Caution Label



## SAFETY PRECAUTIONS

Improper installation and operation could cause personal injury and/or equipment and property damage. Read and understand labels and the Owner's Manual before installing, operating, or making adjustments.

### WARNING

**Lower the blade when vehicle is parked. Temperature changes could change hydraulic pressure, causing the blade to drop unexpectedly or damaging hydraulic components. Failure to do this could result in serious personal injury.**

### WARNING

**The driver shall keep bystanders clear of the blade when it is being raised, lowered, or angled. Do not stand between the vehicle and the blade or within 8 feet of a moving blade. A moving or falling blade could cause personal injury.**

### WARNING

**Keep hands and feet clear of the blade and A-frame when mounting or removing the snowplow. Moving or falling assemblies could cause personal injury.**

### WARNING

**Do not exceed GVWR or GAWR including the blade and ballast. The rating label is found on the driver-side vehicle door cornerpost.**

### WARNING

**To prevent accidental movement of the blade, always turn the control OFF whenever the snowplow is not in use. The power indicator light will turn OFF.**

### WARNING

**Remove blade assembly before placing vehicle on hoist.**

### CAUTION

**Refer to the online selection system for minimum vehicle recommendations and ballast requirements.**

## PERSONAL SAFETY

- Remove ignition key and put the vehicle in park or in gear to prevent others from starting the vehicle during installation or service.
- Wear only snug-fitting clothing while working on your vehicle or snowplow.
- Do not wear jewelry or a necktie, and secure long hair.
- Wear safety goggles to protect your eyes from battery acid, gasoline, dirt, and dust.
- Avoid touching hot surfaces such as the engine, radiator, hoses, and exhaust pipes.
- Always have a fire extinguisher rated BC handy, for flammable liquids and electrical fires.

## FIRE AND EXPLOSION

### WARNING

**Gasoline is highly flammable and gasoline vapor is explosive. Never smoke while working on vehicle. Keep all open flames away from gasoline tank and lines. Wipe up any spilled gasoline immediately.**

Be careful when using gasoline. Do not use gasoline to clean parts. Store only in approved containers away from sources of heat or flame.

## CELL PHONES

A driver's first responsibility is the safe operation of the vehicle. The most important thing you can do to prevent a crash is to avoid distractions and pay attention to the road. Wait until it is safe to operate Mobile Communication Equipment such as cell phones, text messaging devices, pagers, or two-way radios.

## VENTILATION

### WARNING

**Vehicle exhaust contains lethal fumes. Breathing these fumes, even in low concentrations, can cause death. Never operate a vehicle in an enclosed area without venting exhaust to the outside.**

NOISE

Airborne noise emission during use is below 70 dB(A) for the snowplow operator.

VIBRATION

Operating snowplow vibration does not exceed 2.5 m/s<sup>2</sup> to the hand-arm or 0.5 m/s<sup>2</sup> to the whole body.





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.

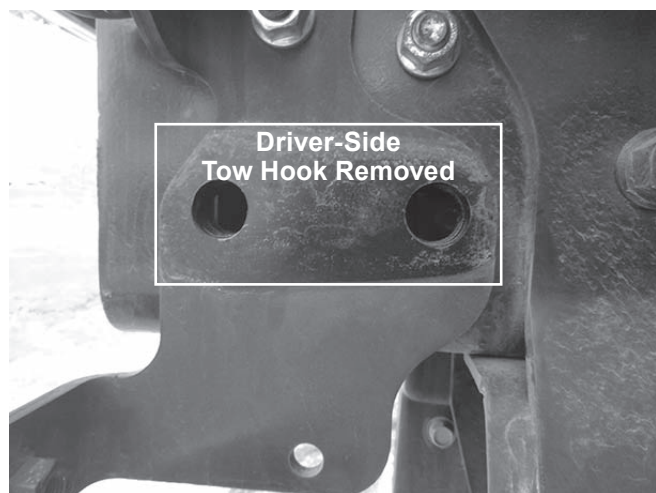
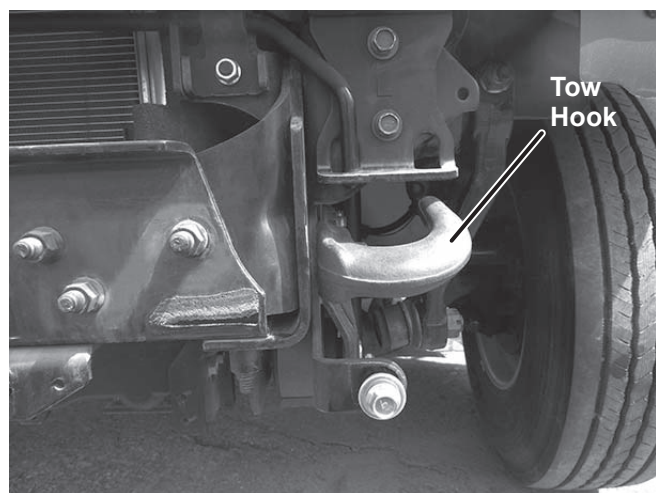
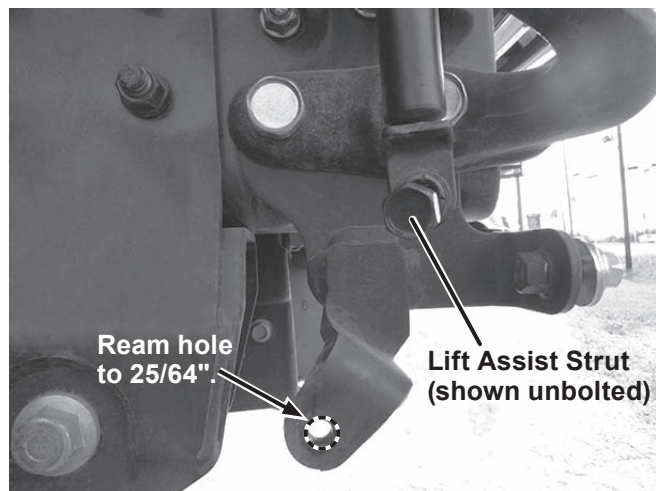
INSTALLATION INSTRUCTIONS

**NOTE:** For easier assembly and installation, vehicle and all snowplow components should be on a smooth, level, hard surface, such as concrete.

1. Remove the front bumper.



2. Lift the hood of the vehicle. Unbolt the lower connection of the hood lift assist strut found on the passenger's side of the vehicle. Ream the hole to 25/64". Remove the front tow hooks and fasteners on each side (if equipped); save for reinstallation.

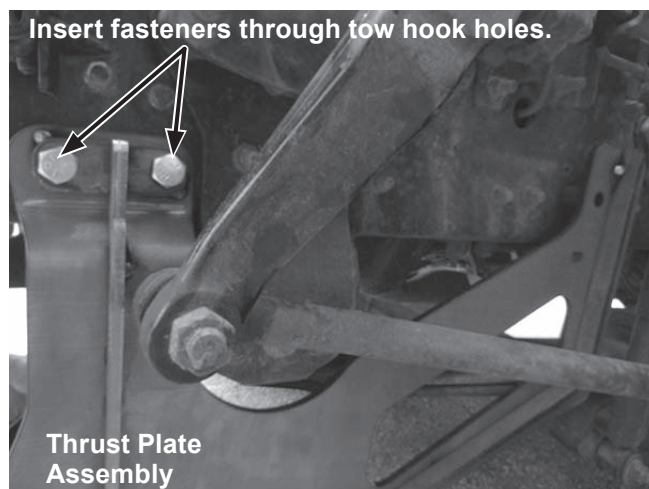


3. With the help of a second person, place the driver-side thrust plate assembly up against the vehicle, aligning the top front holes of the thrust plate assembly with the tow hook holes.

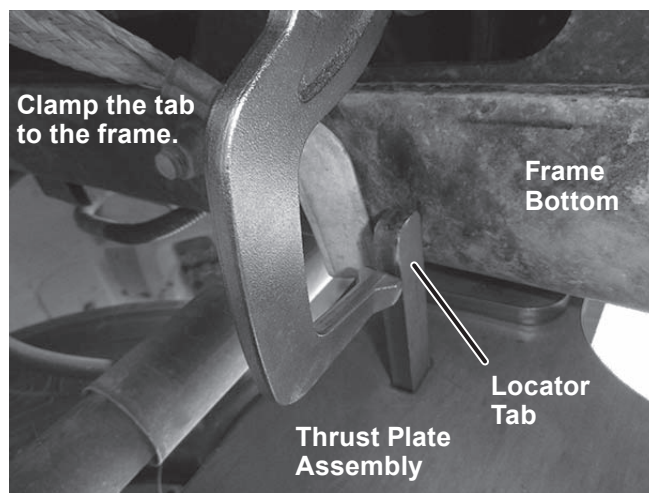
**For vehicles equipped with tow hooks:** Insert the tow hook bolts and nuts; tighten hand tight.

**NOTE:** It may be necessary to turn the steering wheel all the way to the right to gain clearance.

**For vehicles not equipped with tow hooks:** Use the provided 3/4" x 3-1/2" cap screws and 3/4" locknuts. With cap screws fully inserted, check for interferences between the cap screws and the vehicle lines. Place the provided washers on the cap screws between the bolt head and thrust plate assembly to gain clearance if needed.



4. Push the rear of the thrust plate assembly against the vehicle frame, then push the thrust plate up until the locator tab contacts the underside of the frame. Clamp the tab to the frame as shown.



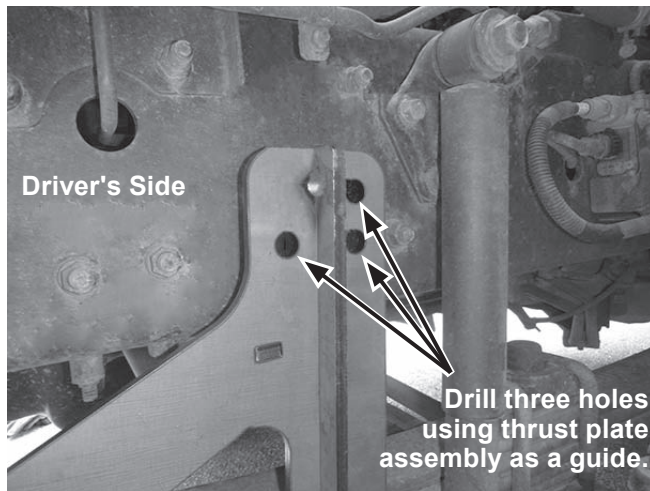


5. Repeat Steps 3 and 4 for the passenger's side of the vehicle.
6. Tighten the fasteners installed in Step 3 according to the torque chart.

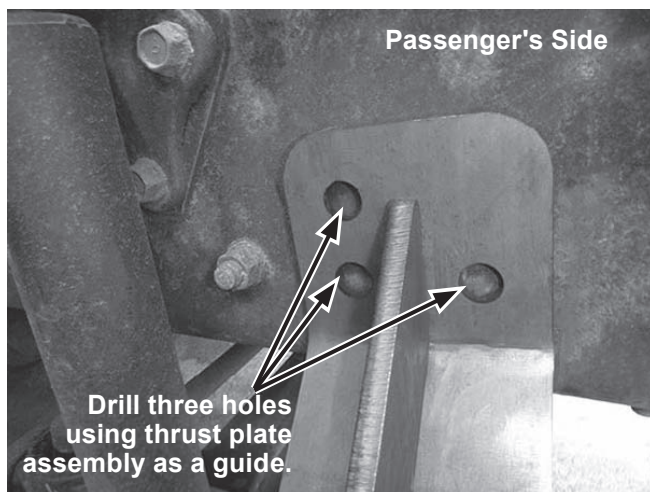
**⚠ CAUTION**

**Before drilling holes, check to be sure that no vehicle wiring or other components could be damaged.**

7. Using a 21/32" drill bit, drill three holes through the frame of the vehicle on the driver's side using the pre-existing holes in the rear of the thrust plate assembly as a guide.

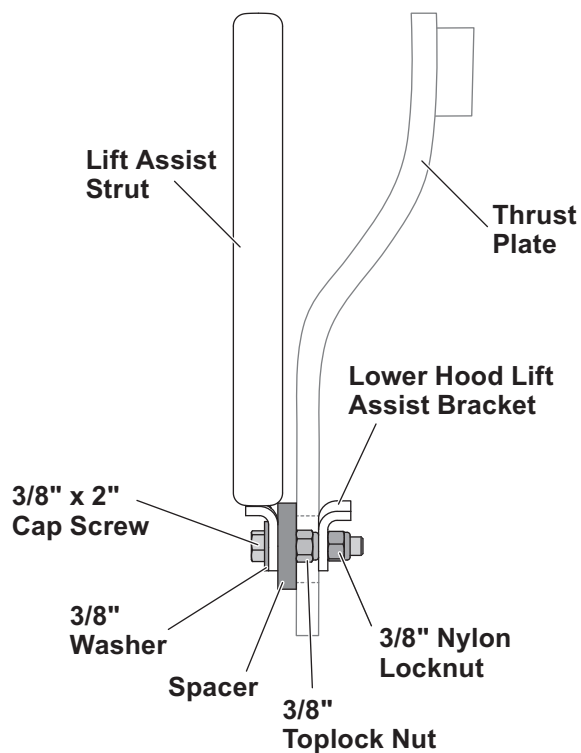


Repeat on the passenger's side.



8. On the driver's side, insert three 5/8" x 3-1/2" cap screws in the holes drilled in Step 7. Insert 5/8" washers inside the frame and onto the cap screws. Secure cap screws with 5/8" locknuts; tighten hand tight.
9. On the passenger's side, insert three 5/8" x 2-1/2" cap screws in the holes drilled in Step 7. Insert 5/8" washers inside the frame and onto the cap screws. Secure cap screws with 5/8" locknuts; tighten hand tight.
10. Install the mount beam using four 5/8" x 2-1/2" cap screws on the driver's side, and four 5/8" x 3-1/2" cap screws on the passenger's side. Secure with 5/8" locknuts; tighten hand tight.
11. Check that the mount beam is level. Tighten all hardware according to the torque chart.

12. Place a washer on the 3/8" x 2" cap screw. Insert the cap screw through the lift assist strut and the provided spacer. Insert the 3/8" toplock nut until it is tight against the spacer, then loosen 1-2 turns. Insert the 3/8" x 2" cap screw through the lower lift assist bracket. Secure with the 3/8" nylon locknut.



13. Shut the hood and reinstall the bumper.



**NOTE:** After five to ten hours of snowplow usage, retorque all mount assembly fasteners.

The company reserves the right under its product improvement policy to change construction or design details and furnish equipment when so altered without reference to illustrations or specifications used. This equipment manufacturer or the vehicle manufacturer may require or recommend optional equipment for snow removal. Do not exceed vehicle ratings with a snowplow. The company offers a limited warranty for all snowplows and accessories. See separately printed page for this important information.

**Printed in U.S.A.**

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