

CHAMPION

POWER EQUIPMENT

TM-MC

OPERATOR'S MANUAL



50 IN. UNIVERSAL ATV SNOW PLOW SYSTEM



MODEL NUMBER

100398

SAVE THESE INSTRUCTIONS
Important safety instructions
are included in this manual.

MADE IN USA
REV 100398-20170907

12039 Smith Ave.
Santa Fe Springs CA 90670
USA / 1-877-338-0999
www.championpowerequipment.com

Have questions or need assistance?

Do not return this product to the store!

WE ARE HERE TO HELP!

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www.championpowerequipment.com

for more info:

- Product Info & Updates
- Tech Bulletins
- Frequently Asked Questions
- Product Registration

– or –

Call our Customer Care Team Toll-Free at:

1-877-338-0999

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For residents of California:

WARNING: This product contains chemicals known to the State of California to cause cancer or birth defects and other reproductive harm.

*We are always working to improve our products. Therefore, the enclosed product may differ slightly from the image on the cover.



50 IN. UNIVERSAL ATV SNOW PLOW SYSTEM

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INTRODUCTION

Congratulations on your purchase of a Champion Power Equipment (CPE) product. CPE designs, builds, and supports all of our products to strict specifications and guidelines. With proper product knowledge, safe use, and regular maintenance, this product should bring years of satisfying service.

Every effort has been made to ensure the accuracy and completeness of the information in this manual, and we reserve the right to change, alter and/or improve the product and this document at any time without prior notice.

Since CPE highly values how our products are designed, manufactured, operated and are serviced, and also highly value your safety and the safety of others, we would like you to take the time to review this product manual and other product materials thoroughly and be fully aware and knowledgeable of the assembly, operation, dangers and maintenance of the product before use. Fully familiarize yourself, and make sure others who plan on operating the product fully familiarize themselves too, with the proper safety and operation procedures before each use. Please always exercise common sense and always err on the side of caution when operating the product to ensure no accidents, property damage, or injury occurs. We want you to continue to use and be satisfied with your CPE product for years to come.

Record the model and serial numbers as well as date and place of purchase for future reference. Have this information available when ordering parts and when making technical or warranty inquiries.

Champion Power Equipment Support
1-877-338-0999
Model Number
100398
Serial Number
Date of Purchase
Purchase Location

This manual uses the following symbols to help differentiate between different kinds of information. The safety symbol is used with a key word to alert you to potential hazards in operating and owning power equipment.

Follow all safety messages to avoid or reduce the risk of serious injury or death.

 **DANGER**

DANGER indicates an imminently hazardous situation which, if not avoided, **will** result in death or serious injury.

 **WARNING**

WARNING indicates a potentially hazardous situation which, if not avoided, **could** result in death or serious injury.

 **CAUTION**

CAUTION indicates a potentially hazardous situation which, if not avoided, **may** result in minor or moderate injury.

CAUTION

CAUTION used without the safety alert symbol indicates a potentially hazardous situation which, if not avoided, **may** result in property damage.

 **NOTE**

If you have questions regarding your snow plow, we can help. Please call our help line at **1-877-338-0999**.

SAFETY RULES

WARNING

Read this manual thoroughly before operating your snow plow. Failure to follow instructions could result in serious injury or death.

WARNING

- Read this manual thoroughly before operating your plow. Failure to follow instructions could result in serious injury or death.
- Do not exceed 5 mph, even with blade raised.
- Make sure that all nuts and bolts are tightened per installation instructions.
- Never operate this Champion Power Equipment product with missing or damaged parts.
- Drive slowly over bumpy and rough terrain, driving fast could cause damage to winch or plow.
- Never raise the plow above point of contact as it could cause damage to machine, plow or winch.
- Always perform regular inspections and maintenance on plow tubes and hardware before use.
- Operate with extreme caution on slopes, steep grades, and rough terrain.
- Be aware of any possible hidden objects under the snow.
- Do not ram the blade into the pile.

CAUTION

- Take care when installing PLOW SPRINGS as they will be under tension.
- Use care when lifting components into place.

DANGER

Never stand or ride on the plow.

Your snow plow requires some assembly.

If you have any questions regarding the assembly of your snow plow, call our help line at 1-877-338-0999. Please have your serial number and model number available.

Plow Blade Installation

NOTE

Before starting the assembly of the blade and tubes see Hybrid Mount installation instructions to ensure it will work with your ATV.

NOTE

Install all hardware loose at first. Once all hardware is correctly installed, tighten all bolts.

1. Install the left (6) and right (5) blade gussets to the support bracket (2) using the $\frac{5}{16} \times \frac{3}{4}$ in. (7.9 × 19.1 mm) standard carriage bolts (7.1) and nuts (7.2). This will create the blade frame assembly.

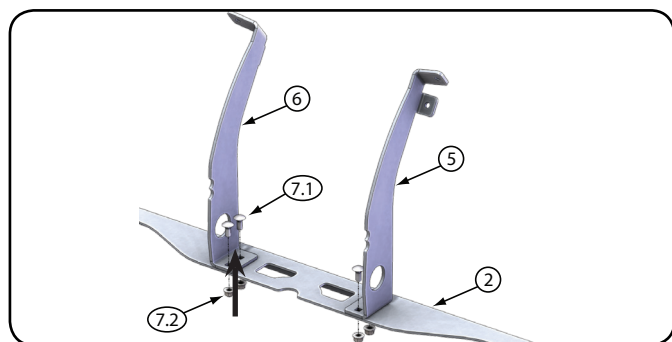


Figure 1 - Blade Frame Assembly

NOTE

There are 2 different neck lengths on a carriage bolt, short and standard. See Figure 3 for differences.

2. Attach the blade frame assembly to the blade in location (A) using $\frac{5}{16} \times \frac{3}{4}$ in. (7.9 × 19.1 mm) short neck carriage bolts (7.5) and nuts (7.2). See Figure 2.
3. Next attach the wear bar (4) to the plow blade (1) by installing the five $\frac{5}{16} \times 1$ in. (7.9 × 25.4 mm) standard carriage bolts (7.3) in the center through the cutter blade (4), plow blade (1) and support bracket (2). Secure the carriage bolts with $\frac{5}{16}$ in. (7.9 mm) nuts (7.2). See Figure 2.
4. Install the blade feet (3) as shown in Figure 2 using the $\frac{5}{16} \times 1\frac{1}{4}$ in. (7.9 × 31.8 mm) standard carriage bolts (7.4).

Plow Blade Installation Cont'd.

NOTE

Adjust the feet by loosening the nuts and sliding the feet up and down to the desired position. Start with feet in minimum height position and adjust for type of ground surface.

5. Tighten down all bolts.

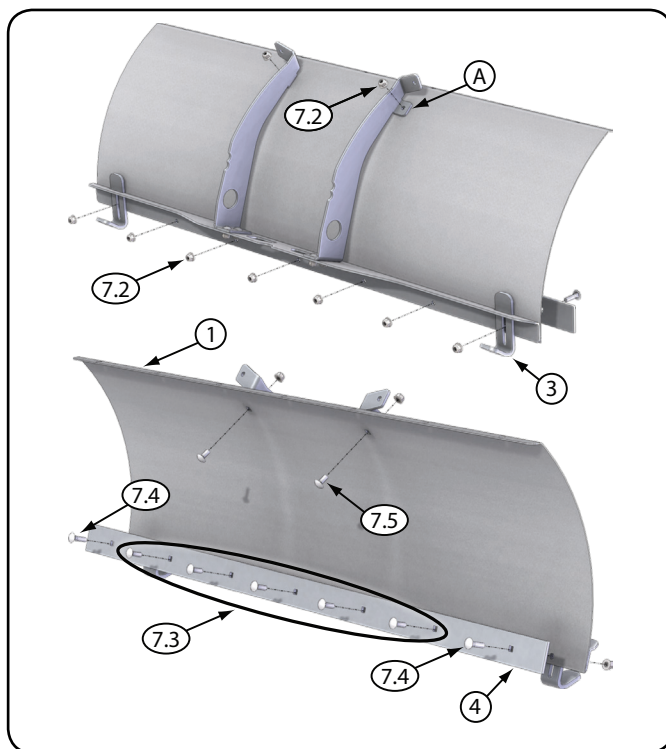


Figure 2 - Cutter Blade, Frame and Feet Install

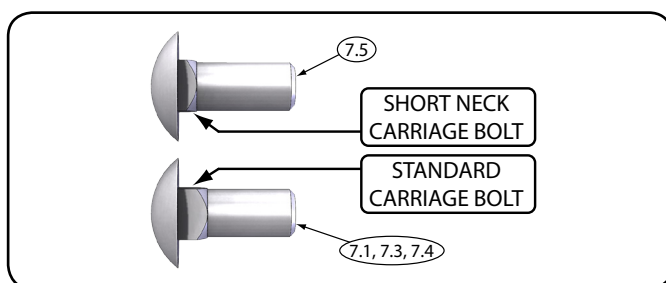


Figure 3 - Carriage Bolt Diagram

ASSEMBLY

Push Tube Assembly and Installation

1. Assemble left handle plate (12), 2× washer (15.13), pivot handle (11), right handle plate (13), and hook plate (10) using the $\frac{5}{16} \times 1\frac{1}{2}$ in. (7.9 × 38.1 mm) standard carriage bolt (15.4) and $\frac{5}{16}$ in. (7.9 mm) flange nut (15.5) as shown in Figure 4. Tighten down nut so that angle lever moves freely. This will create the angle lever assembly (B).

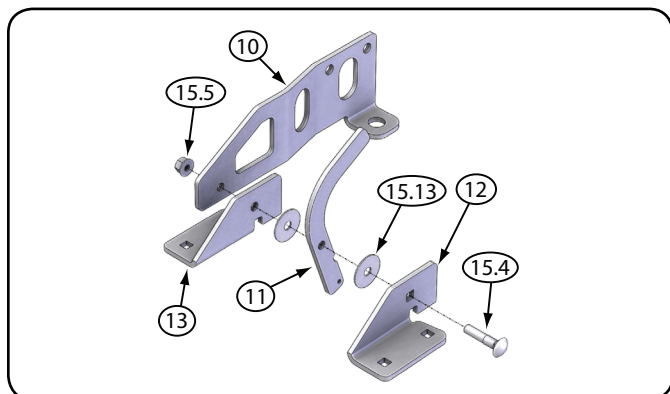


Figure 4 - Angle Lever Assembly (B)

2. Install angle lever assembly (B) to the tube weldment (8) as shown in Figure 5. Use the $\frac{5}{16} \times 1$ in. (7.9 × 25.4 mm) standard carriage bolts (15.8) and $\frac{5}{16}$ in. (7.9 mm) nuts (15.5) to secure the left and right handle plates. Tighten down bolts.
3. Secure the pivot plate (9) to the tube weldment (8) and hook plate (10) using the $\frac{5}{8} \times 1\frac{3}{4}$ in. (15.9 × 44.5 mm) structural bolt (15.10), $\frac{5}{8}$ in. (15.9 mm) lock washer (15.14) and $\frac{5}{8}$ in. (15.9 mm) lock nut (15.2) as shown in Figure 5. **Tighten down nut and bolt so that the plate will pivot with ease but is not loose.**

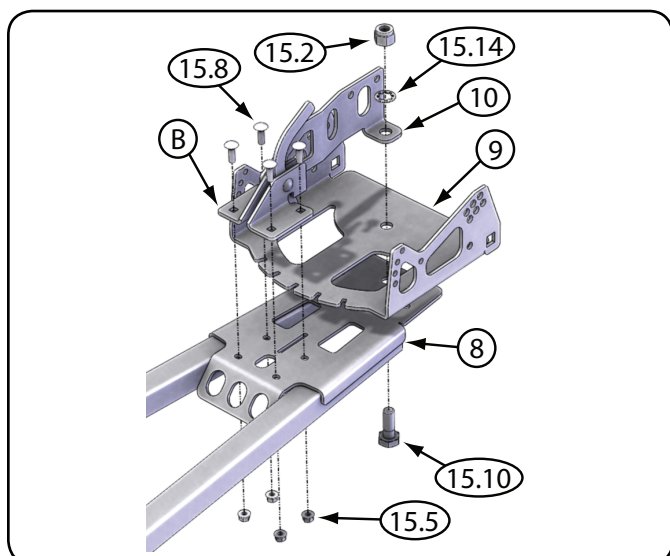


Figure 5 - Angle Plate and Angle Lever Assembly Install

Push Tube Assembly and Installation Cont'd.

4. Install the pivot lever spring (16) to the tab on the tube weldment (C) and the hole in the pivot handle (11) as shown in Figure 6.

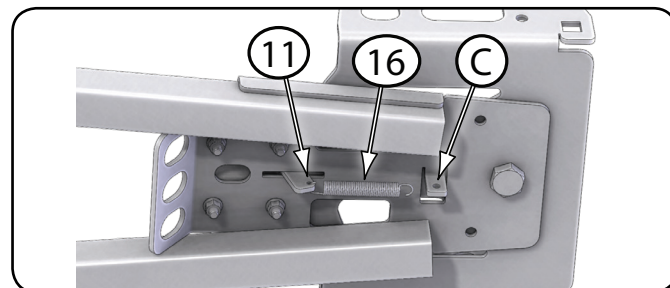


Figure 6 - Pivot Lever Spring Install

5. Place washer bearing (14) into hole in blade gusset and secure blade to tube system by fastening with the $1\frac{1}{2}$ in. (38.1 mm) carriage bolt (15.1) and lock nut (15.2), as shown in Figure 7. Repeat on right hand side.

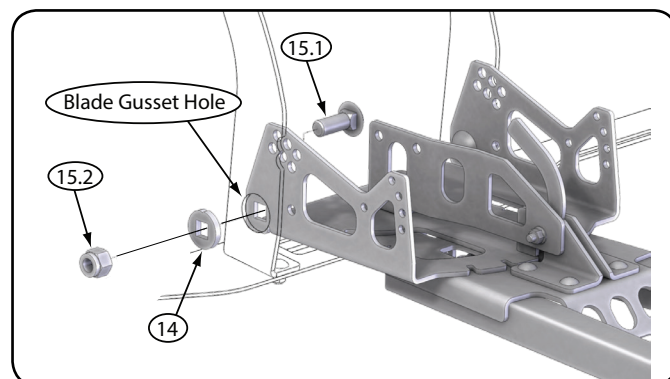


Figure 7 - Pivot Bolt Assembly

6. Hook the plow springs (18) into the smaller rear holes in the pivot plate (9), as shown in Figure 8. Place the eyebolts (15.11) onto the end of the plow springs and secure the eyebolts onto the plow blade gusset using nut (15.12) and washer (15.9), as shown in Figure 8. Leave spring tension loose as you will decide tension in Step 9.

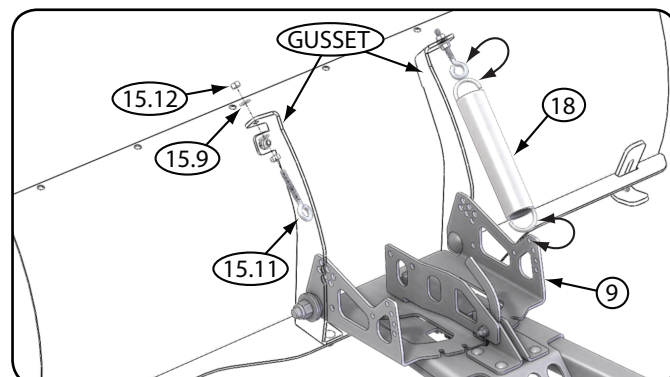


Figure 8 - Spring Assembly

Push Tube Assembly and Installation Cont'd.

- Decide desired pitch of blade. Each hole allows 5 degrees of blade pitch adjustment.

NOTE

Figure 9 shows the default position.

- With springs installed and pitch blade under tension, install $\frac{3}{4}$ in. (19.1 mm) hex socket head cap screw (15.7) using $\frac{3}{8}$ in. (9.5 mm) Allen wrench or pliers; and $\frac{7}{16}$ in. (11.1 mm) lock nut (15.6) into desired pitch position hole. As shown in Figure 9.

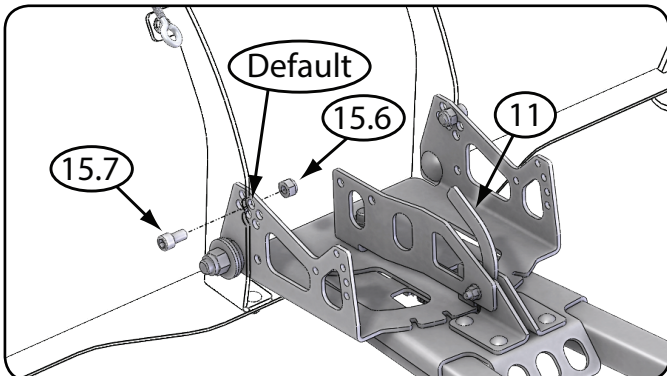


Figure 9 - Pitch Adjustment Bolt (spring not shown for clarity)

- Tighten nuts down on eye bolt until desired spring tension is reached. See Figure 10 for default tension.

NOTE

For each $\frac{1}{4}$ in. (6.4 mm) that the nut is tightened it will add 7 lbs (3.2 kg) of spring tension. This will make a total of 14 lbs (6.4 kg) with both springs.

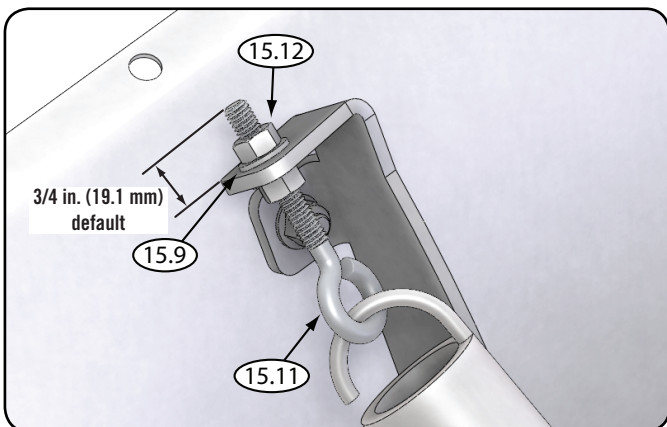


Figure 10 - Spring Adjustment

Push Tube Assembly and Installation Cont'd.

- The tube system has five positions of rotation for your blade. Each adjustment is a 12.5 degree increment. To adjust, push down on the handle (Figure 11-A, Item 11) and rotate your blade left or right until you reach the desired angle.

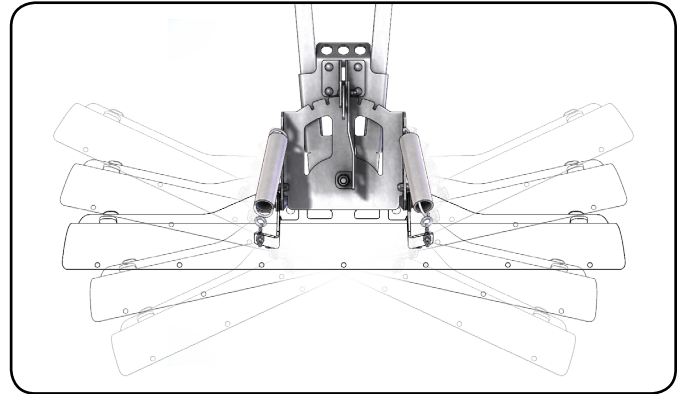


Figure 11 - Blade Rotation Angle

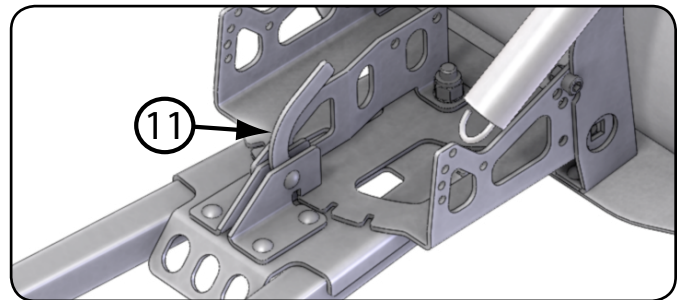


Figure 11-A - Blade Rotation Angle

NOTE

Make sure handle is locked in before plowing.

- Attach the tube system to the Hybrid Mount System, by first positioning the tube system, with blade installed, under your ATV. Then raise tube attach points to the mount and line up the holes on mount plate with the holes in the tube system. Insert Pin through holes and secure on other side with clips as shown in Figure 12.

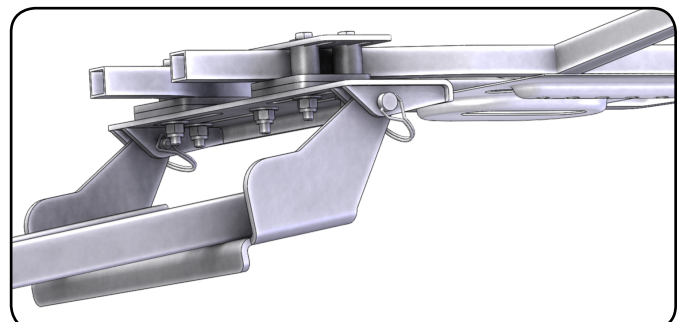


Figure 12 - Tube System Attachment

ASSEMBLY

Push Tube Assembly and Installation Cont'd.

12. Attach winch hook to one of 2 locations. See Figure 13. Figure 14 shows the best winch line angle. Use this to determine which attachment point to use.

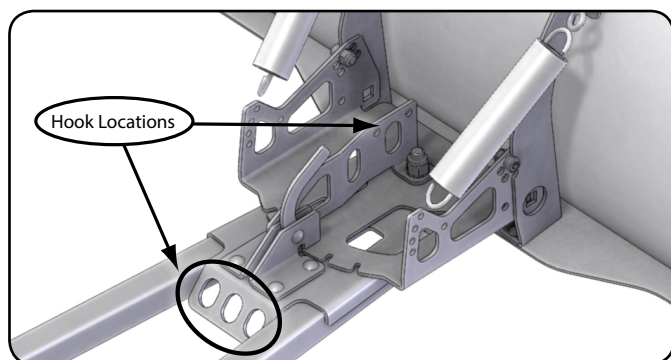


Figure 13 - Hook Attaching Points

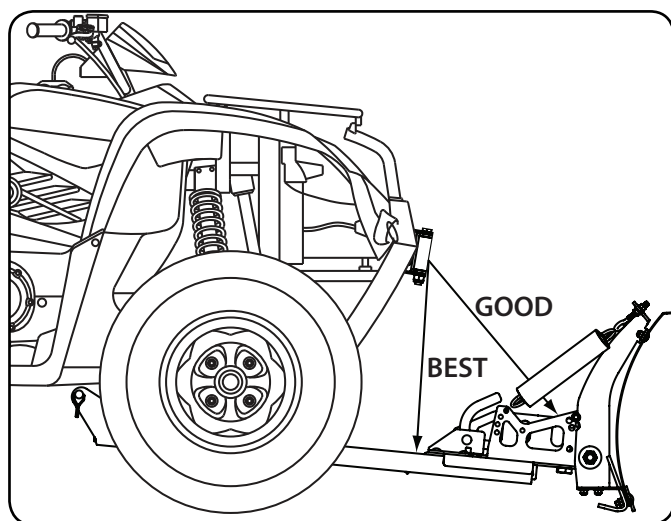


Figure 14 - Winch Line Angle

Hybrid Mount Installation Instructions

General Install Notes

1. Be sure that when installing the mount it is centered on your machine. Some frames are not perfectly centered as shown in Figure 15.

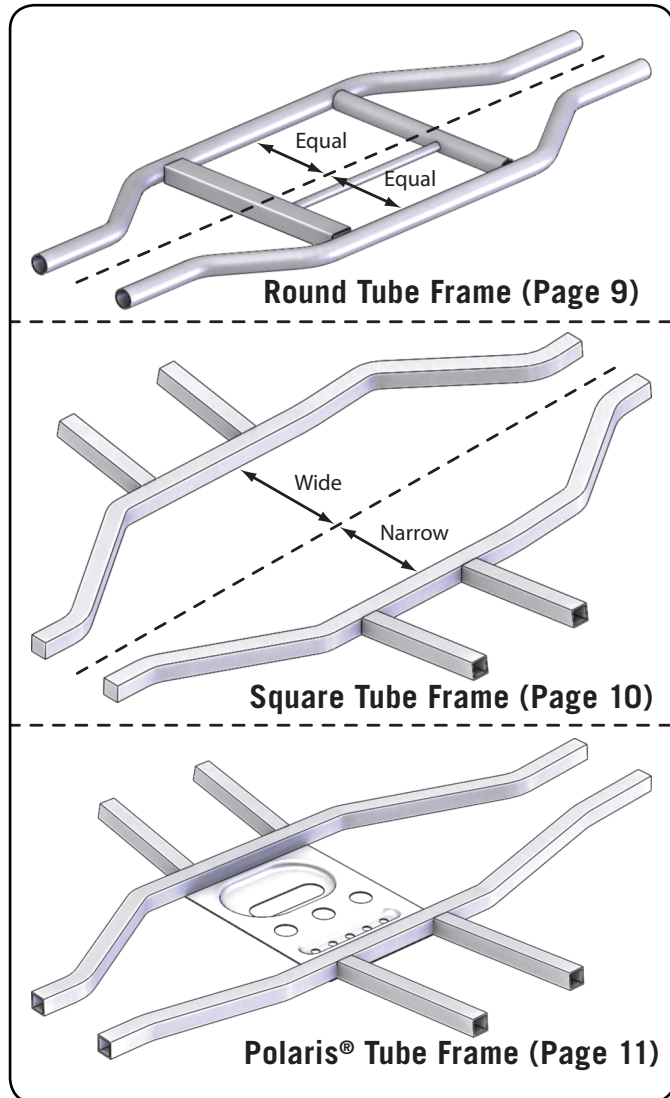


Figure 15 - Tube Frame Type

2. The approximate distance that tab holes can be from the front of the machine is 26 in. (66 cm) as shown in Figure 16. Every machine can vary because of ATV front contour.
3. Plow springs should not hit ATV when plow is angled fully.

General Install Noted Cont'd.

! CAUTION

Take care when installing mount fasteners. Damage could occur to the vehicle if installed improperly.

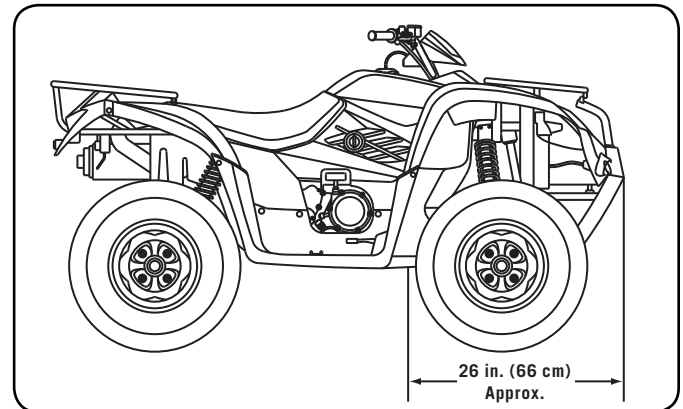


Figure 16 - Approximate Mount Distance

ASSEMBLY

Hybrid Mount Round Tube Frame Install

1. Place the hybrid lower mount plate up to the frame at the location behind the front tires where the frame widens out, as shown in Figure 17. Determine the location allowing the mount to be centered, back as far on the frame as possible and the push tubes to be attached. Keep the mount holes within the approximate distance from the front of your machine (see Figure 16).
2. Install the u-bolts to the frame in the locations that were determined in step one.

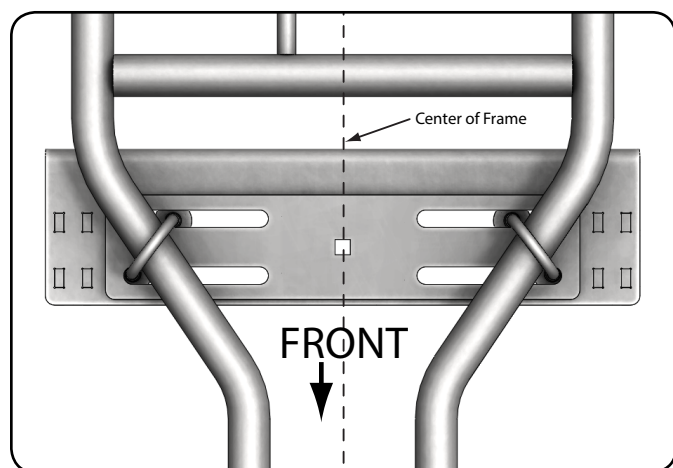


Figure 17 - Round Tube Mount Placements: Top View
(Frame Configurations Will Vary)

NOTE

If there is a skid plate installed and you do not wish to remove it, you will need to mark the locations where the u-bolts will be installed and drill holes.

3. **Optional:** Place the upper mount plate on top of the lower mount plate as shown in Figure 18. This is not required but adds strength to the mount for less flex when plowing.
4. Install the plate assembly to the u-bolts using the washers (5.3) and $\frac{3}{8}$ in. (9.5 mm) nuts (5.2) provided with the mount.
5. Center the mount on the machine and tighten all bolts evenly.

Hybrid Mount Round Tube Frame Install Cont'd.

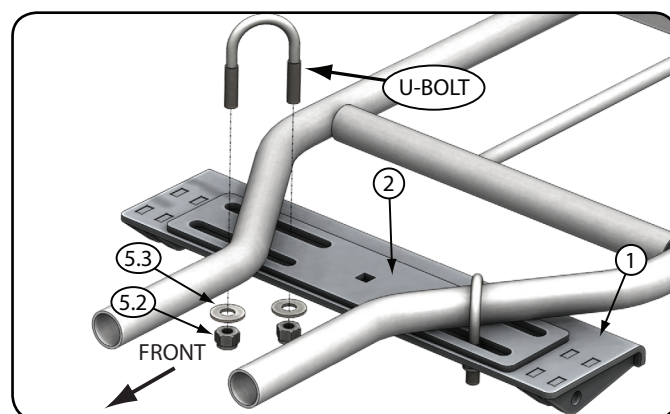


Figure 18 - Hybrid Mount Round Tube Install

Hybrid Mount Square Tube Frame Install

1. Check to see if the u-bolts will fit over your tube frame. If they do, it is recommended to use the u-bolts (See round tube install, Page 9). If they do not, proceed to step 2.
2. Measure the thickness of your tube frame and skid plate (if installed) see Figure 19. Then cut the provided rubber spacers to a $\frac{1}{4}$ in. (6.4 mm) longer than the thickness of the tube frame.

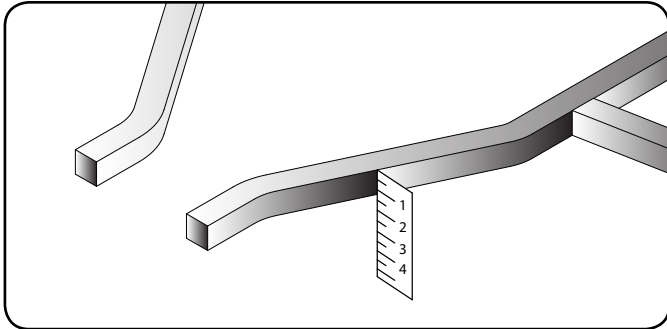


Figure 19 - Frame Measurement

3. Place the Upper Mount Plate (2) over the frame at the location behind the tires where the frame widens out. Refer to Figure 20 for best fastener placement.

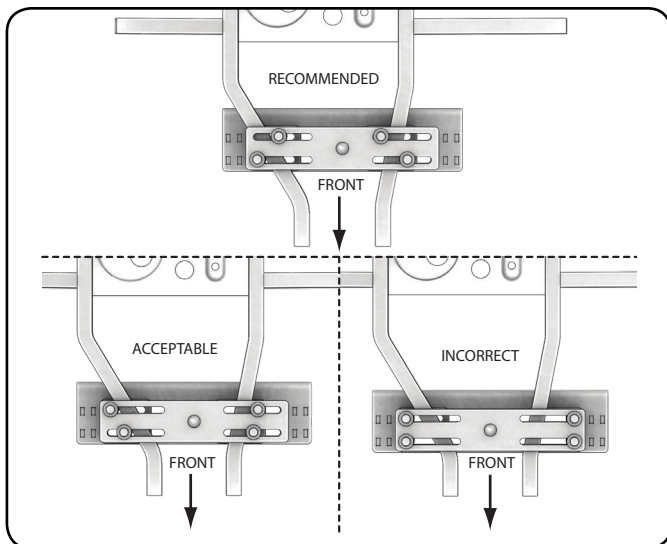


Figure 20 - Fastener Placement

4. Determine the location allowing the mount to be centered, back as far on the frame as possible and the push tubes to be attached. Keep the mount holes within the approximate distance (26 in. {66 mm}) from the front of your machine. See page 8, Figure 16.
5. Loosely install the upper mount plate (2) and lower mount plate (1) using the rubber spacers (4), $\frac{3}{8}$ in. (9.5 mm) bolts (5.4), $\frac{3}{8}$ in. (9.5 mm) carriage bolt (5.5), nuts (5.2) and washers (5.3) provided with your mount.

Hybrid Mount Square Tube Frame Install Cont'd.

NOTE

If there is a skid plate installed and you do not wish to remove it, you will need to mark the locations where the bolts will be installed and drill holes. Install the hardware with the head of the bolts towards the ground if possible. This will maximize ground clearance. See Figure 21. If not you can cut the bolts after install.

NOTE

If the upper mount plate (2) doesn't fit because of obstruction you may substitute the spacer plates (3) for the upper mount plate as shown in Figure 22.

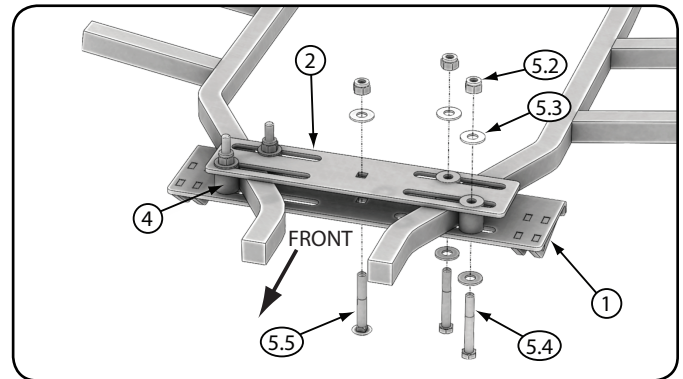


Figure 21 - Hybrid Mount Square Tube Install

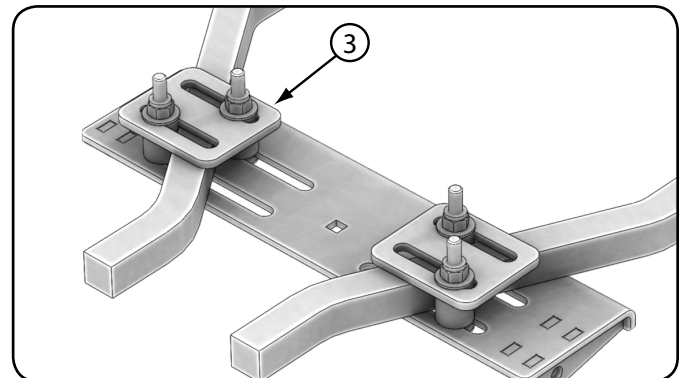


Figure 22 - Hybrid Mount Square Tube Install Using Spacer Plates

6. Tighten all bolts evenly. Carriage bolt only needs to be snug to plate as its purpose is to keep both plates from bending in the center.

NOTE

Ensure that the rubber spacers are tight against the frame before tightening the bolts. If this is done incorrectly the mount could move and the plow may damage your machine.

ASSEMBLY

Hybrid Mount Polaris® Sportsman® Install

1. Measure the thickness of your tube frame and skid plate (if installed), see Figure 23. Then cut the provided rubber spacers to a $\frac{1}{4}$ in. (6.4 mm) longer than the thickness of the tube frame.

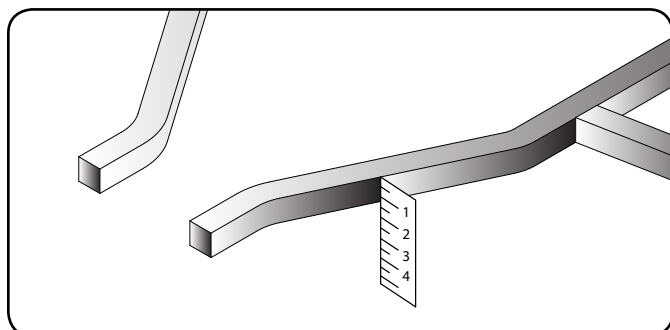


Figure 23 - Frame Measurement

2. Place the upper mount plate (2) over the frame at the location behind the tires where the frame widens out. Refer to Figure 24 for best fastener placement.

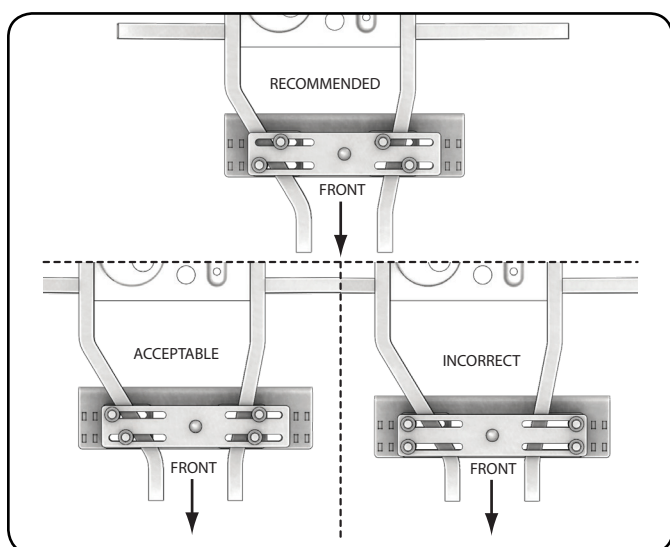


Figure 24 - Fastener Placement

3. Determine the location allowing the mount to be centered, back as far on the frame as possible and the push tubes to be attached. Keep the mount holes within the approximate distance (26 in. {66 cm}) from the front of your machine. See page 8, Figure 16.
4. Loosely install the upper mount plate (2), 4 spacer plates (3) and lower mount plate (1) using the rubber spacers (4), $\frac{3}{8}$ in. (9.5 mm) bolts (5.4), $\frac{3}{8}$ in. (9.5 mm) carriage bolt (5.5), nuts (5.2) and washers (5.3) provided with your mount. See Figure 25.

Hybrid Mount Polaris® Sportsman® Install Cont'd.

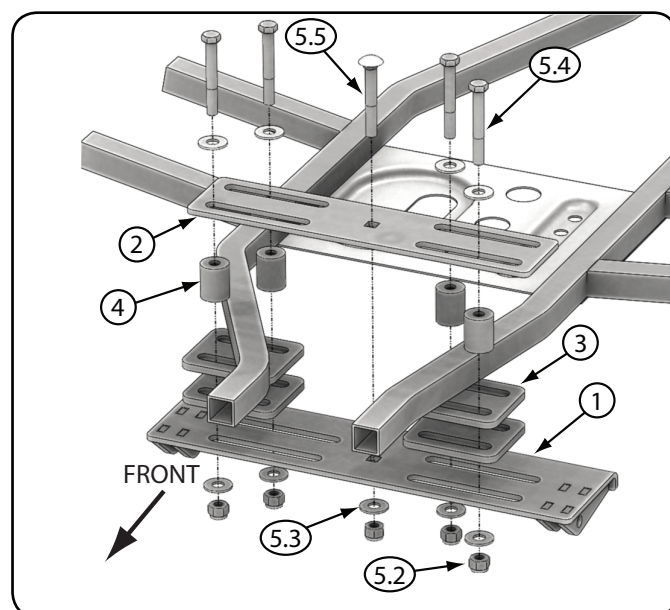


Figure 25 - Hybrid Mount Sportsman Install

NOTE

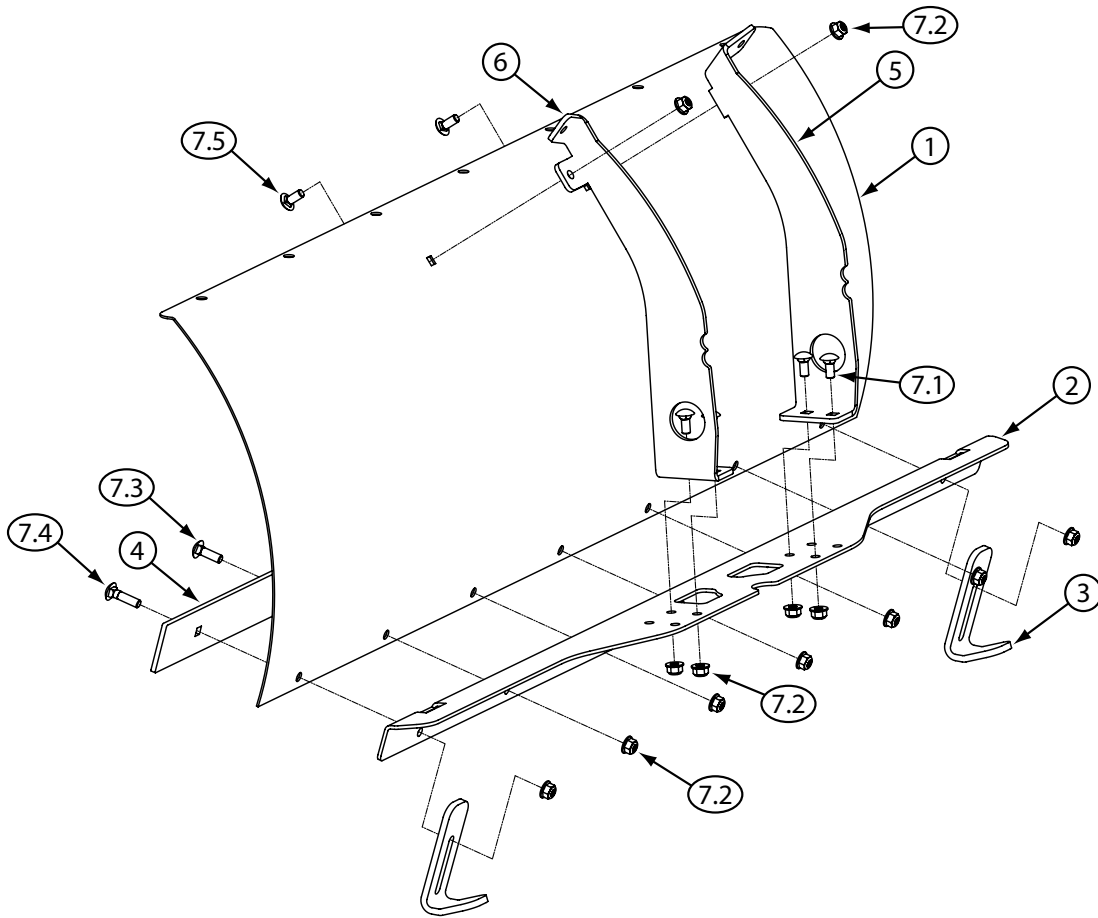
If there is a skid plate installed and you do not wish to remove it, you will need to mark the locations where the bolts will be installed and drill holes.

5. Tighten all bolts evenly. Carriage bolt only needs to be snug to plate as its purpose is to keep both plates from bending in the center.

NOTE

Ensure that the rubber spacers are tight against the frame before tightening the bolts. If this is done incorrectly the mount could move and the plow may damage your machine.

Blade Parts Diagram



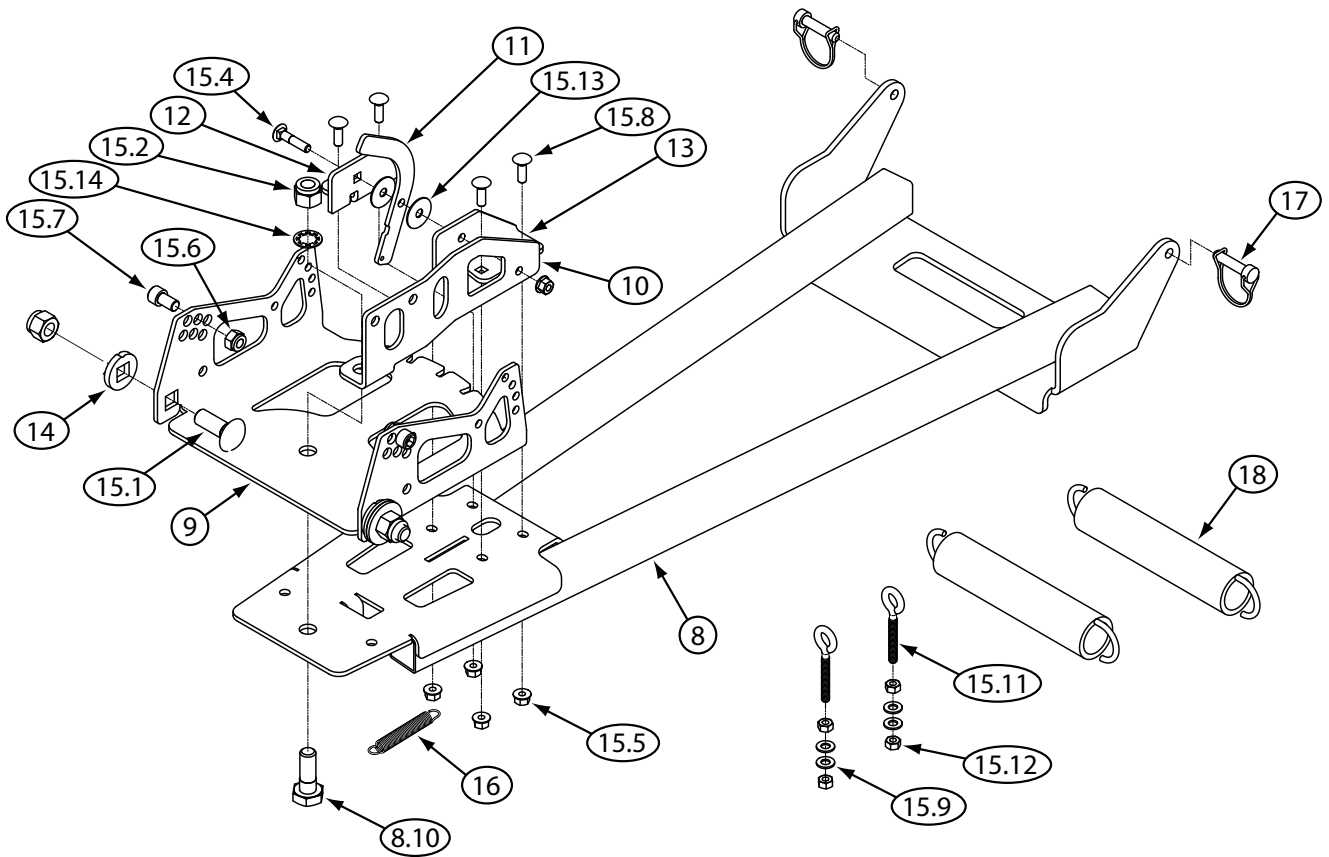
Blade Parts List

#	Part Number	Description	Qty
1	105526	Blade	1
2	105528	Blade Support Bracket	1
3	105158	Blade Foot	2
4	105538	Blade Reversible Wear Bar	1
5	105113	Blade Gusset RH	1
6	105114	Blade Gusset LH	1
7	HK-142	Hardware Kit	1
7.1	CB-ZP-0313-18-0_75	$\frac{5}{16}$ -18 \times $\frac{3}{4}$ Carriage Bolt, Steel, Zinc Plated	4

#	Part Number	Description	Qty
7.2	HNFN-ZP-0313-18	$\frac{5}{16}$ -18 Hex Flange Nylock Nut, Gr5, Zinc Plated	13
7.3	CB-ZP-0313-18-1_00	$\frac{5}{16}$ -18 \times 1.00 Carriage Bolt, Steel, Zinc Plated	5
7.4	CB-ZP-0313-18-1_25	$\frac{5}{16}$ -18 \times 1 $\frac{1}{4}$ Carriage Bolt, Steel, Zinc Plated	2
7.5	CBSN-ZP-0313-18-0_75	$\frac{5}{16}$ -18 \times $\frac{3}{4}$ Short Neck Carriage Bolt, Steel, Zinc Plated	2

SPECIFICATIONS

Push Tube Parts Diagram

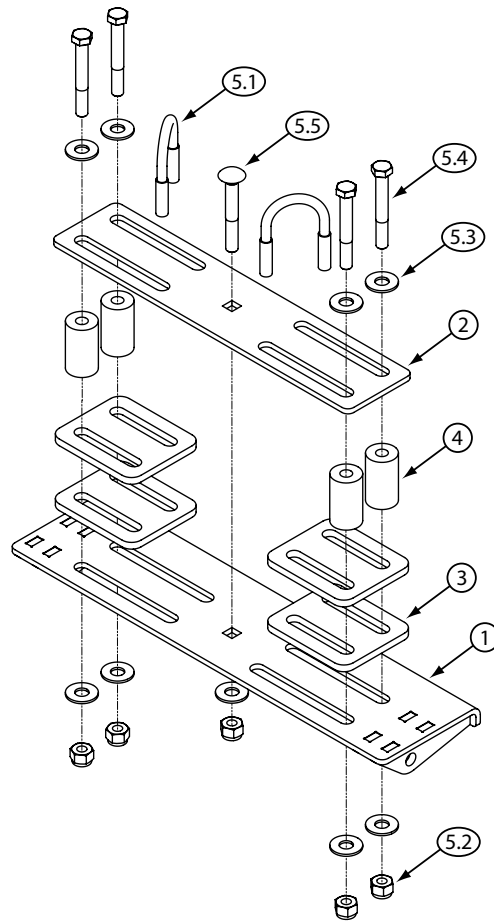


Push Tubes Parts List

#	Part Number	Description	Qty
8	105102	Tube Weldment	1
9	105087	Pivot Plate	1
10	105088	Hook Plate	1
11	105089	Pivot Handle	1
12	105094	Handle Plate LH	1
13	105099	Handle Plate RH	1
14	105214	Pitch Bushing	2
15	HK-143	Hardware Kit	1
15.1	CB-ZP-0625-11-1_50	5/8-11 x 1 1/2 Carriage Bolt, Steel, Zinc Plated	2
15.2	HNNL-ZP-0625-11	5/8"-11 Hex Nylock Nut STL Zinc	3
15.4	CB-ZP-0313-18-1_50	5/16-18 x 1 1/2 Carriage Bolt, Steel, Zinc Plated	1
15.5	HNFL-ZP-0313-18	5/16-18 Hex Flange Nut, Nylock, Zinc Plated	5
15.6	HNNL-ZP-0437-14	1/16-14 Hex Nut, Nylon Insert Locknut, Steel, Zinc Plated	2
15.7	SK-0437-14-0_750	1/16-14 x 3/4 Hex Socket Head Cap Screw, Zinc	2

#	Part Number	Description	Qty
15.8	CB-ZP-0313-18-1_00	5/16-18 x 1.00 Carriage Bolt, Steel, Zinc	4
15.9	FW-SAE-ZP-0313	5/16 Flat Washer, SAE, Steel, Zinc Plated	4
15.10	HB-A325-0625-11-1_75	5/8-11 x 1 3/4 Hex Structural Bolt, A325 Steel	1
15.11	P800249	5/16"-18 x 5/16" x 3 3/8" Eyebolt	2
15.12	HN-ZP-0313-18	5/16"-18 Hex Nut, Zinc	4
15.13	FEND-ZP-0313-1_25	5/16 x 1.25 Fender Washer, Zinc Plated	2
15.14	LW-ZP-IT-0625	5/8 Lock Washer, Internal Tooth, Steel, Zinc Plated	1
16	P800302	Pivot Lever Spring	1
17	P800250	Safety Pin	2
18	P800304	Plow Spring	2

Hybrid Mount System Parts Diagram



Hybrid Mount System Parts List

#	Part Number	Description	Qty
1	105112	Hybrid Lower Mount Plate Weldment	1
2	105104	Hybrid Upper Mount Plate	1
3	105119	Hybrid Mount Spacer	4
4	P800335	Hybrid Rubber Mount Spacer 1.00 × 1.75	4
5	Hk-144	Hardware Kit	1
5.1	P800301	$\frac{3}{8}$ "-16 × 1½" × 2½" × 1¼" U-Bolt	2
5.2	Hnnl-Zp-0375-16	$\frac{3}{8}$ "-16 Hex Nylock Nut, Steel, Zinc	5
5.3	Fw-Uss-Zp-0375	$\frac{3}{8}$ " Flat Washer, USS, Steel, Zinc Plated	9
5.4	Hc-G5-Zp-0375-16-2_75	$\frac{3}{8}$ "-16 × 2¾" Hex Cap Screw, Full Thread, Sae Grade 5 Steel, Zinc Plated	4
5.5	Cb-Zp-0375-16-2_75	$\frac{3}{8}$ "-16 × 2¾" Carriage Bolt, Steel, Zinc Plated	1