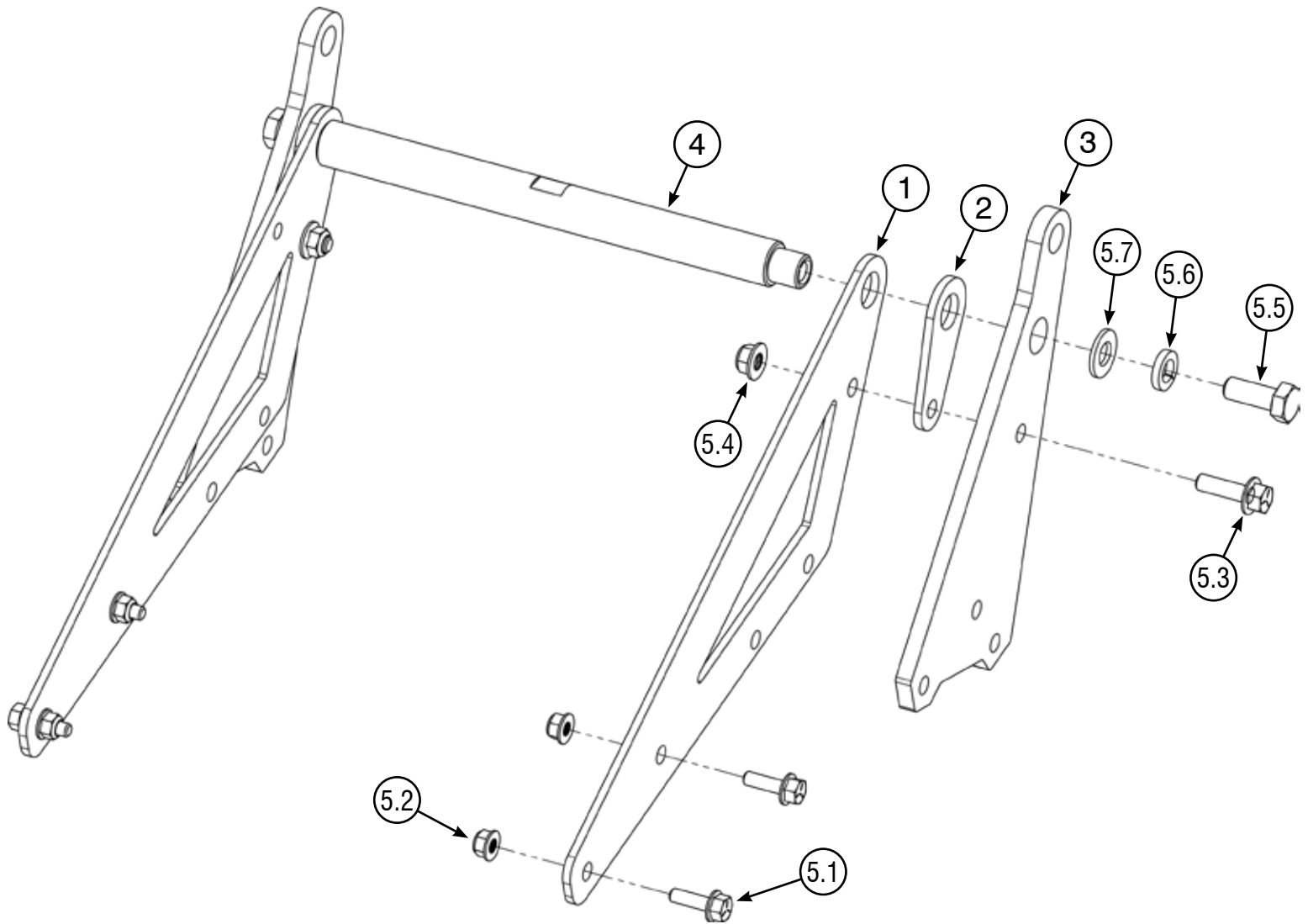


# PRO 2.0 - 6 INCH LEVELING KIT

Plow Accessory

PART #106326 Rev C



## Kit Components:

| Item # | Qty. | Description                      | Item # | Qty. | Description                     |
|--------|------|----------------------------------|--------|------|---------------------------------|
| 1      | 2    | 6" Gusset Plate (106448)         | 5.2    | 4    | 5/16"-18 Hex Flange Nylock Nut  |
| 2      | 2    | Level Kit Spacer (106329)        | 5.3    | 2    | 3/8"-16 x 1.25" Hex Bolt Flange |
| 3      | 2    | 6" Level Ear (106328)            | 5.4    | 2    | 3/8"-16 Hex Flange Nylock Nut   |
| 4      | 1    | Level Kit Rod (106399)           | 5.5    | 2    | 1/2"-13 X 1.25" Hex Bolt        |
| 5      | 1    | Hardware Kit (HK-446)            | 5.6    | 2    | 1/2" Lock Washer                |
| 5.1    | 4    | 5/16"-18 X 1.00" Hex Bolt Flange | 5.7    | 2    | 1/2" Flat Washer                |



# INSTALLATION INSTRUCTIONS

## Notice

Torque bolts to ANSI Specs (or OEM specs if applicable), unless otherwise stated. After the first use and at the start of each season, check torque.

**Note:** Make sure all hardware needed to complete this mount is in the package. Thoroughly read through and understand the instructions before installing.

## Installation Instructions

1. If installed, remove pin attachment brackets (C) and hardware (A and B) as shown in **Figure 1**. If not installed, proceed to **Step 2**.

**Note:** Save hardware (A and B) for reuse in Step 5.

2. Loosely assemble gusset (1), spacer (2), and ear (3) onto rod (4) using bolts (5.5), lock washers (5.6), and flat washers (5.7). Refer to **Figure 2** for orientation.
3. Loosely install bolts (5.3) and lock nuts (5.4) through the ear (3), spacer (2), and gusset (1). See **Figure 2**.
4. Place the subassembly onto the push tube. Ensure gusset (1) is placed inside the rib on the push tube. Loosely install front bolts (5.1) and lock nuts (5.2) as shown in **Figure 3**.
5. Reinstall bolts (A) and nuts (B) removed in **Step 1** into their original positions. See **Figure 4**.
6. Once all hardware is started, tighten all hardware evenly. See **Figure 5**.

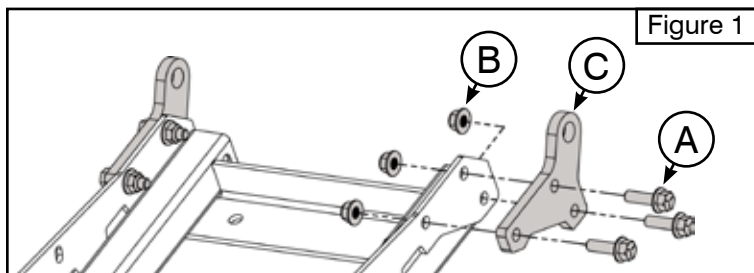


Figure 1

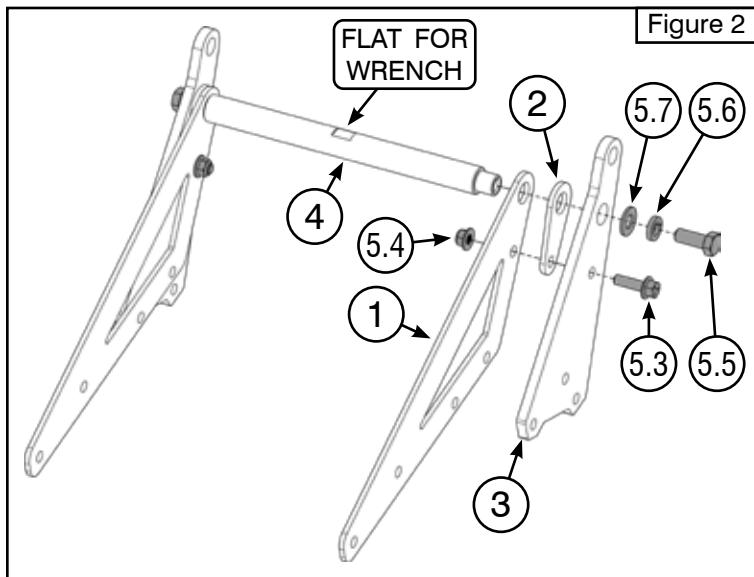


Figure 2

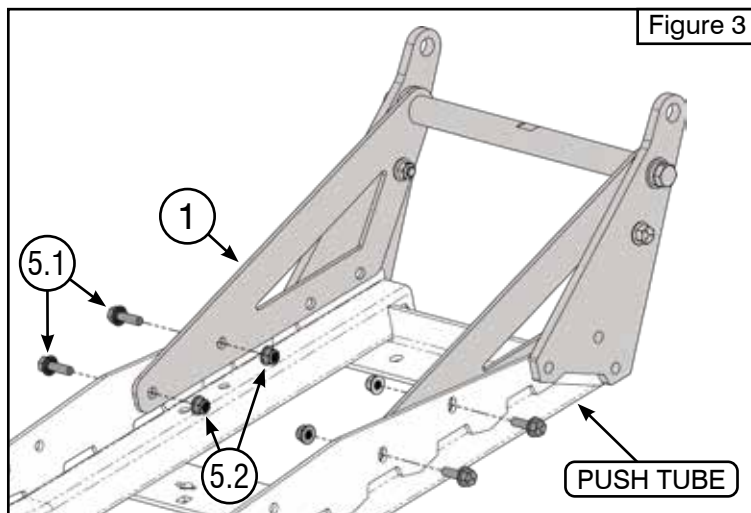


Figure 3

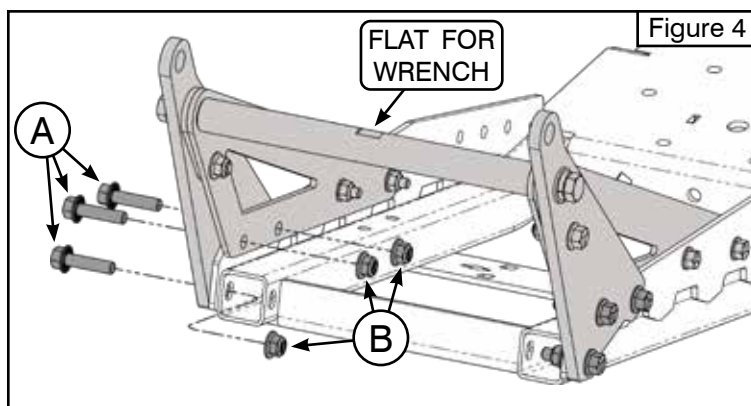


Figure 4

**Note:** When tightening bolts (5.5), use a 7/8" wrench or an adjustable wrench on the flat spot of rod (4) to prevent it from rotating. See **Figures 2 and 4**.

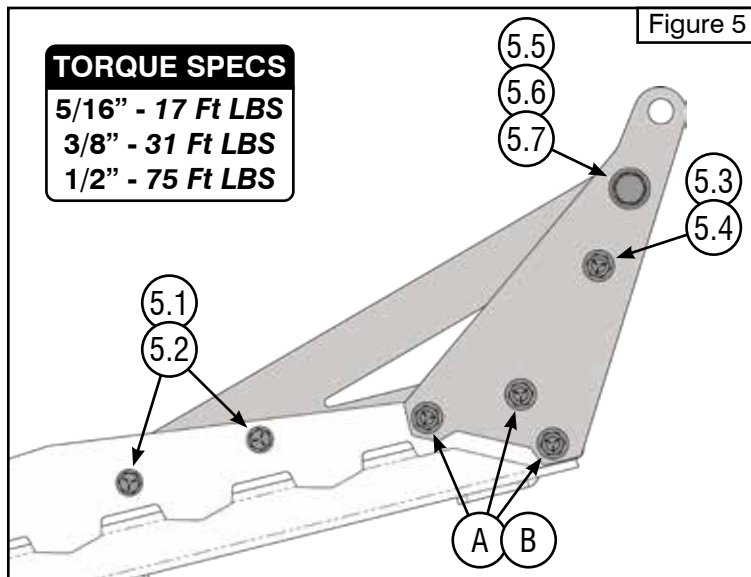


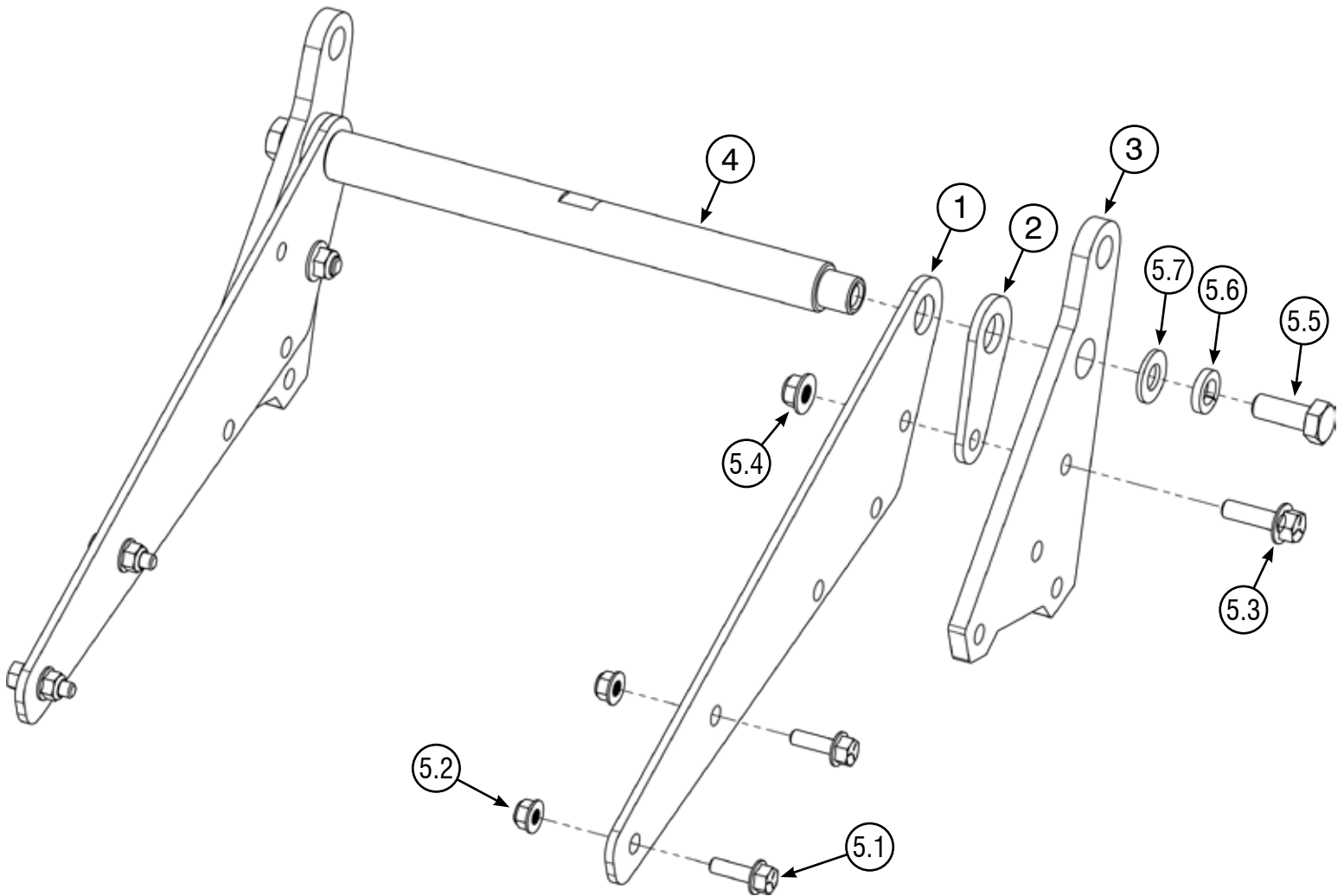
Figure 5

**TORQUE SPECS**  
5/16" - 17 Ft LBS  
3/8" - 31 Ft LBS  
1/2" - 75 Ft LBS

# PRO 2.0 - 4 INCH LEVELING KIT

Plow Accessory

PART #106324 Rev C



## Kit Components:

| Item # | Qty. | Description                      | Item # | Qty. | Description                     |
|--------|------|----------------------------------|--------|------|---------------------------------|
| 1      | 2    | 4" Gusset Plate (106434)         | 5.2    | 4    | 5/16"-18 Hex Flange Nylock Nut  |
| 2      | 2    | Level Kit Spacer (106329)        | 5.3    | 2    | 3/8"-16 x 1.25" Hex Bolt Flange |
| 3      | 2    | 4" Level Ear (106318)            | 5.4    | 2    | 3/8"-16 Hex Flange Nylock Nut   |
| 4      | 1    | Level Kit Rod (106399)           | 5.5    | 2    | 1/2"-13 X 1.25" Hex Bolt        |
| 5      | 1    | Hardware Kit (HK-446)            | 5.6    | 2    | 1/2" Lock Washer                |
| 5.1    | 4    | 5/16"-18 X 1.00" Hex Bolt Flange | 5.7    | 2    | 1/2" Flat Washer                |



# INSTALLATION INSTRUCTIONS

## Notice

Torque bolts to ANSI Specs (or OEM specs if applicable), unless otherwise stated. After the first use and at the start of each season, check torque.

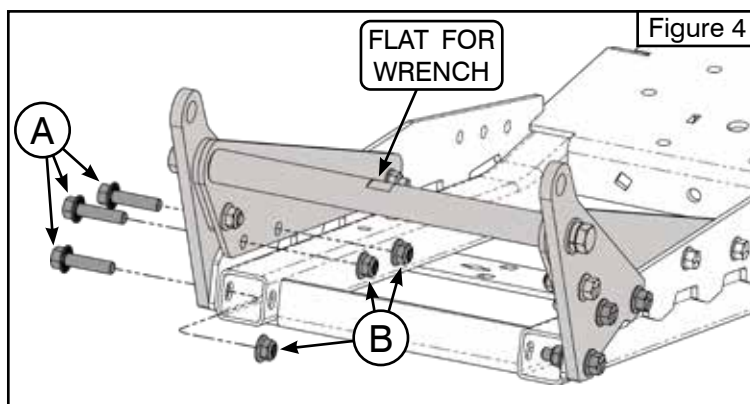
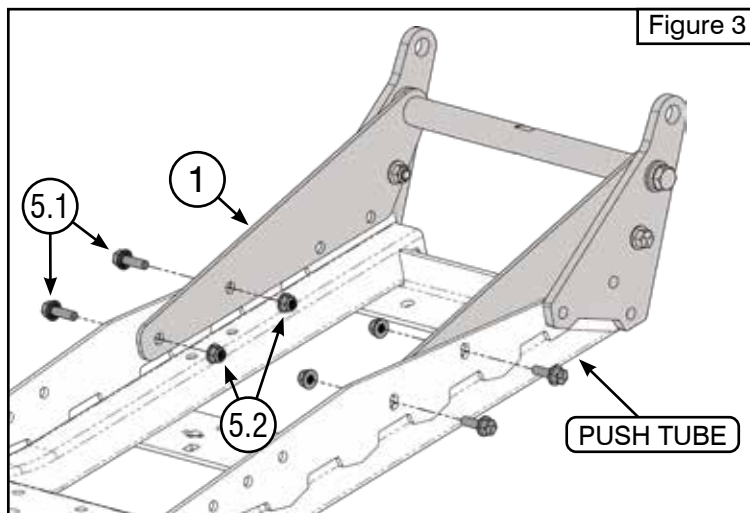
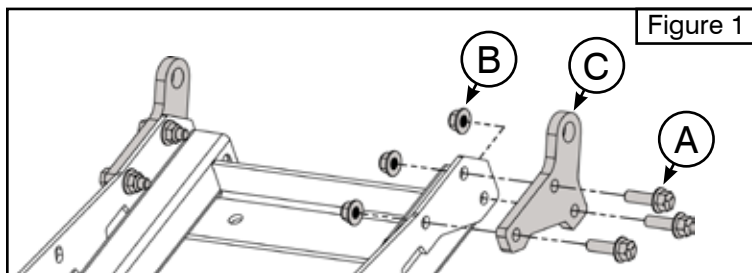
**Note:** Make sure all hardware needed to complete this mount is in the package. Thoroughly read through and understand the instructions before installing.

## Installation Instructions

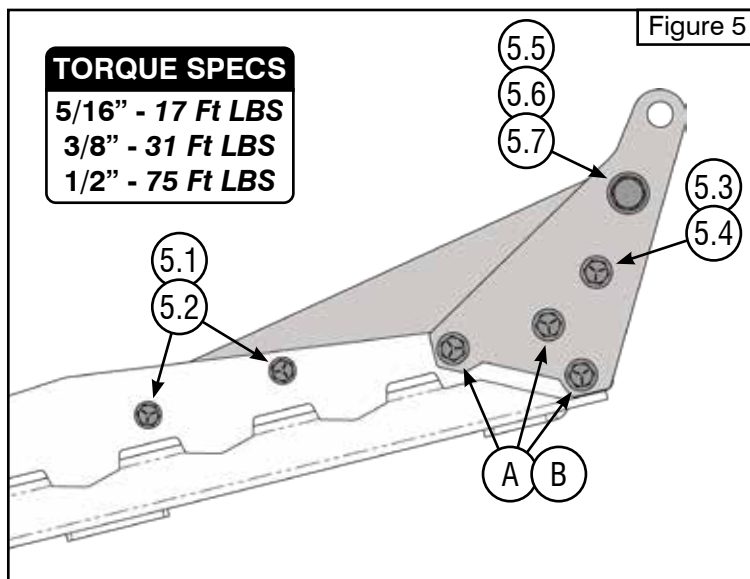
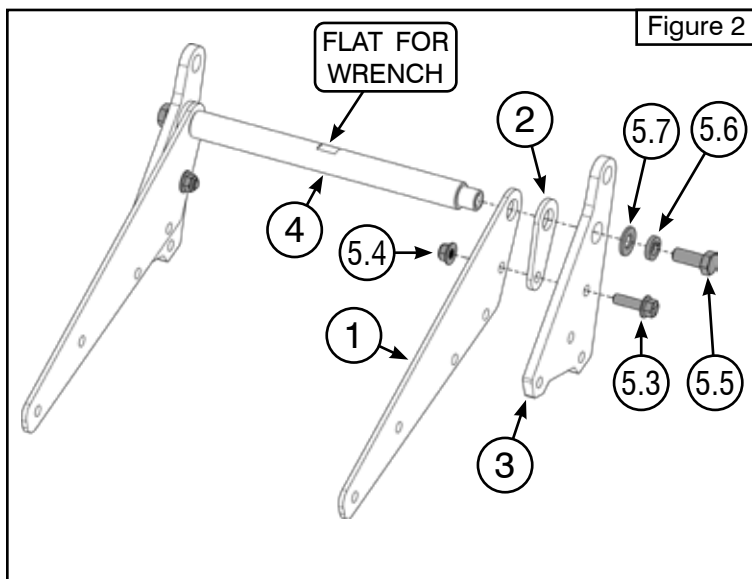
1. If installed, remove pin attachment brackets (C) and hardware (A and B) as shown in **Figure 1**. If not installed, proceed to **Step 2**.

**Note:** Save hardware (A and B) for reuse in Step 5.

2. Loosely assemble gusset (1), spacer (2), and ear (3) onto rod (4) using bolts (5.5), lock washers (5.6), and flat washers (5.7). Refer to **Figure 2** for orientation.
3. Loosely install bolts (5.3) and lock nuts (5.4) through the ear (3), spacer (2), and gusset (1). See **Figure 2**.
4. Place the subassembly onto the push tube. Ensure gusset (1) is placed inside the rib on the push tube. Loosely install front bolts (5.1) and lock nuts (5.2) as shown in **Figure 3**.
5. Reinstall bolts (A) and nuts (B) removed in **Step 1** into their original positions. See **Figure 4**.
6. Once all hardware is started, tighten all hardware evenly. See **Figure 5**.



**Note:** When tightening bolts (5.5), use a 7/8" wrench or an adjustable wrench on the flat spot of rod (4) to prevent it from rotating. See **Figures 2 and 4**.



**TORQUE SPECS**  
5/16" - 17 Ft LBS  
3/8" - 31 Ft LBS  
1/2" - 75 Ft LBS

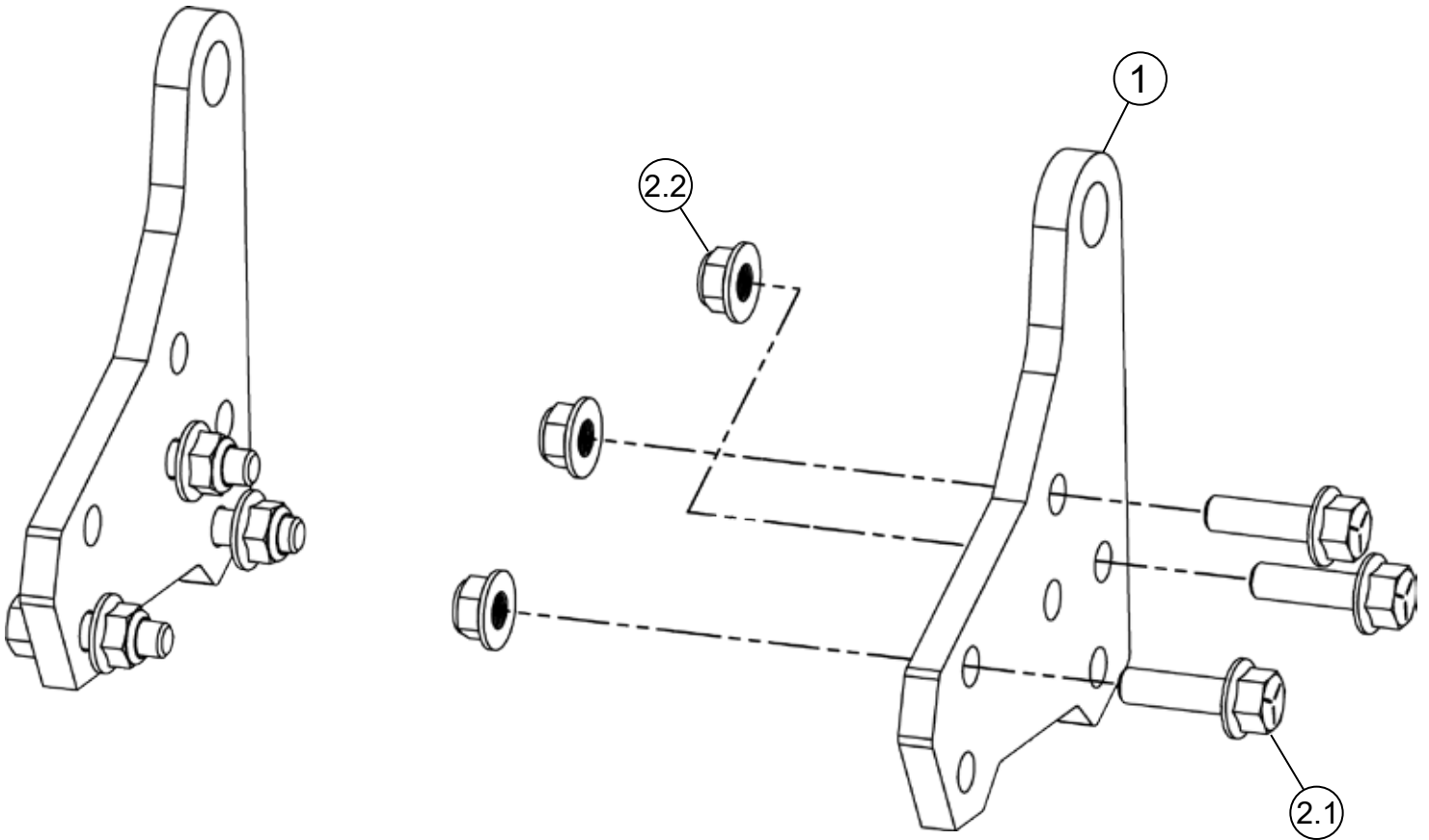


# 1"- 2" SQ PUSH TUBE LEVELING KIT

**Plow Accessory**

**PART #106322**

| Kit Components: |      |                                |
|-----------------|------|--------------------------------|
| Item #          | Qty. | Description                    |
| 1               | 2    | Leveling Tab                   |
| 2               | 1    | Hardware Kit (HK-398)          |
| 2.1             | 6    | 3/8"-16 x 1.25 Hex Flange Bolt |
| 2.2             | 6    | 3/8"-16 Hex Flange Nylock Nut  |



# INSTALLATION INSTRUCTIONS

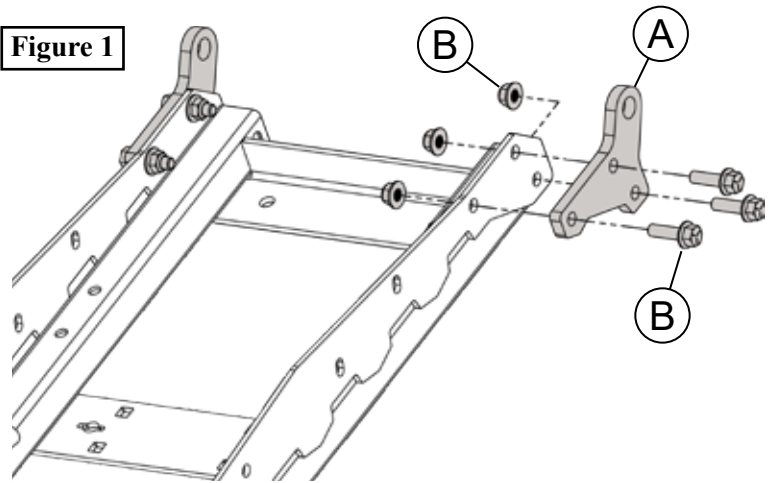
**Note:** Make sure all hardware needed to complete this mount is in the package. Thoroughly read through and understand the instructions before installing.

**Note:** If standard pin attachment brackets have not yet been installed, skip to step 2.

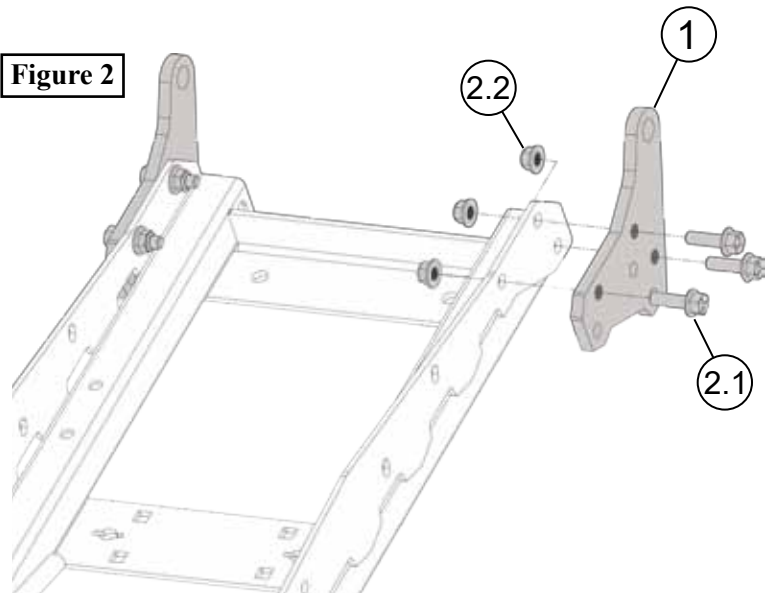
**Note:** The ideal pin height is 10.875". Use leveling kit configuration accordingly. (see figure 4) Be sure suspension is settled before measuring on flat level ground.

1. Remove and discard the existing standard pin attachment brackets (A) and hardware (B) as shown in **Figure 1**.
2. Set leveling tab (1) in place and secure using bolts (2.1) and nuts (2.2) as shown in **Figures 2 & 3**.
3. For the 1" leveling height configuration, see **Figure 2**. For the 2" leveling height configuration, see **Figure 3**.
4. Torque all hardware to **31 lb-ft**.

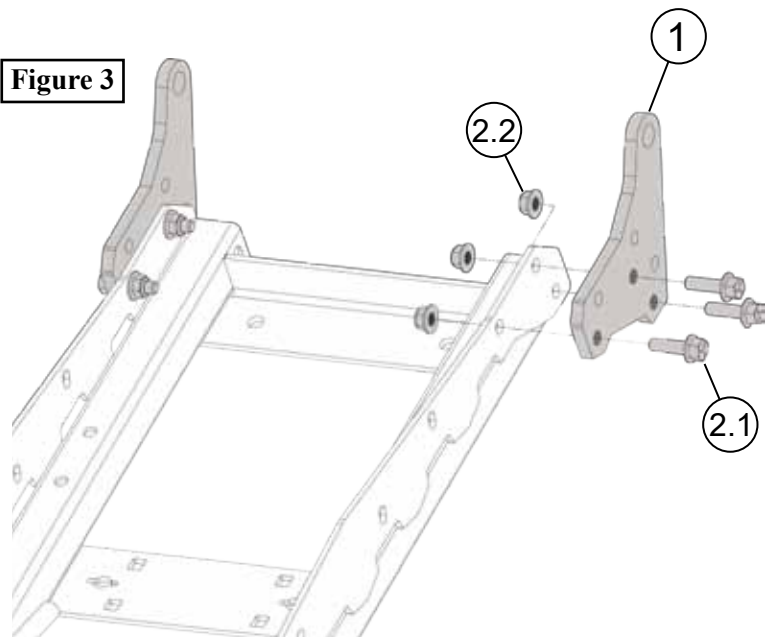
**Figure 1**



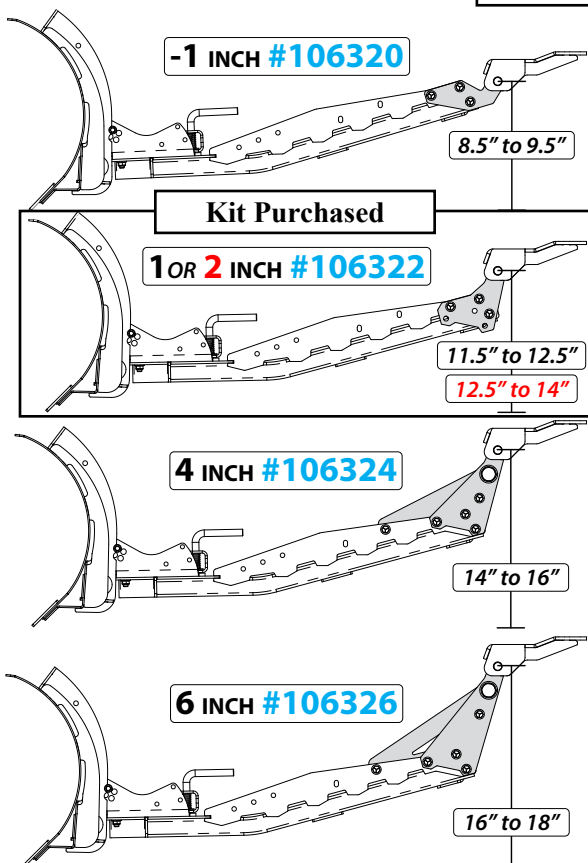
**Figure 2**



**Figure 3**



**Figure 4**

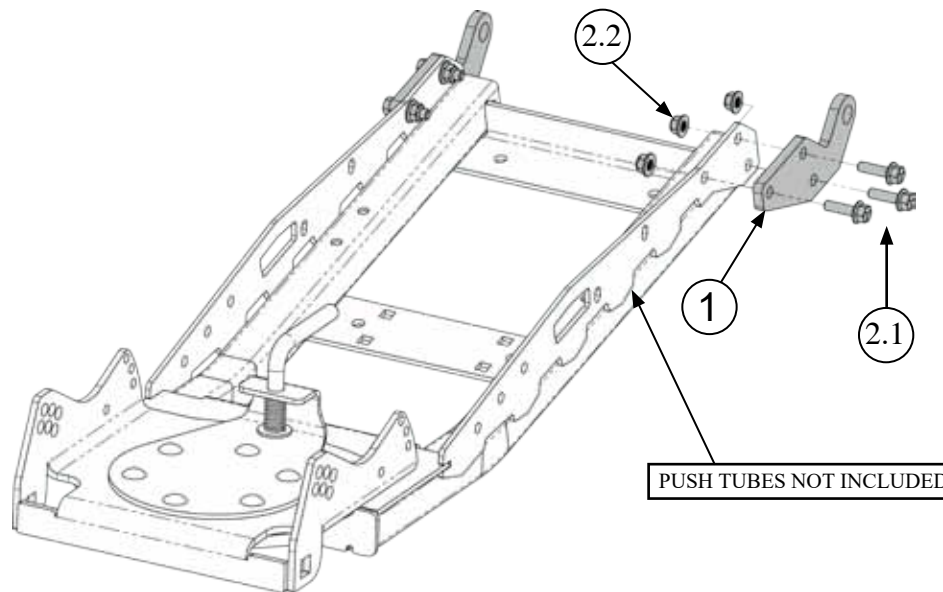


# NEGATIVE -1" SQ TUBE LEVELING KIT

**Plow Accessory**

**PART #106320**

| Kit Components: |      |                                |
|-----------------|------|--------------------------------|
| Item #          | Qty. | Description                    |
| 1               | 2    | -1" PIN ATTATCHMENT BRACKET    |
| 2               | 1    | HARDWARE KIT (HK-398)          |
| 2.1             | 6    | 3/8"-16 X 1.25 HEX BOLT FLANGE |
| 2.2             | 6    | 3/8"-16 HEX NUT FLANGE NYLOCK  |



## INSTALLATION INSTRUCTIONS

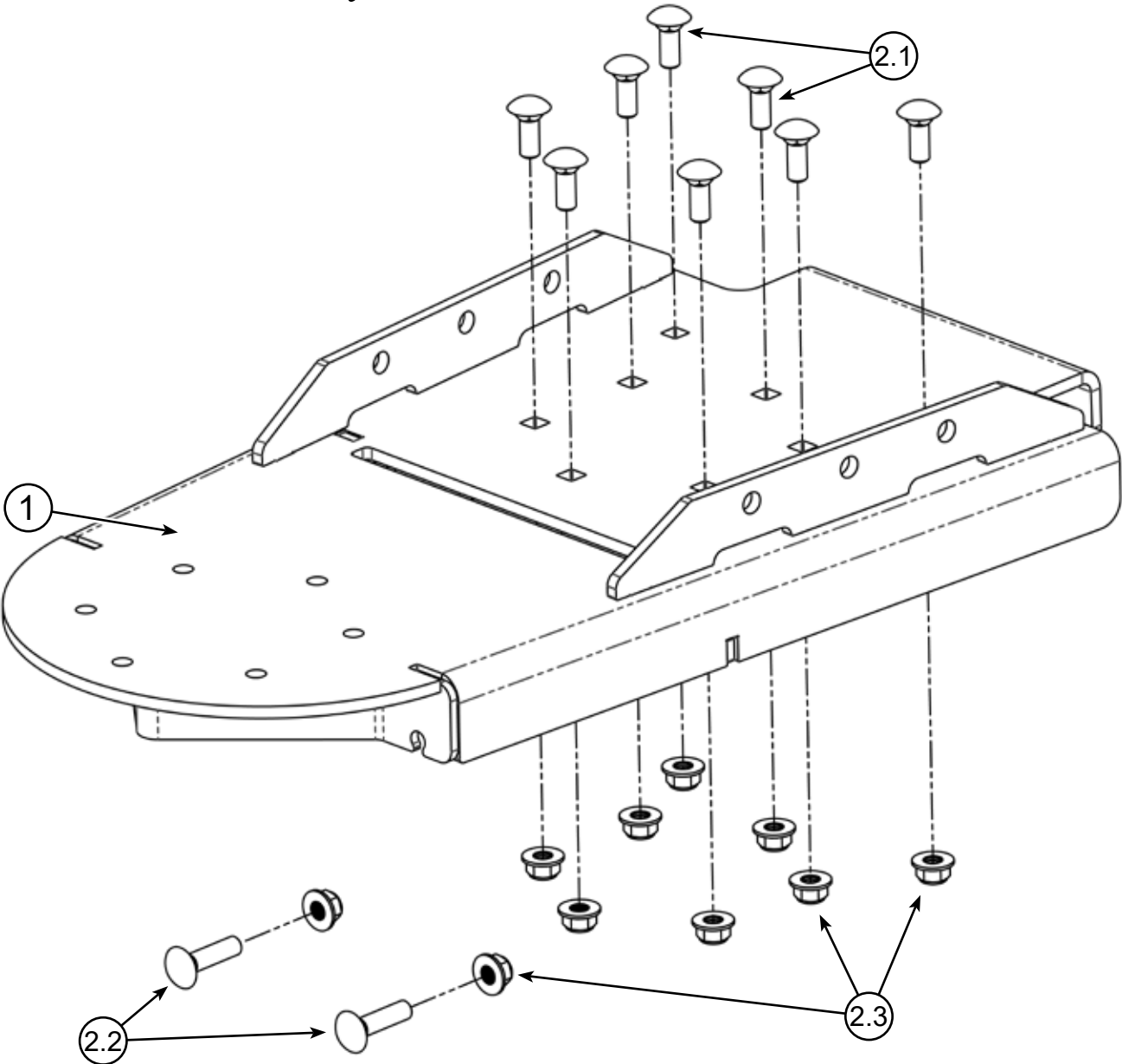
1. Remove current standard attachment brackets and discard hardware
2. Fasten the pin attachment brackets (1) to the push tubes using bolts (2.1) and nuts (2.2) as shown in image above.
3. Torque 3/8" bolts to 31lb-ft



# UTV V-PLOW TRACK EXTENSION

Plow Accessory

Part #106280 Rev. A



| Kit Components: |      |                                   |
|-----------------|------|-----------------------------------|
| Item #          | Qty. | Description                       |
| 1               | 1    | Track Extension Weldment (106281) |
| 2               | 1    | Hardware Kit HK-393               |
| 2.1             | 8    | 3/8"-16 x 1.00 Carriage Bolt GR5  |
| 2.2             | 2    | 3/8"-16 x 1.50 Carriage Bolt GR5  |
| 2.3             | 10   | 3/8"-16 Hex Nut Flange Nylock GR5 |

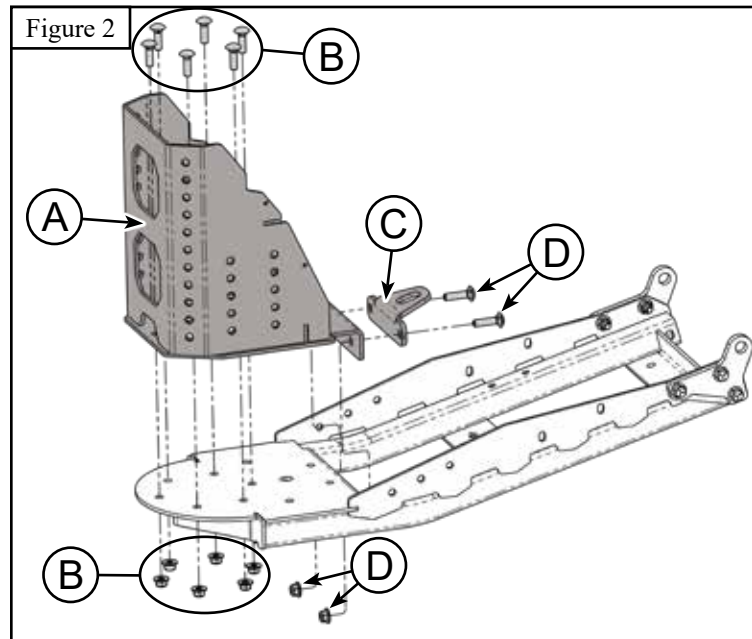




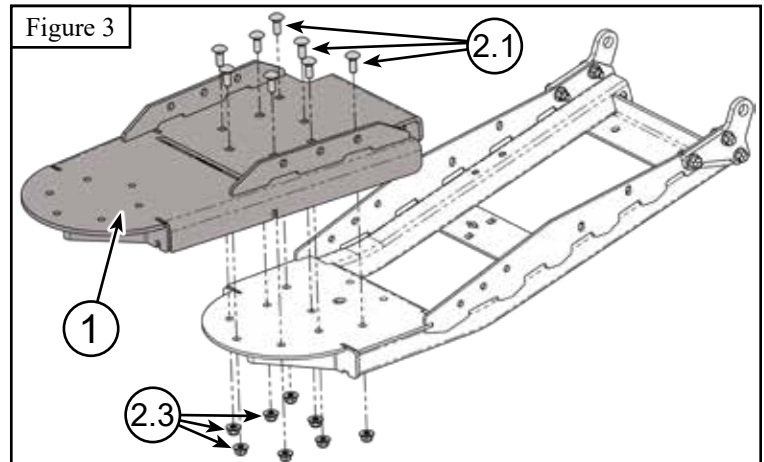
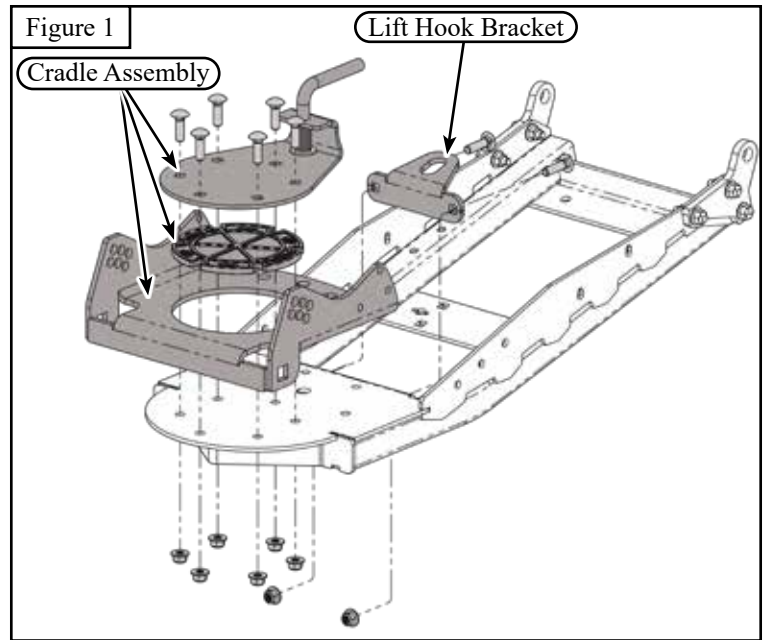
# INSTALLATION INSTRUCTIONS

**Note:** Make sure all hardware needed to complete this mount is in the package. Thoroughly read through and understand the instructions before installing.

1. If you are converting an existing Pro-S or Pro-Poly Plow System, remove the Cradle Assembly and Lift Hook Bracket from the push tubes as shown in **Figure 1**. Discard all brackets and hardware removed in this step as they will not be reused.

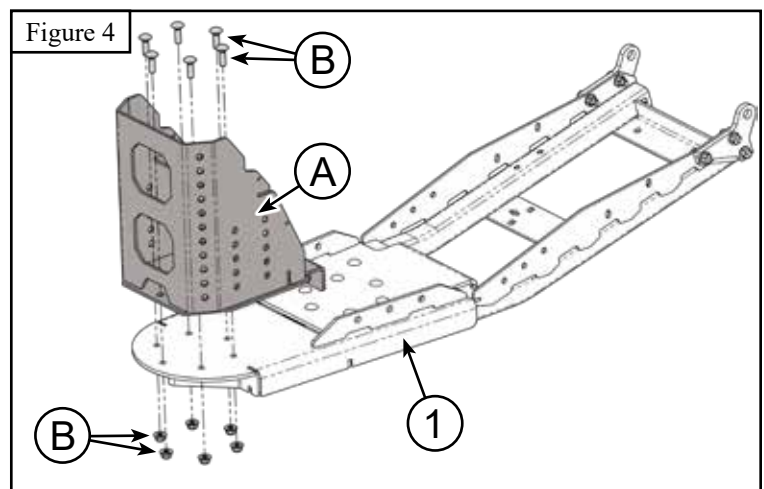


2. If you are installing the V-Plow Track Extension (1) onto an existing V-Plow System, remove the V-Plow Tube Center Pivot (A) with hardware (B) and Lift Hook Bracket (C) with Hardware (D) as shown in **Figure 2**. Save all hardware and brackets from this step for later reinstallation.

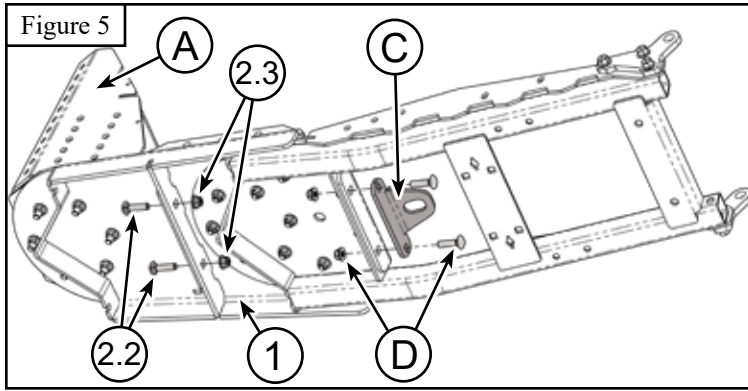


3. Once the Push Tube Bulkhead is disassembled, or if you are starting with a Push Tube Weldment, Install V-Plow Track Extension (1) using Bolts (2.1) and Nuts (2.3) as shown in **Figure 3**. Leave hardware loose.

4. Install the V-Plow Tube Center Pivot (A) onto the Track Extension (1) as shown in **Figure 4**. Leave Hardware (B) Loose.



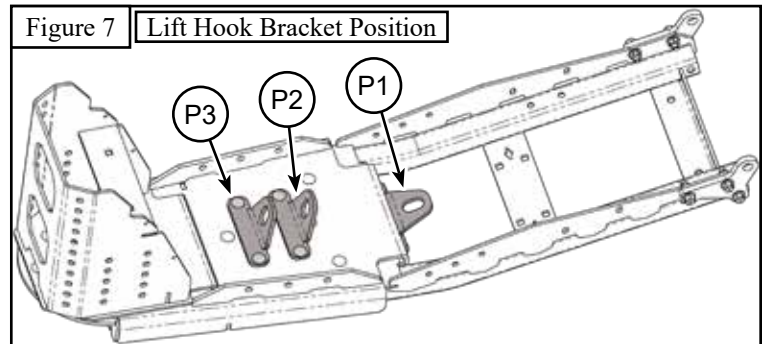
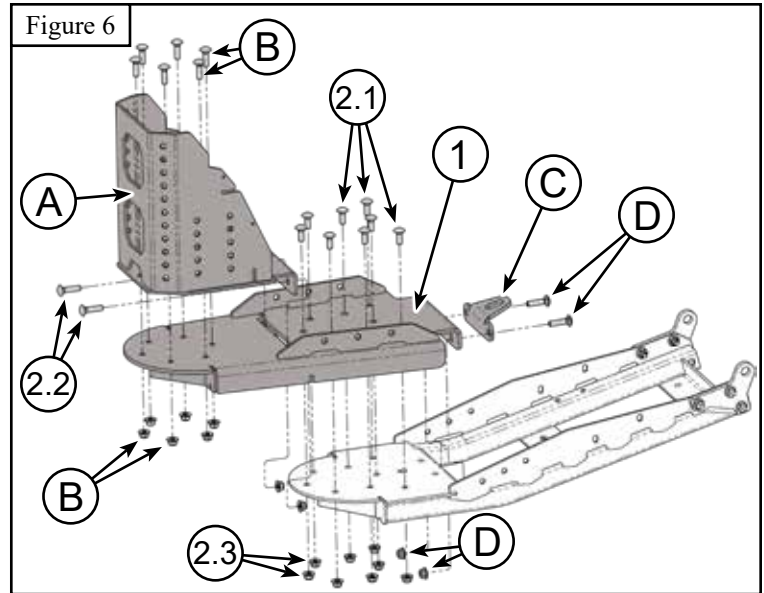
# INSTALLATION INSTRUCTIONS



5. Use bolts (2.2) and nuts (2.3) to connect the Track Extension (1) and V-Plow Tube Center Pivot (A) as shown in **Figure 5**. Attach the Lift Hook Bracket (C) in it's original location with original hardware (D). Leave hardware loose.

Note: If you have a winch mounted high on your machine, an alternate lift hook location can be used as shown in **Figure 7**. If you relocate the Hook Bracket (C), Hardware (D) must be moved with it. See **Figure 6**.

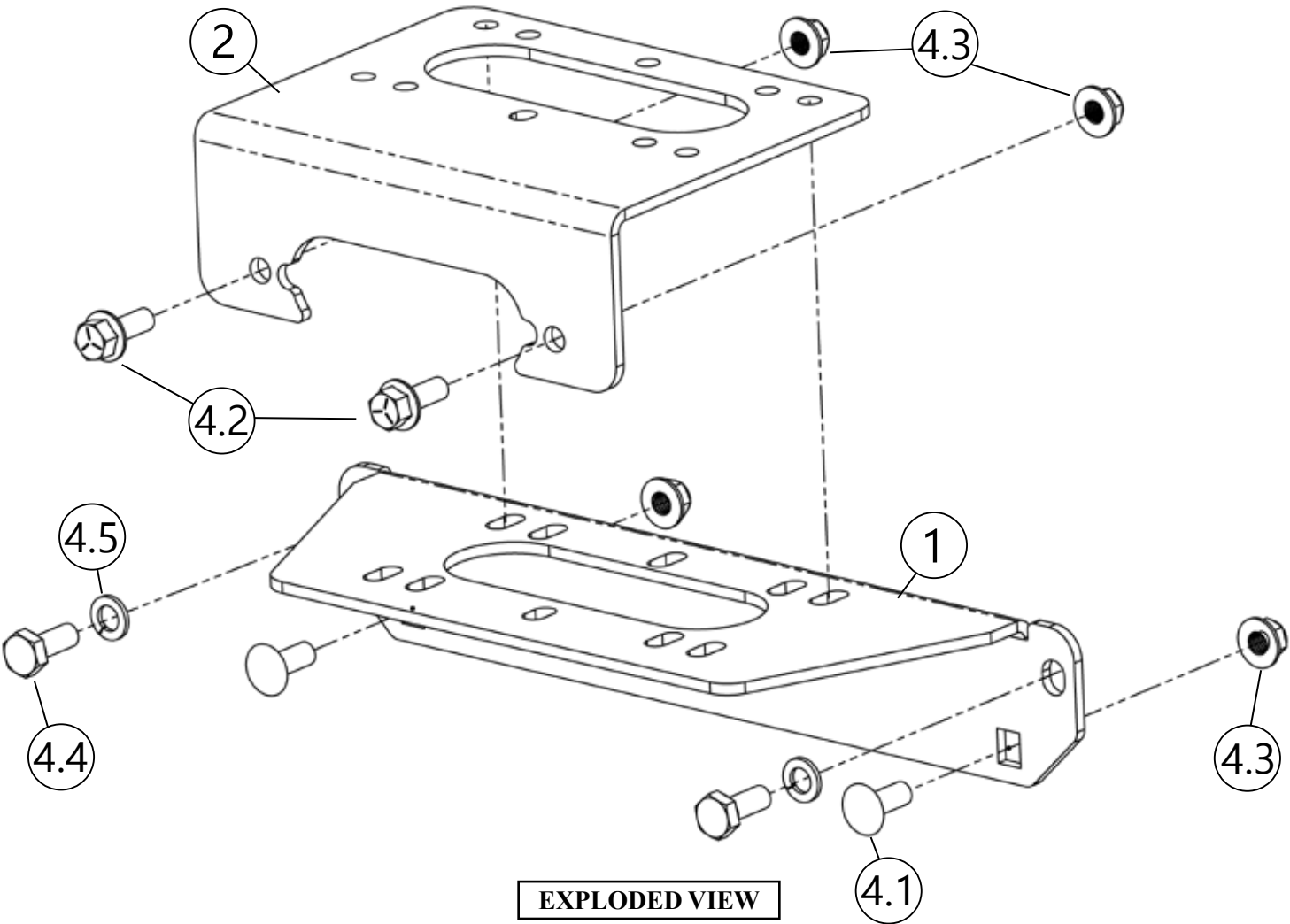
6. Tighten all harware evenly



# POLARIS RANGER 1000

Winch Mount

PART #101480



| Item # | Qty. | Description            |
|--------|------|------------------------|
| 1      | 1    | Winch Mount            |
| 2      | 1    | Fairlead Mount         |
| 3      | 1    | HK-031 (See Figure 13) |
| 4      | 1    | Hardware Kit (HK-339)  |

| Item # | Qty. | Description                     |
|--------|------|---------------------------------|
| 4.1    | 2    | 3/8\"-16 x 1.00 Carriage Bolt   |
| 4.2    | 2    | 3/8\"-16 x 1.00 Hex Flange Bolt |
| 4.3    | 4    | 3/8\"-16 Hex Flange Nylock Nut  |
| 4.4    | 2    | M10-1.50 x 25 Hex Bolt          |
| 4.5    | 2    | M10 Lock Washer                 |



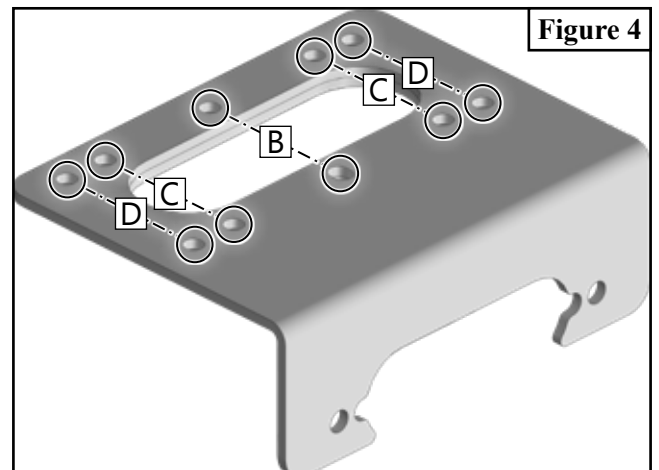
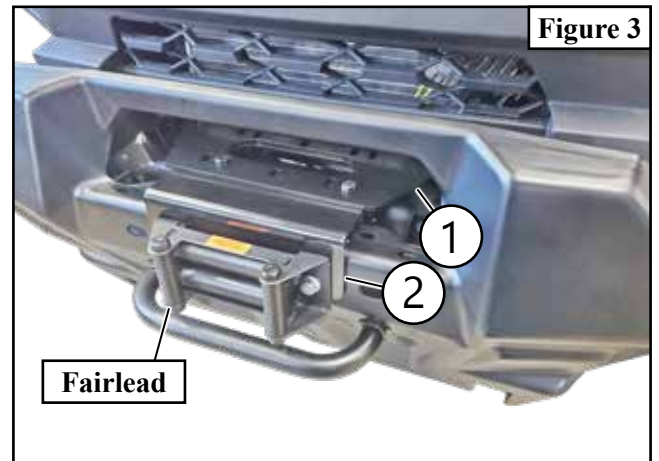
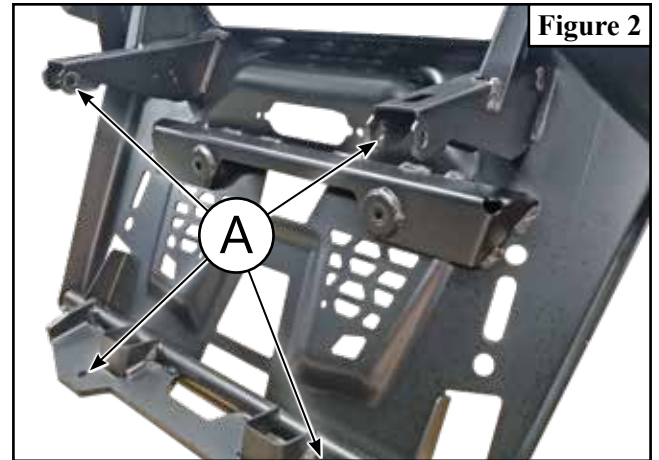
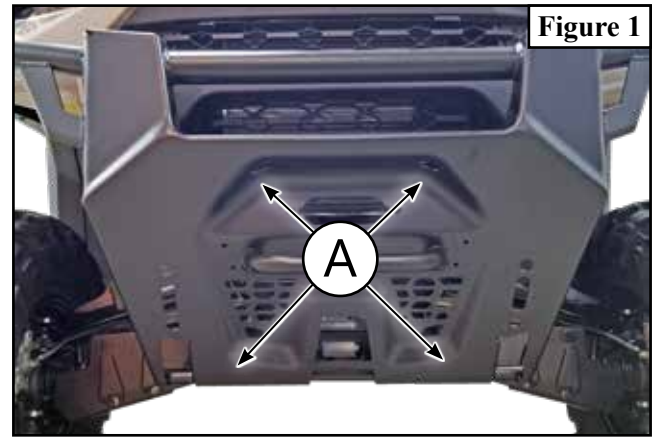
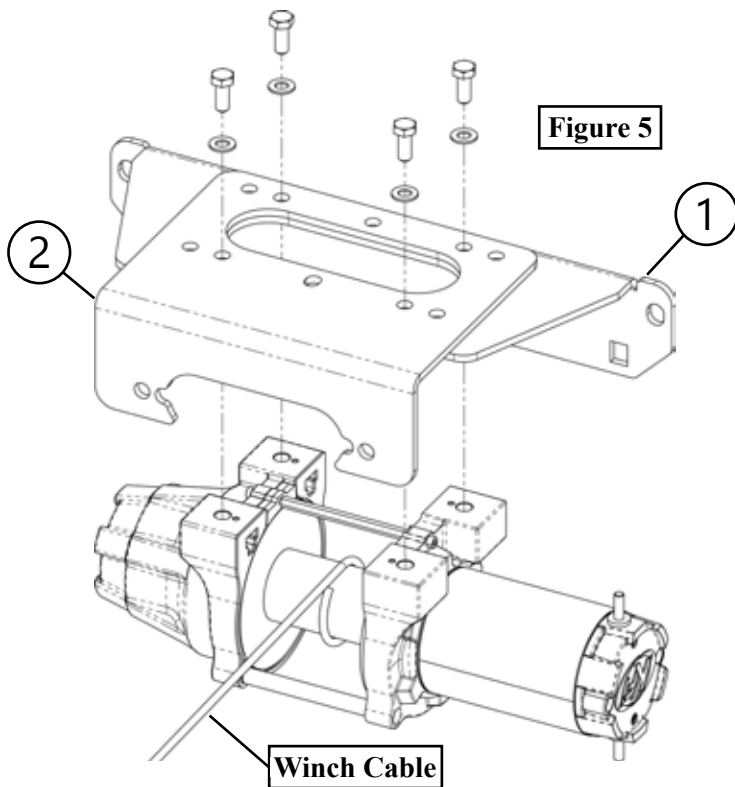
# INSTALLATION INSTRUCTIONS

**Note:** Make sure all hardware needed to complete this mount is in the package. Thoroughly read through and understand the instructions before installing.

1. Remove front bumper by removing OEM bolts (A) found on the back side of the front bumper as shown in **Figure 2 & 3**.
2. Set fairlead mount (2) on top of the winch mount (1) lining up the holes. Loosely attach the winch upside down to the two piece mount using the hardware supplied with the winch. Make sure the cable is spooling off of the top (between the spool and the winch mount) as shown in Figure 5.

**Note:** For machines with a bumper as shown in **Figure 3**, found on some (NON XP EPS) models, winch mount (1) will need to be installed and fastened to the frame and the front bumper reinstalled before installing fairlead mount (2) and the winch as shown. Fairlead mount (2) will be installed over the front of the front bumper as shown in **Figure 3**.

3. For a 2-Hole mounted winch, use holes (B). For standard 4-Hole winches, use holes (C). For wide 4-Hole winches, use holes (D) as shown in **Figure 4**.





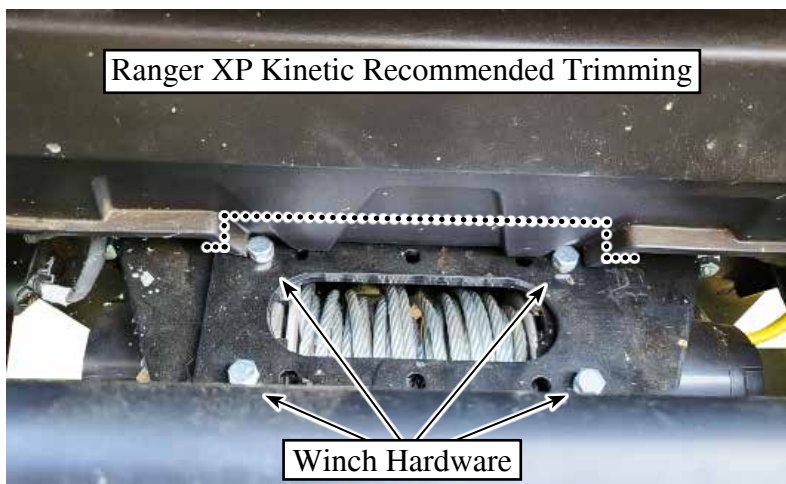
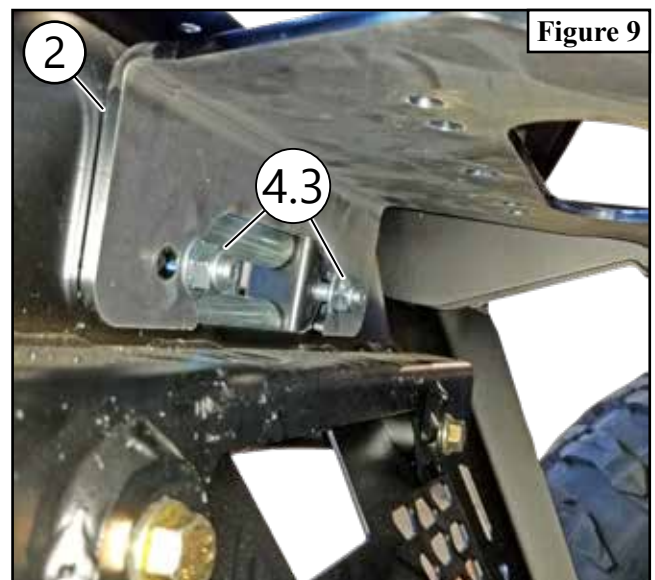
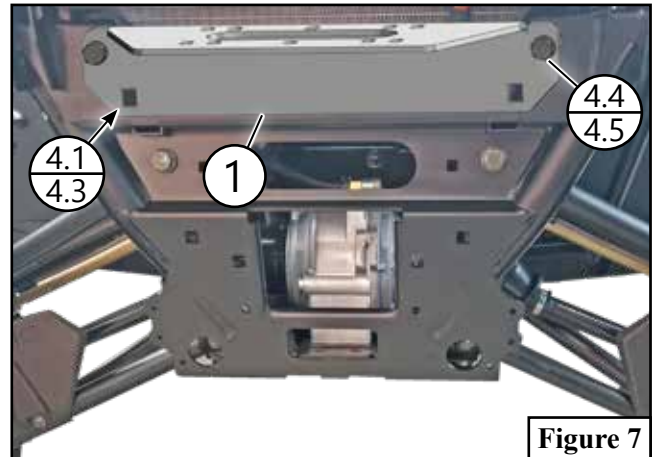
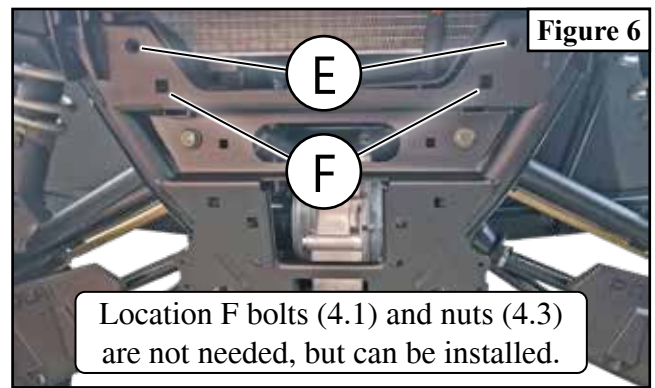
4. Set winch mount (1) in place and secure top of mount using bolts (4.4) and lock washers (4.5) in location (E) as shown in **Figure 6 & 7**.
5. **For machines 2020 and older**, attach the bottom of winch mount (1) using bolts (4.1) and nuts (4.3) in location (F) as shown in the **Exploded View** and **Figures 6 & 7**.
6. **For machines 2021 and newer**, bolts (4.1) and nuts (4.3) are not needed, but can be installed if desired. In order to install, 2x holes will need to be drilled using a 13/32" drill bit. The bolts (4.1) and nuts (4.3) will be need to be flipped around so the bolt goes in from the front, and the nut goes on from the back. See **Exploded View** and **Figures 6 & 7**.

7. Tighten hardware from steps 4 & (5 or 6).

**Note:** If the winch terminals contact or come close to contacting the machine, you may need to rotate the motor end cap.

8. Reattach front bumper using OEM bolts (A) removed in step 1.
9. Set the fairlead over fairlead opening in the front bumper lining up holes in fairlead with holes in the bumper. Secure fairlead to the front bumper and fairlead mount (2) using bolts (4.2) and nuts (4.3) as shown in **Figures 8 & 9**.
10. Tighten down the four winch mounting bolts.

**Note:** You may need to remove the plastic lower grille to gain access to the four winch bolts.



# WIRING INSTRUCTIONS

1. Under the hood you will find the contactor location with holes pre-drilled shown in Figure 10.

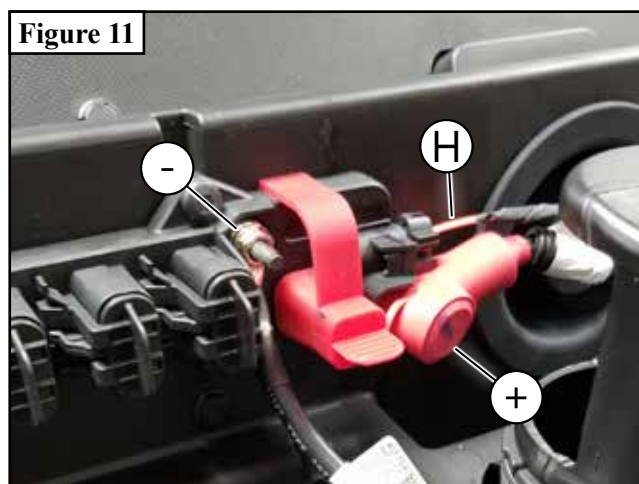
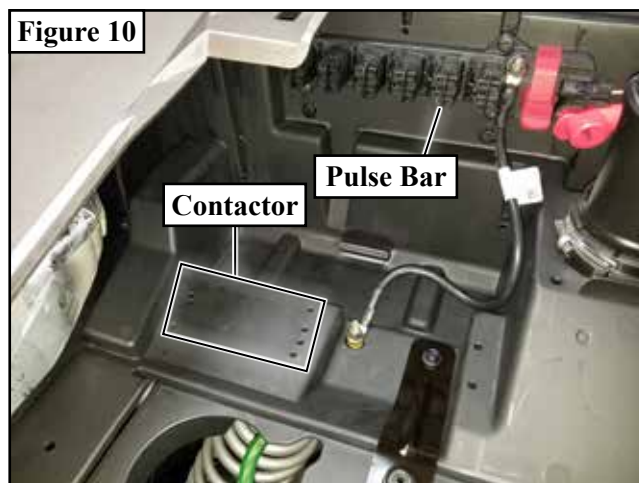
***Note:** Contactor bolts will create threads in plastic when threaded in. This is normal.*

2. Run the red positive (+) battery wire from the contactor to the positive (+) post on the pulse bar. Run the black ground wire (-) from the contactor to the ground (-) post on the pulse bar shown in Figures 10 & 11.

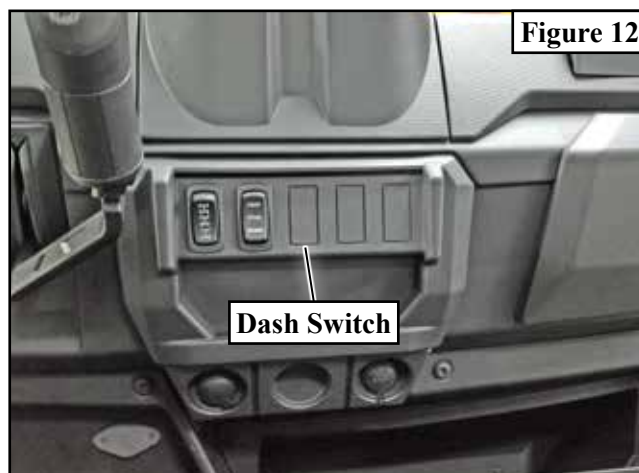
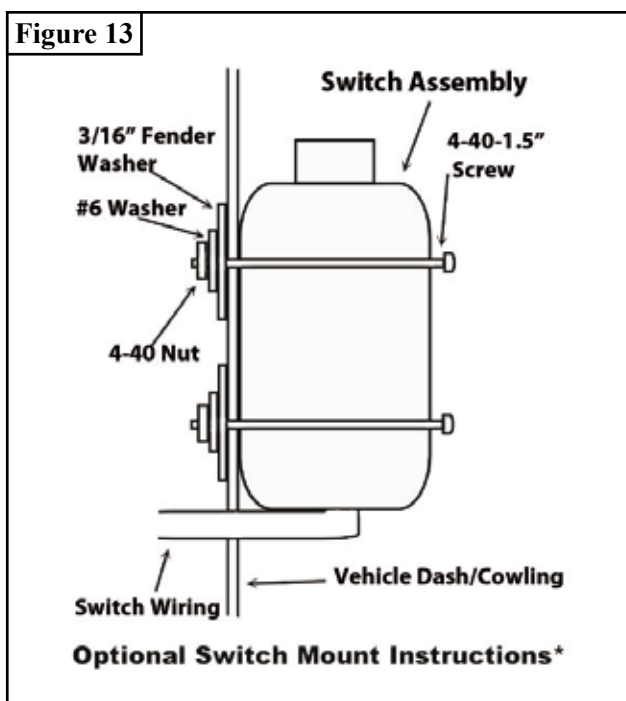
3. In the center console of the ranger, there are pre-notched holes for the dash rocker switch to mount as shown in Figure 12.

***Note:** If your winch only comes with a handbar mounted rocker switch and wish to install it in the dash, assemble per **Figure 13** using hardware kit HK-031 (3).*

4. Attach the ignition fed wire (RED) from your switch to the orange and white wire (H) shown in Figure 10 & 11.
5. For more details on wiring the winch see your winch manual.



**Figure 13**

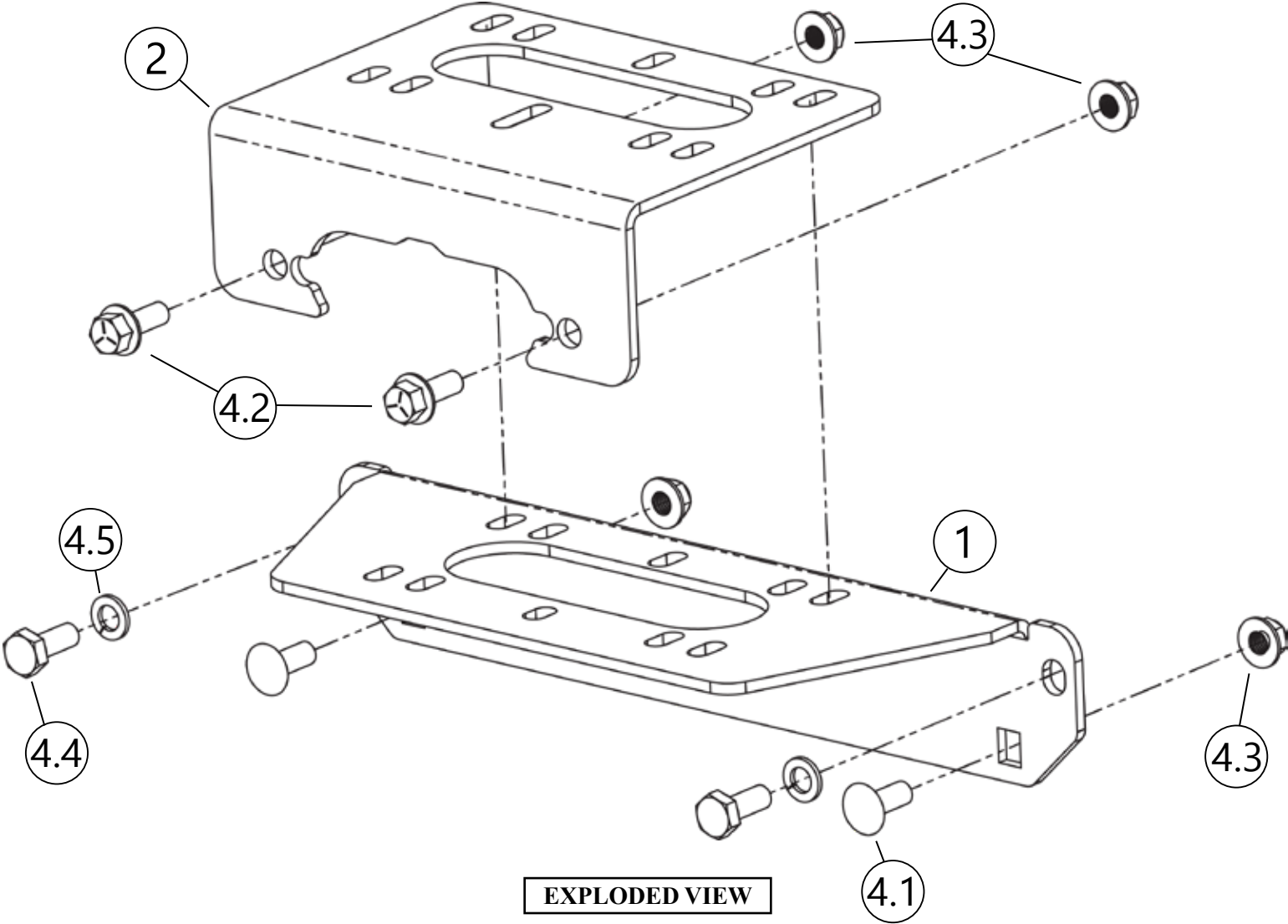


# POLARIS RANGER 1000

Winch Mount

PART #102170

Rev. A



| Item # | Qty. | Description            |
|--------|------|------------------------|
| 1      | 1    | Winch Mount            |
| 2      | 1    | Fairlead Mount         |
| 3      | 1    | HK-031 (See Figure 13) |
| 4      | 1    | Hardware Kit (HK-339)  |

| Item # | Qty. | Description                     |
|--------|------|---------------------------------|
| 4.1    | 2    | 3/8\"-16 x 1.00 Carriage Bolt   |
| 4.2    | 2    | 3/8\"-16 x 1.00 Hex Flange Bolt |
| 4.3    | 4    | 3/8\"-16 Hex Flange Nylock Nut  |
| 4.4    | 2    | M10-1.50 x 25 Hex Bolt          |
| 4.5    | 2    | M10 Lock Washer                 |





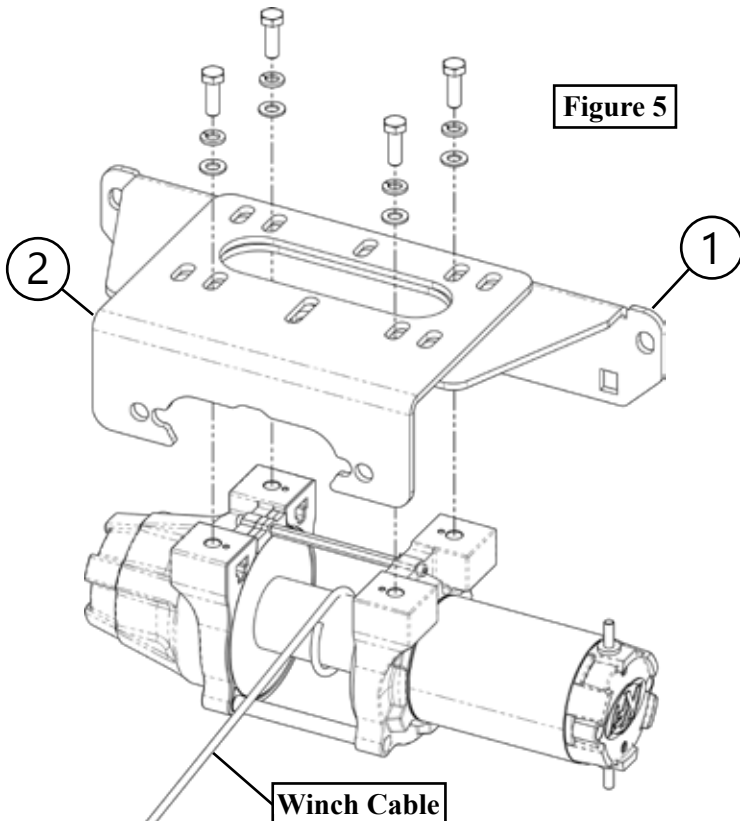
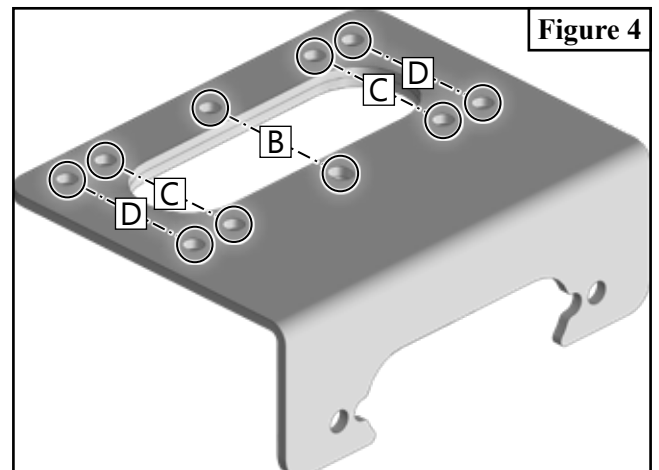
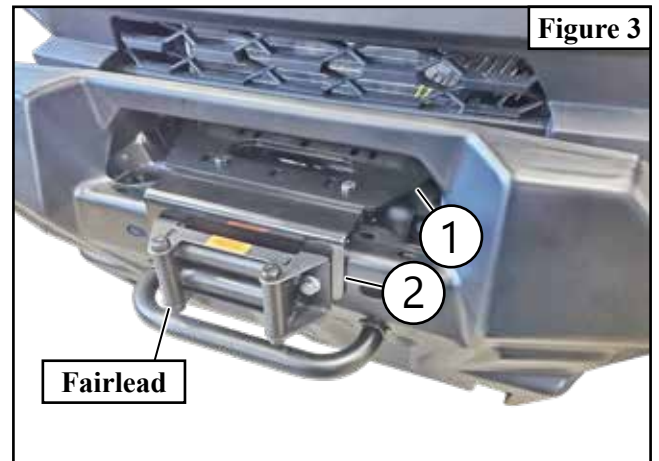
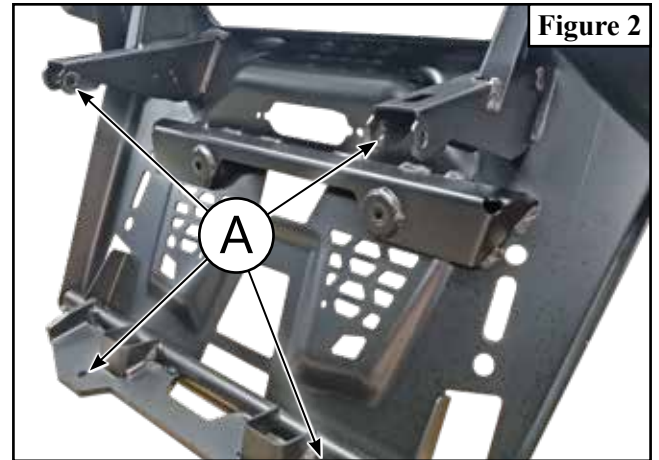
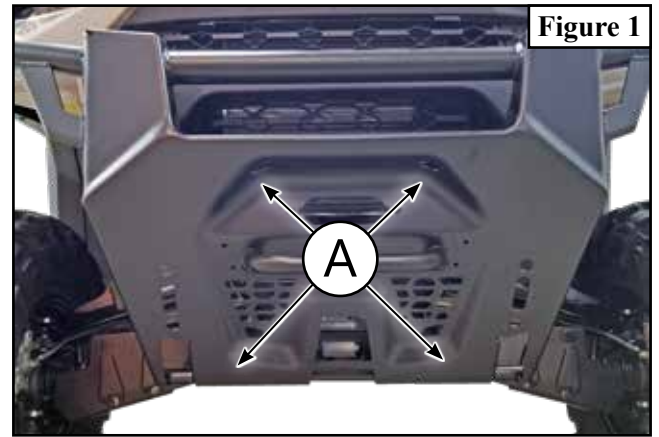
# INSTALLATION INSTRUCTIONS

**Note:** Make sure all hardware needed to complete this mount is in the package. Thoroughly read through and understand the instructions before installing.

1. Remove front bumper by removing OEM bolts (A) found on the back side of the front bumper as shown in **Figure 2 & 3**.
2. Set fairlead mount (2) on top of the winch mount (1) lining up the holes. Loosely attach the winch upside down to the two piece mount using the hardware supplied with the winch. Make sure the cable is spooling off of the top (between the spool and the winch mount) as shown in Figure 5.

**Note:** For machines with a bumper as shown in **Figure 3**, found on some (NON XP EPS) models, winch mount (1) will need to be installed and fastened to the frame and the front bumper reinstalled before installing fairlead mount (2) and the winch as shown. Fairlead mount (2) will be installed over the front of the front bumper as shown in **Figure 3**.

3. For a 2-Hole mounted winch, use holes (B). For standard 4-Hole winches, use holes (C). For wide 4-Hole winches, use holes (D) as shown in **Figure 4**.





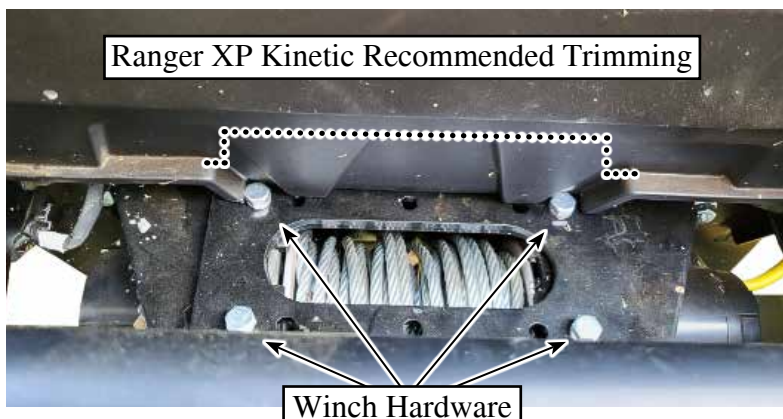
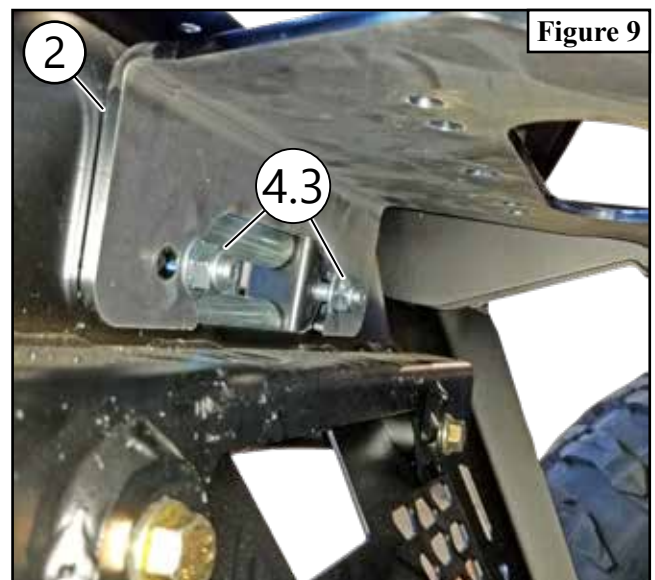
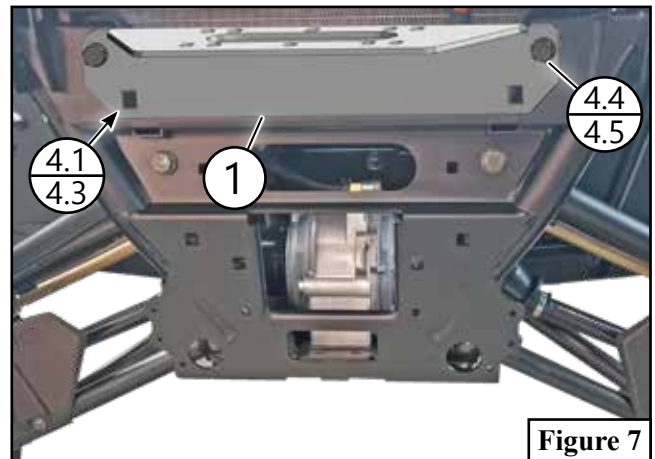
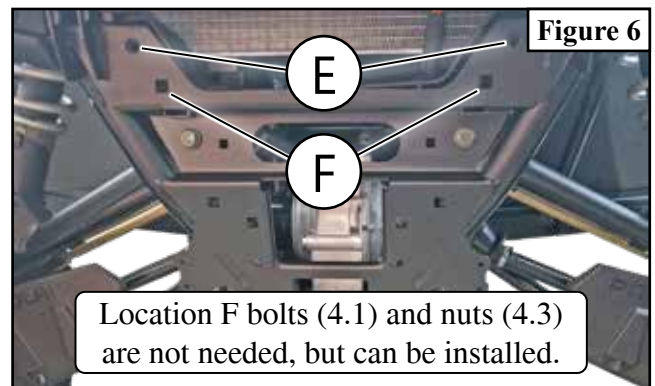
4. Set winch mount (1) in place and secure top of mount using bolts (4.4) and lock washers (4.5) in location (E) as shown in **Figure 6 & 7**.
5. **For machines 2020 and older,** attach the bottom of winch mount (1) using bolts (4.1) and nuts (4.3) in location (F) as shown in the **Exploded View** and **Figures 6 & 7**.
6. **For machines 2021 and newer,** bolts (4.1) and nuts (4.3) are not needed, but can be installed if desired. In order to install, 2x holes will need to be drilled using a 13/32" drill bit. The bolts (4.1) and nuts (4.3) will be need to be flipped around so the bolt goes in from the front, and the nut goes on from the back. See **Exploded View** and **Figures 6 & 7**.

7. Tighten hardware from steps 4 & (5 or 6).

***Note:** If the winch terminals contact or come close to contacting the machine, you may need to rotate the motor end cap.*

8. Reattach front bumper using OEM bolts (A) removed in step 1.
9. Set the fairlead over fairlead opening in the front bumper lining up holes in fairlead with holes in the bumper. Secure fairlead to the front bumper and fairlead mount (2) using bolts (4.2) and nuts (4.3) as shown in **Figures 8 & 9**.
10. The slots in parts 1 and 2 provide adjustment for different winches. Position the winch as desired, ensuring the leads do not come into contact with the frame, and then evenly tighten the winch bolts.

***Note:** You may need to remove the plastic lower grille to gain access to the four winch bolts.*



# WIRING INSTRUCTIONS

1. Under the hood you will find the contactor location with holes pre-drilled shown in Figure 10.

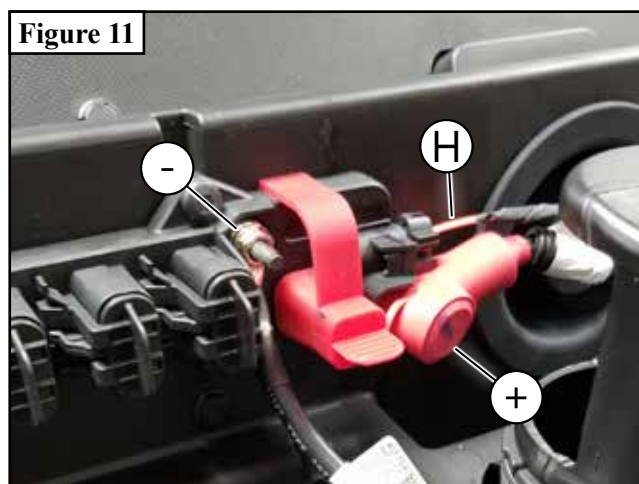
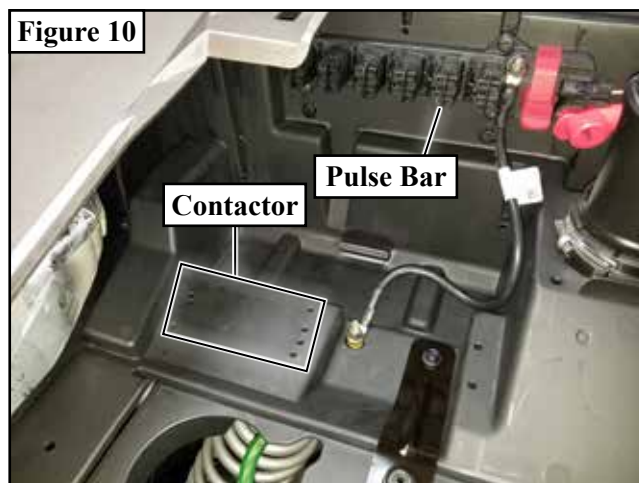
***Note:** Contactor bolts will create threads in plastic when threaded in. This is normal.*

2. Run the red positive (+) battery wire from the contactor to the positive (+) post on the pulse bar. Run the black ground wire (-) from the contactor to the ground (-) post on the pulse bar shown in Figures 10 & 11.

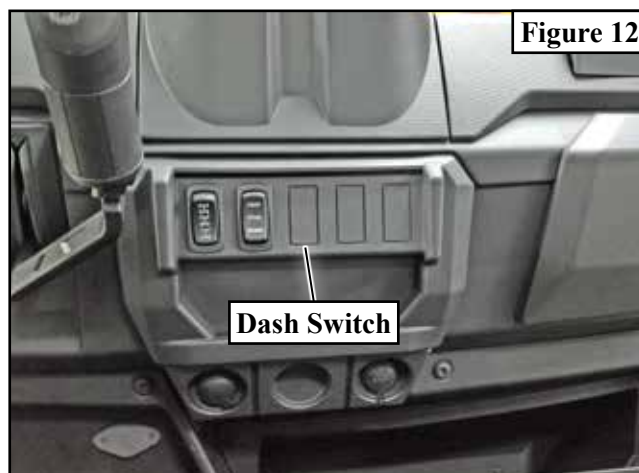
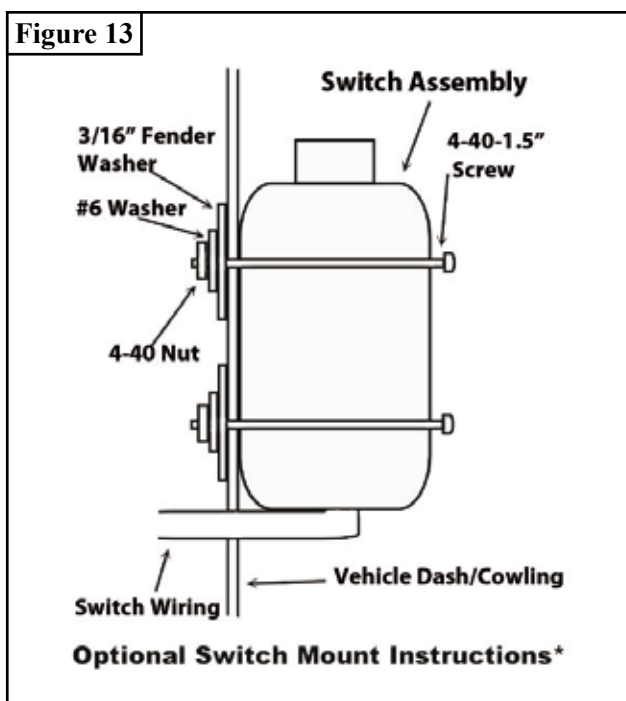
3. In the center console of the ranger, there are pre-notched holes for the dash rocker switch to mount as shown in Figure 12.

***Note:** If your winch only comes with a handbar mounted rocker switch and wish to install it in the dash, assemble per **Figure 13** using hardware kit HK-031 (3).*

4. Attach the ignition fed wire (RED) from your switch to the orange and white wire (H) shown in Figure 10 & 11.
5. For more details on wiring the winch see your winch manual.



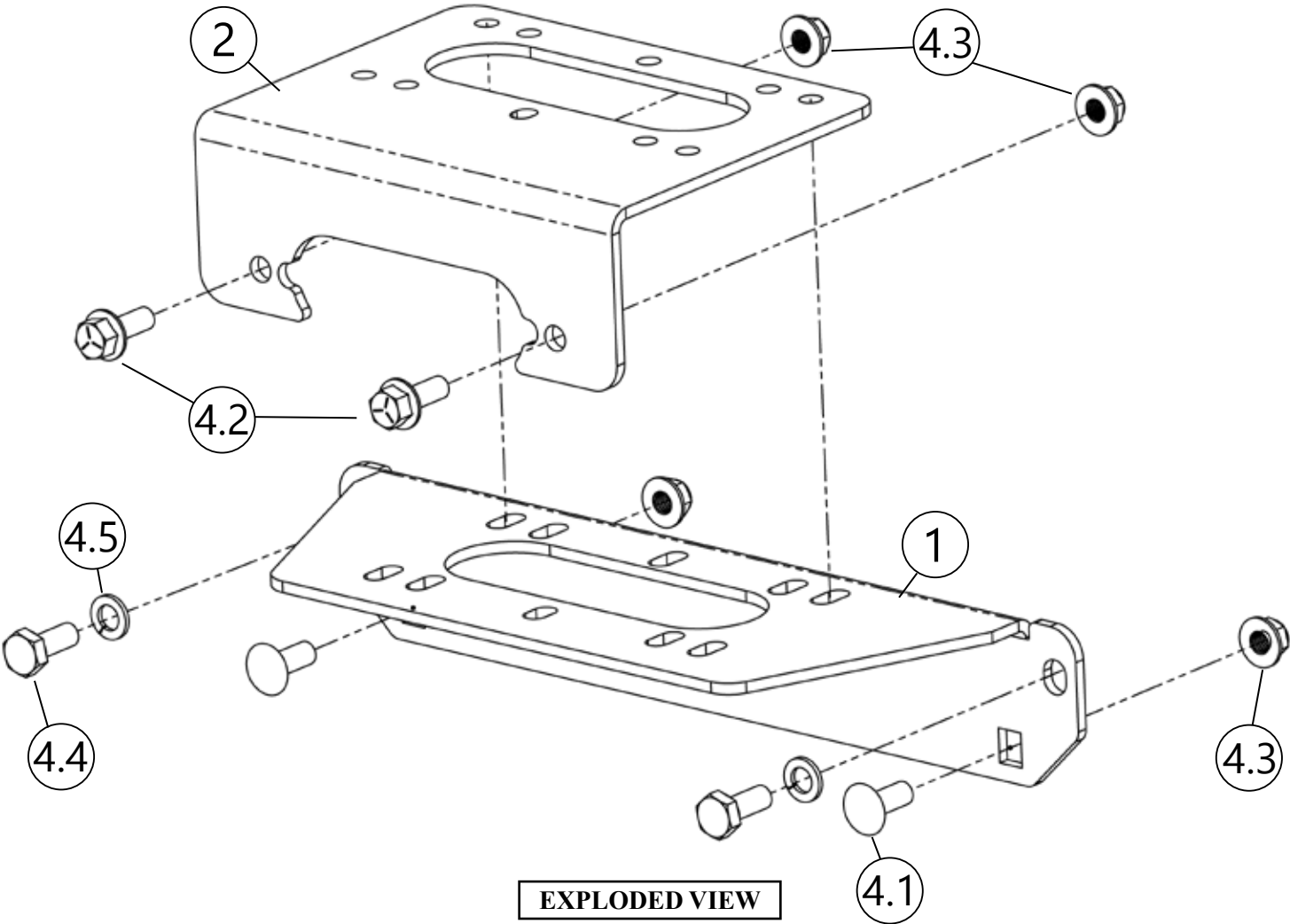
**Figure 13**



# POLARIS RANGER 1000

Winch Mount

PART #101480



| Item # | Qty. | Description            |
|--------|------|------------------------|
| 1      | 1    | Winch Mount            |
| 2      | 1    | Fairlead Mount         |
| 3      | 1    | HK-031 (See Figure 13) |
| 4      | 1    | Hardware Kit (HK-339)  |

| Item # | Qty. | Description                     |
|--------|------|---------------------------------|
| 4.1    | 2    | 3/8\"-16 x 1.00 Carriage Bolt   |
| 4.2    | 2    | 3/8\"-16 x 1.00 Hex Flange Bolt |
| 4.3    | 4    | 3/8\"-16 Hex Flange Nylock Nut  |
| 4.4    | 2    | M10-1.50 x 25 Hex Bolt          |
| 4.5    | 2    | M10 Lock Washer                 |





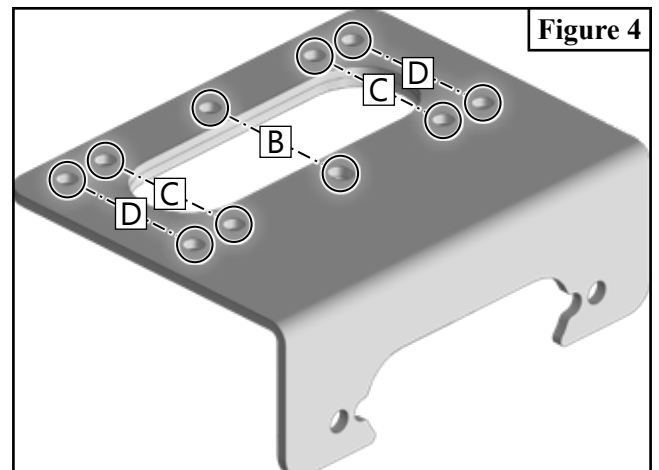
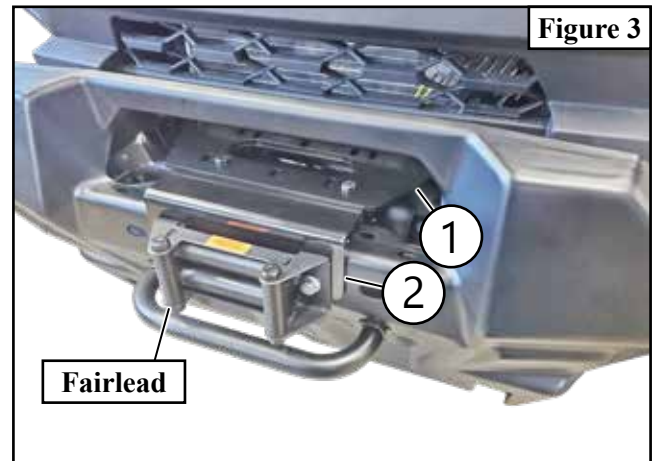
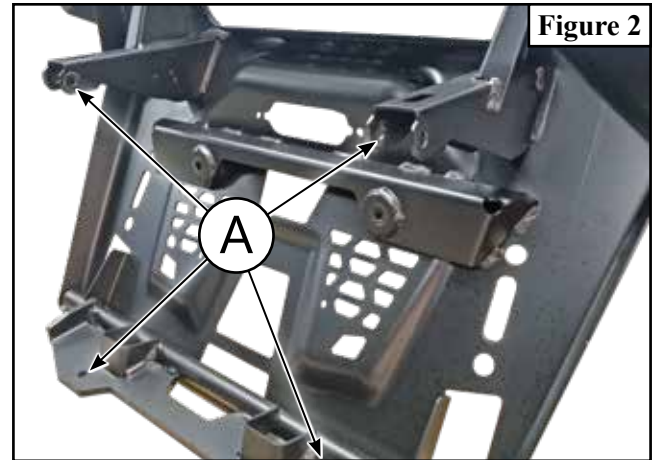
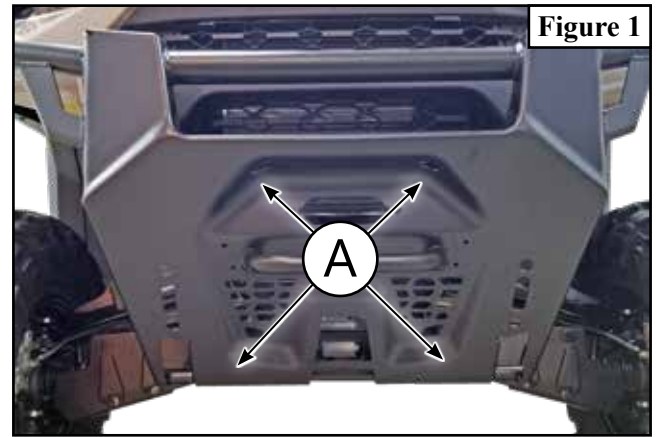
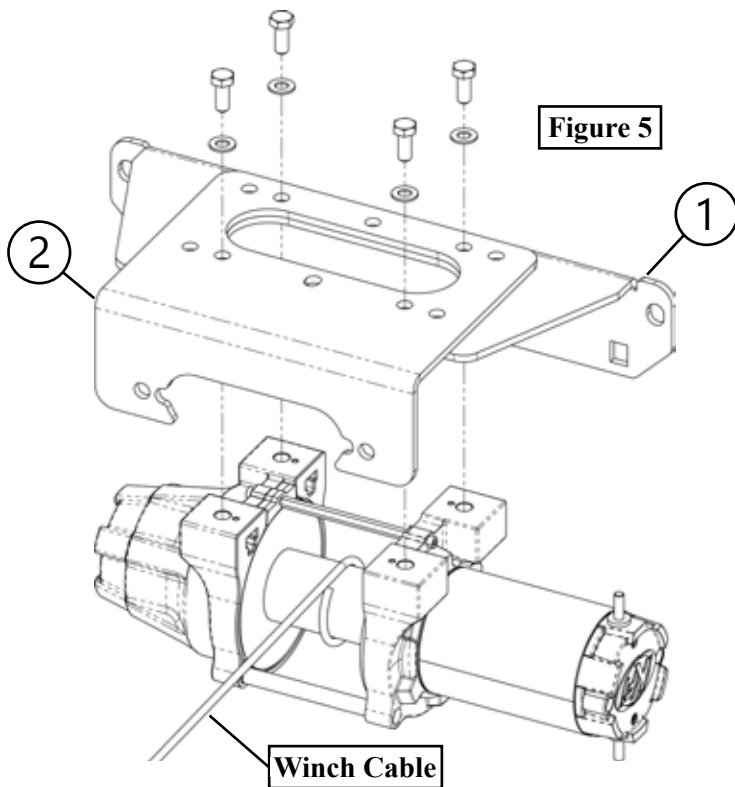
# INSTALLATION INSTRUCTIONS

**Note:** Make sure all hardware needed to complete this mount is in the package. Thoroughly read through and understand the instructions before installing.

1. Remove front bumper by removing OEM bolts (A) found on the back side of the front bumper as shown in **Figure 2 & 3**.
2. Set fairlead mount (2) on top of the winch mount (1) lining up the holes. Loosely attach the winch upside down to the two piece mount using the hardware supplied with the winch. Make sure the cable is spooling off of the top (between the spool and the winch mount) as shown in Figure 5.

**Note:** For machines with a bumper as shown in **Figure 3**, found on some (NON XP EPS) models, winch mount (1) will need to be installed and fastened to the frame and the front bumper reinstalled before installing fairlead mount (2) and the winch as shown. Fairlead mount (2) will be installed over the front of the front bumper as shown in **Figure 3**.

3. For a 2-Hole mounted winch, use holes (B). For standard 4-Hole winches, use holes (C). For wide 4-Hole winches, use holes (D) as shown in **Figure 4**.





4. Set winch mount (1) in place and secure top of mount using bolts (4.4) and lock washers (4.5) in location (E) as shown in **Figure 6 & 7**.
5. ***For machines 2020 and older***, attach the bottom of winch mount (1) using bolts (4.1) and nuts (4.3) in location (F) as shown in the **Exploded View** and **Figures 6 & 7**.
6. ***For machines 2021 and newer***, bolts (4.1) and nuts (4.3) are not needed, but can be installed if desired. In order to install, 2x holes will need to be drilled using a 13/32" drill bit. The bolts (4.1) and nuts (4.3) will be need to be flipped around so the bolt goes in from the front, and the nut goes on from the back. See **Exploded View** and **Figures 6 & 7**.

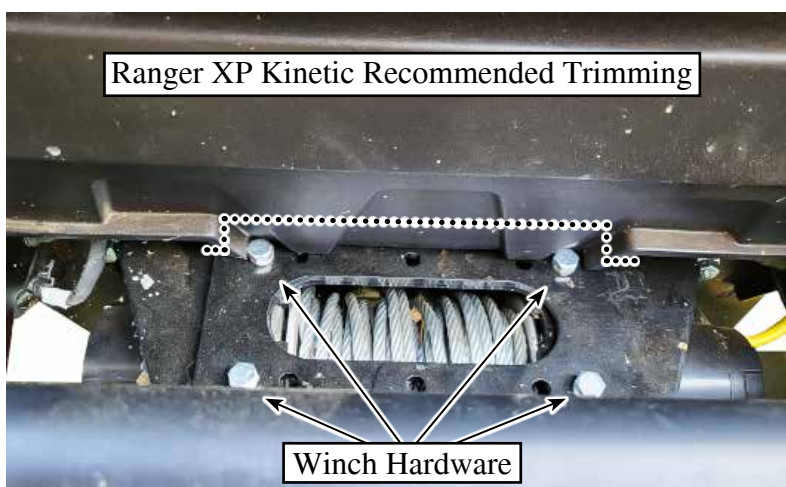
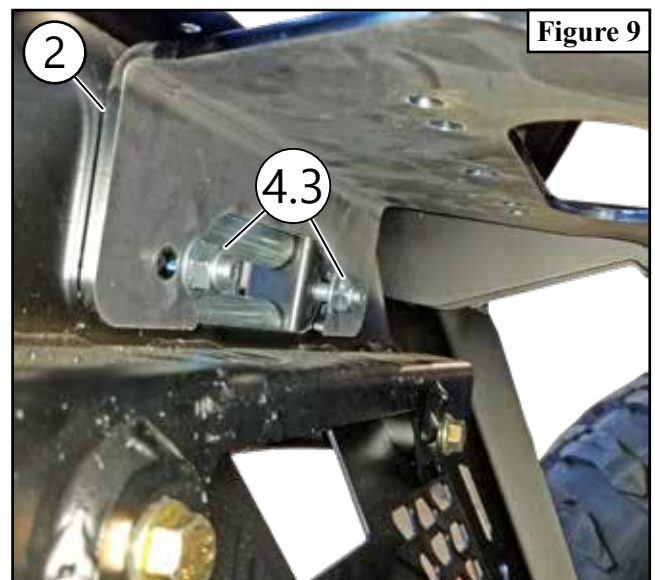
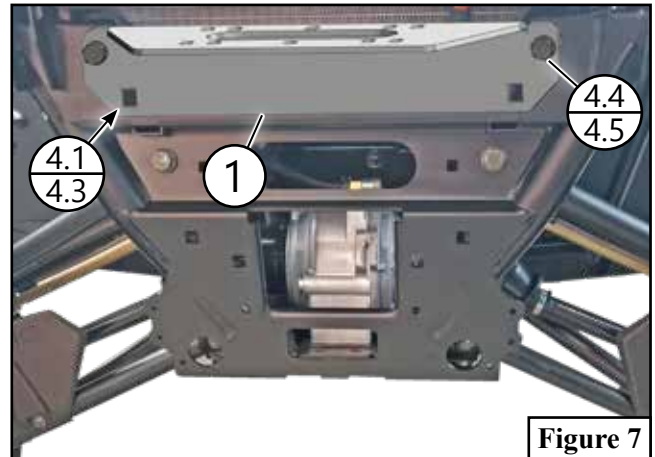
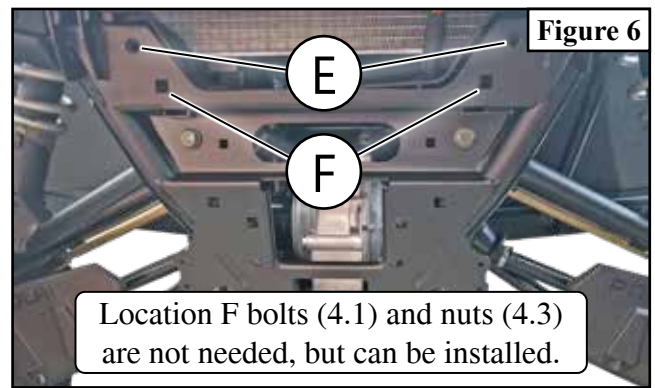
7. Tighten hardware from steps 4 & (5 or 6).

**Note:** If the winch terminals contact or come close to contacting the machine, you may need to rotate the motor end cap.

8. Reattach front bumper using OEM bolts (A) removed in step 1.
9. Set the fairlead over fairlead opening in the front bumper lining up holes in fairlead with holes in the bumper. Secure fairlead to the front bumper and fairlead mount (2) using bolts (4.2) and nuts (4.3) as shown in **Figures 8 & 9**.

10. Tighten down the four winch mounting bolts.

**Note:** You may need to remove the plastic lower grille to gain access to the four winch bolts.



# WIRING INSTRUCTIONS

1. Under the hood you will find the contactor location with holes pre-drilled shown in Figure 10.

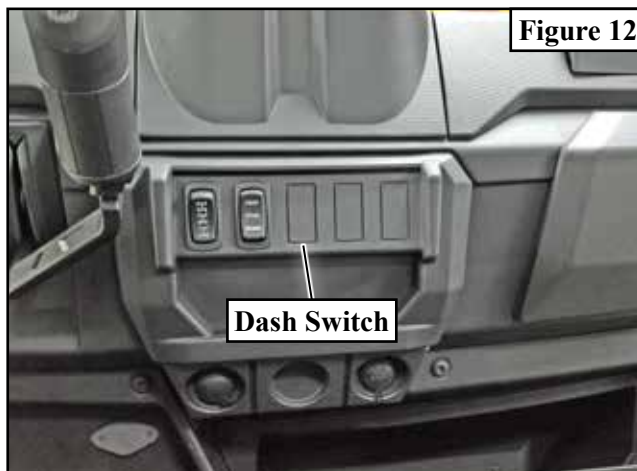
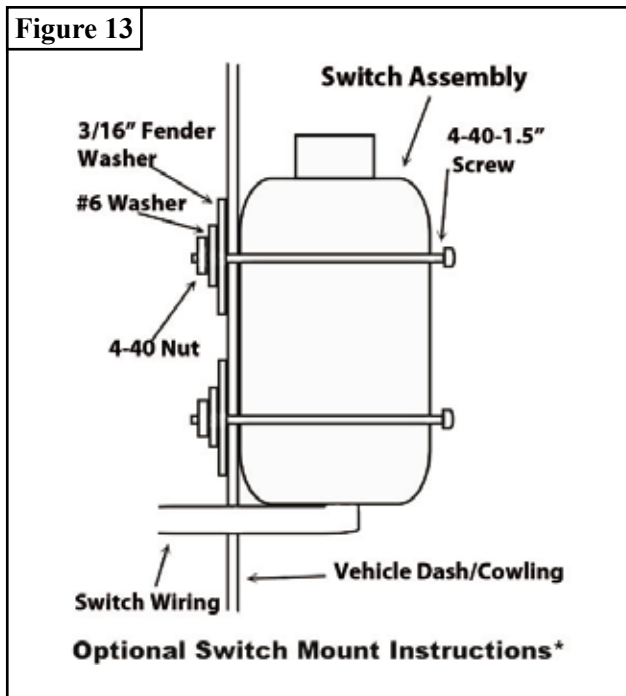
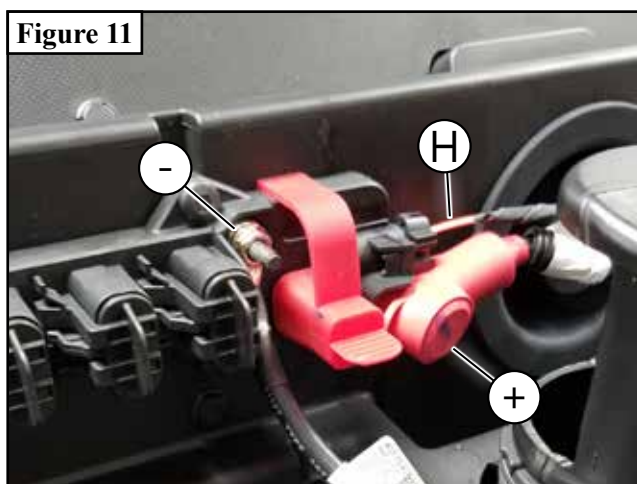
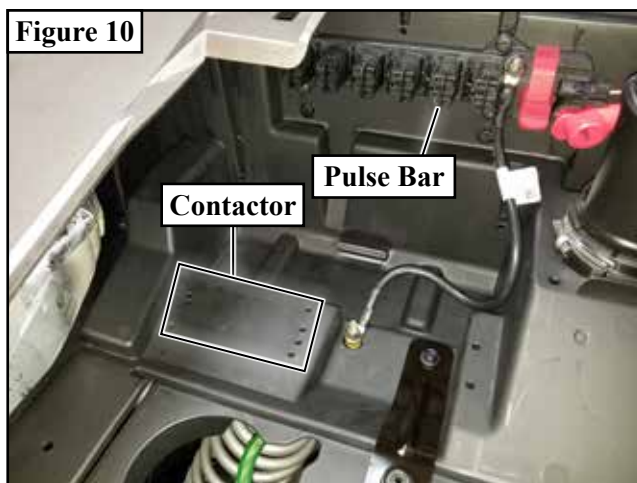
***Note:** Contactor bolts will create threads in plastic when threaded in. This is normal.*

2. Run the red positive (+) battery wire from the contactor to the positive (+) post on the pulse bar. Run the black ground wire (-) from the contactor to the ground (-) post on the pulse bar shown in Figures 10 & 11.

3. In the center console of the ranger, there are pre-notched holes for the dash rocker switch to mount as shown in Figure 12.

***Note:** If your winch only comes with a handbar mounted rocker switch and wish to install it in the dash, assemble per **Figure 13** using hardware kit HK-031 (3).*

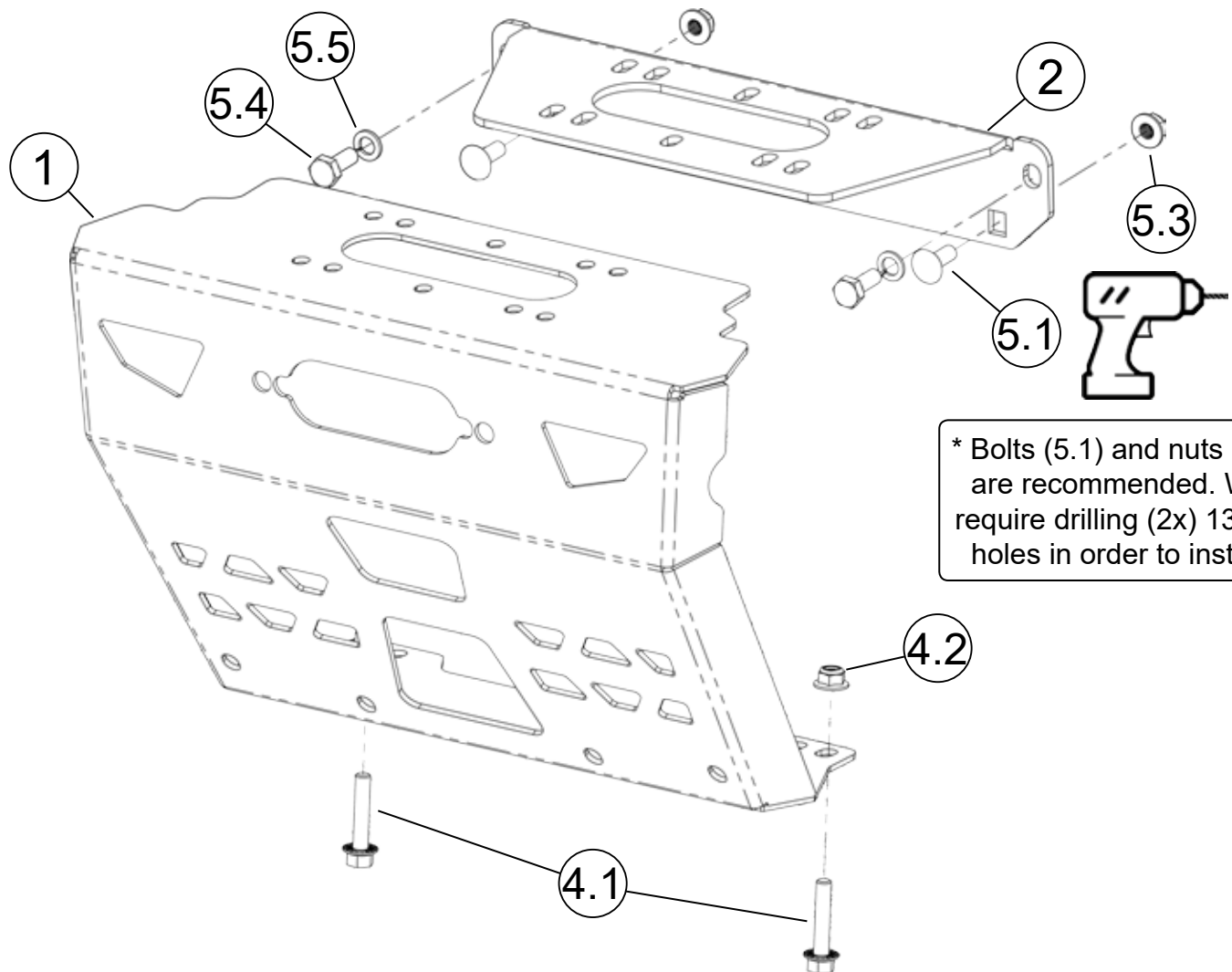
4. Attach the ignition fed wire (RED) from your switch to the orange and white wire (H) shown in Figure 10 & 11.
5. For more details on wiring the winch see your winch manual.



# RANGER / BOBCAT WINCH BUMPER

Winch Mount

PART #101830



\* Bolts (5.1) and nuts (5.3) are recommended. Will require drilling (2x) 13/32\"/>

| Item # | Qty. | Description                       |
|--------|------|-----------------------------------|
| 1      | 1    | Fairlead Bumper                   |
| 2      | 1    | Winch Mount                       |
| 3      | 1    | HK-031 (See Figure 13)            |
| 4      | 1    | Hardware Kit (HK-354)             |
| 4.1    | 2    | 3/8\"-16 x 1.75\" Hex Flange Bolt |
| 4.2    | 2    | 3/8\"-16 Hex Flange Nylock Nut    |

| Item # | Qty. | Description                       |
|--------|------|-----------------------------------|
| 5      | 1    | Hardware Kit (HK-339)             |
| 5.1*   | 2    | 3/8\"-16 x 1.00\" Carriage Bolt   |
| 5.2    | 2    | 3/8\"-16 x 1.00\" Hex Flange Bolt |
| 5.3*   | 4    | 3/8\"-16 Hex Flange Nylock Nut    |
| 5.4    | 2    | M10-1.50 x 25 Hex Bolt            |
| 5.5    | 2    | M10 Lock Washer                   |

\* Hardware not required but recommended for this mount.

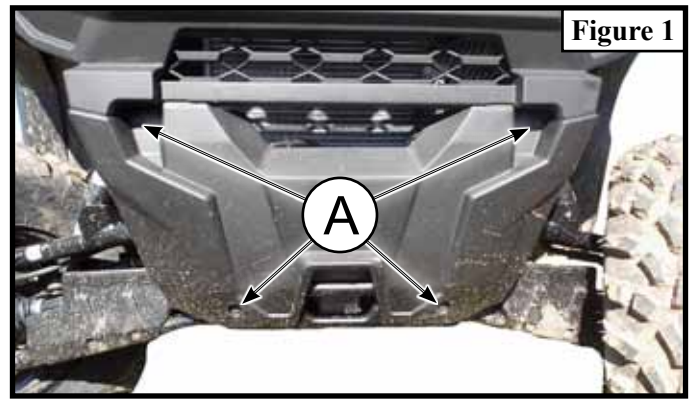




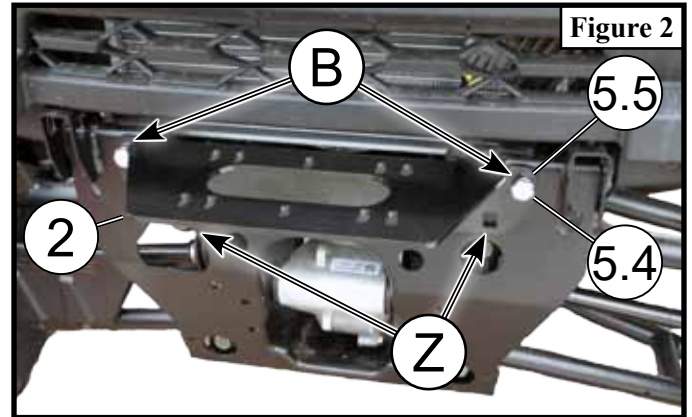
# RANGER INSTALLATION INSTRUCTIONS

**Note:** Make sure all hardware needed to complete this mount is in the package. Thoroughly read through and understand the instructions before installing.

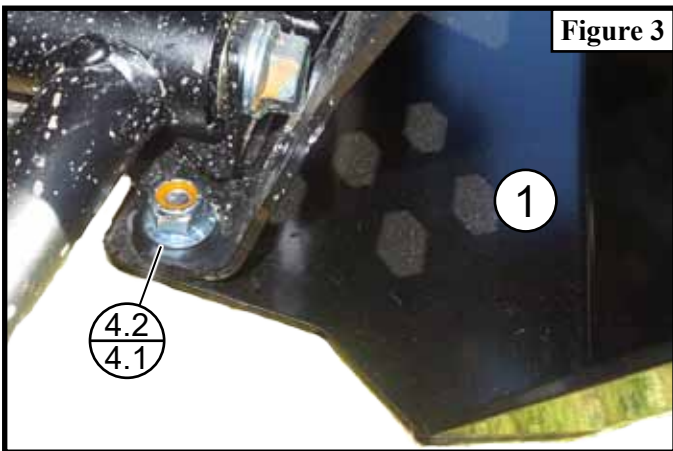
1. Remove the front plastic bumper by removing (4X) OEM torx bolts (A) as shown in **Figure 1**.
2. Install winch mount (2) using bolts (5.4) and lock washers (5.5) in holes (B) as shown in **Figure 2**. Tighten hardware evenly. ***\*Recommended\*:** Drill holes (13/32" bit) for extra bolts to be installed. (5.1 & 5.3) are included in HK-339. See (Z) in Figure 2.*
3. Place top flange of the fairlead bumper (Item 1) on top of winch mount (Item 2) as shown in **Figure 7**. Line up bottom holes in the fairlead bumper (1) to the holes found on the bottom of the machine. Loosely install bolts (4.1) and nuts (4.2) making sure the nut is on the top side. Do not tighten yet. See **Figure 3**.



**Figure 1**



**Figure 2**

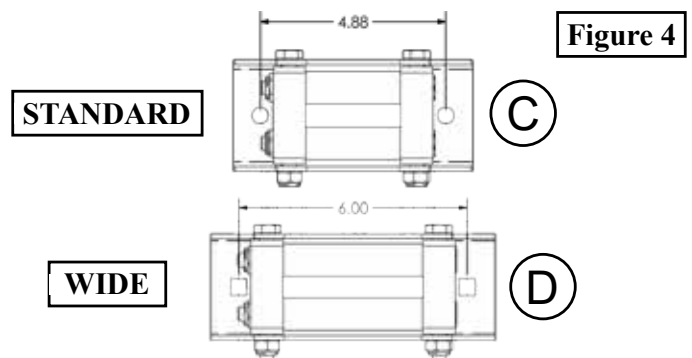


**Figure 3**

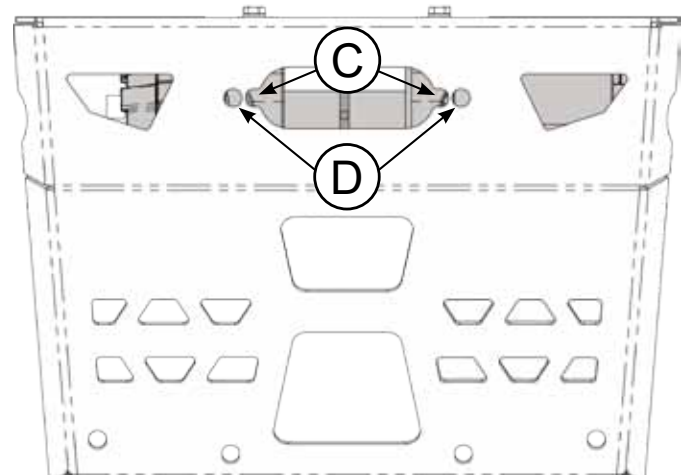
4. Align fairlead holes with holes on the fairlead bumper. See **Figure 4** for determining which fairlead holes to use.

**Note:** If the fairlead supplied with the winch does not match bolt pattern shown in **Figure 4**, one will need to be purchased that does.

5. Install fairlead to fairlead bumper using bolts and nuts supplied with the winch. See **Figure 5**. Fully tighten fairlead.



**Figure 4**



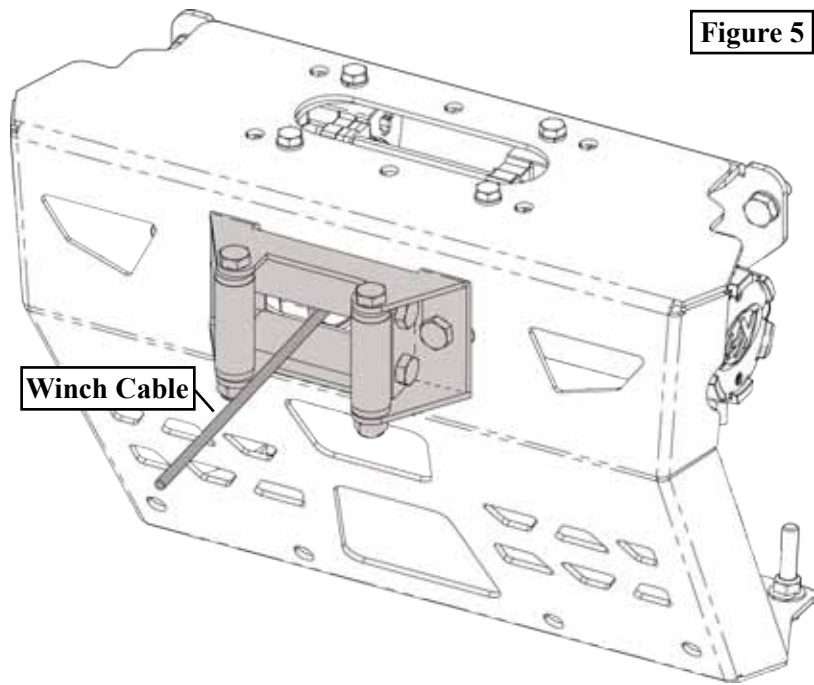
6. For a 2-Hole mounted winch, use holes (E). For standard 4-Hole winches, use holes (F). For wide 4-Hole winches, use holes (G) as shown in **Figure 6**.

7. Loosely attach the winch upside down to winch mount and fairlead bumper using the hardware supplied with the winch. Make sure the cable is spooling off the winch between the spool and the winch mount, as shown in **Figure 7**.

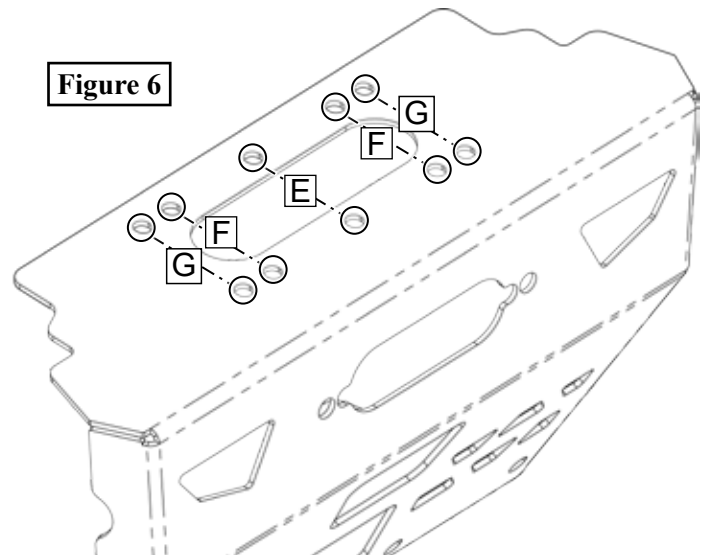
8. Tighten hardware from steps 3 & 7.

***Note:** If the winch terminals contact or come close to contacting the machine, you may need to rotate the motor end cap.*

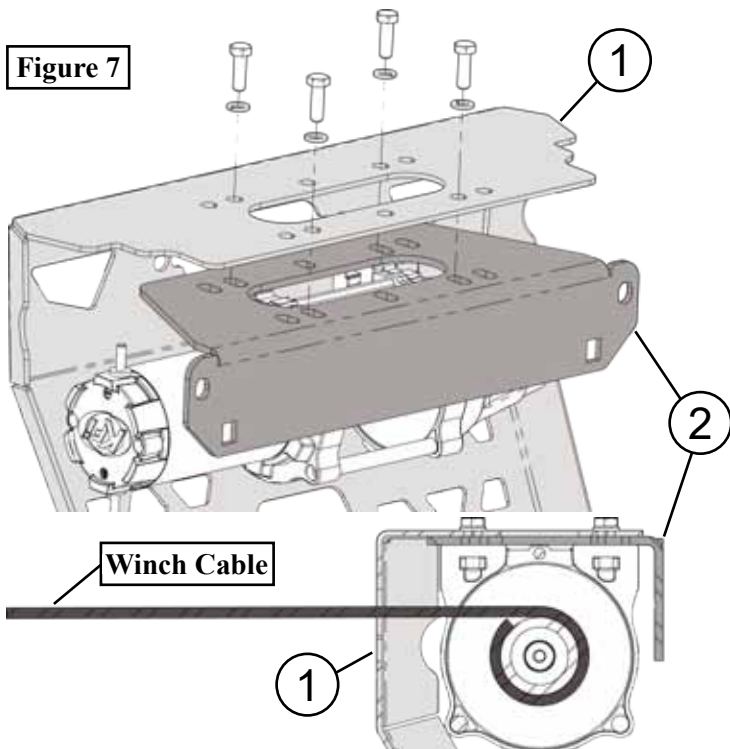
9. Double check all hardware is tight and rope or cable moves freely.



**Figure 5**



**Figure 6**



**Figure 7**

# POLARIS WIRING INSTRUCTIONS

1. Under the hood you will find the contactor location with holes pre-drilled shown in Figure 10.

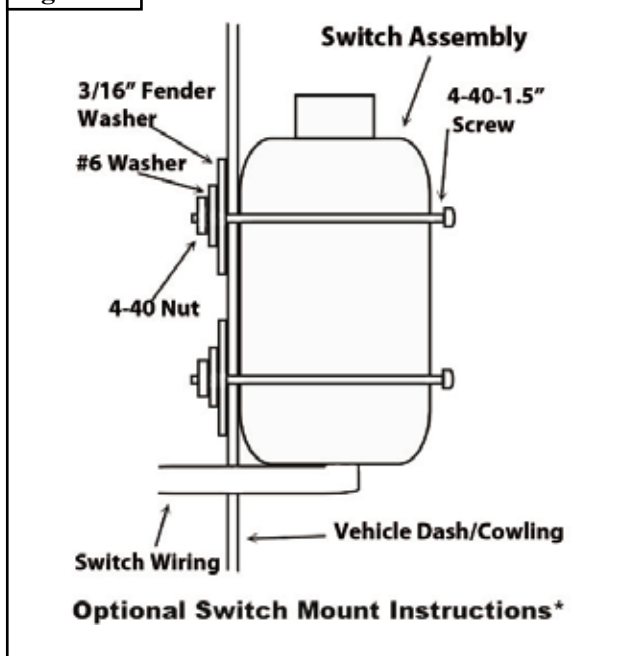
***Note:** Contactor bolts will create threads in the plastic when threaded in. This is normal.*

2. Run the red positive (+) battery wire from the contactor to the positive (+) post on the pulse bar. Run the black ground wire (-) from the contactor to the ground (-) post on the pulse bar shown in Figures 10 & 11.
3. In the center console of the ranger, there are pre-notched holes for the dash rocker switch to mount as shown in Figure 12.

***Note:** If your winch only comes with a handbar mounted rocker switch and wish to install it in the dash, assemble per **Figure 13** using hardware kit HK-031 (3).*

4. Attach the ignition fed wire (RED) from your switch to the orange and white wire (H) shown in Figure 10 & 11.
5. For more details on wiring the winch see your winch manual.

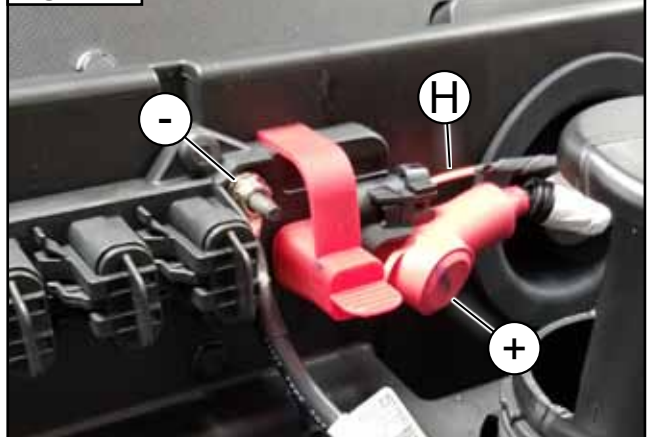
**Figure 13**



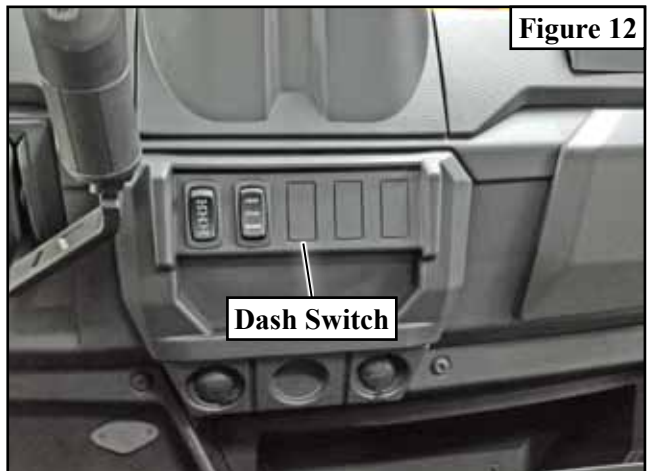
**Figure 10**



**Figure 11**



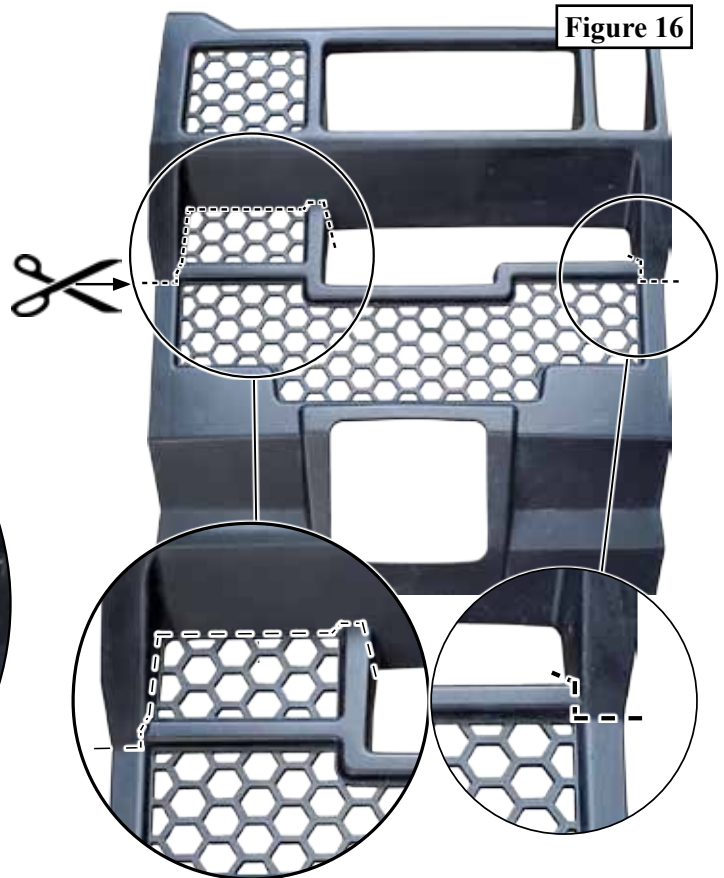
**Figure 12**





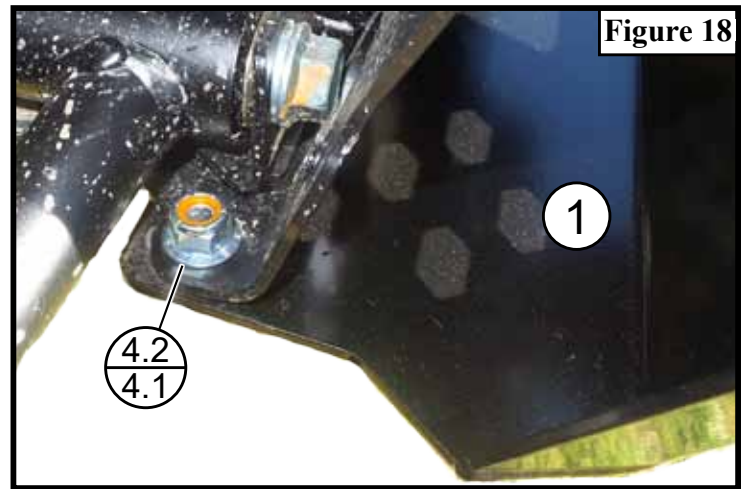
# BOBCAT INSTALLATION INSTRUCTIONS

1. Remove the lower fascia by removing bolts (6) from the lower portion of the fascia, see **Figure 14**. The top portion is snapped into place, you can gently pull the top from it's mounting location to free it.
2. Remove the tow hook by removing the 2 bolts (7), as shown in **Figure 15**.
3. It is necessary to cut the upper and lower fascia, as shown in **Figures 16 and 17**, to allow room for the winch mount and fairlead bumper.



# BOBCAT INSTALLATION INSTRUCTIONS

4. Place top flange of the fairlead bumper (Item 1) on top of winch mount (Item 2) as shown in **Figure 22**. Line up bottom holes in the fairlead bumper (1) to the holes found on the bottom of the machine. Loosely install bolts (4.1) and nuts (4.2) making sure the nut is on the top side. Do not tighten yet. See **Figure 16**.

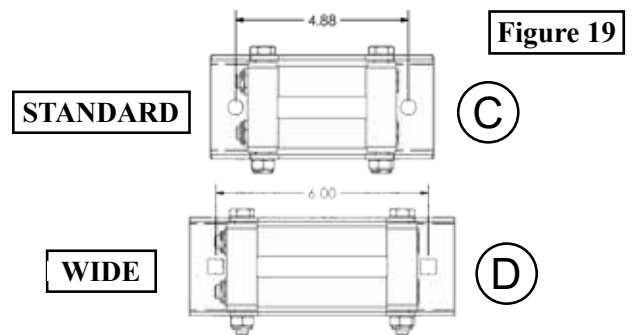


**Figure 18**

5. Align fairlead holes with holes on the fairlead bumper. See **Figure 19** for determining which fairlead holes to use.

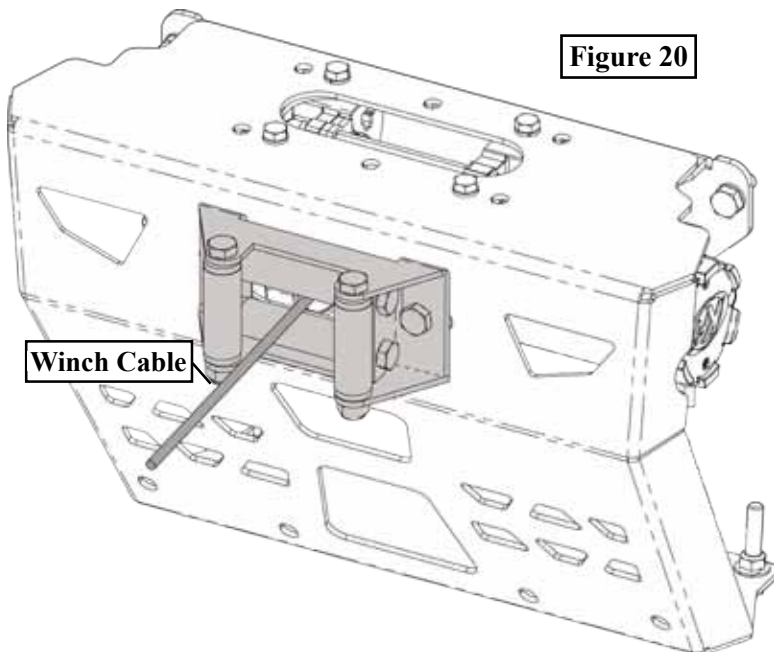
***Note:** If the fairlead supplied with the winch does not match bolt pattern shown in **Figure 19**, one will need to be purchased that does.*

6. Install fairlead to fairlead bumper using bolts and nuts supplied with the winch. See **Figure 20**. Fully tighten fairlead.

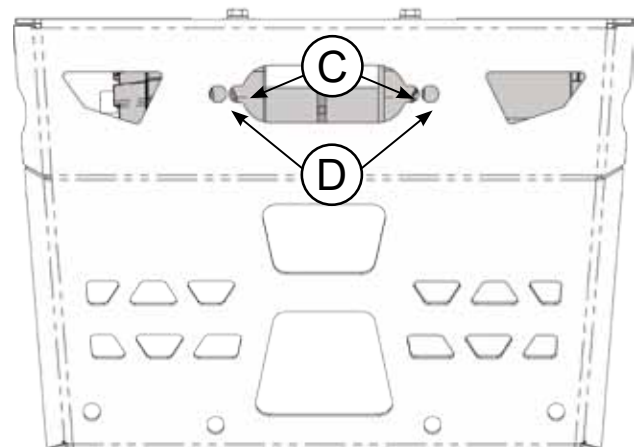


**Figure 19**

7. For a 2-Hole mounted winch, use holes (E). For standard 4-Hole winches, use holes (F). For wide 4-Hole winches, use holes (G) as shown in **Figure 21**.



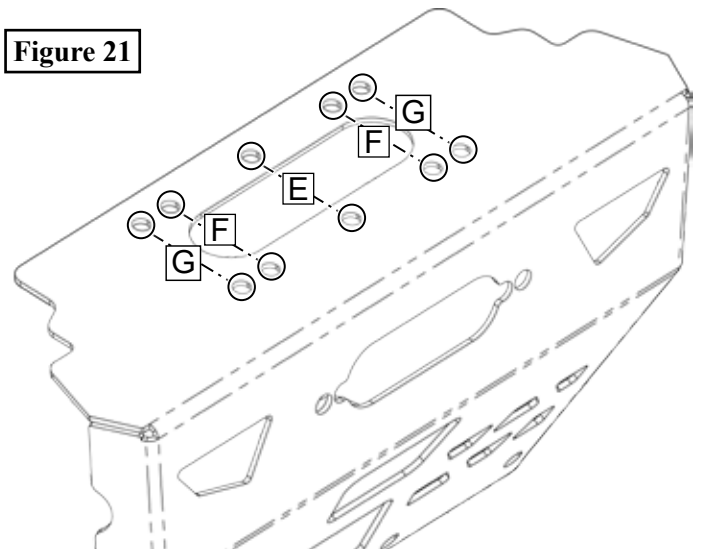
**Figure 20**



# BOBCAT INSTALLATION INSTRUCTIONS

8. Loosely attach the winch upside down to winch mount and fairlead bumper using the hardware supplied with the winch. Make sure the cable is spooling off the winch between the spool and the winch mount, as shown in **Figure 22**.

**Figure 21**



9. Tighten hardware from steps 3 & 8.

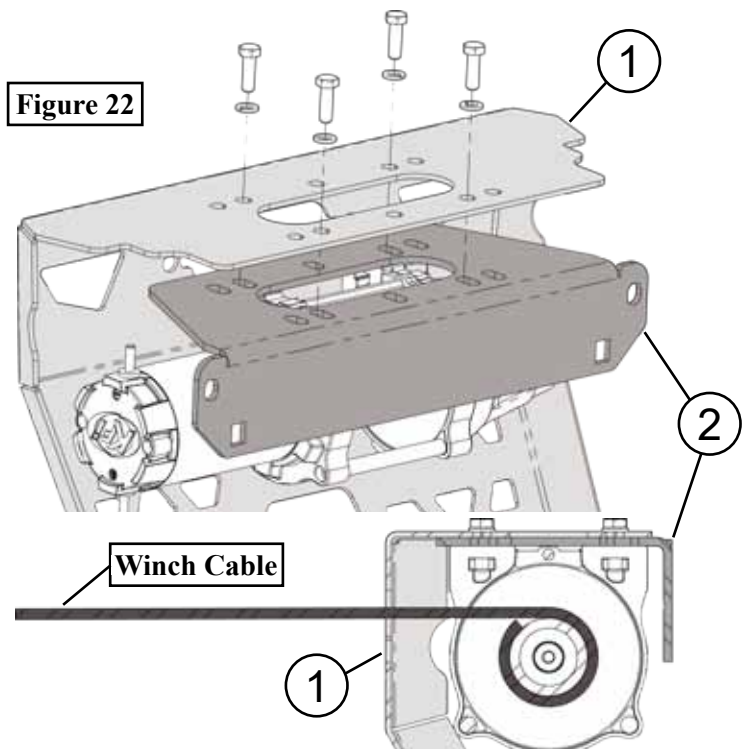
**Note:** If the winch terminals contact or come close to contacting the machine, you may need to rotate the motor end cap.

10. Double check all hardware is tight and rope or cable moves freely.
11. When wiring the winch, the contactor can be mounted under the hood, there is an accessory bar that can be used to wire up the contactor right next to the mounting location. See figure 23.

**Figure 23**



**Figure 22**



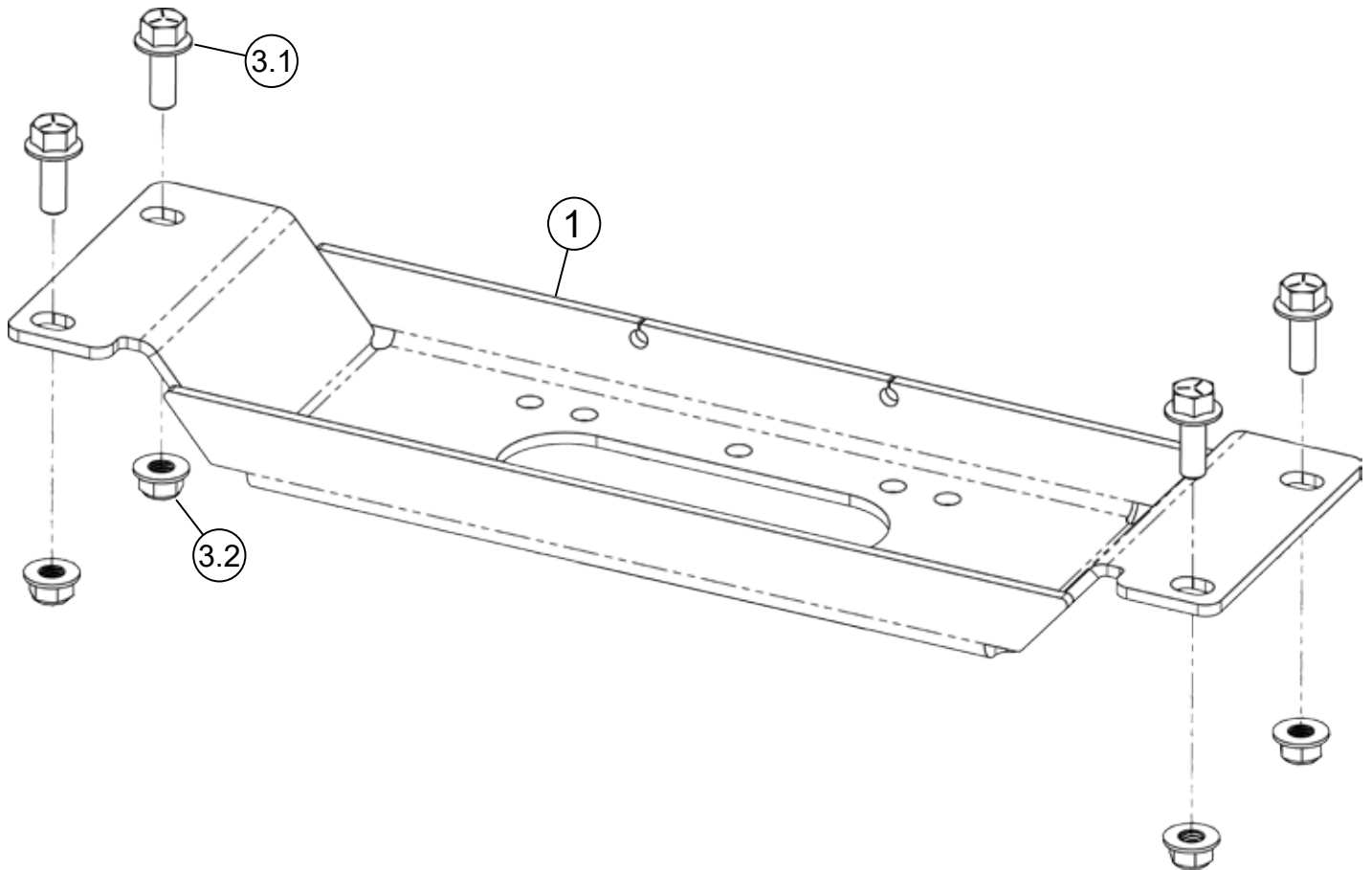


# POLARIS RANGER SP 570

Winch Mount

PART #101980

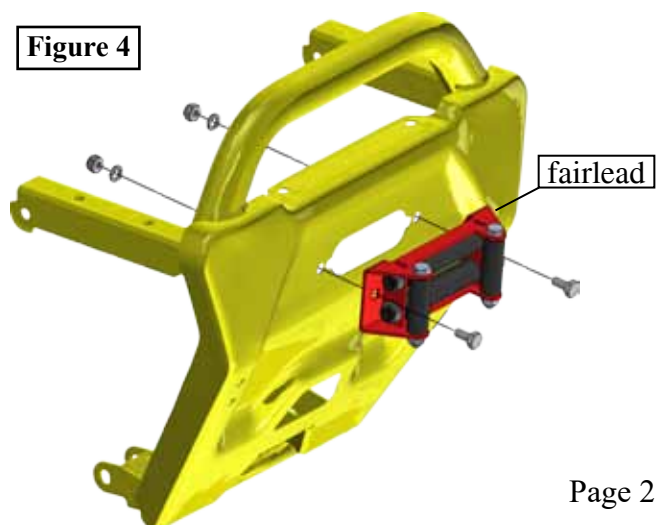
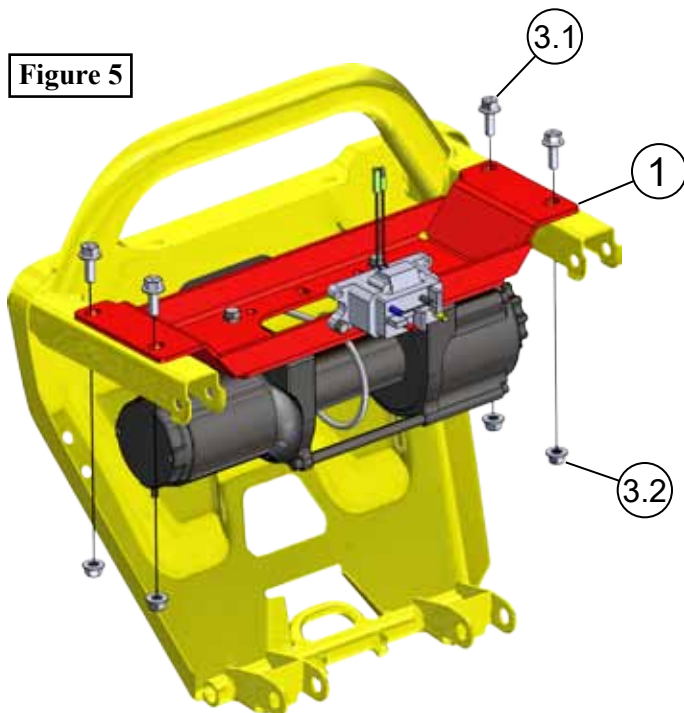
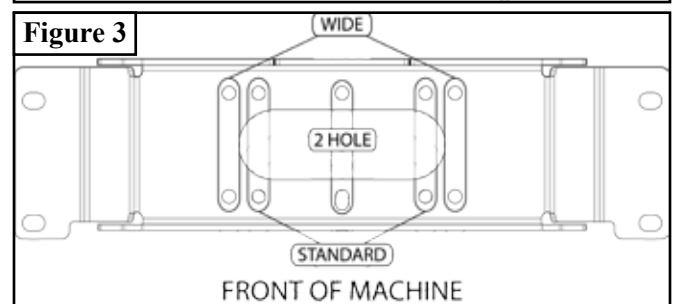
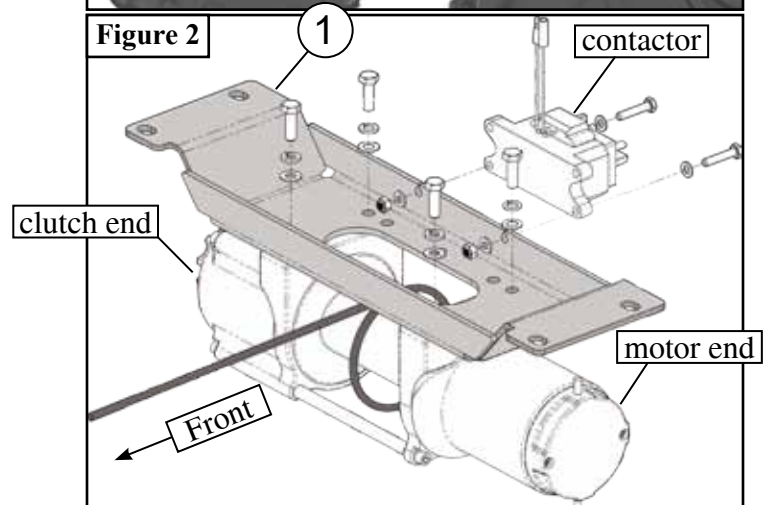
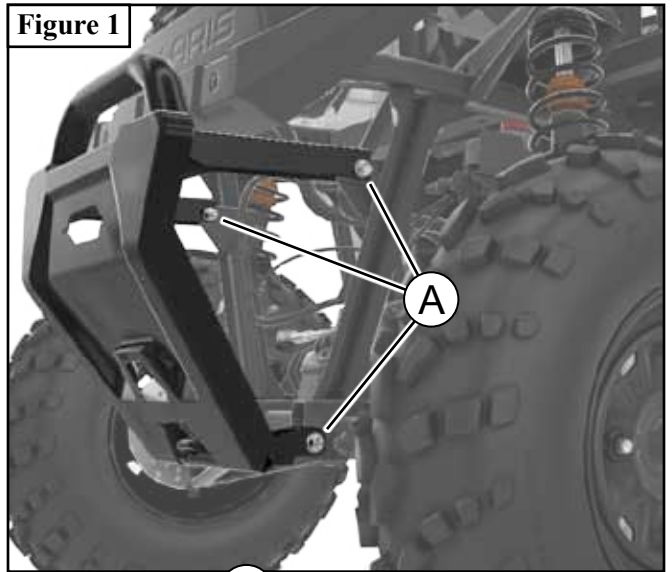
| Kit Components: |      |                                |
|-----------------|------|--------------------------------|
| Item #          | Qty. | Description                    |
| 1               | 1    | Winch Mount                    |
| 2               | 1    | Hardware Kit (HK-031)          |
| 3               | 1    | Hardware Kit (HK-391)          |
| 3.1             | 4    | 3/8"-16 x 1.00 Hex Flange Bolt |
| 3.2             | 4    | 3/8"-16 Hex Flange Nylock Nut  |
| 3.3             | 4    | 3/8"-16 Square Nut (not used)  |



# INSTALLATION INSTRUCTIONS

**Note:** Make sure all hardware needed to complete this mount is in the package. Thoroughly read through and understand the instructions before installing.

1. Remove front bumper by removing OEM bolts (A) found on the back side of the front bumper as shown in **Figure 1**.
2. Assemble winch and contactor to winch mount (1) using hardware supplied with the winch as shown in **Figure 2**. See **Figure 3** for wide, standard, and 2-hole winch mounting patterns. **NOTE:** Make sure winch cable is spooling out between the winch drum and winch mount (1) as shown in **Figure 2**.
3. Assemble winch fairlead to front bumper using hardware supplied with the winch as shown in **Figure 4**.
4. Assemble winch mount (1) to front bumper supports using bolts (3.1) and nuts (3.2) as shown in **Figure 5**.
5. Reattach front bumper to the machine using OEM bolts (A) removed in step 1.



# WIRING INSTRUCTIONS

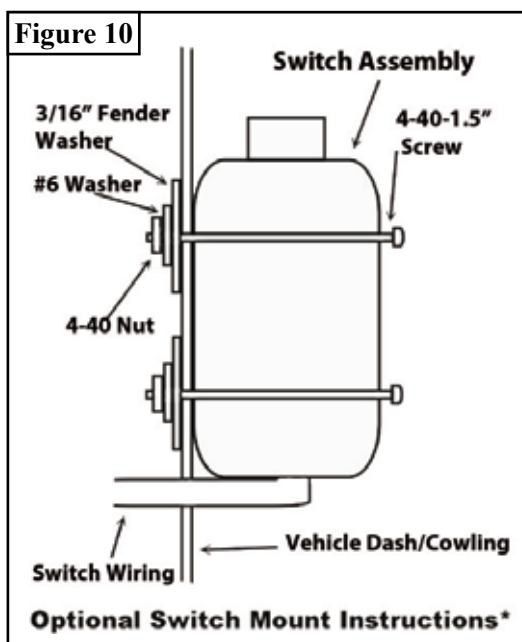
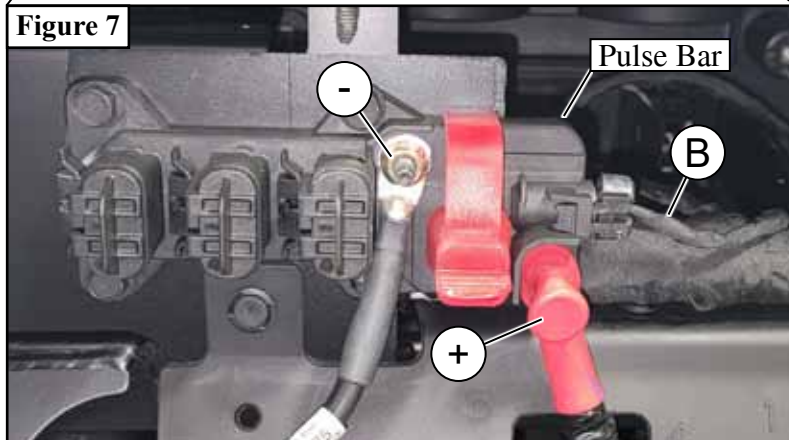
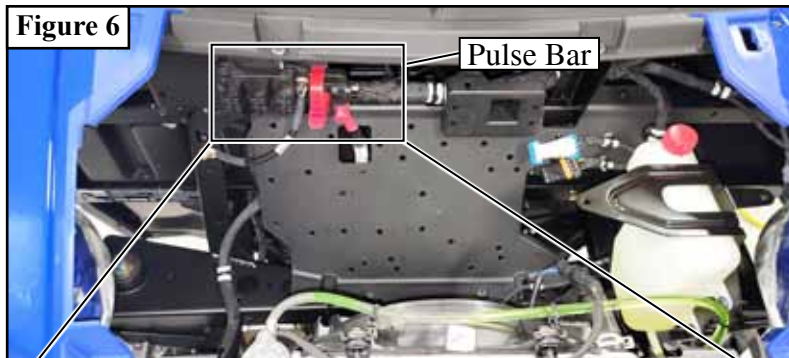
1. Run the red positive (+) battery wire from the contactor to the positive (+) post on the pulse bar. Run the black ground wire (-) from the contactor to the ground (-) post on the pulse bar as shown in **Figures 6 & 7**.

2. In the center console of the ranger, there are pre-notched holes for the dash rocker switch to mount as shown in **Figure 8 & 9**.

NOTE: If the winch only comes with a handlebar mounted rocker switch you and wish to install it in the dash, assemble per **Figure 10** using hardware kit HK-031 (3).

3. If the Polaris 3-pin wire harness for the pulse bar is not being used, attach the ignition fed (red) wire from the switch to the orange wire (B) as shown in **Figure 7**.

4. Using the wiring instructions provided in the winch manual, wire accordingly.





# POLARIS RANGER

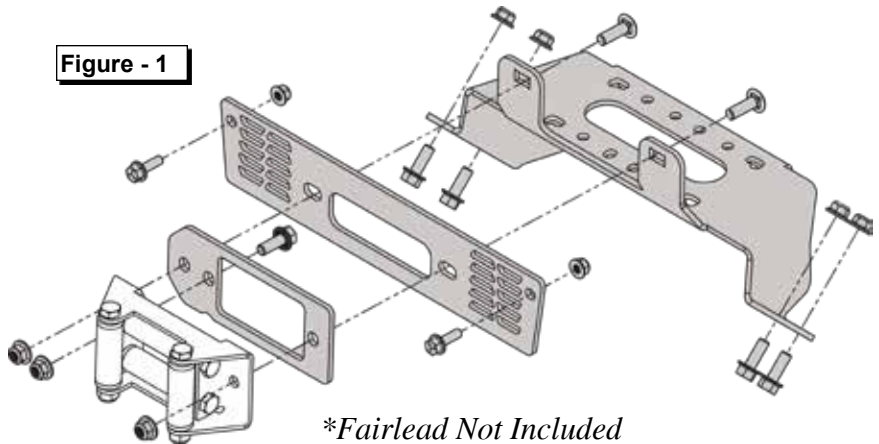
## Winch Mount

Part #: 101560 REV C  
Hardware Kit: HK-056, HK-031

### Kit Components:

| Qty    | Part Description                         |
|--------|------------------------------------------|
| 1..... | Winch Mount                              |
| 1..... | Fairlead Bracket                         |
| 1..... | Fairlead Converter Bracket               |
| 6..... | 3/8"-16 x 1" Hex Flange Bolt             |
| 2..... | 5/16"-18 x 1" Hex Flange Bolt            |
| 8..... | 3/8"-16 Nylock Flange Nut                |
| 2..... | 5/16"-18 Nylock Flange Nut               |
| 1..... | Spade Insulated Terminal (Not Used)      |
| 2..... | 3/8"-16 x 1.25" Short Neck Carriage Bolt |
| 1..... | Hardware Kit (Mini-Rocker Switch)        |

Figure - 1



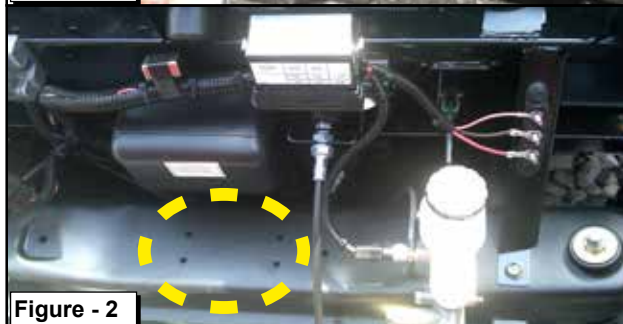
## INSTALLATION INSTRUCTIONS:

### PREPARE MACHINE

1. Begin by turning the vehicle off and disconnecting the battery cables. Locate the battery compartment, usually under the hood, or on the current models under the drivers seat. Also on the crew it is under the rear driver-side seat. *Note: First remove the ground, then positive terminal.*

### CONTACTOR

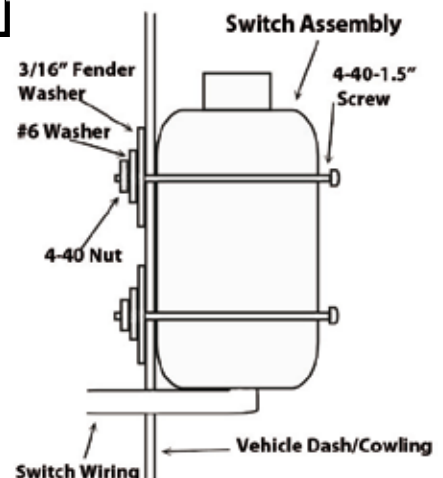
2. Find the location on the passenger side under the hood compartment. (**Figure 1**) for full size Rangers and (**Figure 2**) for mid size Rangers. Fasten contactor using (4X) Screws included with winch kit. *Note: This location is set up for a standard contactor and some may not work with this bolt pattern but can be mounted in the general area. Contactor bolts will create threads in plastic when threaded in. This is normal.*



### SWITCH

3. Use included Mini-Rocker Switch Hardware Kit (HK-031) to fasten a handle bar mounted mini-rocker switch to the dash or any desired location.
  - a. Remove handlebar mount hardware from the switch
  - b. Locate desired mounting location
  - c. Mark & drill 2 switch holes thru dash using switch housing as a template
  - d. Drill a 3rd hole for switch wiring
  - e. Assemble per **Figure 3**

Figure - 3



## REMOVE BUMPER

- Begin by removing the 4 Torx screws at locations (A) & (B) from the front and upper grills on the bumper frame as shown in **Figure 4**. Retain the upper grill (A). Discard or set aside the front grill (B). Then remove the three bolts (C) at the bottom of the frame (see **Figure 4**).

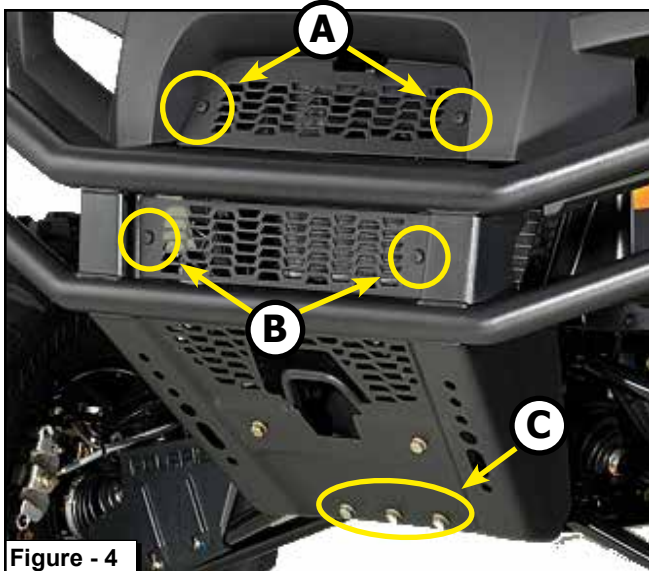


Figure - 4

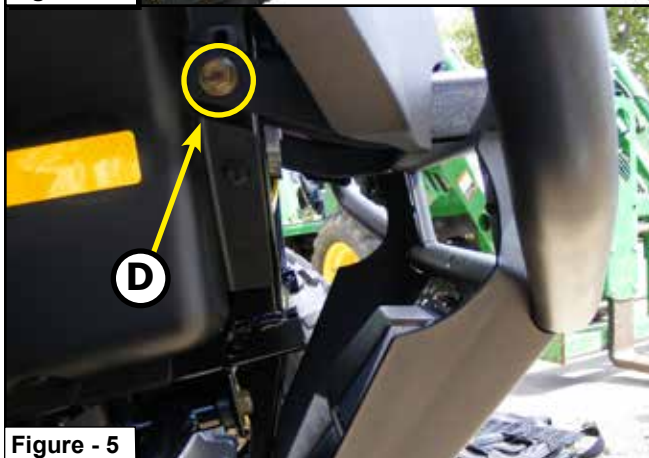
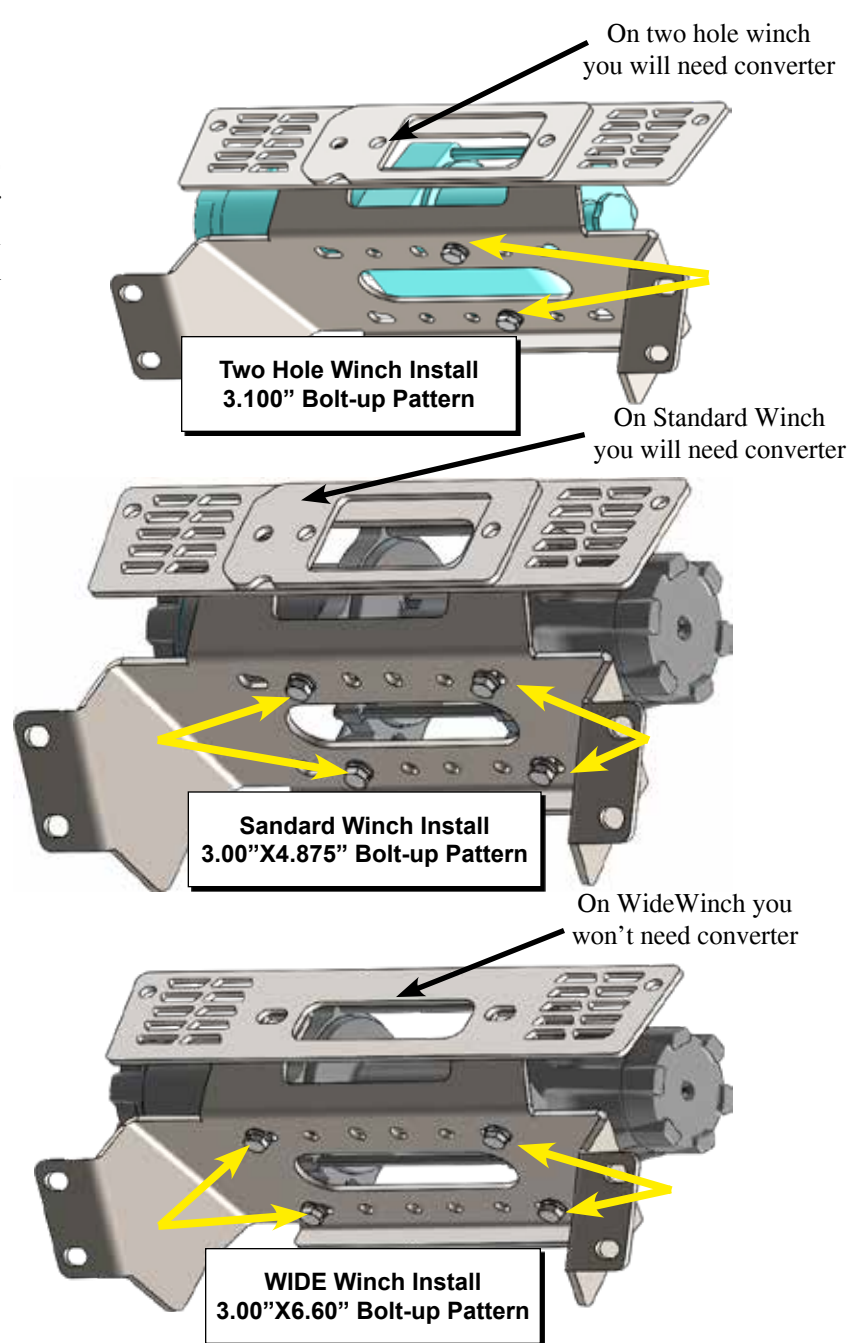


Figure - 5

- Remove 2 bolts (D) from the driver & passenger side of the bumper as shown in **Figure 5**. On some models there are two plastic clips you need to remove from the bumper. Finally remove the entire bumper from the machine.

## ASSEMBLE WINCH TO MOUNT

- Assemble your winch to the mount plate using the hardware supplied with your winch.
- Depending on your winch there are three different bolt pattern's you will use; refer to the three patterns in the following images. If you have a two hole, or a standard winch you will need the converter plate. If you have a wide winch discard the converter plate.
- Connect the shorter winch wires to the winch leads. (usually Black and Red) Refer to Pg. 4 (Alternate Wiring Diagram)



## ASSEMBLE WINCH MOUNT TO BUMPER

- Place the winch and mount assembly into location on the bumper and attach using the supplied 3/8" hardware as shown in (**Figure 6**). Do not tighten. (winch not shown in picture)
- Place the new steel replacement grill and converter plate if needed while feeding your winch cable through the fairlead opening into its location as shown above.
- Assemble your roller fairlead by running the supplied carriage bolts through the mount, replacement grill and then the fairlead. If installing 2-HOLE or a STANDARD winch you will use one set of bolts supplied with your winch kit for the roller.





Figure - 6

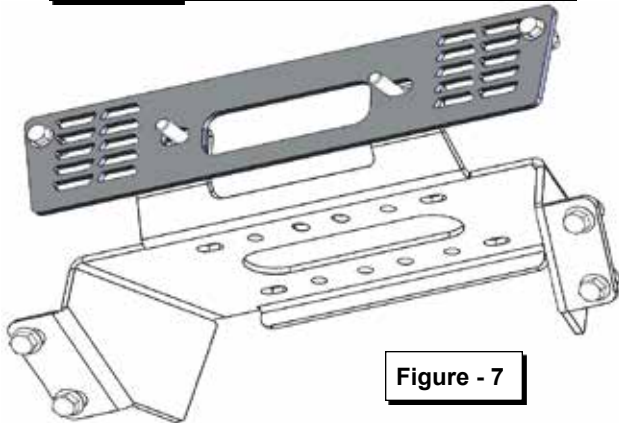


Figure - 7

12. Tighten everything down evenly.
13. Reinstall bumper to your machine.
14. Replace your upper grill removed in step 4 (A)

#### WIRING INSTRUCTIONS

15. Locate the wire terminal block under your hood.  
(**Figure 8**) Wire the red ignition wires for a mini-rocker switch or the controller to the terminal with the Orange and White wires shown in (**Figure 8**) using the supplied 22-18GA Spade Insulated Terminal.
16. If you have a RANGER CREW with the battery under the rear drivers side seat you will need the extended 11' cables included with our Extension Kit (**KFI#: UTV-WEK**, sold separately).

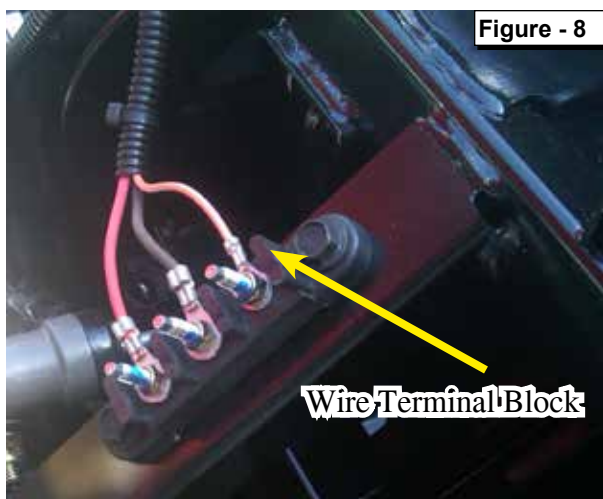


Figure - 8

Wire Terminal Block

17. Route the longest wires (usually BLUE & YELLOW) included with your winch from the solenoid or battery to the contactor location. Connect wires to contactor according to **ALTERNATE WINCH WIRING DIAGRAM** shown in **Figure 11**, - **NOT** according to the **color coding** in your winch manual or the contactor.
18. Connect winch, battery, and remaining switch wiring to your contactor using the alternate wiring diagram on Pg. 4
19. Secure all wires and reconnect battery positive & ground cable.

**NOTE:** If you do not have the standard battery Using the ALTERNATE WIRING DIAGRAM (**Figure 11**, pg 4) as a guide, attach the YELLOW POS(+) wire to the battery fed solenoid as shown in **Figure 9&10**. Then, attach the BLUE NEG(-) wire to the ground post as shown in **Figure 9&10**.

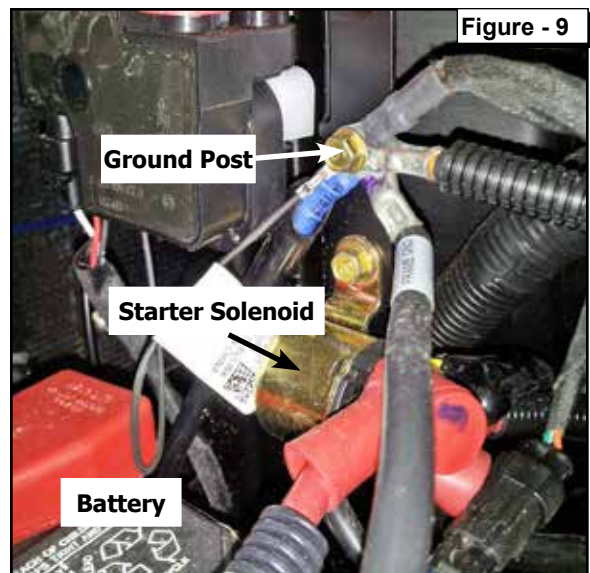


Figure - 9

Ground Post

Starter Solenoid

Battery

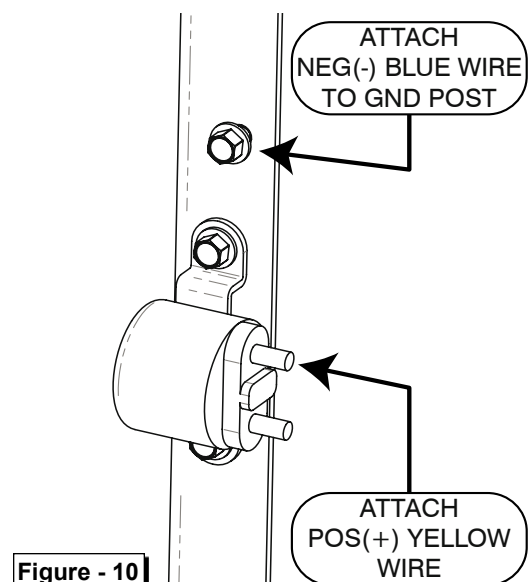
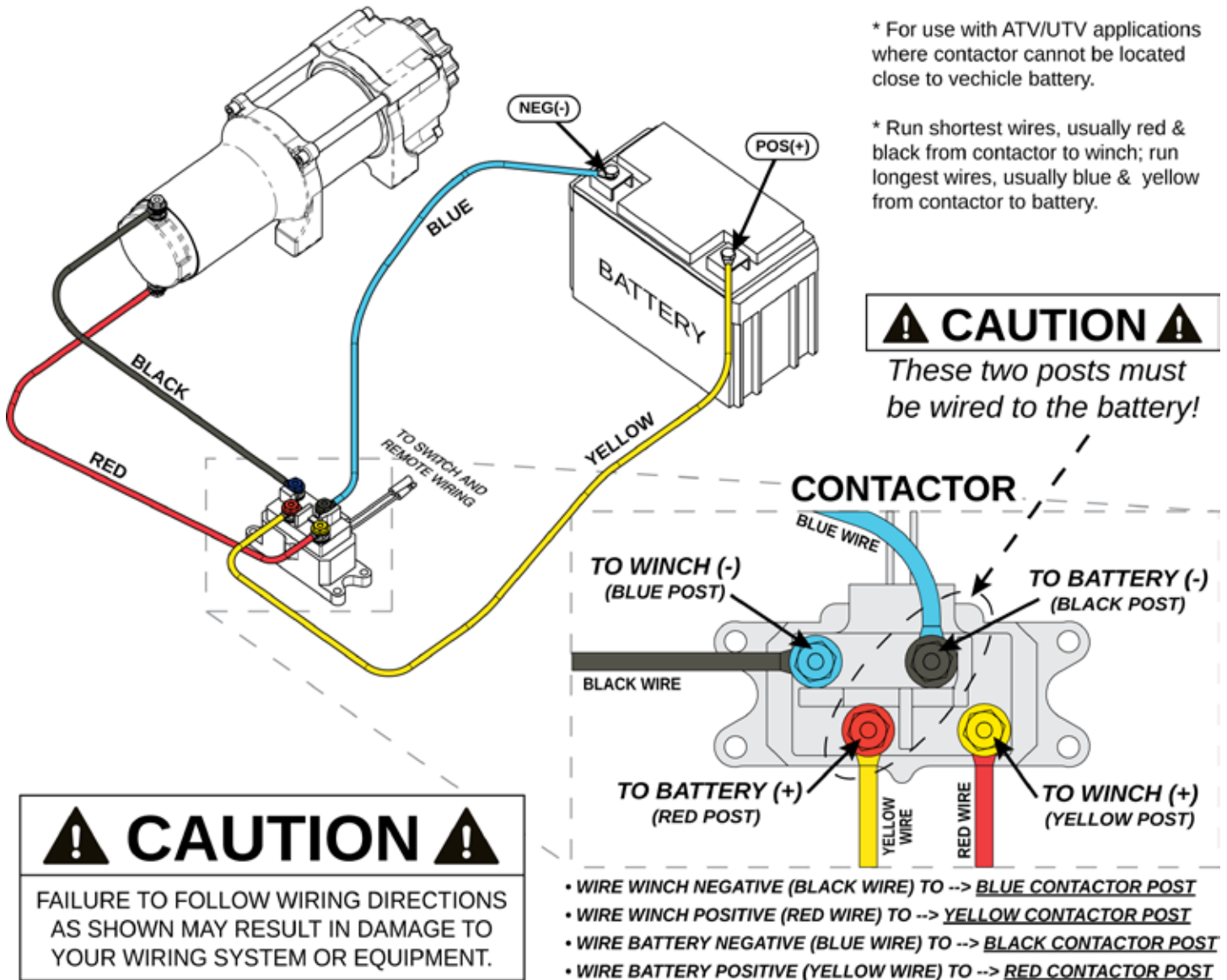


Figure - 10



Figure - 11

# ALTERNATE WINCH WIRING DIAGRAM



# POLARIS RANGER XP 900/570

## Winch Mount

Part #: 101345

Hardware Kit: HK-305, HK-031

### CONTENTS:

| ITEM # | QTY  | DESCRIPTION                |
|--------|------|----------------------------|
| 1      | (1x) | Winch Mount Plate          |
| 2      | (1x) | Replacement Grill Wide     |
| 3      | (1x) | Fairlead Converter Bracket |

### HAREWARE KIT CONTENTS:

| ITEM # | QTY  | DESCRIPTION                       |
|--------|------|-----------------------------------|
| 4.1    | (3x) | 5/16"-18 x 1" Hex Flange Bolt     |
| 4.2    | (1x) | 5/16"-18 Hex Flange Nylock Nut    |
| 4.3    | (2x) | M10x1.50 x 25mm Hex Head Bolt     |
| 4.4    | (2x) | M10 Lock Washer                   |
| 4.5    | (2x) | 3/8"-16 x 1.00" Carriage Bolt     |
| 4.6    | (2x) | 3/8"-16 Hex Flange Nylock Nut     |
| 4.7    | (1x) | HK-031 (UTV Mini-Rocker Hardware) |
| 4.8    | (1x) | 22-18GA Spade Insulated Terminal  |
| 4.9    | (1x) | M10x1.50 x 35mm Hex Head Bolt     |
| 4.10   | (1x) | M10x1.50 Hex Nut                  |

## Installation:

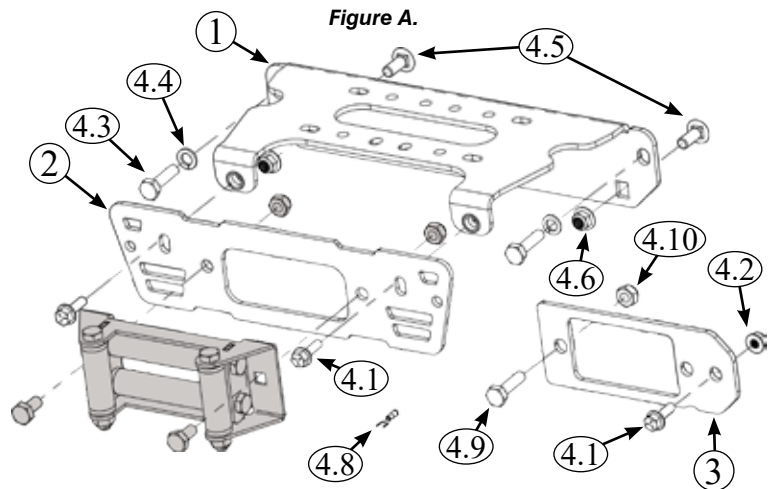
### Prepare Machine

1. Begin by turning machine off and disconnect the battery cables. Locate the battery compartment under the passenger or rear passenger seat. Lift bench seat up and pull out storage compartment. First remove the ground(Black), then positive(Red) terminal.
2. Open the hood and find the recommended contactor location shown in **Figure 1**. Affix the contactor to the recommended location with hardware included with your winch.

Note: Contactor bolts will create threads in plastic when threaded in. This is normal.



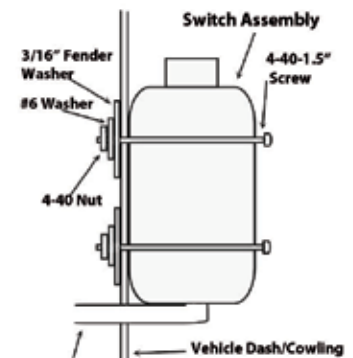
\* Note: This is the standard location for contactor with standard length winch wires; if your wires are too short, you can drill holes on the opposite side of the hood compartment and affix contactor as needed. Use caution when drilling holes, there is a radiator hose directly under this location.



\*Fairlead and fairlead bolts supplied with winch\*

3. Use included Mini- Rocker Switch Hardware Kit (HK-031) to fasten a handle bar mounted mini-rocker switch to the dash or any desired location.

- a. Remove handlebar mount hardware from the switch.
- b. Locate desired mounting location.
- c. Mark & drill 2 switch holes through dash using switch housing as a template.
- d. Drill a 3rd hole for switch wiring.



Optional Switch Mount Instructions\*  
Figure 2.

### Lead Rotation

4. For all wide winches with leads on the **end of the motor** in a **vertical** orientation, you will need to **rotate** the leads so they do not interfere with the bumper frame once re-assembled. If your winch has leads on the *inside* (near the spool), then move to Step 5, otherwise see **Figure 3** and continue.
- In general, to rotate the leads, loosen the two screws on the endcap in **Figure 3**, then rotate the entire motor housing 90 or 45 degrees (depending on your winch). For detailed instructions go to the **Support** section at [www.kfipproducts.com](http://www.kfipproducts.com) and download "[Winch Motor Lead Rotation Instructions](#)".

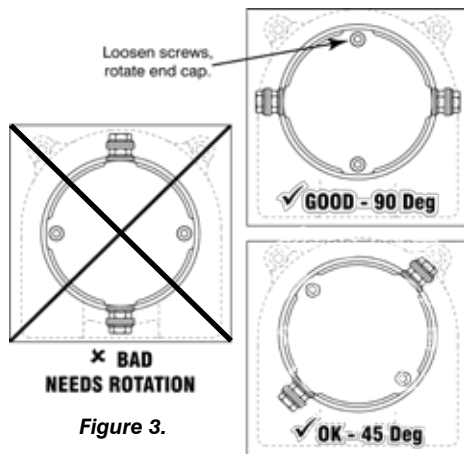
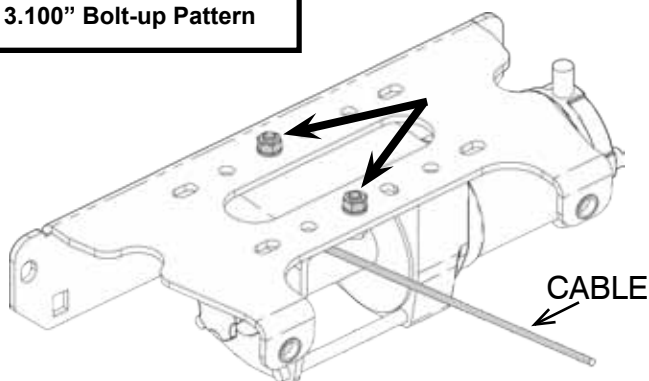


Figure 3.

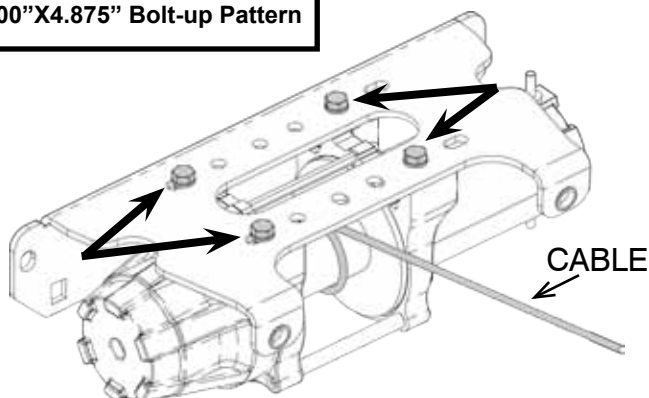
## Install Winch to Mount

5. Connect the shortest wires (usually **RED & BLACK**) to the motor end of the winch per the **ALTERNATE WIRING DIAGRAM** shown in **Figure 15 (pg 5)**. Connect **BLACK** wire to **NEG(-) BLUE** winch post; connect **RED** wire to **POS(+) YELLOW** winch post.
6. Assemble your winch to the mount plate. Depending on your winch there are three different bolt pattern's shown in the following images. Use the hardware included with your winch. Most winches will be installed upside down with the clutch end on the passenger side of the machine and the motor to the driver's side once bolted to the machine.

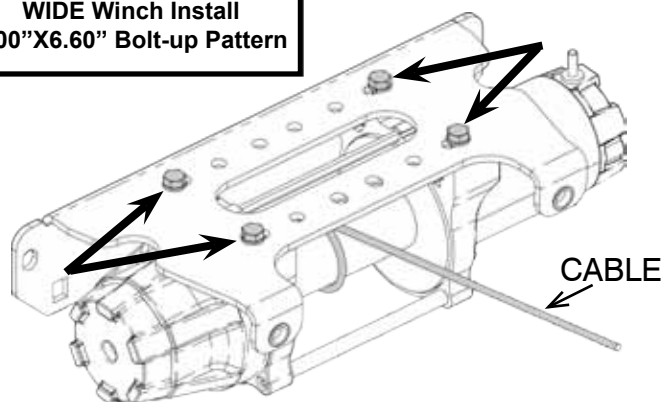
### Two Hole Winch Install 3.100" Bolt-up Pattern



### Standard Winch Install 3.00"x4.875" Bolt-up Pattern

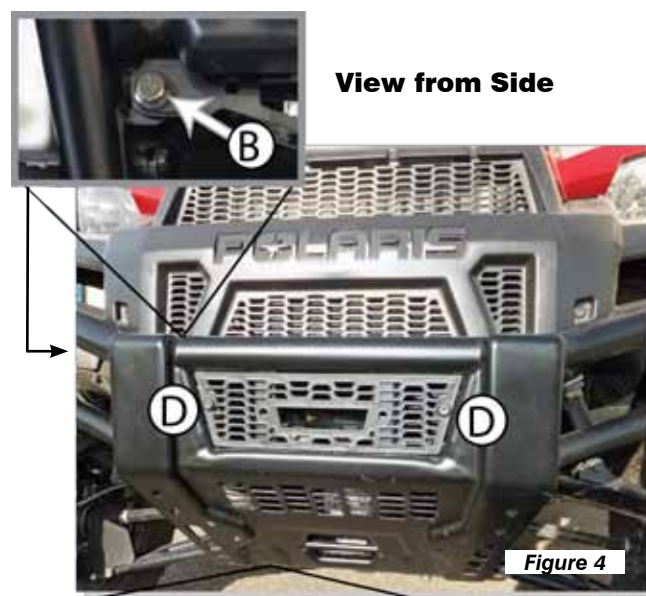


### WIDE Winch Install 3.00"x6.60" Bolt-up Pattern



## Install Winch/Mount Assembly and Grill

7. Remove the front bumper. Remove the 4 bolts attaching front bumper (B) and (C) as shown in **Figure 4**. (See inset) views. Remove OEM plastic grill from bumper frame held in place by 2 Torx head screws (D). Discard OEM grill.



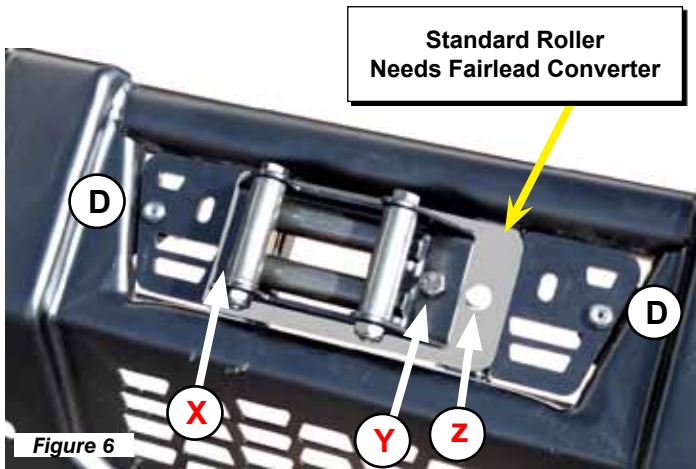
Front

Front Lower

### WIDE Rollers Discard Fairlead Converter



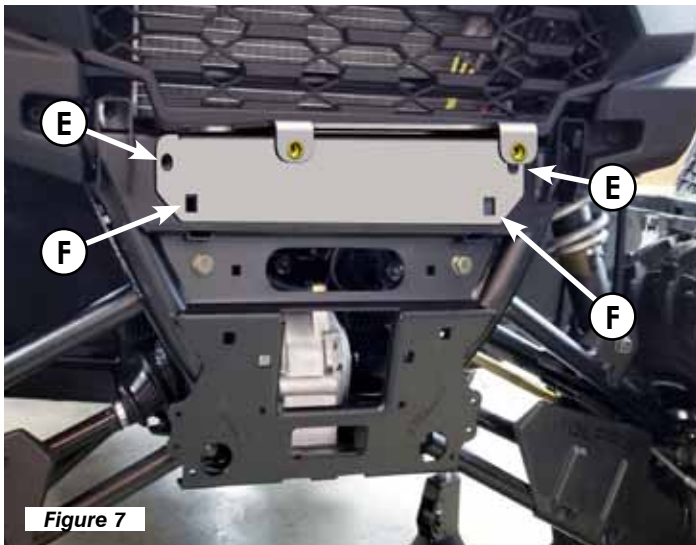




8. Install replacement grill to bumper as shown in Figure 5&6 using original Torx screws (D). Do not fully tighten.

*Note: If you have a two hole, or a standard winch you will need the converter bracket. If you have a wide winch discard the converter bracket, shown in (Figure 6). Without the bracket Install bolt (Y&X) directly to the grill & fairlead using hole (Z).*

9. Install fairlead to grill & bumper assembly as shown in Figure 5&6. **FOR STANDARD WINCH:** At X, Pass bolt (4.9) through fairlead, converter bracket, grill, and bumper frame rails, then tighten with nut (4.10). If using Converter bracket install fairlead bolt supplied with winch (Y) directly to the converter bracket. Use Bolt (4.1) and Flange Nylock Nut (4.2) from hardware kit to fasten grill to bumper frame at location (Z).



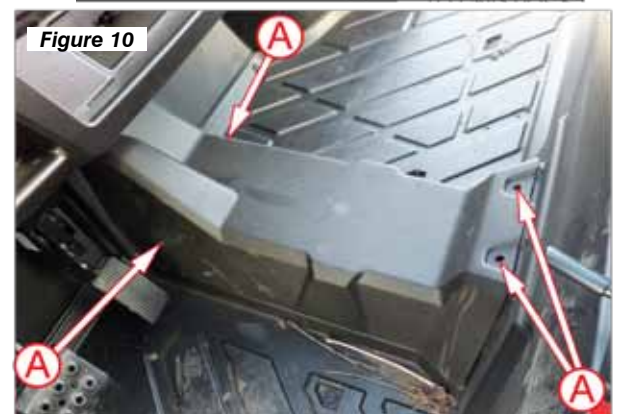
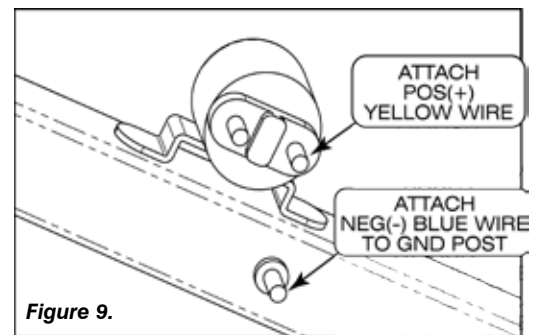
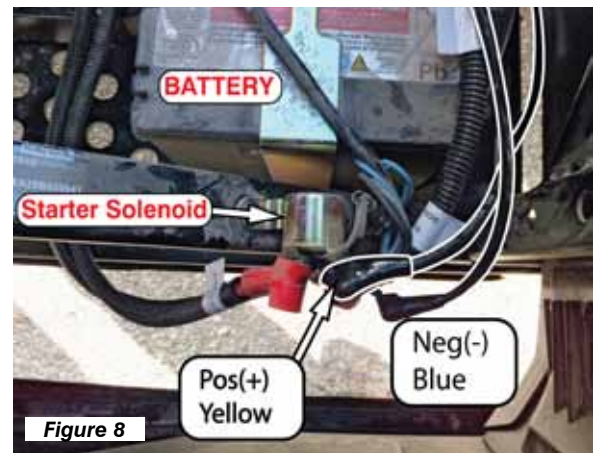
10. Lift assembled winch and mount into position on machine frame as shown in Figure 7. Fasten to frame using two M10 bolts & lock washers at positions (E) and two 3/8" carriage bolts & flange nuts at positions (F). Loosely start the top bolts first to make install easier. Install carriage bolts (F) with the head to the rear of the frame and nut on the front side with the mount plate as shown in Figure 7 and Figure A (pg.1). Tighten all hardware evenly.

11. Re-assemble bumper to frame, using bolts removed in step 7. Loosely affix nuts to bolts allowing for final adjustment of grill to mount plate. Fasten grill to mount using two 5/16" Flange Bolts included in hardware kit (See Figure A pg.1). Evenly tighten all mount and frame hardware.

## Route Wires

12. If you have a **Crew** model, you will need to use the extended 11' cables included with the Crew Kit (KFI#: UTV-WEK Sold Separately)

Locate starter solenoid next to battery as shown in Figure 8. Using the ALTERNATE WIRING DIAGRAM (Figure 15, pg.5) as a guide, attach the **YELLOW POS(+)** wire to the battery fed solenoid as shown in Figures 8&9. Then, attach the **BLUE NEG(-)** wire to the ground post as shown in Figure 9.



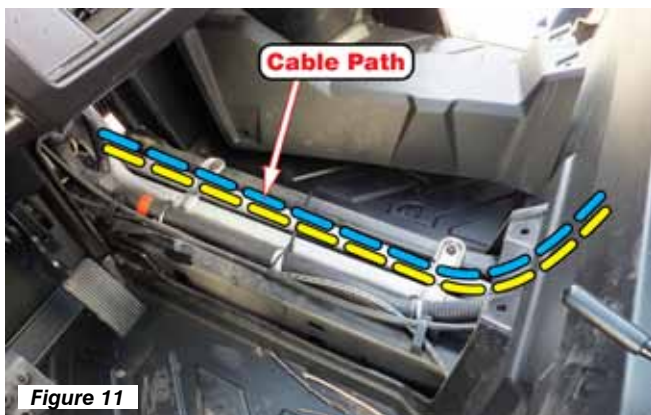


Figure 11

13. Remove plastic shroud covering center floor console by taking out the the 4 plastic rivets (A) shown in [Figure 10](#). Route the longest wires (usually **BLUE & YELLOW**) included with your winch from the battery to the contactor location by passing through the opening to the battery compartment and through the front foot well as shown in [Figure 11](#).
13. Finish routing longest wires up along frame and through outlet noted in [Figures 1 \(pg1\)](#) and [12](#). Do **NOT** connect wires to contactor at this time.
15. Route wires from winch motor end to the contactor location ([Figure 1, pg1](#)) by running them in front of the radiator. Do **NOT** connect wires to contactor at this time.
16. Route switch wiring behind front dash and through a wiring grommet located behind the glove box. See grommet (G) located in [Figure 13](#). You may remove the top access panel (H) to aid in routing and securing wiring.



Figure 12

## Finalize Wiring

17. Attach the ignition fed wire (RED) from your switch to the post labelled (J) in [Figure 14](#), using the 22-18GA Spade Insulated Terminal included in the winch mount hardware kit.
18. Connect wire to contactor according to **ALTERNATE WINCH WIRING DIAGRAM** shown in [Figure 15](#).
19. **Secure all wires, reconnect battery positive & ground cable, and replace access panels and shrouds removed.**

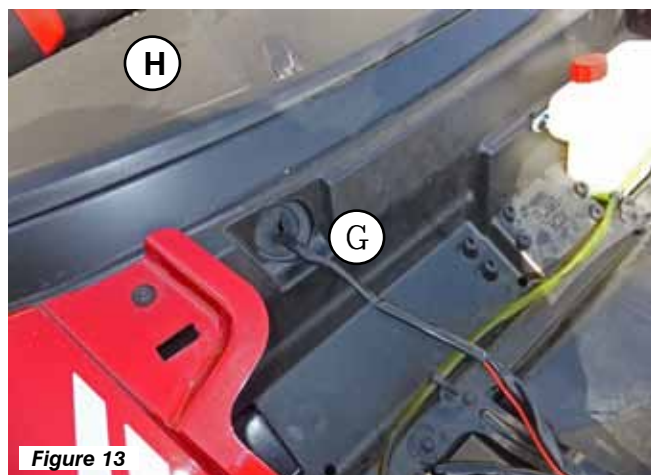


Figure 13

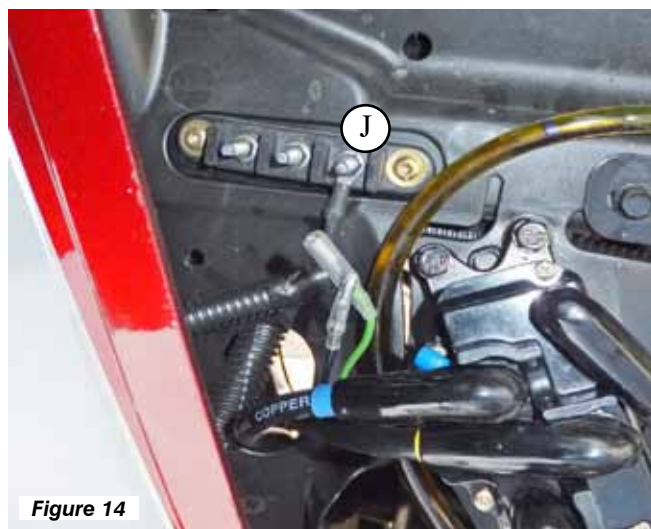
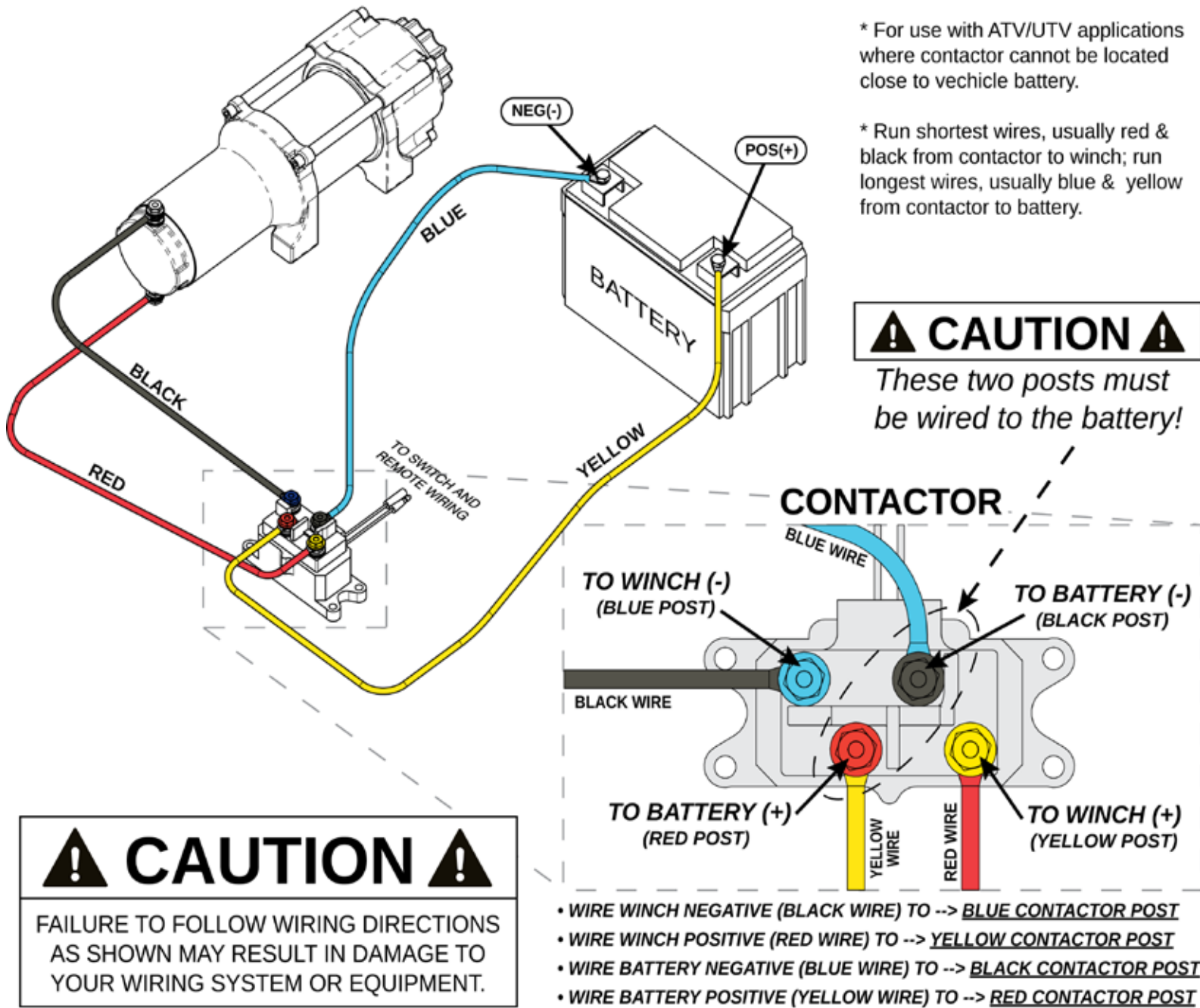


Figure 14



Figure 15.

# ALTERNATE WINCH WIRING DIAGRAM





# Polaris RANGER

## Winch Mount

### Winch Mount

PART # 100560

#### Kit Components:

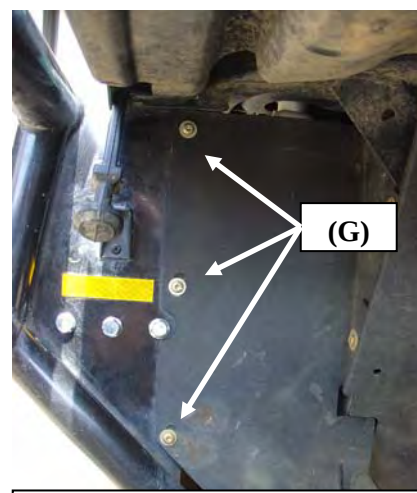
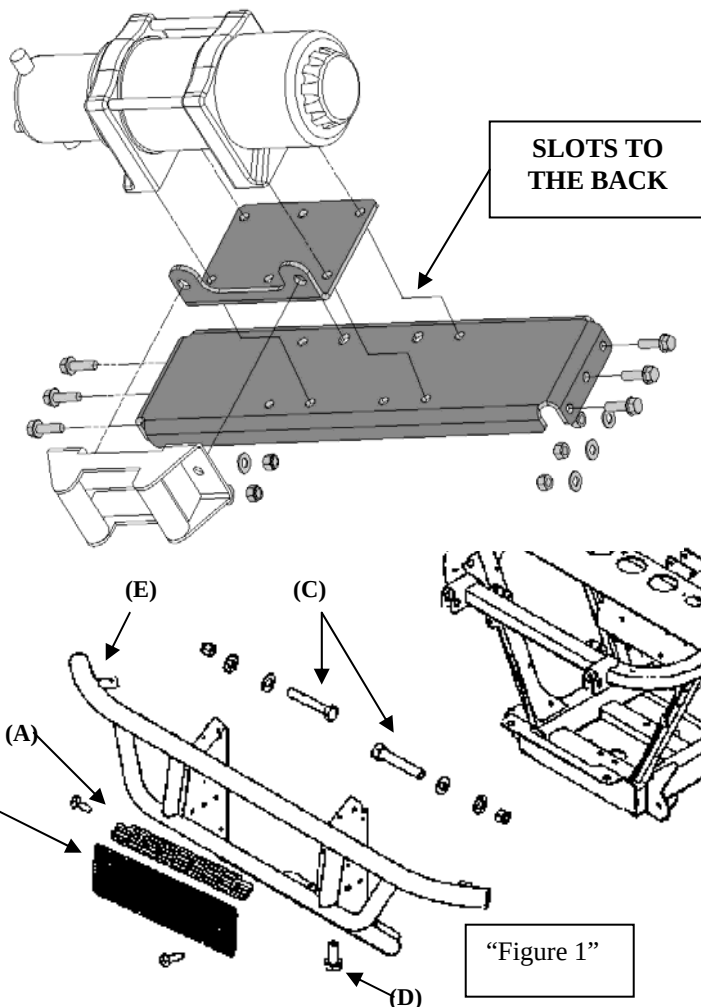
| Qty    | Part Description                  |
|--------|-----------------------------------|
| 1..... | Winch Mount mounting channel      |
| 1..... | Winch Mount fairlead bracket      |
| 6..... | 5/16 x 1" Hex Head Flange Bolts   |
| 6..... | 5/16" SAE Flat Washers            |
| 6..... | 5/16" Nylock Nuts                 |
| 1..... | Hardware Kit (Mini-Rocker Switch) |

### INSTALLATION INSTRUCTIONS:

1. Using a torx bit, remove both the small (A) and large (B) grills that are attached to the bumper.
2. Using a torx bit, remove the six torx screws (G) that hold the side plastic radiator shrouds to the bumper.
3. Using a flat screwdriver, remove the two plastic fasteners from the bumper tabs (E).
4. Remove the three lower bumper bolts (D).
5. Remove the two top bumper bolts (C).
6. Install the winch mounting plate into location as shown in "Figure 3" using the supplied 5/16" hardware. *Note: If looking at the front of the bumper the slots will need to be towards the back and flanges down.*

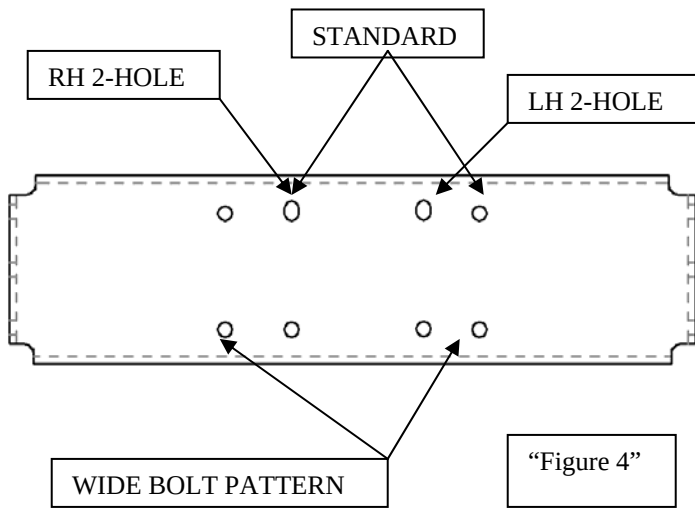


"Figure 3" Install Winch Mounting Plate

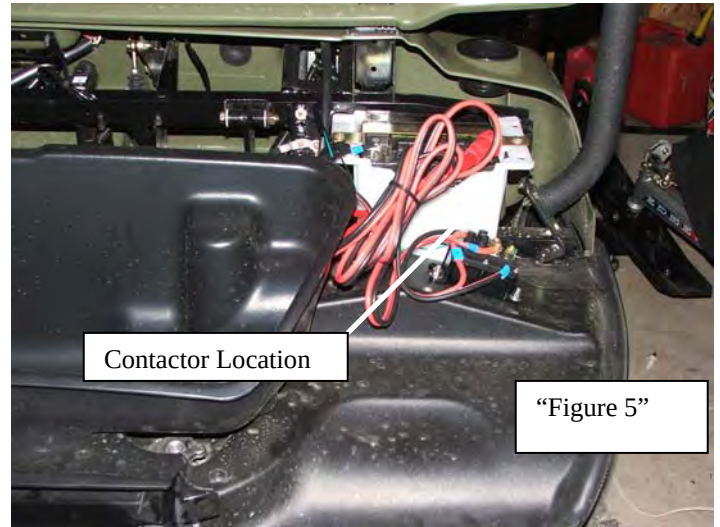


"Figure 2" Remove Side Screws

7. Assemble your fairlead to the fairlead bracket and then assemble your winch and the fairlead bracket assembly into location as shown in "Figure 4" to the Mounting plate using the hardware supplied with your winch. *Note: If you are installing a Warn 4.0 you will need to use the fairlead bracket that comes with that winch kit and discard the one included.*



"Figure 4"



Contactor Location

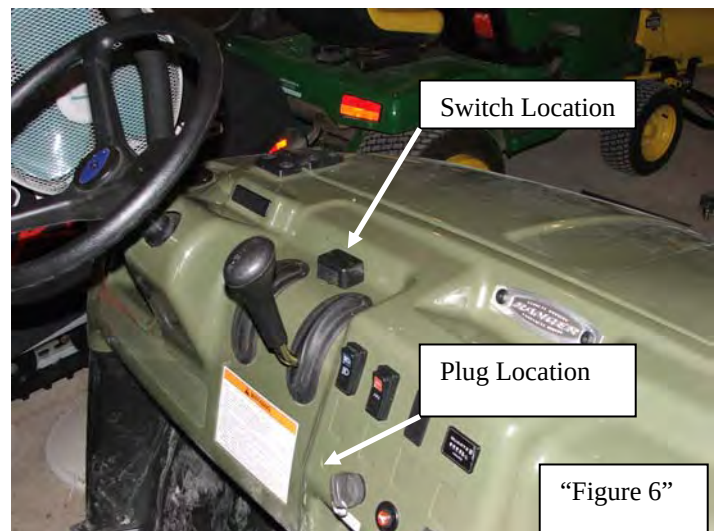
"Figure 5"

8. Connect your Motor Wires to the winch and reassemble the bumper to the frame by re-fastening the hardware that was removed in step 3, 4, and 5.
9. Using the instructions provided with your winch, wire accordingly.
10. Once all wiring is complete re-assemble items from steps 1 and 2. *Note: Large grill (B) will not be replaced, but can be replaced with optional replacement grill sold separately.*

## EXTRA HELPFUL INFORMATION

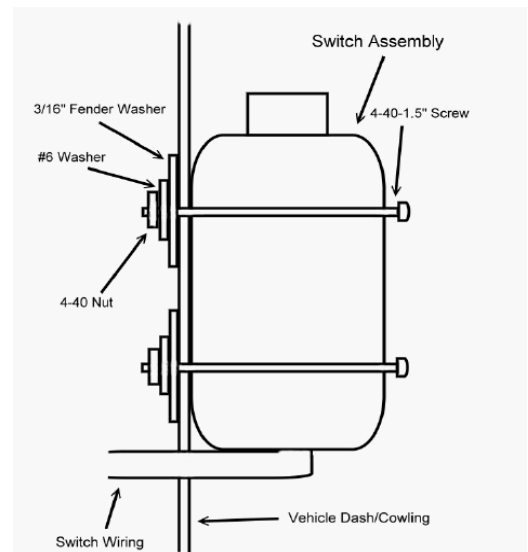
*Note: Some machines may vary from pictures shown due to changes in the different series of Rangers. Pictures that are shown are of a 2006 Ranger 700 EFI*

1. For optional contactor location please see "Figure 5"
2. Mini-Rocker Switch Hardware kit. This allows you to mount your usual handle bar mounted switch to almost any desired location.
  - a. Remove handlebar mount hardware from the switch.
  - b. Locate desired mounting location
  - c. Mark and drill two switch holes through dash using switch housing as a template
  - d. Drill a 3<sup>rd</sup> hole for the switch wiring.
  - e. Assemble per Figure 7
3. If your kit has a corded switch "Figure 6" shows the location for mounting the plug-in receptacle. It is pre-marked in the plastic.



"Figure 6"

4. Ignition Wire
  - a. Connect the red wire from the remote or switch to the red/white wire from the back of the ignition switch using an in-line wire clip (not included)



Optional Switch Mount Instructions\*

"Figure 7" Mini-Rocker Mounting



# ASSAULT SERIES

SYNTHETIC CABLE  
UTV/SxS WINCH

MODEL #AS-50wx  
5,000 LB. (2268 KG)



OPERATOR'S MANUAL



## READ AND SAVE THIS MANUAL.

This manual contains important safety precautions which should be read and understood before operating the product.



Failure to do so could result in serious injury. This manual should remain with the product. Specifications, descriptions, and illustrations in this manual are as accurate as known at the time of publication, but are subject to change without notice.

Place serial label  
here for reference.

SERIAL NO. LABEL

Support:

1-877-346-2050

or visit [www.kfiproductions.com](http://www.kfiproductions.com)



# TABLE OF CONTENTS

|                                              |          |                                  |           |
|----------------------------------------------|----------|----------------------------------|-----------|
| <b>Introduction.....</b>                     | <b>1</b> | <b>Maintenance .....</b>         | <b>13</b> |
| Accessories.....                             | 1        | Motor .....                      | 13        |
| This Manual.....                             | 1        | Lubrication .....                | 13        |
| <b>Safety Definitions.....</b>               | <b>1</b> | Synthetic Cable Inspection ..... | 13        |
| <b>Important Safety Instructions .....</b>   | <b>2</b> | Cable Assembly Replacement ..... | 14        |
| <b>Controls and Features.....</b>            | <b>4</b> | <b>Specifications .....</b>      | <b>15</b> |
| <b>Installation .....</b>                    | <b>5</b> | Performance:.....                | 15        |
| Mount the Winch .....                        | 5        | Parts Diagram.....               | 16        |
| Winch Assembly - Generic Install .....       | 5        | Parts List.....                  | 17        |
| Mount the Contactor .....                    | 6        | <b>Troubleshooting .....</b>     | <b>18</b> |
| Install UTV Dash Mounted Rocker Switch ...   | 6        | <b>Warranty .....</b>            | <b>19</b> |
| Mount the Hand Remote Socket .....           | 6        | Contact Information .....        | 20        |
| Wiring the Winch .....                       | 7        |                                  |           |
| Winch Wiring Diagram .....                   | 8        |                                  |           |
| Motor End Terminal Rotation .....            | 8        |                                  |           |
| Controller Wiring Diagram .....              | 9        |                                  |           |
| Cable Hook Stopper Installation and Use .... | 9        |                                  |           |
| General Tips for Safe Operation .....        | 10       |                                  |           |
| Self Recovery .....                          | 10       |                                  |           |
| Winching Techniques .....                    | 11       |                                  |           |
| Synthetic Cable Usage .....                  | 12       |                                  |           |
| Snow Plow Usage.....                         | 12       |                                  |           |
| Protective Sheath.....                       | 12       |                                  |           |

# INTRODUCTION

Congratulations on your purchase of a KFI winch. KFI researches and develops winches to strict specifications. With proper use and maintenance, this winch will bring years of satisfying service.

## Accessories

Kappers Fabricating, Inc. manufactures, purchases, and sells accessories designed to help you get the most from your purchase. To find out more about our products, visit our web site at:

[www.kfiproducts.com](http://www.kfiproducts.com)

## This Manual

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

Record the model 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.

|                            |
|----------------------------|
| KFI TECHNICAL SUPPORT TEAM |
| 1-877-346-2050             |
| MODEL NUMBER               |
| AS-50wx                    |
| SERIAL NUMBER              |
|                            |
| DATE OF PURCHASE           |
|                            |
| PURCHASE LOCATION          |
|                            |

# SAFETY DEFINITIONS

The purpose of safety symbols is to attract your attention to possible dangers. The safety symbols, and their explanations, deserve your careful attentions and understanding. The safety warnings do not by themselves eliminate any danger. The instructions or warnings they give are not substitutes for proper accident prevention measures.

 **DANGER**

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

 **WARNING**

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

 **CAUTION**

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

 **NOTICE**

NOTICE indicates information considered important, but not hazard-related (e.g. messages relating to property damage or physical injury).

# IMPORTANT SAFETY INSTRUCTIONS

**⚠ WARNING** Cancer and Reproductive Harm - [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

**⚠ WARNING** Read this manual thoroughly before operating the winch. Failure to follow instructions could result in serious injury or death.

**⚠ WARNING** Do not exceed the rated capacity.

**⚠ DANGER** Do not use this winch for lifting or moving people or animals.

**⚠ DANGER** Keep yourself and others a safe distance to the side of the cable when under tension.

**⚠ DANGER** Never step over a cable or near a cable under load.

**⚠ WARNING** The cable may break before the motor stalls. For heavy loads at or near rated capacity, use a pulley block/snatch block to reduce the load on the cable.

**⚠ WARNING** Do not move the vehicle to pull a load (towing) on the winch cable. This could result in cable breakage.

**⚠ WARNING** Pull only on area of the vehicle as specified by the vehicle manufacturer.

**⚠ WARNING** Do not use the winch to secure or hold a vehicle for a long period of time. Do not use the winch to secure a vehicle for transport.

**⚠ WARNING** Disconnect the remote control and battery leads when not in use for extended periods.

**⚠ WARNING** Avoid “shock loads” by using the control switch intermittently to take up slack in the cable. “Shock loads” can far exceed the rated capacity for the winch cable and drum.

Do not accelerate your vehicle while winching. Loss of traction can cause a shock load on the cable. Do not use cable as a pull strap.

**⚠ WARNING** Batteries contain acid and produce explosive gases. Keep sparks, flames and cigarettes away from batteries at all times. Wear safety glasses and protect the eyes at all times. Do not lean over the batteries during operation.

**⚠ WARNING** Do not use as a hoist. Do not use for overhead lifting.



**⚠ WARNING** When re-spooling the cable, ensure that the cable spools in the under-wind position with the cable entering the drum from the bottom, not the top.

To re-spool correctly, and while wearing gloves, keep a slight load on the cable while pushing the remote button to draw in the cable. Walk toward the winch not allowing the cable to slide through your hands. Do not let your hands get within 12 in. of the winch while re-spooling. Turn off the winch and repeat the procedure until a few feet of cable are left. Disconnect the remote control and finish spooling by rotating the drum by hand with the clutch disengaged. Keep hands clear of the fairlead and drum while the winch is under power.

**⚠ CAUTION** If the motor stalls, do not maintain power to the winch.

Electric winches are designed and made for intermittent use and should not be used in constant duty applications.

**⚠ CAUTION** Never release the free spool clutch when there is a load on the winch.

**⚠ CAUTION** Use the Hand-Saver strap when handling the winch hook for spooling or unspooling the cable.

**⚠ CAUTION** Use gloves to protect hands when handling the cable. Never let the cable slide through your hands.

**⚠ CAUTION** Do not wrap the cable around any object and hook it back onto itself.

**⚠ CAUTION** Apply blocks to the wheels of the vehicle when on an incline.

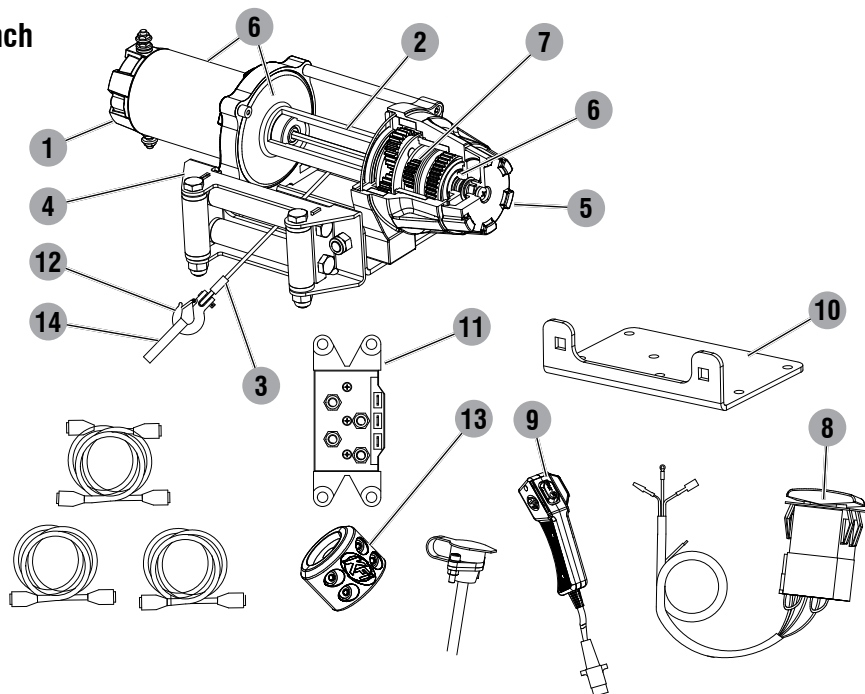
**⚠ CAUTION** Duration of winching pulls should be kept as short as possible.

If the motor becomes uncomfortably hot to the touch, stop winching immediately and let it cool down for a few minutes. Do not pull for more than one minute at or near the rated load.

## CONTROLS AND FEATURES

Read this operator's manual before operating your winch. Familiarize yourself with the location and function of the control features. Save this manual for future reference.

### Winch



- Motor** – 1.22 HP 12V DC motor provides power to the planetary gear mechanism.
- Winch Drum** – The winch drum is the cylinder on which the cable is stored. It can feed or wind the cable depending on the switch assembly.
- Synthetic Cable** – 15/64 in. x 50 ft. Synthetic cable designed specifically for load capacity of 5,000 lbs. (47 usable feet with five wraps on the drum). The synthetic cable feeds onto the drum in the “under wind” position through the roller fairlead (4) and is looped at the end to accept the clevis hook pin (12).
- Roller Fairlead** – When using the winch at an angle the roller fairlead acts to guide the synthetic cable onto the drum and minimize damage to the cable from abrasion on the winch mount or bumper.
- Free Spooling Clutch** – The clutch allows the operator to manually disengage (“Release”) the spooling drum from the gear train. Engaging the clutch (“Engage”) locks the winch into the gear system.
- Braking System** – Braking action is automatically applied to the winch drum when the winch motor is stopped or there is a load on the cable.
- Planetary Gear System** – The reduction gears convert the winch motor power into extreme pulling forces. This system allows high torque while maintaining compact size and light weight.
- UTV Dash Mounted Rocker Switch** – Premium look & quality dash mounted switch for easy access.
- Hand Held Remote** – Hand held switch with a remote socket for powering the cable in or out of your winch drum.

10. **Fairlead Mount** – Adapter to mount the winch and fairlead for utility applications.
11. **Contact** – Power from the vehicle battery flows through the weather sealed solenoid switch before being directed to the winch motor.
12. **Clevis Hook** – Provides a means for connecting the looped ends of cables to an anchor.
13. **Cable Hook Stopper** – Protects the rollers, motors, and gears.
14. **Hand Saver Strap** – Used to assist cable feed.

## INSTALLATION

This KFI 5,000 lb winch is designed with a bolt pattern that is standard for this class of winch. Many winch mounting kits are available that utilize this bolt pattern for the most popular ATVs and UTVs. You can find most of the ATV/UTV winch mounts on our website ([www.kfiproductions.com](http://www.kfiproductions.com)).

### Mount the Winch

**WARNING** Before starting to install this winch, disconnect the vehicle ground and positive leads from the battery.

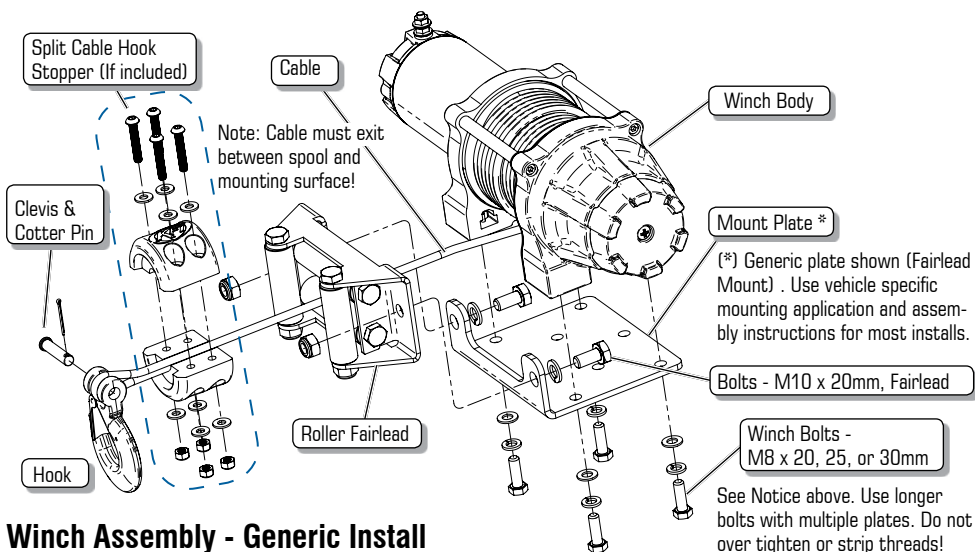
1. Install the winch and fairlead with the supplied hardware per the instructions provided with the model specific winch mounting kit or prepare a flat, secure mounting location for the winch.

**CAUTION** Mounting bolts must be SAE Grade 5 or better and torqued to 17 ft. lbs.

**NOTICE** This kit includes mounting bolts with different lengths for fastening the winch (M8 x 20, 25, and 30mm long). Use the length that best fits your mounting application. Refer to vehicle specific mount instructions for more information.

**CAUTION** If you choose not to use a model specific mounting kit, you will need to drill holes in the structural support of the vehicle. Be certain that your structural support is sufficient for the pulling forces of this winch.

2. Attach the winch using supplied M8 x 25mm or 30mm bolts and washers thru the fairlead bracket or model specific winch mount and into the winch.
3. Disengage the clutch by rotating the clutch cap to the RELEASE position. Release the synthetic cable and pull through the roller fairlead.
4. Attach the clevis hook to the cable and the hand saver strap to the clevis hook.



### Winch Assembly - Generic Install



## Mount the Contactor

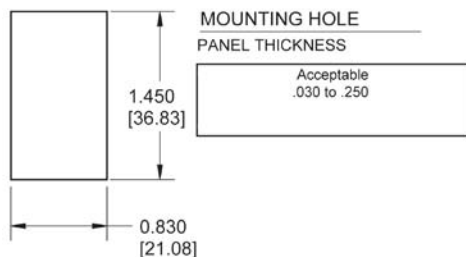
- Find a location for the contactor. If the model specific mounting kit does not indicate a recommended contactor location, then it is recommended that the contactor be mounted close to the battery in a clean dry location. Be certain the location you choose allows for sufficient clearance form all metal components. Drill mounting holes if required. Once a location is found, do not install until all wiring is completed.

## Install UTV Dash Mounted Rocker Switch

- Most UTV's & SxS's have a predefined switch location that is scored or marked for mounting and requires finish cutting with a knife.



- Use the cut-out dimensions shown below to cut the switch location pattern if your dash doesn't have a predefined knockout or area.

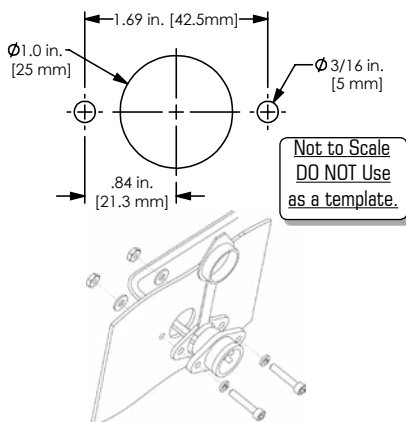


- Once your switch is mounted you can route wires back to the contactor location.

- Splice the end of the red wire to an ignition controlled (keyed) power source using the supplied wire splice. You may need to use a test light or multimeter to locate a suitable wire. The wire should only have power when the key is in the ON position.

## Mount the Hand Remote Socket (optional)

- Determine a mounting location for the Hand Remote socket. Be certain the area behind the selection location is clear.
- Drill three holes as shown in the following figure and install using supplied hardware. You can also use the rubber cap attached to the remote socket as a template.



- Once your remote socket is mounted, you may route wires back to the contactor location.
- Splice the end of the red wire to an ignition controlled (keyed) power source using the supplied wire splice. You may need to use a test light or multimeter to locate a suitable wire. The wire should only have power when the key is in the ON position.
- Secure the wires with supplied cable ties.

## Wiring the Winch

**⚠ CAUTION** Never route electrical wires across any sharp edges, through or near moving parts, or near parts that become hot.

15. Connect the yellow and blue wires to the motor terminals on the winch. Torque the nuts on the motor to 5.7 N-m (50 in lbs) Route the opposite ends to the contactor location. (See diagram on page 8).
16. Connect the yellow and blue wires to the contactor block (yellow to yellow, blue to blue). DO NOT tighten nuts. (See diagram page 8).
17. Connect the red and black wires to your contactor block (red to red, black to black). DO NOT tighten nuts. Route the opposite ends to the battery location (See diagram page 8).
18. Connect the mini rocker switch to the contactor block (black to black, green to green). (See diagram on page 9).
19. Once all wiring is connected to the contactor, finish mounting it to the contactor location using supplied M6 hardware (See diagram page 8).

**⚠ WARNING** Failure to follow specific wiring instructions may result in damage to your wiring system or equipment.

**🗨 NOTICE** Depending on the location of the contactor, you may need to use an alternate winch wiring configuration. Please see the “Alternate Winch Wiring Diagram” available on: [www.kfiproducts.com](http://www.kfiproducts.com)

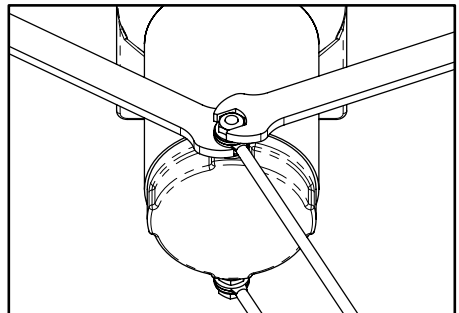
20. Torque the contactor terminal nuts to 4.5 N-m (40 in lbs) Do NOT over tighten.
21. Place all terminal boots over terminals and secure all cables with zip ties or electrical tape.

**🗨 NOTICE** If you are installing the hand remote along with the mini rocker switch, you will need to connect the remote socket to the contactor and then the mini rocker switch to the remote socket (see diagram on page 9).

22. Connect the battery leads from the contactor to the vehicle's battery (black to black, and red to red, see diagram on page 8).
23. Check for proper drum rotation. Turn the clutch cap to the RELEASE position. Pull out some cable from the drum and then turn the clutch cap to the ENGAGE position to engage the gears. Make sure your vehicle is running and press the cable out button on the switch. If the spool is turning and releasing more cable, then your connections are accurate. If the spool is turning and collecting more cable, then reverse the leads on the motor. Repeat and check rotation.

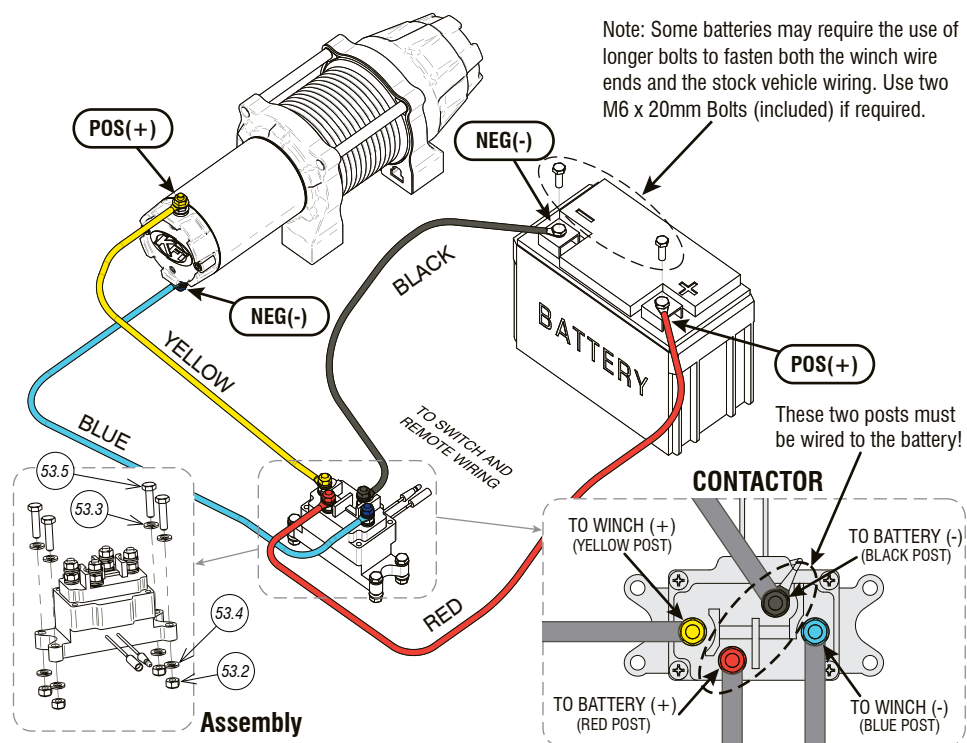
**⚠ CAUTION** Battery cables should not be drawn taut. Leave some slack for cable movement.

**🗨 NOTICE** Always hold the bottom nut with a wrench while tightening motor wire terminals. Do not allow the bottom nut to spin, else you may damage the end cap.



*Proper Terminal Tightening*

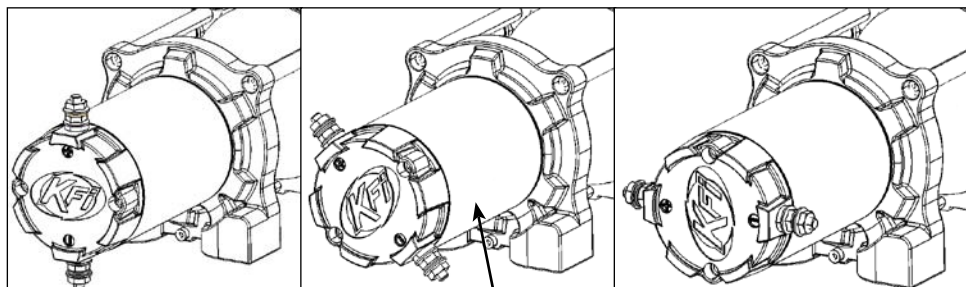
## Winch Wiring Diagram



## Motor End Terminal Rotation

With some applications, the motor terminals may need to be rotated to avoid interference with other components. If rotation is required please give us a call at 1-877-346-2050 for instructions or visit our website at [www.kfiproductions.com](http://www.kfiproductions.com) and look in the support section.

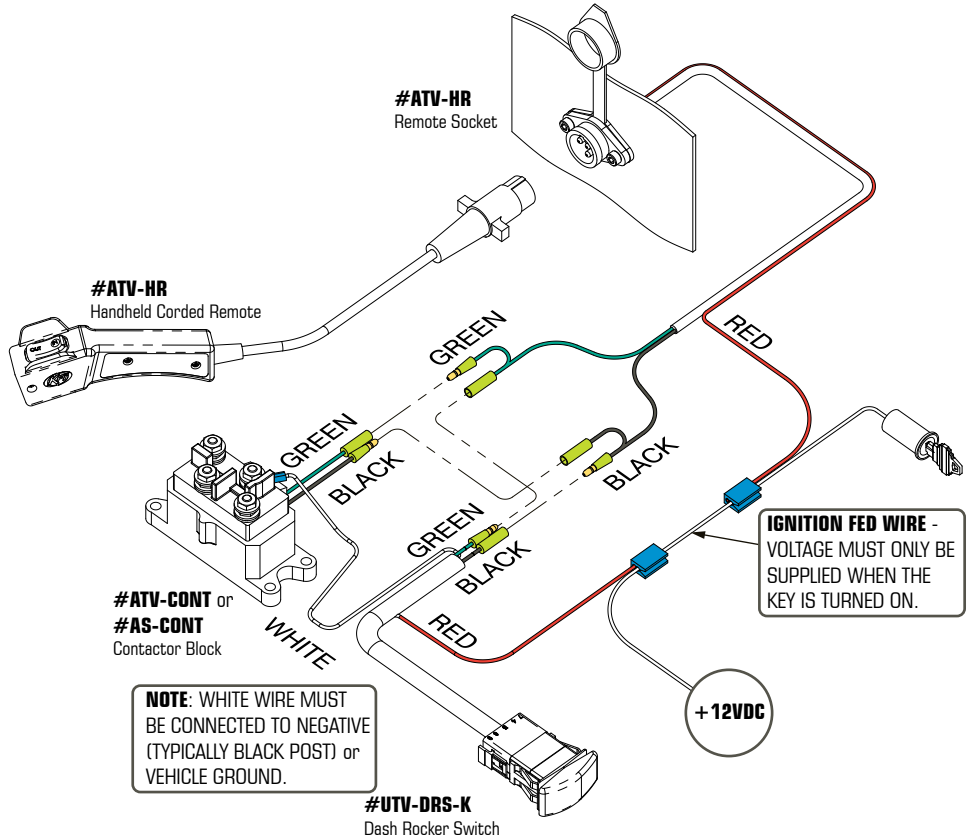
STANDARD → 45° ROTATION → 90° ROTATION



**Note:** Motor casing rotates with End Cap

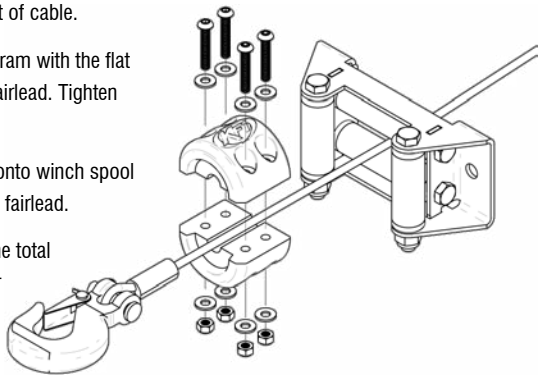


## Controller Wiring Diagram



## Cable Hook Stopper Installation and Use

1. Release winch and pull out approximately 2 feet of cable.
2. Assemble cable hook stopper as shown in diagram with the flat portion of the two halves resting against your fairlead. Tighten fasteners.
3. To stow hook, engage clutch and retract cable onto winch spool until hook is snug against the hook stopper and fairlead.
4. Position cable hook stopper at approx. 3/4 of the total line distance towards the hook while using your winch to help reduce whip back in the event of cable breakage.



## General Tips for Safe Operation

Your AS-50wx winch is rated at 5,000 lbs. capacity in first layer (max) when spooling the first cable layer on the drum. Overloads can damage the winch, motor and/or cable.

The vehicle engine should be kept running during operation of the winch to minimize battery drain and maximize power and speed of the winch. If the winch is used for a considerable time with the engine off the battery may be drained and too weak to restart the engine.

Get to know your winch before you actually need to use it. We recommend that you set up a few test runs to familiarize yourself with rigging techniques, the sounds your winch makes under various loads, the way the cable spools on the drum, etc.

Inspect the cable and equipment before each use. A frayed or damaged cable should be replaced immediately. Use only manufacturer's identical replacement cable with the exact specifications.

Inspect the winch installation and bolts to ensure that all bolts are tight before each operation.

Store the remote control inside your vehicle in a place that it will not be damaged.

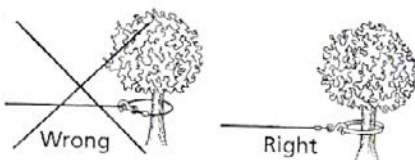
Any winch that appears to be damaged in any way, is found to be worn, or operates abnormally **MUST BE REMOVED FROM SERVICE UNTIL REPAIRED**. It is recommended that the necessary repairs be made by a manufacturer's authorized repair facility.

Pull only on areas of the vehicle as specified by the vehicle manufacturer.

Only attachments and/or adapters supplied by the manufacturer are to be used.

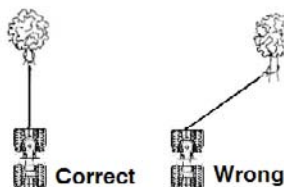
## Self Recovery

Locate a suitable anchor such as a strong tree trunk or boulder. Always use a sling as an anchor point.

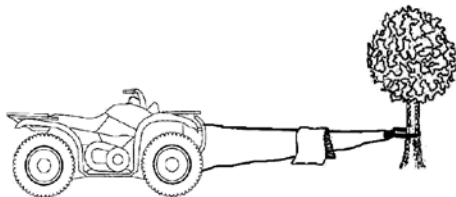


Your winch is equipped with a roller fairlead to help guide the cable and to reduce binding on short side pulls.

Do not winch from an acute angle as the cable will pile up on one side of the drum causing damage to cable and the winch.



Short pulls from an angle can be used to straighten the vehicle. Long pulls should be done with the cable straight out from the winch/vehicle.



When pulling a heavy load, place a cable hook stopper, blanket or jacket over the cable five or six feet from the hook.

In the event of a cable snap it will dampen the snap back. For additional protection open the hood of the vehicle.

## Winching Techniques

1. Take time to assess your situation and plan your pull.
2. Put on gloves to protect your hands.
3. Release the clutch and free-spool the winch; it's faster than using the switch and saves battery power.
4. Attach the hook strap to the clevis hook.
5. Pull out the cable to your desired anchor point using the hook strap.
6. Secure the clevis hook to the anchor point: Sling, chain or snatch block. Do not attach the hook back onto the cable.
7. Engage the clutch.
8. Start your engine to ensure power is being replenished to the battery.
9. Power in the cable guiding the cable under tension to draw up the slack in the cable. Once the cable is under tension, stand clear. Never step over the cable.
10. Double check your anchors and make sure all connections are secure.
11. Inspect the cable. Make sure there are at least 5 wraps of cable around the winch drum.
12. Place a Cable Hook Stopper over the cable approximately 5 to 6 feet from the hook.
13. Clear the area. Make sure all spectators stand clear and that no one is directly in front or behind the vehicle or anchor point.
14. Begin winching. Be sure that the cable is winding evenly and tightly around the drum. The vehicle that is being winched can be slowly driven to add assistance to the winching process. Avoid shock loads; keep the cable under tension.
15. The vehicle to be winched should be placed in neutral and the parking brake released. Only release the loads to the winch. This can damage the winch, cable and vehicle.
16. The winch is meant for intermittent use. Under full load with a single line rig do not power in for more than a minute without letting the motor cool down for a few minutes and then resume the winching operation.
17. The winching operation is complete once the vehicle is on stable ground and is able to drive under its own power.
18. Secure the vehicle. Be sure to set the brakes and place the vehicle in park.
19. Release the tension on the cable. The winch is not meant to hold the vehicle for long periods of time.
20. Disconnect the cable from the anchor.
21. Rewind the cable. Make sure that any cable already on the drum has spooled tightly and neatly. If not, draw out the cable and re-spool from the point where the cable is tight.
22. Keep your hands clear of the winch drum and fairlead as the cable is being drawn in.
23. Secure the hook and hook strap.
24. Disconnect the remote control and store in a clean, dry place.
25. Clean and inspect connections and mounting hardware for next winching operation.
26. Never use the winch as a tie down.
27. Use brake pedal when under full tension.



## Synthetic Cable Usage

Exercising proper care to prolong the usable life of a Synthetic Cable is your responsibility.

1. **Minimize Cable Abrasion** – Use the supplied protective sheath when the cable comes in contact with trees, rocks, or other sharp abrasive objects. The sheath is design to stay in position while the cable slips through it during use.
2. **Keep the Cable Clean** – Dirt, sand, and debris will cause abrasion. Use the protective sheath to cover the cable on the spool once the cable is in the stowed position.
3. **Avoid Sharp Bends** – If the cable is positioned at a sharp angle, the strength under load will decrease and cable damage or failure may result.
4. **Correct Spool Winding** – When re-spooling cable without a load, it is always better to have someone apply a load to the line while you reel in evenly. Re-spool the cable evenly and tightly on the drum. If cable is wound loosely, it may become wedged under adjacent layers and bind.
5. **DO NOT Grease or Oil** – Do not lubricate synthetic cable with greases or oils. Keep grease and oil away at all times.

## Snow Plow Usage

Winches are commonly used to lift a Snow Plow System, but precautions and correct usage are required to prevent costly damage.

**NOTICE** Follow these precautions before using your Winch to lift a Plow. Failure to do so may result in damage to your winch or vehicle frame.

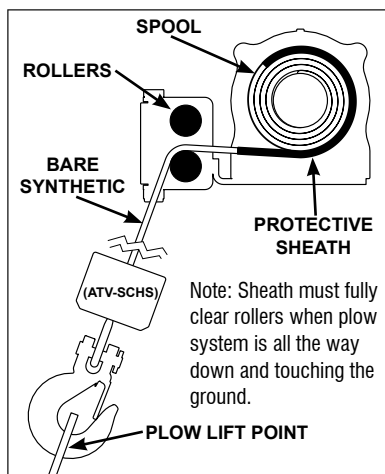
1. Stop the plow before full lift height - failure to do so will cause the winch to pull against itself (i.e. “bottom out”) and will cause damage to the winch components, your plow frame and your vehicle frame.

**NOTICE** Winch damage such as stripped gears, broken housings and bent or damaged parts caused by exceeding your plow's lift height are not covered under warranty.

2. Do not continue to hold the Spool In button to power the winch while reversing your vehicle or other instances where the operator may become distracted while plowing.

## Protective Sheath

3. Repeated spooling of a short length of cable will increase heat and friction where the rollers contact the synthetic cable. Minimize wear and the possibility of premature failure by **SLIDING THE PROTECTIVE SHEATH BACK UP THE SPOOL**.
4. When the plow system is in the DOWN position, freespool out enough additional cable that you can slide the sheath back up the spool (approx 7-8 ft more). Push the sheath back up thru the optional Cable Hook Stopper and the rollers. Re-spool the winch.
5. Be sure that the sheath completely clears the roller fairlead once spooled tightly onto the winch. The sheath will wrap around several layers on the spool. Reposition the sheath back near the hook when not used for plowing.



## MAINTENANCE

The owner/operator is responsible for all periodic maintenance.

Complete all scheduled maintenance in a timely manner.  
Correct any issue before operating the winch.

**⚠ WARNING** Never operate a damaged or defective winch.

**⚠ WARNING** Improper maintenance will void your warranty.

**💬 NOTICE** For service or parts assistance, contact our help line at 1-877-346-2050.

## Motor

Periodically when not used very often, or after wet / damp conditions. Be sure to run the motor in free spool until the motor is warm. This helps dry out any moisture and condensation trapped inside the housing.

## Lubrication

All moving parts within the Electric Winch have been Lubricated using high temperature lithium grease at the factory. No internal lubrication is required under normal conditions.

If the winch is subjected to extreme conditions lubrication may be required using a high temperature lithium grease. Retract Cable Assembly onto drum being careful not to allow kinking or over heating of the winch.

**💬 NOTICE** Do NOT attempt to lubricate or grease the synthetic cable. Grease and oil will attract dirt and debris which cause abrasion.

## Synthetic Cable Inspection

Periodically, inspect the synthetic cable for wear. When new, it will have a smooth finish (see Figure A).



After normal use, the outer surface will appear slightly fuzzy (see Figure B). This is expected and protects the underlying fibers.



Once approximately 25% of the outer fibers show wear (see Figure C), the cable must be replaced.



Inspect the inner and outer fibers by compressing the cable (see Figure D).



Look for powdered fiber or abrasion (signs of internal wear). Consider the amount of wear on the internal fibers when determining the percent of wear for replacement.



Glossy or glazed sections (see Figure E) in the cable are usually caused by compression, such as the cable being wound on the drum or through a pulley block. This is considered normal.

**NOTICE** If you compress (see Figure D) a glazed section of cable (see Figure E) and it remains hardened, then the cable has suffered heat damage and must be replaced.

**WARNING** Sharp edges and rough surfaces will shorten cable life. Inspect the cable and protective sheath before use. Replace cable immediately if it has cut strands, fused or melted fibers, odd stiff sections, chemical contamination, flat areas, or lumps that cannot be eliminated after flexing the cable.

## Cable Assembly Replacement

It is recommended that any modifications be performed by a manufacturer's authorized repair facility, and that only manufacturer-supplied parts be used

1. Rotate the clutch cap to the "Release" position.
2. Extend Cable Assembly to its full length. Note how the existing cable is connected to the inside of the drum.
3. Remove old Cable Assembly and attach new one.
4. Rotate the clutch cap to the "Engage" position.

**NOTICE** Inspect cable before and after each use. If cable becomes frayed it must be replaced.

SPECIFICATIONS

Performance:

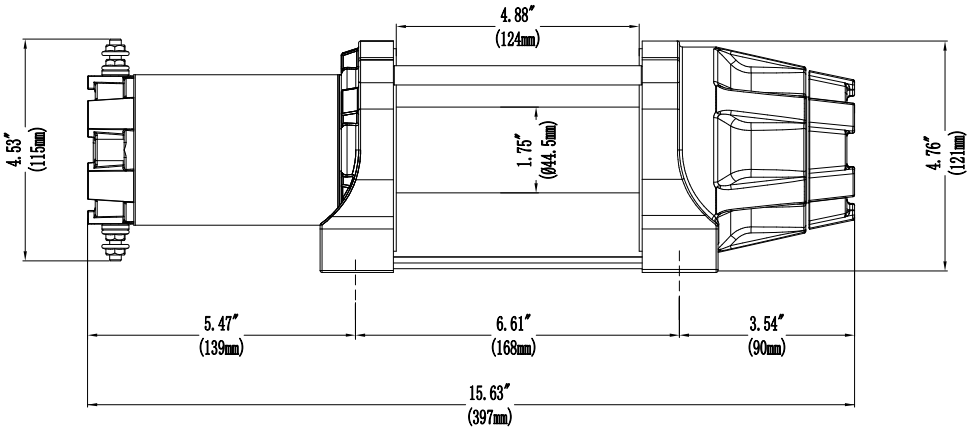
|                            |                                     |                             |                                             |
|----------------------------|-------------------------------------|-----------------------------|---------------------------------------------|
| Rated Pull .....           | 5,000 lb (2268 kg)                  | Mounting Bolt Pattern ..... | 6.6 in. x 3.00 in. (16.8 cm x 7.6 cm)       |
| Gear Reduction Ratio ..... | 180:1                               | Overall Dimensions .....    | 15.63 in. (L) x 4.45 in. (W) x 4.76 in. (H) |
| Motor.....                 | Permanent Magnet, 1.22 HP (DC 12V)  |                             | (39.7 cm x 11.3 cm x 12.1 cm)               |
| Drum Size.....             | 1.75 x 4.88 in. (44.5 x 81 mm)      |                             |                                             |
| Cable Dimensions ..        | 15/64 in. x 50 ft. (6.0mm x 15.24m) |                             |                                             |
| Net Weight .....           | 27.8 lb. (12.6 kg)                  |                             |                                             |

| Line Speed and Motor Current (First Layer) |         |       |      |      |      |      |      |
|--------------------------------------------|---------|-------|------|------|------|------|------|
| Line Pull                                  | LB      | 0     | 1500 | 2500 | 3500 | 4500 | 5000 |
|                                            | KG      | 0     | 680  | 1134 | 1588 | 2041 | 2268 |
| Line Speed<br>(12 VDC)                     | FPM     | 12.46 | 9.8  | 8.2  | 6.8  | 4.5  | 3.0  |
|                                            | MPM     | 3.8   | 3.0  | 2.5  | 2.1  | 1.4  | 0.9  |
| Max Current                                | A       | 30    | 75   | 105  | 140  | 200  | 240  |
| Run Time *                                 | Minutes | 1     | 1    | 1    | 1    | 1    | 1    |
| Cooling Time **                            | Minutes | 5     | 5    | 5    | 5    | 5    | 5    |

\* If the motor becomes uncomfortably hot to the touch, stop winching immediately and let it cool down for 5 minutes. Do not pull for more than one minute at or near the rated load.

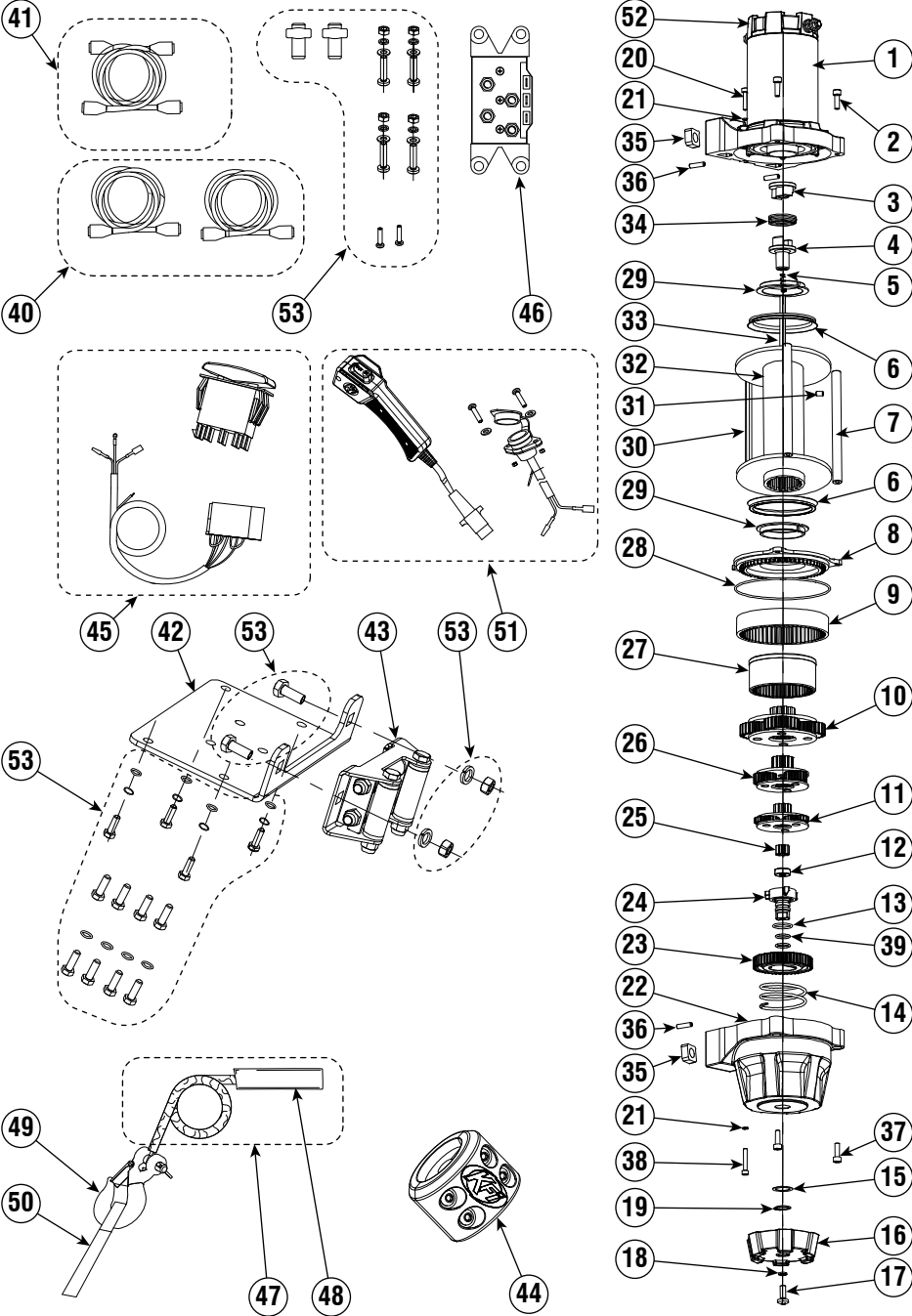
\*\* Electric winches are designed and made for intermittent use and should not be used in constant duty applications.

| Line Pull and Cable Capacity Per Layer |    |      |      |      |      |
|----------------------------------------|----|------|------|------|------|
| Layers of Cable on Drum                |    | 1    | 2    | 3    | 4    |
| Rated Line Pull                        | LB | 5000 | 4040 | 3389 | 2919 |
|                                        | KG | 2268 | 1833 | 1537 | 1324 |
| Cable Capacity                         | FT | 10.9 | 24.4 | 40.6 | 50   |
|                                        | M  | 3.3  | 7.4  | 12.3 | 12.3 |





Parts Diagram



## Parts List

| #    | Part Number      | Description              | Qty |
|------|------------------|--------------------------|-----|
| 1    | MOTOR-AS50       | Motor Assembly           | 1   |
| 2    | HW-0023-B        | Screw M5 x 16 Socket     | 2   |
| 3    | WP-0026          | Coupling, I              | 1   |
| 4    | WP-0055          | Coupling, II             | 1   |
| 5    | WP-0079          | Spring, Shaft            | 1   |
| 6    | WP-0061          | Delf-seal Packing        | 2   |
| 7    | WP-0080          | Tie Bar Ø10 x 129        | 2   |
| 8    | WP-0054          | Clutch Cover, Assault    | 1   |
| 9    | WP-0068          | Gear Ring, I             | 1   |
| 10   | WP-0065          | Gear Carrier Asm, Output | 1   |
| 11   | WP-0064          | Gear Carrier Asm, Input  | 1   |
| 12   | WP-0078          | Bearing 606 Sealed       | 1   |
| 13   | WP-0077          | O-Ring Ø19 x 2.4         | 1   |
| 14   | WP-0085          | Spring, Clutch           | 1   |
| 15   | HW-0024          | Washer SS Ø16            | 1   |
| 16   | WP-0002          | Clutch Cap, Assault      | 1   |
| 17   | HW-0007-B        | Screw M6 x 16 Phillips   | 1   |
| 18   | HW-0006-B        | Washer Ø6 Lock           | 1   |
| 19   | HW-0004          | Circlip Ø15              | 1   |
| 20   | HW-0025-B        | Screw M4 x 20 Socket     | 1   |
| 21   | HW-0020-B        | Lock Washer Ø4           | 2   |
| 22   | WP-0067          | Gear Housing             | 1   |
| 23   | WP-0053          | Cam, Clutch Gear         | 1   |
| 24   | WP-0052          | Bushing, Axis Support    | 1   |
| 25   | WP-0084          | Gear, Input, Sun         | 1   |
| 26   | WP-0063          | Gear Carrier Asm         | 1   |
| 27   | WP-0069          | Gear Ring, II            | 1   |
| 28   | WP-0075          | O-Ring Ø100 x 1.9        | 1   |
| 29   | WP-0062          | Bushing, Drum            | 2   |
| 30   | WP-0073          | Hex Tie Bar 6 x 131      | 1   |
| 31   | WP-0025          | Set Screw M5 x 8         | 1   |
| 32   | WP-0057          | Drum, Steel, Wide        | 1   |
| 33   | WP-0071          | Shaft, Hexagon, H6 x 187 | 1   |
| 34   | WP-0027          | Spring, Coupling         | 1   |
| 35   | WP-0049          | Square Nut               | 4   |
| 36   | WP-0050          | Pin, Spring, Ø3 x 14     | 4   |
| 37   | HW-0026-B        | Screw M5 x 18 Socket     | 2   |
| 38   | HW-0019-B        | Screw M4 x 25 Socket     | 1   |
| 39   | WP-0076          | O-Ring Ø13 x 2           | 2   |
| 40   | SE-WIRES-UTV-WIN | Wiring, Winch, UTV       | 1   |
| 40.1 | WP-0092          | Terminal Protector       | 4   |

| #     | Part Number      | Description                     | Qty |
|-------|------------------|---------------------------------|-----|
| 41    | SE-WIRES-UTV-BAT | Wiring, Battery, UTV            | 1   |
| 41.1  | WP-0092          | Terminal Protector              | 4   |
| 42    | 100695           | Bracket, Fairlead, Wide         | 1   |
| 43    | SE-WRF           | Roller Fairlead, Wide, Stealth  | 1   |
| 44    | ATV-SCHS         | Split Cable Hook Stopper        | 1   |
| 45    | UTV-DRS-K        | UTV Dash Rocker Switch Kit      | 1   |
| 46    | AS-CONT          | Contactor, Assault              | 1   |
| 47    | SYN25-S50        | Cable, Synthetic, 15/64" x 50ft | 1   |
| 48    | UTV-RPS          | Protective Sheath, Replacement  | 1   |
| 49    | SE-HOOK          | Clevis Hook, 1/4"               | 1   |
| 50    | WP-0030-BLK      | Hand Saver Strap, Black         | 1   |
| 51    | ATV-HR           | Hand Remote Asm                 | 1   |
| 52    | AS-CAPKIT        | Motor End Cap Assembly          | 1   |
| 53    | HK-500           | Hardware Kit, Black             | 1   |
| 53.01 | HW-0001          | Wire Tap                        | 2   |
| 53.02 | HW-0014-B        | Nut M6 Nylock                   | 4   |
| 53.03 | HW-0006-B        | Washer Ø6 Lock                  | 4   |
| 53.04 | HW-0003-B        | Washer Ø6                       | 4   |
| 53.05 | HW-0013-B        | Bolt M6 x 25                    | 4   |
| 53.06 | HW-0015-B        | Bolt M6 x 20                    | 2   |
| 53.07 | HW-0010-B        | Bolt M10 x 20                   | 2   |
| 53.08 | HW-0011-B        | Washer Ø10 Lock                 | 2   |
| 53.09 | HW-0012-B        | Nut M10 Nylock                  | 2   |
| 53.10 | HW-0016-B        | Washer Ø8                       | 8   |
| 53.11 | HW-0009-B        | Washer Ø8 Lock                  | 4   |
| 53.12 | HW-0008-B        | Bolt M8 x 25                    | 4   |
| 53.13 | HW-0018-B        | Bolt M8 x 20                    | 4   |
| 53.14 | HW-0017-B        | Bolt M8 x 30                    | 4   |

## TROUBLESHOOTING

| Problem                                            | Cause                                       | Solution                                                                                                   |
|----------------------------------------------------|---------------------------------------------|------------------------------------------------------------------------------------------------------------|
| Motor does not run, Contactor makes a click sound. | Incorrect Wiring                            | Check Winch Wiring Diagram, make sure all wires are correctly connected.                                   |
|                                                    | Incorrect Wiring                            | Hand Remote / Mini Rocker Switch wires must be connected green to green and black to black.                |
|                                                    | Loose battery cable connections             | Hand tighten nuts on all cable connections.                                                                |
|                                                    | Motor Issue                                 | Contact KFI Technical Support                                                                              |
|                                                    | Water has entered motor                     | Allow to drain and dry. Run in short burst with load until completely dry.                                 |
|                                                    | Brake Spring installed backwards            | Contact KFI Technical Support.                                                                             |
| Motor does not run, NO click sound from Contactor. | Incorrect Wiring                            | Check Winch Wiring Diagram, make sure all wires are correctly connected.                                   |
|                                                    | Switch Ignition Wire                        | Check connection to an ignition fed source. Must supply 12V with the key on and vehicle running.           |
|                                                    | Contactor malfunctioning                    | Contact KFI Technical Support.                                                                             |
|                                                    | Switch malfunctioning                       | Contact KFI Technical Support.                                                                             |
| Motor runs, Spool turns in one direction only.     | Incorrect Wiring                            | Check wiring diagram, verify switch wires (black/green) are properly connected and making good contact.    |
|                                                    | Defective or stuck Contactor                | Tap contactor to loosen plungers.                                                                          |
|                                                    | Defective Switch assembly                   | Replace Switch assembly.                                                                                   |
|                                                    | Contactor malfunctioning                    | Contact KFI Technical Support.                                                                             |
| Motor runs, Spool does NOT turn.                   | Clutch not engaged                          | Rotate Clutch Cap to Engage.                                                                               |
|                                                    | Broken Coupler / stripped Shaft             | Replace Coupler or Shaft                                                                                   |
| Spool turns, but no movement from Cable            | Cable not attached to Spool                 | Contact KFI Technical Support.                                                                             |
| Motor runs slowly or without normal power.         | Insufficient current or voltage.            | The battery is weak, recharge. Run winch with vehicle motor running (battery should have a strong charge). |
|                                                    | Loose or corroded battery cable connections | Clean, tighten, or replace.                                                                                |
|                                                    | Worn Brushes                                | Replace with End-Cap Kit (#AS-CAPKIT)<br>Contact KFI Technical Support.                                    |
| Motor overheating                                  | Winch running time too long                 | Allow winch to cool down periodically.                                                                     |

For further support, contact:

### KFI Tech Support

Mon-Thr 8:00 AM - 5:00 PM (CST/CDT)

Fri 7:00 AM - 1:00PM (CST/CDT)

Toll Free: 1-877-346-2050

tech@kfiproducs.com

### KFI Products Website Support:

Common installation, maintenance, and troubleshooting guides are available on our website.

<https://www.kfiproducs.com/support.html>

## WARRANTY

KAPPERS FABRICATING, INC.  
2 YEAR LIMITED LIFETIME WARRANTY

### Warranty Qualifications

Kappers Fabricating Inc. (KFI) will register this warranty upon receipt of your Warranty Registration Card and a copy of your sales receipt from one of KFI's resale locations as proof of purchase. Please submit your warranty registration and your proof of purchase within Fifteen (15) days of the date of purchase.

### Repair/Replacement Warranty

KFI warrants to the original purchaser that mechanical components will be free of defects in material and workmanship for the usable lifetime of the product (180 days for commercial use); and electrical components will be free of defects in material and workmanship for (2) years (180 days for commercial use); from the original date of purchase. Transportation charges on product submitted for repair or replacement under this warranty are the sole responsibility of the purchaser. This warranty only applies to the original purchaser and is not transferable.

### Do Not Return The Unit To The Place Of Purchase

Contact KFI's Technical Service and KFI will troubleshoot any issue via phone or e-mail. If the problem is not corrected by this method, KFI will, at its option, authorize evaluation, repair or replacement of the defective part or component at a KFI Service Center. KFI will provide you with a case number for warranty service. Please keep it for future reference. Repairs or replacements without prior authorization, or at an unauthorized repair facility, will not be covered by this warranty.

### Warranty Exclusions

This warranty does not cover the following repairs and equipment:

#### Normal Wear

Winches need periodic parts and service to perform well. This warranty does not cover repair when normal use has exhausted the life of a part or the equipment as a whole.

### Installation, Use and Maintenance

This warranty will not apply to parts and/or labor if this winch is deemed to have been misused, neglected, involved in an accident, abused, loaded beyond the winch's limits, modified, installed improperly or wired incorrectly to any electrical component. Normal maintenance is not covered by this warranty.

### Other Exclusions

- The winch cable or synthetic cable.
- Cosmetic defects such as paint, decals, etc.
- Accessory parts such as storage covers.
- Misuse, abuse, neglect, acts of God, terrorism and causes beyond the control of KFI.
- Problems caused by parts that are not original Kappers Fabricating Inc. parts.
- Cable Stacking and Water Submersion or Damage Caused by Water.

### Warranty Procedure

1. Contact KFI Technical support to acquire a Return Authorization (RA) number.
2. KFI may request additional materials (such as original sales receipt, date of purchase, technical details, or photos of Product condition) prior to issuing an RA number.
3. At the discretion of KFI, Buyer shall mail, ship, or otherwise deliver to KFI the Warrantied Product, at the address noted below.

### Limits of Implied Warranty and Consequential Damage

Kappers Fabricating Inc. disclaims any obligation to cover any loss of time, use of this product, freight, or any incidental or consequential claim by anyone from using this winch. THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE

A unit provided as an exchange will be subject to the warranty of the original unit. The length of the warranty governing the exchanged unit will remain calculated by reference to the purchase date of the original unit.

This warranty gives you certain legal rights which may change from state to state. Your state may also have other rights you may be entitled to that are not listed within this warranty.



## Contact Information

### Address

KFI Products  
Winch Customer Service  
P.O. BOX 32  
721 SATA DRIVE  
SPRING VALLEY, MN 55975

### Corporate

KAPPERS FABRICATING, INC.  
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E-mail: [sales@kfiproductions.com](mailto:sales@kfiproductions.com)

### Technical Service

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Thr - 7:00 AM - 1:00 PM (CST/CDT)  
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USA



MADE IN CHINA  
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# ASSAULT SERIES

SYNTHETIC CABLE  
ATV/UTV WINCH

MODEL #AS-50x  
5,000 LB. (2268 KG)



# OPERATOR'S MANUAL



## READ AND SAVE THIS MANUAL.

This manual contains important safety precautions which should be read and understood before operating the product.



Failure to do so could result in serious injury. This manual should remain with the product. Specifications, descriptions, and illustrations in this manual are as accurate as known at the time of publication, but are subject to change without notice.

Place serial label  
here for reference.

SERIAL NO. LABEL

Support:

1-877-346-2050

or visit [www.kfiproductions.com](http://www.kfiproductions.com)



# TABLE OF CONTENTS

|                                              |          |                                  |           |
|----------------------------------------------|----------|----------------------------------|-----------|
| <b>Introduction.....</b>                     | <b>1</b> | <b>Maintenance .....</b>         | <b>13</b> |
| Accessories.....                             | 1        | Motor .....                      | 13        |
| This Manual.....                             | 1        | Lubrication .....                | 13        |
| <b>Safety Definitions.....</b>               | <b>1</b> | Synthetic Cable Inspection ..... | 13        |
| <b>Important Safety Instructions .....</b>   | <b>2</b> | Cable Assembly Replacement ..... | 14        |
| <b>Controls and Features.....</b>            | <b>4</b> | <b>Specifications .....</b>      | <b>15</b> |
| <b>Installation .....</b>                    | <b>5</b> | Performance:.....                | 15        |
| Mount the Winch .....                        | 5        | Parts Diagram.....               | 16        |
| Winch Assembly - Generic Install .....       | 5        | Parts List.....                  | 17        |
| Mount the Contactor .....                    | 6        | <b>Troubleshooting .....</b>     | <b>18</b> |
| Install UTV Dash Mounted Rocker Switch ...   | 6        | <b>Warranty .....</b>            | <b>19</b> |
| Mount the Hand Remote Socket .....           | 6        | Contact Information .....        | 20        |
| Wiring the Winch .....                       | 7        |                                  |           |
| Winch Wiring Diagram .....                   | 8        |                                  |           |
| Motor End Terminal Rotation .....            | 8        |                                  |           |
| Controller Wiring Diagram .....              | 9        |                                  |           |
| Cable Hook Stopper Installation and Use .... | 9        |                                  |           |
| General Tips for Safe Operation .....        | 10       |                                  |           |
| Self Recovery .....                          | 10       |                                  |           |
| Winching Techniques .....                    | 11       |                                  |           |
| Synthetic Cable Usage .....                  | 12       |                                  |           |
| Snow Plow Usage.....                         | 12       |                                  |           |
| Protective Sheath.....                       | 12       |                                  |           |

INTRODUCTION

Congratulations on your purchase of a KFI winch. KFI researches and develops winches to strict specifications. With proper use and maintenance, this winch will bring years of satisfying service.

Accessories

Kappers Fabricating, Inc. manufactures, purchases, and sells accessories designed to help you get the most from your purchase. To find out more about our products, visit our web site at:

www.kfiproducts.com

This Manual

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

Record the model 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.

|                            |
|----------------------------|
| KFI TECHNICAL SUPPORT TEAM |
| 1-877-346-2050             |
| MODEL NUMBER               |
| AS-50x                     |
| SERIAL NUMBER              |
|                            |
| DATE OF PURCHASE           |
|                            |
| PURCHASE LOCATION          |
|                            |

SAFETY DEFINITIONS

The purpose of safety symbols is to attract your attention to possible dangers. The safety symbols, and their explanations, deserve your careful attentions and understanding. The safety warnings do not by themselves eliminate any danger. The instructions or warnings they give are not substitutes for proper accident prevention measures.

 **DANGER**

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

 **WARNING**

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

 **CAUTION**

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

 **NOTICE**

NOTICE indicates information considered important, but not hazard-related (e.g. messages relating to property damage or physical injury).

# IMPORTANT SAFETY INSTRUCTIONS

**⚠ WARNING** Cancer and Reproductive Harm - [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

**⚠ WARNING** Read this manual thoroughly before operating the winch. Failure to follow instructions could result in serious injury or death.

**⚠ WARNING** Do not exceed the rated capacity.

**⚠ DANGER** Do not use this winch for lifting or moving people or animals.

**⚠ DANGER** Keep yourself and others a safe distance to the side of the cable when under tension.

**⚠ DANGER** Never step over a cable or near a cable under load.

**⚠ WARNING** The cable may break before the motor stalls. For heavy loads at or near rated capacity, use a pulley block/snatch block to reduce the load on the cable.

**⚠ WARNING** Do not move the vehicle to pull a load (towing) on the winch cable. This could result in cable breakage.

**⚠ WARNING** Pull only on area of the vehicle as specified by the vehicle manufacturer.

**⚠ WARNING** Do not use the winch to secure or hold a vehicle for a long period of time. Do not use the winch to secure a vehicle for transport.

**⚠ WARNING** Disconnect the remote control and battery leads when not in use for extended periods.

**⚠ WARNING** Avoid “shock loads” by using the control switch intermittently to take up slack in the cable. “Shock loads” can far exceed the rated capacity for the winch cable and drum.

Do not accelerate your vehicle while winching. Loss of traction can cause a shock load on the cable. Do not use cable as a pull strap.

**⚠ WARNING** Batteries contain acid and produce explosive gases. Keep sparks, flames and cigarettes away from batteries at all times. Wear safety glasses and protect the eyes at all times. Do not lean over the batteries during operation.

**⚠ WARNING** Do not use as a hoist. Do not use for overhead lifting.

**⚠ WARNING** When re-spooling the cable, ensure that the cable spools in the under-wind position with the cable entering the drum from the bottom, not the top.

To re-spool correctly, and while wearing gloves, keep a slight load on the cable while pushing the remote button to draw in the cable. Walk toward the winch not allowing the cable to slide through your hands. Do not let your hands get within 12 in. of the winch while re-spooling. Turn off the winch and repeat the procedure until a few feet of cable are left. Disconnect the remote control and finish spooling by rotating the drum by hand with the clutch disengaged. Keep hands clear of the fairlead and drum while the winch is under power.

**⚠ CAUTION** If the motor stalls, do not maintain power to the winch.

Electric winches are designed and made for intermittent use and should not be used in constant duty applications.

**⚠ CAUTION** Never release the free spool clutch when there is a load on the winch.

**⚠ CAUTION** Use the Hand-Saver strap when handling the winch hook for spooling or unspooling the cable.

**⚠ CAUTION** Use gloves to protect hands when handling the cable. Never let the cable slide through your hands.

**⚠ CAUTION** Do not wrap the cable around any object and hook it back onto itself.

**⚠ CAUTION** Apply blocks to the wheels of the vehicle when on an incline.

**⚠ CAUTION** Duration of winching pulls should be kept as short as possible.

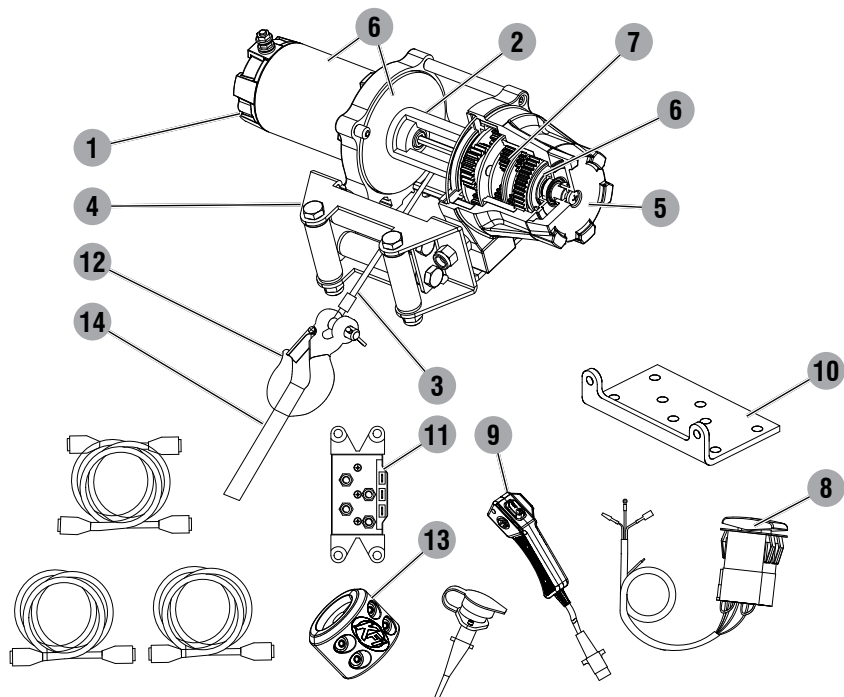
If the motor becomes uncomfortably hot to the touch, stop winching immediately and let it cool down for a few minutes. Do not pull for more than one minute at or near the rated load.



## CONTROLS AND FEATURES

Read this operator's manual before operating your winch. Familiarize yourself with the location and function of the control features. Save this manual for future reference.

### Winch



1. **Motor** – 1.22 HP 12V DC motor provides power to the planetary gear mechanism.
2. **Winch Drum** – The winch drum is the cylinder on which the cable is stored. It can feed or wind the cable depending on the switch assembly.
3. **Synthetic Cable** – 15/64 in. x 38 ft. Synthetic cable designed specifically for load capacity of 5,000 lbs. (36 usable feet with five wraps on the drum). The synthetic cable feeds onto the drum in the “under wind” position through the roller fairlead (4) and is looped at the end to accept the clevis hook pin (12).
4. **Roller Fairlead** – When using the winch at an angle the roller fairlead acts to guide the synthetic cable onto the drum and minimize damage to the cable from abrasion on the winch mount or bumper.
5. **Free Spooling Clutch** – The clutch allows the operator to manually disengage (“Release”) the spooling drum from the gear train. Engaging the clutch (“Engage”) locks the winch into the gear system.
6. **Braking System** – Braking action is automatically applied to the winch drum when the winch motor is stopped or there is a load on the cable.
7. **Planetary Gear System** – The reduction gears convert the winch motor power into extreme pulling forces. This system allows high torque while maintaining compact size and light weight.
8. **UTV Dash Mounted Rocker Switch** – Premium look & quality dash mounted switch for easy access.
9. **Hand Held Remote** – Hand held switch with a remote socket for powering the cable in or out of your winch drum.

10. **Fairlead Mount** – Adapter to mount the winch and fairlead for utility applications.
11. **Contact** – Power from the vehicle battery flows through the weather sealed solenoid switch before being directed to the winch motor.
12. **Clevis Hook** – Provides a means for connecting the looped ends of cables to an anchor.
13. **Cable Hook Stopper** – Protects the rollers, motors, and gears.
14. **Hand Saver Strap** – Used to assist cable feed.

## INSTALLATION

This KFI 5,000 lb winch is designed with a bolt pattern that is standard for this class of winch. Many winch mounting kits are available that utilize this bolt pattern for the most popular ATVs and UTVs. You can find most of the ATV/UTV winch mounts on our website ([www.kfiproductions.com](http://www.kfiproductions.com)).

### Mount the Winch

**WARNING** Before starting to install this winch, disconnect the vehicle ground and positive leads from the battery.

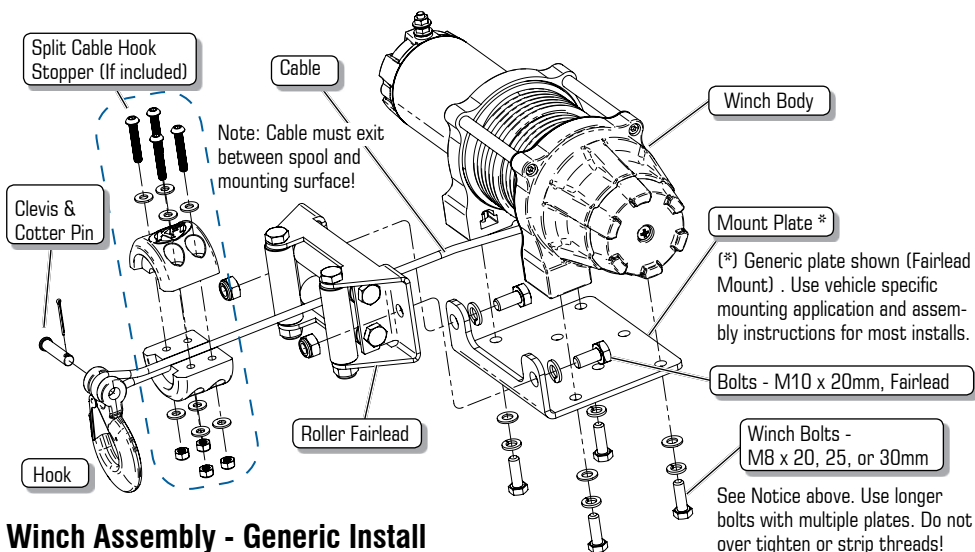
1. Install the winch and fairlead with the supplied hardware per the instructions provided with the model specific winch mounting kit or prepare a flat, secure mounting location for the winch.

**CAUTION** Mounting bolts must be SAE Grade 5 or better and torqued to 17 ft. lbs.

**NOTICE** This kit includes mounting bolts with different lengths for fastening the winch (M8 x 20, 25, and 30mm long). Use the length that best fits your mounting application. Refer to vehicle specific mount instructions for more information.

**CAUTION** If you choose not to use a model specific mounting kit, you will need to drill holes in the structural support of the vehicle. Be certain that your structural support is sufficient for the pulling forces of this winch.

2. Attach the winch using supplied M8 x 25mm or 30mm bolts and washers thru the fairlead bracket or model specific winch mount and into the winch.
3. Disengage the clutch by rotating the clutch cap to the RELEASE position. Release the synthetic cable and pull through the roller fairlead.
4. Attach the clevis hook to the cable and the hand saver strap to the clevis hook.



### Winch Assembly - Generic Install

## Mount the Contactor

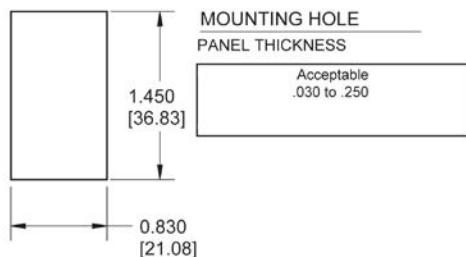
- Find a location for the contactor. If the model specific mounting kit does not indicate a recommended contactor location, then it is recommended that the contactor be mounted close to the battery in a clean dry location. Be certain the location you choose allows for sufficient clearance form all metal components. Drill mounting holes if required. Once a location is found, do not install until all wiring is completed.

## Install UTV Dash Mounted Rocker Switch

- Most UTV's & SxS's have a predefined switch location that is scored or marked for mounting and requires finish cutting with a knife.



- Use the cut-out dimensions shown below to cut the switch location pattern if your dash doesn't have a predefined knockout or area.

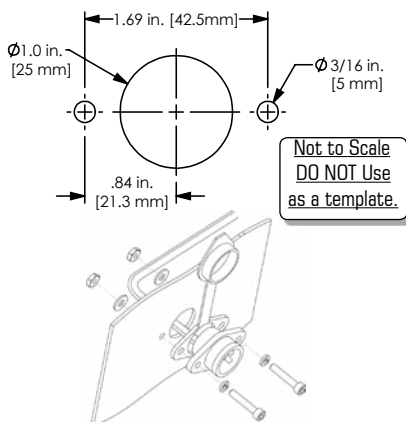


- Once your switch is mounted you can route wires back to the contactor location.

- Splice the end of the red wire to an ignition controlled (keyed) power source using the supplied wire splice. You may need to use a test light or multimeter to locate a suitable wire. The wire should only have power when the key is in the ON position.

## Mount the Hand Remote Socket (optional)

- Determine a mounting location for the Hand Remote socket. Be certain the area behind the selection location is clear.
- Drill three holes as shown in the following figure and install using supplied hardware. You can also use the rubber cap attached to the remote socket as a template.



- Once your remote socket is mounted, you may route wires back to the contactor location.
- Splice the end of the red wire to an ignition controlled (keyed) power source using the supplied wire splice. You may need to use a test light or multimeter to locate a suitable wire. The wire should only have power when the key is in the ON position.
- Secure the wires with supplied cable ties.

## Wiring the Winch

**⚠ CAUTION** Never route electrical wires across any sharp edges, through or near moving parts, or near parts that become hot.

15. Connect the yellow and blue wires to the motor terminals on the winch. Torque the nuts on the motor to 5.7 N-m (50 in lbs) Route the opposite ends to the contactor location. (See diagram on page 8).
16. Connect the yellow and blue wires to the contactor block (yellow to yellow, blue to blue). DO NOT tighten nuts. (See diagram page 8).
17. Connect the red and black wires to your contactor block (red to red, black to black). DO NOT tighten nuts. Route the opposite ends to the battery location (See diagram page 8).
18. Connect the mini rocker switch to the contactor block (black to black, green to green). (See diagram on page 9).
19. Once all wiring is connected to the contactor, finish mounting it to the contactor location using supplied M6 hardware (See diagram page 8).

**⚠ WARNING** Failure to follow specific wiring instructions may result in damage to your wiring system or equipment.

**🗨 NOTICE** Depending on the location of the contactor, you may need to use an alternate winch wiring configuration. Please see the “Alternate Winch Wiring Diagram” available on: [www.kfiproducts.com](http://www.kfiproducts.com)

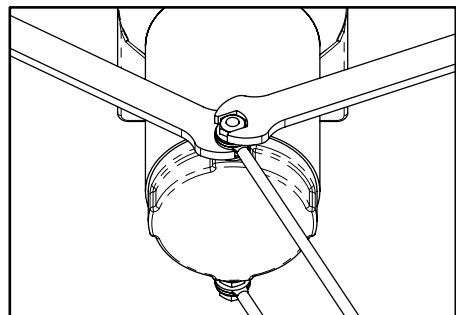
20. Torque the contactor terminal nuts to 4.5 N-m (40 in lbs) Do NOT over tighten.
21. Place all terminal boots over terminals and secure all cables with zip ties or electrical tape.

**🗨 NOTICE** If you are installing the hand remote along with the mini rocker switch, you will need to connect the remote socket to the contactor and then the mini rocker switch to the remote socket (see diagram on page 9).

22. Connect the battery leads from the contactor to the vehicle's battery (black to black, and red to red, see diagram on page 8).
23. Check for proper drum rotation. Turn the clutch cap to the RELEASE position. Pull out some cable from the drum and then turn the clutch cap to the ENGAGE position to engage the gears. Make sure your vehicle is running and press the cable out button on the switch. If the spool is turning and releasing more cable, then your connections are accurate. If the spool is turning and collecting more cable, then reverse the leads on the motor. Repeat and check rotation.

**⚠ CAUTION** Battery cables should not be drawn taut. Leave some slack for cable movement.

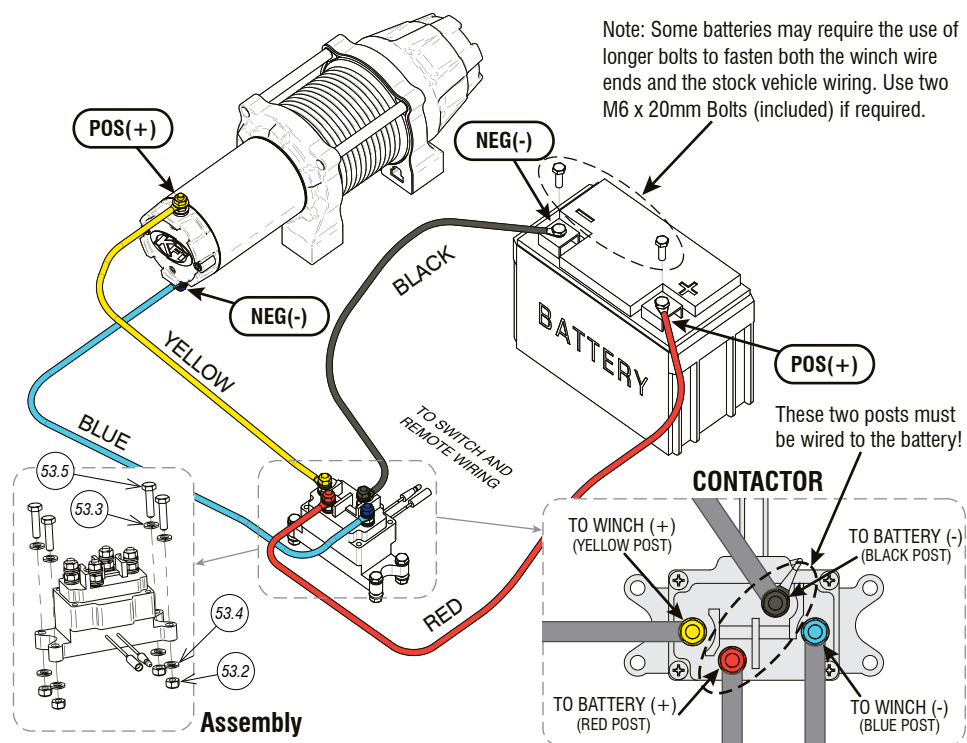
**🗨 NOTICE** Always hold the bottom nut with a wrench while tightening motor wire terminals. Do not allow the bottom nut to spin, else you may damage the end cap.



*Proper Terminal Tightening*



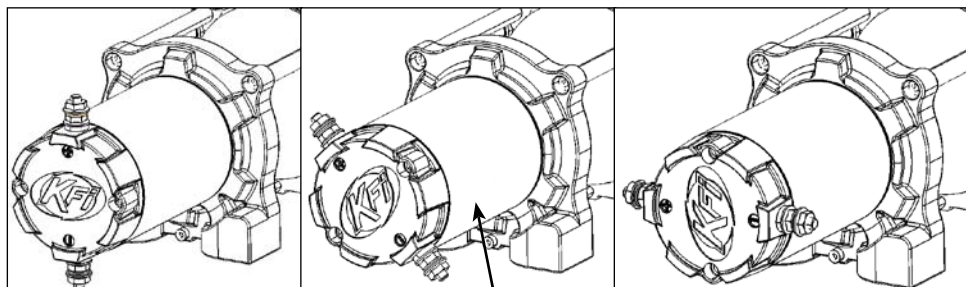
## Winch Wiring Diagram



## Motor End Terminal Rotation

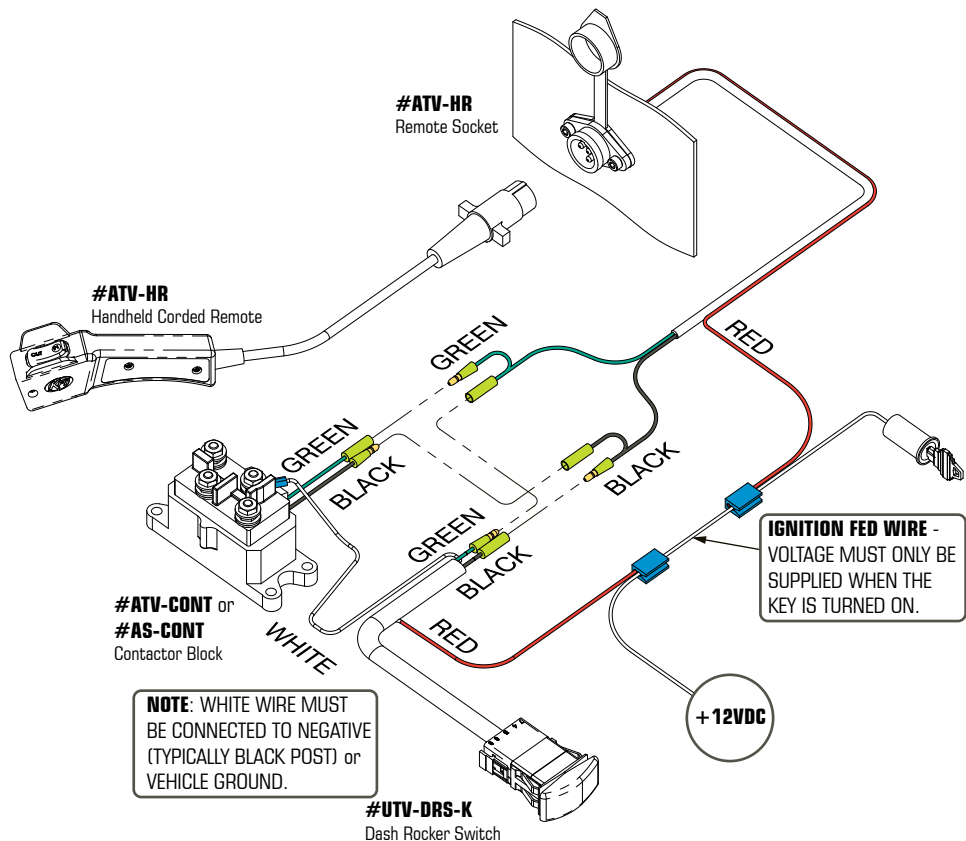
With some applications, the motor terminals may need to be rotated to avoid interference with other components. If rotation is required please give us a call at 1-877-346-2050 for instructions or visit our website at [www.kfiproductions.com](http://www.kfiproductions.com) and look in the support section.

STANDARD → 45° ROTATION → 90° ROTATION



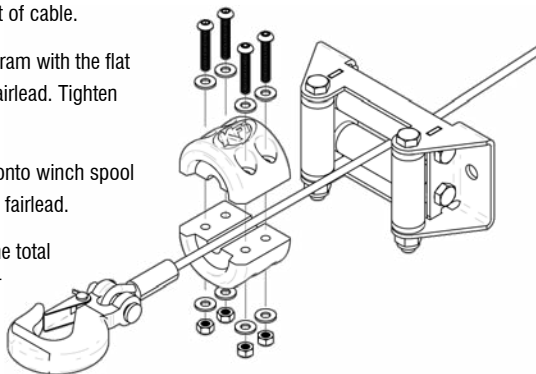
**Note:** Motor casing rotates with End Cap

## Controller Wiring Diagram



## Cable Hook Stopper Installation and Use

1. Release winch and pull out approximately 2 feet of cable.
2. Assemble cable hook stopper as shown in diagram with the flat portion of the two halves resting against your fairlead. Tighten fasteners.
3. To stow hook, engage clutch and retract cable onto winch spool until hook is snug against the hook stopper and fairlead.
4. Position cable hook stopper at approx. 3/4 of the total line distance towards the hook while using your winch to help reduce whip back in the event of cable breakage.



## General Tips for Safe Operation

Your AS-50x winch is rated at 5,000 lbs. capacity in first layer (max) when spooling the first cable layer on the drum. Overloads can damage the winch, motor and/or cable.

The vehicle engine should be kept running during operation of the winch to minimize battery drain and maximize power and speed of the winch. If the winch is used for a considerable time with the engine off the battery may be drained and too weak to restart the engine.

Get to know your winch before you actually need to use it. We recommend that you set up a few test runs to familiarize yourself with rigging techniques, the sounds your winch makes under various loads, the way the cable spools on the drum, etc.

Inspect the cable and equipment before each use. A frayed or damaged cable should be replaced immediately. Use only manufacturer's identical replacement cable with the exact specifications.

Inspect the winch installation and bolts to ensure that all bolts are tight before each operation.

Store the remote control inside your vehicle in a place that it will not be damaged.

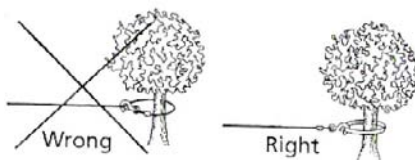
Any winch that appears to be damaged in any way, is found to be worn, or operates abnormally **MUST BE REMOVED FROM SERVICE UNTIL REPAIRED**. It is recommended that the necessary repairs be made by a manufacturer's authorized repair facility.

Pull only on areas of the vehicle as specified by the vehicle manufacturer.

Only attachments and/or adapters supplied by the manufacturer are to be used.

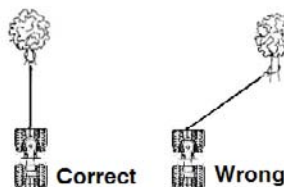
## Self Recovery

Locate a suitable anchor such as a strong tree trunk or boulder. Always use a sling as an anchor point.

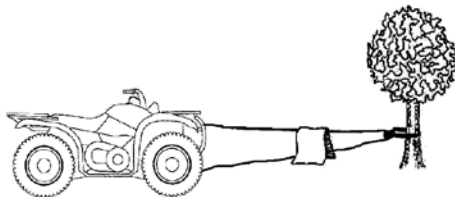


Your winch is equipped with a roller fairlead to help guide the cable and to reduce binding on short side pulls.

Do not winch from an acute angle as the cable will pile up on one side of the drum causing damage to cable and the winch.



Short pulls from an angle can be used to straighten the vehicle. Long pulls should be done with the cable straight out from the winch/vehicle.



When pulling a heavy load, place a cable hook stopper, blanket or jacket over the cable five or six feet from the hook.

In the event of a cable snap it will dampen the snap back. For additional protection open the hood of the vehicle.

## Winching Techniques

1. Take time to assess your situation and plan your pull.
2. Put on gloves to protect your hands.
3. Release the clutch and free-spool the winch; it's faster than using the switch and saves battery power.
4. Attach the hook strap to the clevis hook.
5. Pull out the cable to your desired anchor point using the hook strap.
6. Secure the clevis hook to the anchor point: Sling, chain or snatch block. Do not attach the hook back onto the cable.
7. Engage the clutch.
8. Start your engine to ensure power is being replenished to the battery.
9. Power in the cable guiding the cable under tension to draw up the slack in the cable. Once the cable is under tension, stand clear. Never step over the cable.
10. Double check your anchors and make sure all connections are secure.
11. Inspect the cable. Make sure there are at least 5 wraps of cable around the winch drum.
12. Place a Cable Hook Stopper over the cable approximately 5 to 6 feet from the hook.
13. Clear the area. Make sure all spectators stand clear and that no one is directly in front or behind the vehicle or anchor point.
14. Begin winching. Be sure that the cable is winding evenly and tightly around the drum. The vehicle that is being winched can be slowly driven to add assistance to the winching process. Avoid shock loads; keep the cable under tension.
15. The vehicle to be winched should be placed in neutral and the parking brake released. Only release the loads to the winch. This can damage the winch, cable and vehicle.
16. The winch is meant for intermittent use. Under full load with a single line rig do not power in for more than a minute without letting the motor cool down for a few minutes and then resume the winching operation.
17. The winching operation is complete once the vehicle is on stable ground and is able to drive under its own power.
18. Secure the vehicle. Be sure to set the brakes and place the vehicle in park.
19. Release the tension on the cable. The winch is not meant to hold the vehicle for long periods of time.
20. Disconnect the cable from the anchor.
21. Rewind the cable. Make sure that any cable already on the drum has spooled tightly and neatly. If not, draw out the cable and re-spool from the point where the cable is tight.
22. Keep your hands clear of the winch drum and fairlead as the cable is being drawn in.
23. Secure the hook and hook strap.
24. Disconnect the remote control and store in a clean, dry place.
25. Clean and inspect connections and mounting hardware for next winching operation.
26. Never use the winch as a tie down.
27. Use brake pedal when under full tension.



## Synthetic Cable Usage

Exercising proper care to prolong the usable life of a Synthetic Cable is your responsibility.

1. **Minimize Cable Abrasion** – Use the supplied protective sheath when the cable comes in contact with trees, rocks, or other sharp abrasive objects. The sheath is design to stay in position while the cable slips through it during use.
2. **Keep the Cable Clean** – Dirt, sand, and debris will cause abrasion. Use the protective sheath to cover the cable on the spool once the cable is in the stowed position.
3. **Avoid Sharp Bends** – If the cable is positioned at a sharp angle, the strength under load will decrease and cable damage or failure may result.
4. **Correct Spool Winding** – When re-spooling cable without a load, it is always better to have someone apply a load to the line while you reel in evenly. Re-spool the cable evenly and tightly on the drum. If cable is wound loosely, it may become wedged under adjacent layers and bind.
5. **DO NOT Grease or Oil** – Do not lubricate synthetic cable with greases or oils. Keep grease and oil away at all times.

## Snow Plow Usage

Winches are commonly used to lift a Snow Plow System, but precautions and correct usage are required to prevent costly damage.

**NOTICE** Follow these precautions before using your Winch to lift a Plow. Failure to do so may result in damage to your winch or vehicle frame.

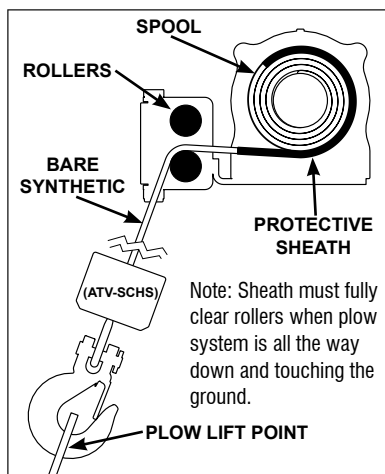
1. Stop the plow before full lift height - failure to do so will cause the winch to pull against itself (i.e. “bottom out”) and will cause damage to the winch components, your plow frame and your vehicle frame.

**NOTICE** Winch damage such as stripped gears, broken housings and bent or damaged parts caused by exceeding your plow's lift height are not covered under warranty.

2. Do not continue to hold the Spool In button to power the winch while reversing your vehicle or other instances where the operator may become distracted while plowing.

## Protective Sheath

3. Repeated spooling of a short length of cable will increase heat and friction where the rollers contact the synthetic cable. Minimize wear and the possibility of premature failure by **SLIDING THE PROTECTIVE SHEATH BACK UP THE SPOOL**.
4. When the plow system is in the DOWN position, freespool out enough additional cable that you can slide the sheath back up the spool (approx 7-8 ft more). Push the sheath back up thru the optional Cable Hook Stopper and the rollers. Re-spool the winch.
5. Be sure that the sheath completely clears the roller fairlead once spooled tightly onto the winch. The sheath will wrap around several layers on the spool. Reposition the sheath back near the hook when not used for plowing.



## MAINTENANCE

The owner/operator is responsible for all periodic maintenance.

Complete all scheduled maintenance in a timely manner.  
Correct any issue before operating the winch.

**⚠ WARNING** Never operate a damaged or defective winch.

**⚠ WARNING** Improper maintenance will void your warranty.

**🗨 NOTICE** For service or parts assistance, contact our help line at 1-877-346-2050.

## Motor

Periodically when not used very often, or after wet / damp conditions. Be sure to run the motor in free spool until the motor is warm. This helps dry out any moisture and condensation trapped inside the housing.

## Lubrication

All moving parts within the Electric Winch have been Lubricated using high temperature lithium grease at the factory. No internal lubrication is required under normal conditions.

If the winch is subjected to extreme conditions lubrication may be required using a high temperature lithium grease. Retract Cable Assembly onto drum being careful not to allow kinking or over heating of the winch.

**🗨 NOTICE** Do NOT attempt to lubricate or grease the synthetic cable. Grease and oil will attract dirt and debris which cause abrasion.

## Synthetic Cable Inspection

Periodically, inspect the synthetic cable for wear. When new, it will have a smooth finish (see Figure A).



After normal use, the outer surface will appear slightly fuzzy (see Figure B). This is expected and protects the underlaying fibers.



Once approximately 25% of the outer fibers show wear (see Figure C), the cable must be replaced.



Inspect the inner and outer fibers by compressing the cable (see Figure D).



Look for powdered fiber or abrasion (signs of internal wear). Consider the amount of wear on the internal fibers when determining the percent of wear for replacement.



Glossy or glazed sections (see Figure E) in the cable are usually caused by compression, such as the cable being wound on the drum or through a pulley block. This is considered normal.

**NOTICE** If you compress (see Figure D) a glazed section of cable (see Figure E) and it remains hardened, then the cable has suffered heat damage and must be replaced.

**WARNING** Sharp edges and rough surfaces will shorten cable life. Inspect the cable and protective sheath before use. Replace cable immediately if it has cut strands, fused or melted fibers, odd stiff sections, chemical contamination, flat areas, or lumps that cannot be eliminated after flexing the cable.

## Cable Assembly Replacement

It is recommended that any modifications be performed by a manufacturer's authorized repair facility, and that only manufacturer-supplied parts be used

1. Rotate the clutch cap to the "Release" position.
2. Extend Cable Assembly to its full length. Note how the existing cable is connected to the inside of the drum.
3. Remove old Cable Assembly and attach new one.
4. Rotate the clutch cap to the "Engage" position.

**NOTICE** Inspect cable before and after each use. If cable becomes frayed it must be replaced.

SPECIFICATIONS

Performance:

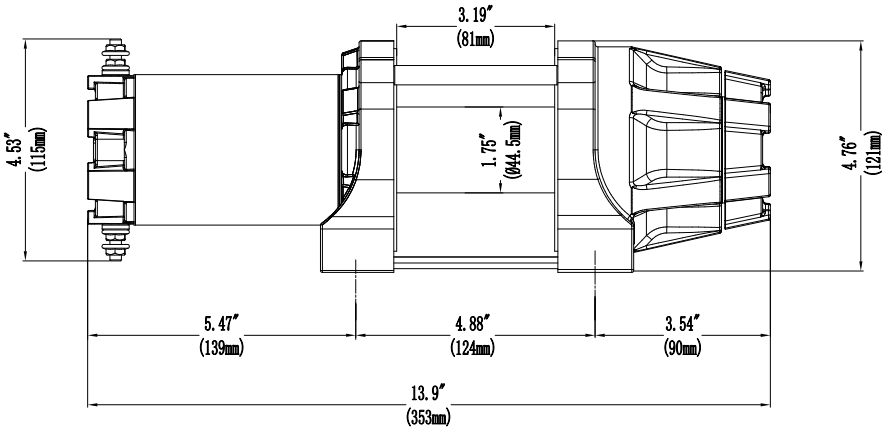
|                            |                                    |                             |                                             |
|----------------------------|------------------------------------|-----------------------------|---------------------------------------------|
| Rated Pull .....           | 5,000 lb (2268 kg)                 | Mounting Bolt Pattern ..... | 4.88 in. x 3.00 in. (12.4 cm x 7.6 cm)      |
| Gear Reduction Ratio ..... | 180:1                              | Overall Dimensions .....    | 13.90 in. (L) x 4.45 in. (W) x 4.76 in. (H) |
| Motor.....                 | Permanent Magnet, 1.22 HP (DC 12V) |                             | (35.3 cm x 11.3 cm x 12.1 cm)               |
| Drum Size.....             | 1.75 x 3.19 in. (44.5 x 81 mm)     |                             |                                             |
| Cable Dimensions ....      | 15/64 in. x 38 ft. (6.0mm x 11.6m) |                             |                                             |
| Net Weight .....           | 26.0 lb. (11.8 kg)                 |                             |                                             |

| Line Speed and Motor Current (First Layer) |         |       |      |      |      |      |      |
|--------------------------------------------|---------|-------|------|------|------|------|------|
| Line Pull                                  | LB      | 0     | 1500 | 2500 | 3500 | 4500 | 5000 |
|                                            | KG      | 0     | 680  | 1134 | 1588 | 2041 | 2268 |
| Line Speed<br>(12 VDC)                     | FPM     | 12.46 | 9.8  | 8.2  | 6.8  | 4.5  | 3.0  |
|                                            | MPM     | 3.8   | 3.0  | 2.5  | 2.1  | 1.4  | 0.9  |
| Max Current                                | A       | 30    | 75   | 105  | 140  | 200  | 240  |
| Run Time *                                 | Minutes | 1     | 1    | 1    | 1    | 1    | 1    |
| Cooling Time **                            | Minutes | 5     | 5    | 5    | 5    | 5    | 5    |

\* If the motor becomes uncomfortably hot to the touch, stop winching immediately and let it cool down for 5 minutes. Do not pull for more than one minute at or near the rated load.

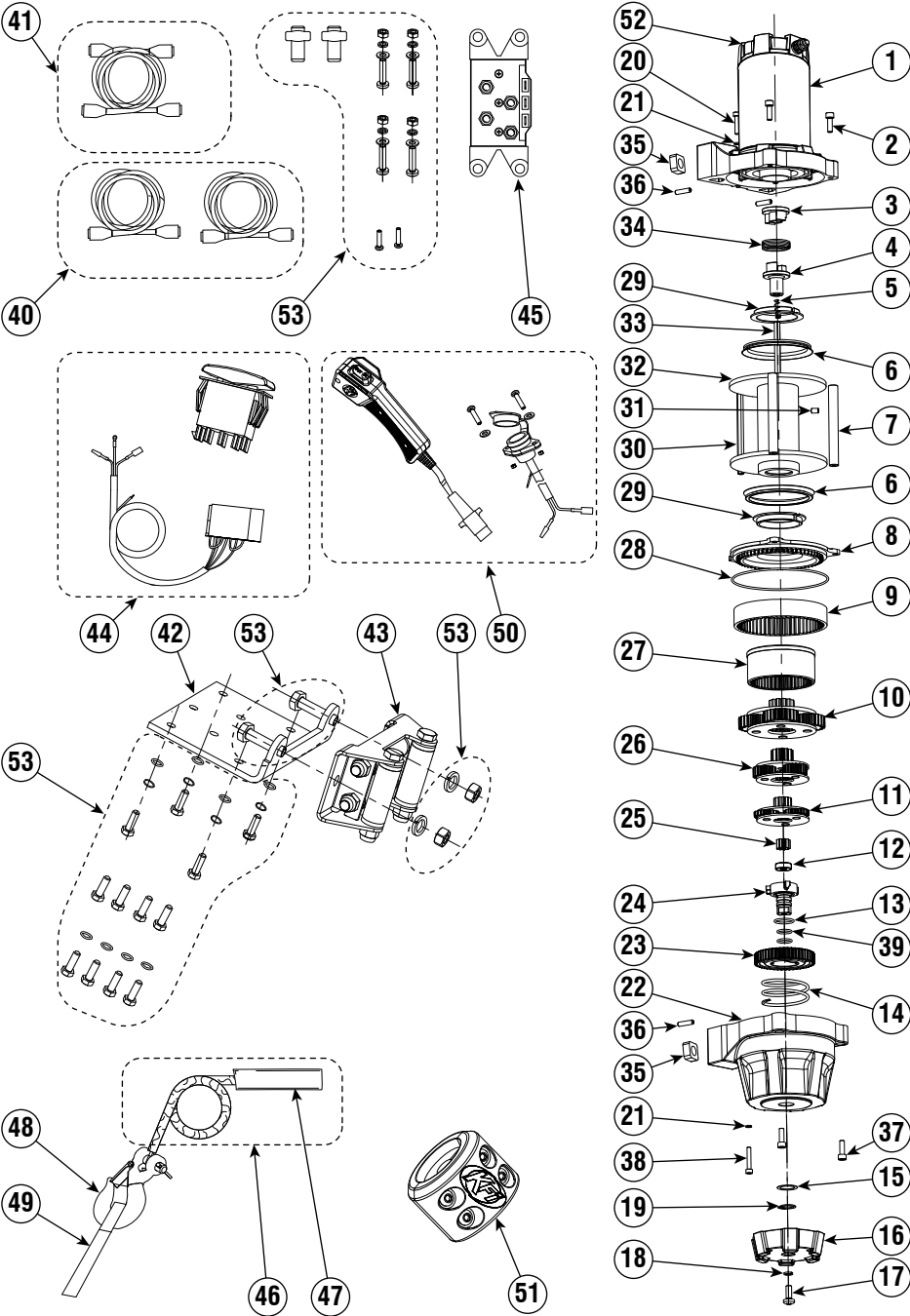
\*\* Electric winches are designed and made for intermittent use and should not be used in constant duty applications.

| Line Pull and Cable Capacity Per Layer |    |      |      |      |      |      |
|----------------------------------------|----|------|------|------|------|------|
| Layers of Cable on Drum                |    | 1    | 2    | 3    | 4    | 5    |
| Rated Line Pull                        | LB | 5000 | 4040 | 3389 | 2919 | 2563 |
|                                        | KG | 2268 | 1833 | 1537 | 1324 | 1163 |
| Cable Capacity                         | FT | 6.6  | 15.1 | 24.9 | 36.7 | 38   |
|                                        | M  | 2.0  | 4.6  | 7.6  | 11.2 | 11.6 |





Parts Diagram



## Parts List

| #    | Part Number      | Description              | Qty |
|------|------------------|--------------------------|-----|
| 1    | MOTOR-AS50       | Motor Assembly           | 1   |
| 2    | HW-0023-B        | Screw M5 x 16 Socket     | 2   |
| 3    | WP-0026          | Coupling, I              | 1   |
| 4    | WP-0055          | Coupling, II             | 1   |
| 5    | WP-0079          | Spring, Shaft            | 1   |
| 6    | WP-0061          | Delf-seal Packing        | 2   |
| 7    | WP-0082          | Tie Bar Ø10 x 85         | 2   |
| 8    | WP-0054          | Clutch Cover, Assault    | 1   |
| 9    | WP-0068          | Gear Ring, I             | 1   |
| 10   | WP-0065          | Gear Carrier Asm, Output | 1   |
| 11   | WP-0064          | Gear Carrier Asm, Input  | 1   |
| 12   | WP-0078          | Bearing 606 Sealed       | 1   |
| 13   | WP-0077          | O-Ring Ø19 x 2.4         | 1   |
| 14   | WP-0085          | Spring, Clutch           | 1   |
| 15   | HW-0024          | Washer SS Ø16            | 1   |
| 16   | WP-0002          | Clutch Cap, Assault      | 1   |
| 17   | HW-0007-B        | Screw M6 x 16 Phillips   | 1   |
| 18   | HW-0006-B        | Washer Ø6 Lock           | 1   |
| 19   | HW-0004          | Circlip Ø15              | 1   |
| 20   | HW-0025-B        | Screw M4 x 20 Socket     | 1   |
| 21   | HW-0020-B        | Lock Washer Ø4           | 2   |
| 22   | WP-0067          | Gear Housing             | 1   |
| 23   | WP-0053          | Cam, Clutch Gear         | 1   |
| 24   | WP-0052          | Bushing, Axis Support    | 1   |
| 25   | WP-0084          | Gear, Input, Sun         | 1   |
| 26   | WP-0063          | Gear Carrier Asm         | 1   |
| 27   | WP-0069          | Gear Ring, II            | 1   |
| 28   | WP-0075          | O-Ring Ø100 x 1.9        | 1   |
| 29   | WP-0062          | Bushing, Drum            | 2   |
| 30   | WP-0074          | Hex Tie Bar 6 x 87       | 1   |
| 31   | WP-0025          | Set Screw M5 x 8         | 1   |
| 32   | WP-0056          | Drum, Steel, Standard    | 1   |
| 33   | WP-0070          | Shaft, Hexagon, H6 x 143 | 1   |
| 34   | WP-0027          | Spring, Coupling         | 1   |
| 35   | WP-0049          | Square Nut               | 4   |
| 36   | WP-0050          | Pin, Spring, Ø3 x 14     | 4   |
| 37   | HW-0026-B        | Screw M5 x 18 Socket     | 2   |
| 38   | HW-0019-B        | Screw M4 x 25 Socket     | 2   |
| 39   | WP-0076          | O-Ring Ø13 x 2           | 2   |
| 40   | SE-WIRES-UTV-WIN | Wiring, Winch, UTV       | 1   |
| 40.1 | WP-0092          | Terminal Protector       | 4   |

| #     | Part Number      | Description                     | Qty |
|-------|------------------|---------------------------------|-----|
| 41    | SE-WIRES-UTV-BAT | Wiring, Battery, UTV            | 1   |
| 41.1  | WP-0092          | Terminal Protector              | 4   |
| 42    | 100495           | Bracket, Fairlead, Standard     | 1   |
| 43    | SE-RF            | Roller Fairlead, Stealth        | 1   |
| 44    | UTV-DRS-K        | UTV Dash Rocker Switch Kit      | 1   |
| 45    | AS-CONT          | Contactora, Assault             | 1   |
| 46    | SYN23-S38        | Cable, Synthetic, 15/64" x 38ft | 1   |
| 47    | UTV-RPS          | Protective Sheath, Replacement  | 1   |
| 48    | SE-HOOK          | Clevis Hook, 1/4"               | 1   |
| 49    | WP-0030-BLK      | Hand Saver Strap, Black         | 1   |
| 50    | ATV-HR           | Hand Remote Asm                 | 1   |
| 51    | ATV-SCHS         | Split Cable Hook Stopper        | 1   |
| 52    | AS-CAPKIT        | Motor End Cap Assembly          | 1   |
| 53    | HK-500           | Hardware Kit, Black             | 1   |
| 53.01 | HW-0001          | Wire Tap                        | 2   |
| 53.02 | HW-0014-B        | Nut M6 Nylock                   | 4   |
| 53.03 | HW-0006-B        | Washer Ø6 Lock                  | 4   |
| 53.04 | HW-0003-B        | Washer Ø6                       | 4   |
| 53.05 | HW-0013-B        | Bolt M6 x 25                    | 4   |
| 53.06 | HW-0015-B        | Bolt M6 x 20                    | 2   |
| 53.07 | HW-0010-B        | Bolt M10 x 20                   | 2   |
| 53.08 | HW-0011-B        | Washer Ø10 Lock                 | 2   |
| 53.09 | HW-0012-B        | Nut M10 Nylock                  | 2   |
| 53.10 | HW-0016-B        | Washer Ø8                       | 8   |
| 53.11 | HW-0009-B        | Washer Ø8 Lock                  | 4   |
| 53.12 | HW-0008-B        | Bolt M8 x 25                    | 4   |
| 53.13 | HW-0018-B        | Bolt M8 x 20                    | 4   |
| 53.14 | HW-0017-B        | Bolt M8 x 30                    | 4   |

## TROUBLESHOOTING

| Problem                                            | Cause                                       | Solution                                                                                                   |
|----------------------------------------------------|---------------------------------------------|------------------------------------------------------------------------------------------------------------|
| Motor does not run, Contactor makes a click sound. | Incorrect Wiring                            | Check Winch Wiring Diagram, make sure all wires are correctly connected.                                   |
|                                                    | Incorrect Wiring                            | Hand Remote / Mini Rocker Switch wires must be connected green to green and black to black.                |
|                                                    | Loose battery cable connections             | Hand tighten nuts on all cable connections.                                                                |
|                                                    | Motor Issue                                 | Contact KFI Technical Support                                                                              |
|                                                    | Water has entered motor                     | Allow to drain and dry. Run in short burst with load until completely dry.                                 |
|                                                    | Brake Spring installed backwards            | Contact KFI Technical Support.                                                                             |
| Motor does not run, NO click sound from Contactor. | Incorrect Wiring                            | Check Winch Wiring Diagram, make sure all wires are correctly connected.                                   |
|                                                    | Switch Ignition Wire                        | Check connection to an ignition fed source. Must supply 12V with the key on and vehicle running.           |
|                                                    | Contactor malfunctioning                    | Contact KFI Technical Support.                                                                             |
|                                                    | Switch malfunctioning                       | Contact KFI Technical Support.                                                                             |
| Motor runs, Spool turns in one direction only.     | Incorrect Wiring                            | Check wiring diagram, verify switch wires (black/green) are properly connected and making good contact.    |
|                                                    | Defective or stuck Contactor                | Tap contactor to loosen plungers.                                                                          |
|                                                    | Defective Switch assembly                   | Replace Switch assembly.                                                                                   |
|                                                    | Contactor malfunctioning                    | Contact KFI Technical Support.                                                                             |
| Motor runs, Spool does NOT turn.                   | Clutch not engaged                          | Rotate Clutch Cap to Engage.                                                                               |
|                                                    | Broken Coupler / stripped Shaft             | Replace Coupler or Shaft                                                                                   |
| Spool turns, but no movement from Cable            | Cable not attached to Spool                 | Contact KFI Technical Support.                                                                             |
| Motor runs slowly or without normal power.         | Insufficient current or voltage.            | The battery is weak, recharge. Run winch with vehicle motor running (battery should have a strong charge). |
|                                                    | Loose or corroded battery cable connections | Clean, tighten, or replace.                                                                                |
|                                                    | Worn Brushes                                | Replace with End-Cap Kit (#AS-CAPKIT)<br>Contact KFI Technical Support.                                    |
| Motor overheating                                  | Winch running time too long                 | Allow winch to cool down periodically.                                                                     |

For further support, contact:

### KFI Tech Support

Mon-Thr 8:00 AM - 5:00 PM (CST/CDT)

Fri 7:00 AM - 1:00PM (CST/CDT)

Toll Free: 1-877-346-2050

tech@kfiproducs.com

### KFI Products Website Support:

Common installation, maintenance, and troubleshooting guides are available on our website.

<https://www.kfiproducs.com/support.html>

## WARRANTY

KAPPERS FABRICATING, INC.  
2 YEAR LIMITED LIFETIME WARRANTY

### Warranty Qualifications

Kappers Fabricating Inc. (KFI) will register this warranty upon receipt of your Warranty Registration Card and a copy of your sales receipt from one of KFI's resale locations as proof of purchase. Please submit your warranty registration and your proof of purchase within Fifteen (15) days of the date of purchase.

### Repair/Replacement Warranty

KFI warrants to the original purchaser that mechanical components will be free of defects in material and workmanship for the usable lifetime of the product (180 days for commercial use); and electrical components will be free of defects in material and workmanship for (2) years (180 days for commercial use); from the original date of purchase. Transportation charges on product submitted for repair or replacement under this warranty are the sole responsibility of the purchaser. This warranty only applies to the original purchaser and is not transferable.

### Do Not Return The Unit To The Place Of Purchase

Contact KFI's Technical Service and KFI will troubleshoot any issue via phone or e-mail. If the problem is not corrected by this method, KFI will, at its option, authorize evaluation, repair or replacement of the defective part or component at a KFI Service Center. KFI will provide you with a case number for warranty service. Please keep it for future reference. Repairs or replacements without prior authorization, or at an unauthorized repair facility, will not be covered by this warranty.

### Warranty Exclusions

This warranty does not cover the following repairs and equipment:

#### Normal Wear

Winches need periodic parts and service to perform well. This warranty does not cover repair when normal use has exhausted the life of a part or the equipment as a whole.

#### Installation, Use and Maintenance

This warranty will not apply to parts and/or labor if this winch is deemed to have been misused, neglected, involved in an accident, abused, loaded beyond the winch's limits, modified, installed improperly or wired incorrectly to any electrical component. Normal maintenance is not covered by this warranty.

### Other Exclusions

- The winch cable or synthetic cable.
- Cosmetic defects such as paint, decals, etc.
- Accessory parts such as storage covers.
- Misuse, abuse, neglect, acts of God, terrorism and causes beyond the control of KFI.
- Problems caused by parts that are not original Kappers Fabricating Inc. parts.
- Cable Stacking and Water Submersion or Damage Caused by Water.

### Warranty Procedure

1. Contact KFI Technical support to acquire a Return Authorization (RA) number.
2. KFI may request additional materials (such as original sales receipt, date of purchase, technical details, or photos of Product condition) prior to issuing an RA number.
3. At the discretion of KFI, Buyer shall mail, ship, or otherwise deliver to KFI the Warrantied Product, at the address noted below.

### Limits of Implied Warranty and Consequential Damage

Kappers Fabricating Inc. disclaims any obligation to cover any loss of time, use of this product, freight, or any incidental or consequential claim by anyone from using this winch. THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE

A unit provided as an exchange will be subject to the warranty of the original unit. The length of the warranty governing the exchanged unit will remain calculated by reference to the purchase date of the original unit.

This warranty gives you certain legal rights which may change from state to state. Your state may also have other rights you may be entitled to that are not listed within this warranty.

## Contact Information

### Address

KFI Products  
Winch Customer Service  
P.O. BOX 32  
721 SATA DRIVE  
SPRING VALLEY, MN 55975

### Corporate

KAPPERS FABRICATING, INC.  
P.O. BOX 32  
1015 INDUSTRIAL DR.  
SPRING VALLEY, MN 55975

### Customer Service

Mon - Thr 8:00 AM - 5:00 PM (CST/CDT)  
Fri - 7:00 AM - 1:00 PM (CST/CDT)  
Toll Free: 1-877-346-2050 Opt 1  
Fax No: 1-507-346-2010  
E-mail: [sales@kfiproductions.com](mailto:sales@kfiproductions.com)

### Technical Service

Mon - Thr 8:00 AM - 5:00 PM (CST/CDT)  
Thr - 7:00 AM - 1:00 PM (CST/CDT)  
Toll Free: 1-877-346-2050 Opt 2  
E-mail: [tech@kfiproductions.com](mailto:tech@kfiproductions.com)

### Website

<https://www.kfiproductions.com>







**1-877-346-2050**

**KFI PRODUCTS**

P.O. BOX 32  
721 SATA DRIVE  
SPRING VALLEY, MN 55975

[WWW.KFIPRODUCTS.COM](http://WWW.KFIPRODUCTS.COM)

CORPORATE OFFICE:

KAPPERS FABRICATING, INC.  
P.O. BOX 32  
1015 INDUSTRIAL DR.  
SPRING VALLEY, MN 55975  
USA



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# POLARIS RANGER HIGHLIFTER

Plow Mount

PART #106485 Rev B

## Kit Components:

| Item # | Qty. | Description                                  |
|--------|------|----------------------------------------------|
| 1      | 1    | Plow Mount                                   |
| 2      | 1    | Hardware Kit HK-341                          |
| 2.1    | 3    | 3/8"-16 X 1.00" Hex Bolt Flange GR5 Serrated |
| 2.2    | 3    | 3/8"-16 Hex Nut Flange Nylock GR5            |

\*Not all hardware is used\*

**Note:** Make sure all hardware needed to complete this mount is in the package. Thoroughly read through and understand the instructions before installing.

## Installation Instructions

1. Remove bottom bumper Hardware (A) as shown in **Figure 2** and set aside for later.
2. Place mount over bumper as shown in **Figure 3**. Reinstall bottom Hardware (A), through the plow mount, and into the same position they were removed from.
3. Place Bolts (2.1) through the top of the mount and into the frame of the machine, securing the Bolts with Nuts (2.2) on the backside. See **Figures 1 and 3**.

Figure 3

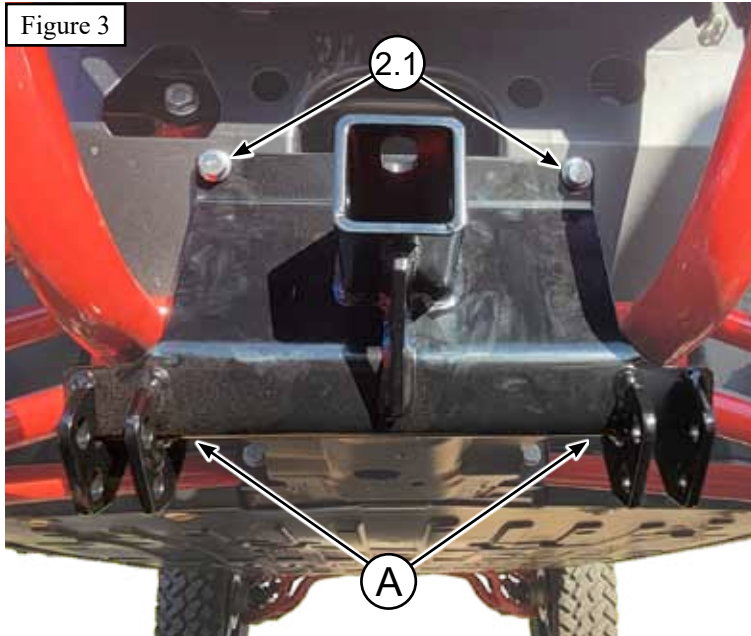


Figure 1

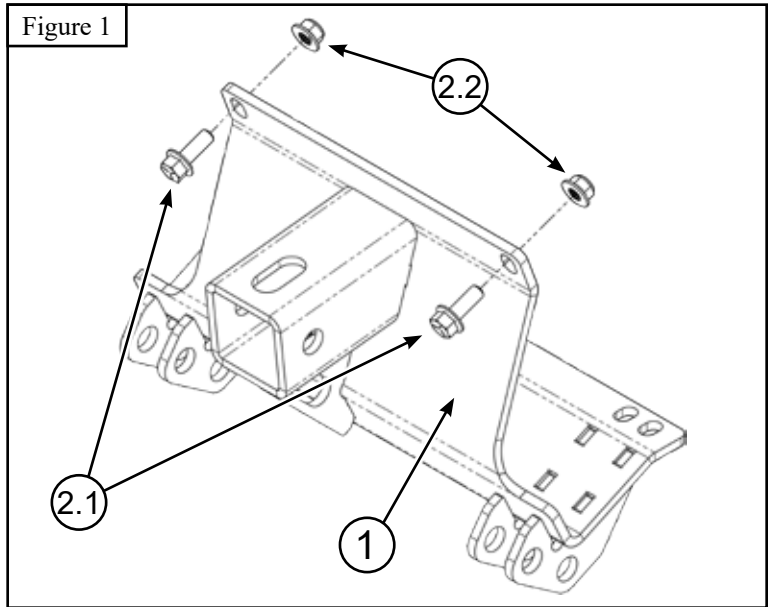
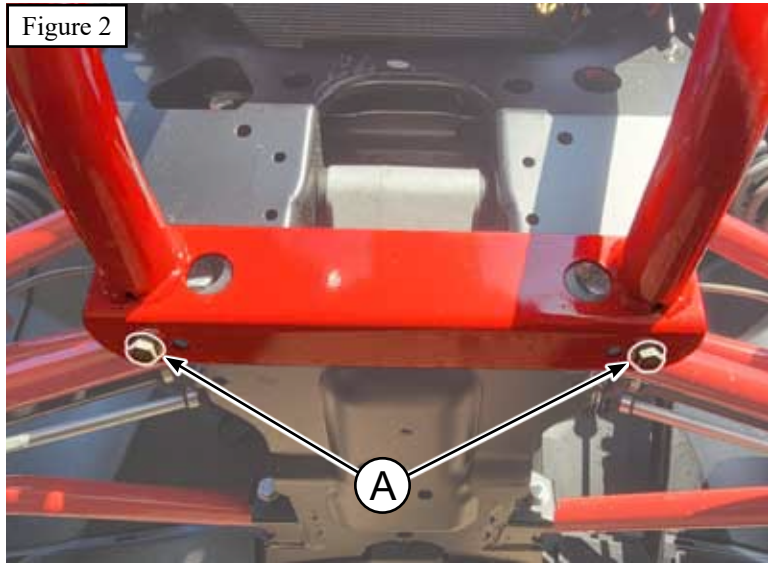


Figure 2

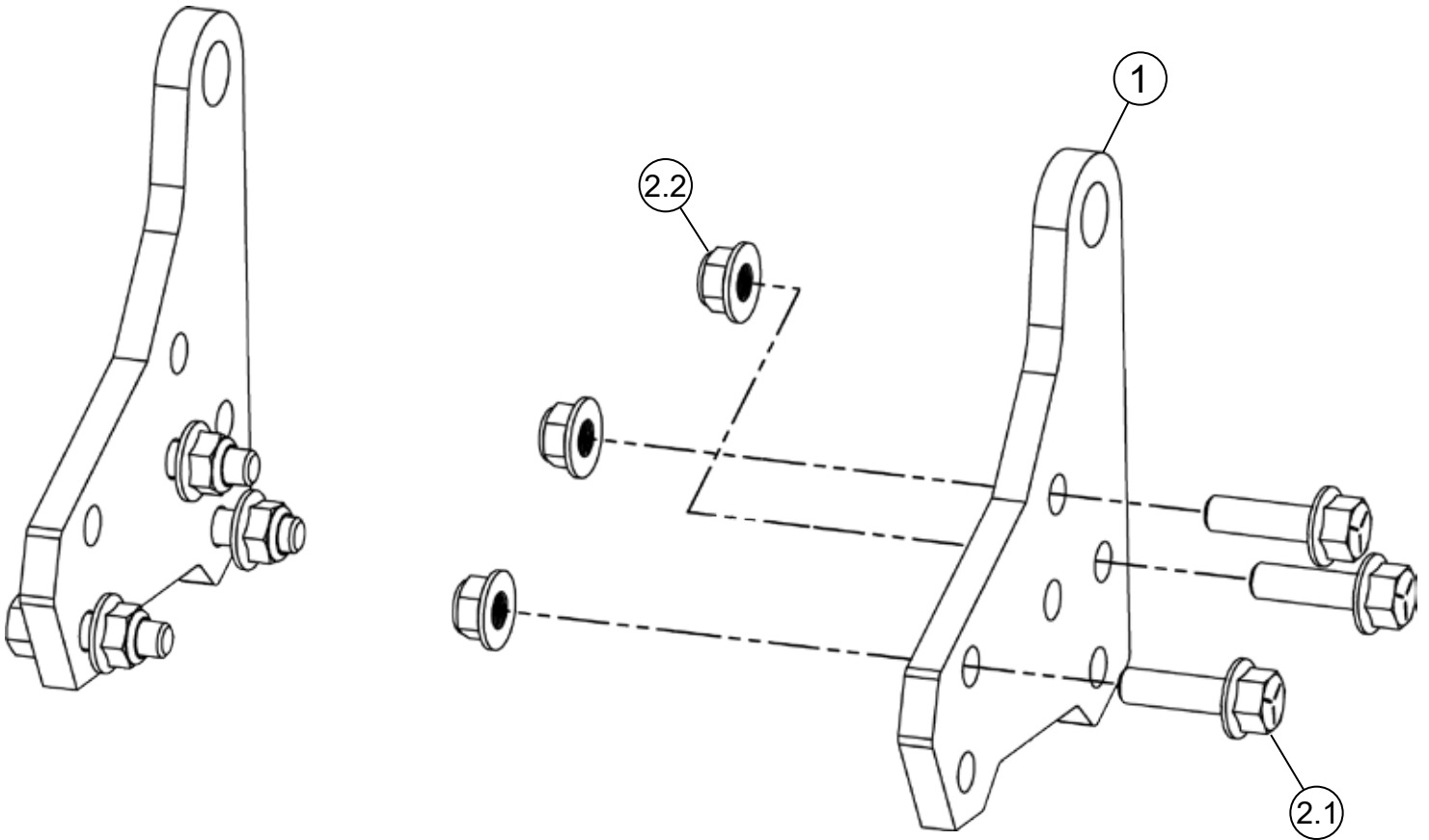


# 1"- 2" SQ PUSH TUBE LEVELING KIT

**Plow Accessory**

**PART #106322**

| Kit Components: |      |                                |
|-----------------|------|--------------------------------|
| Item #          | Qty. | Description                    |
| 1               | 2    | Leveling Tab                   |
| 2               | 1    | Hardware Kit (HK-398)          |
| 2.1             | 6    | 3/8"-16 x 1.25 Hex Flange Bolt |
| 2.2             | 6    | 3/8"-16 Hex Flange Nylock Nut  |



# INSTALLATION INSTRUCTIONS

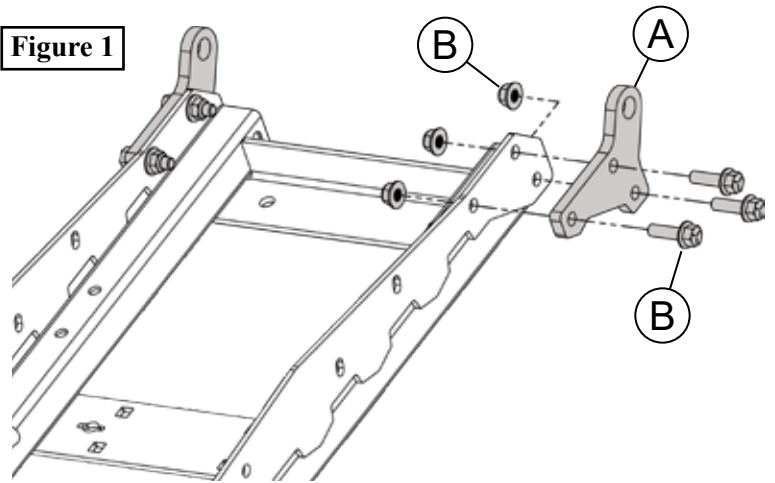
**Note:** Make sure all hardware needed to complete this mount is in the package. Thoroughly read through and understand the instructions before installing.

**Note:** If standard pin attachment brackets have not yet been installed, skip to step 2.

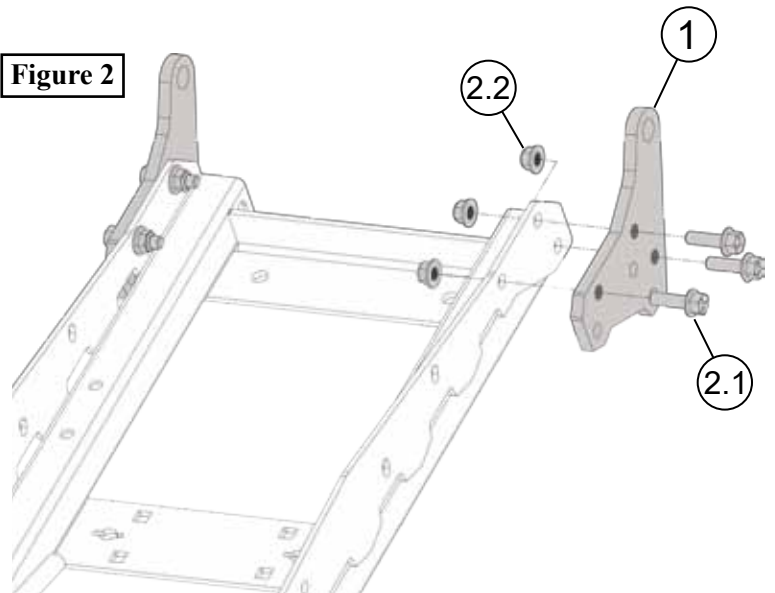
**Note:** The ideal pin height is 10.875". Use leveling kit configuration accordingly. (see figure 4) Be sure suspension is settled before measuring on flat level ground.

1. Remove and discard the existing standard pin attachment brackets (A) and hardware (B) as shown in **Figure 1**.
2. Set leveling tab (1) in place and secure using bolts (2.1) and nuts (2.2) as shown in **Figures 2 & 3**.
3. For the 1" leveling height configuration, see **Figure 2**. For the 2" leveling height configuration, see **Figure 3**.
4. Torque all hardware to **31 lb-ft**.

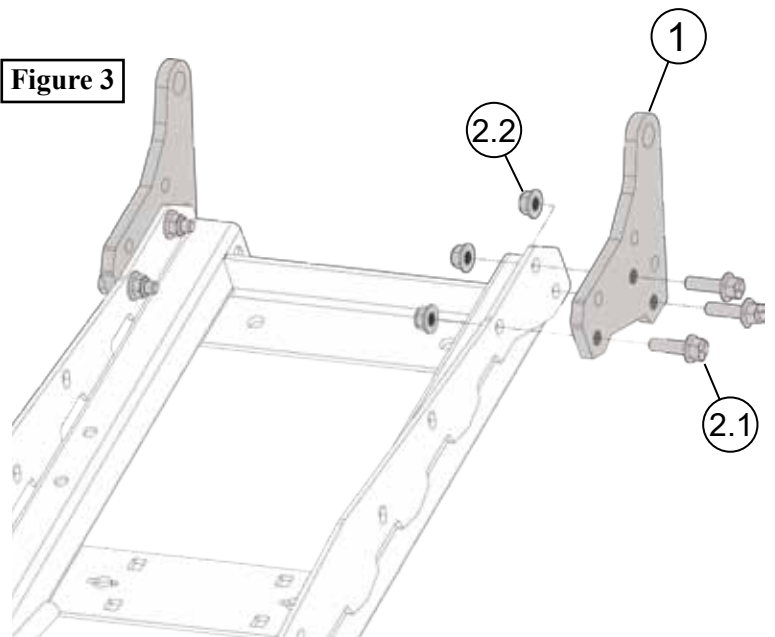
**Figure 1**



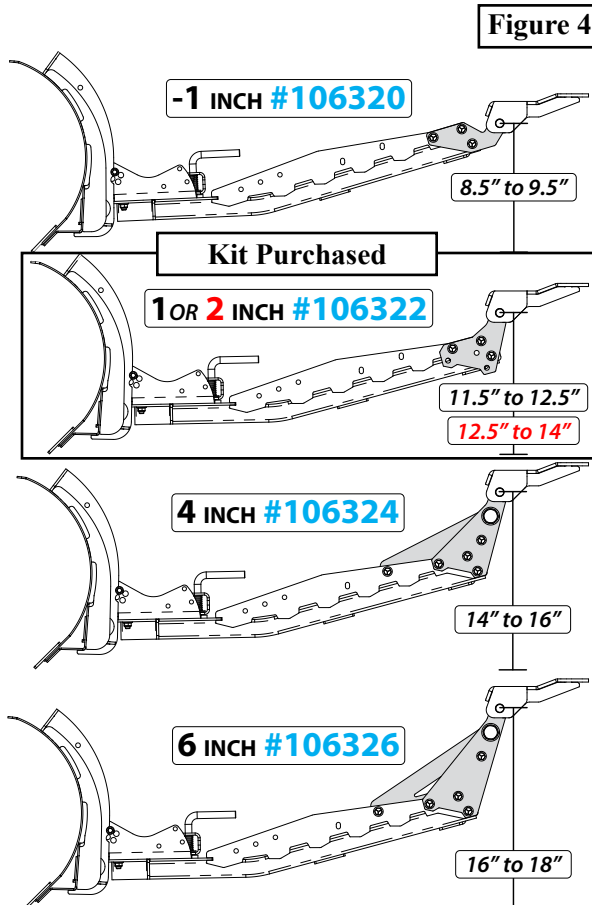
**Figure 2**



**Figure 3**



**Figure 4**



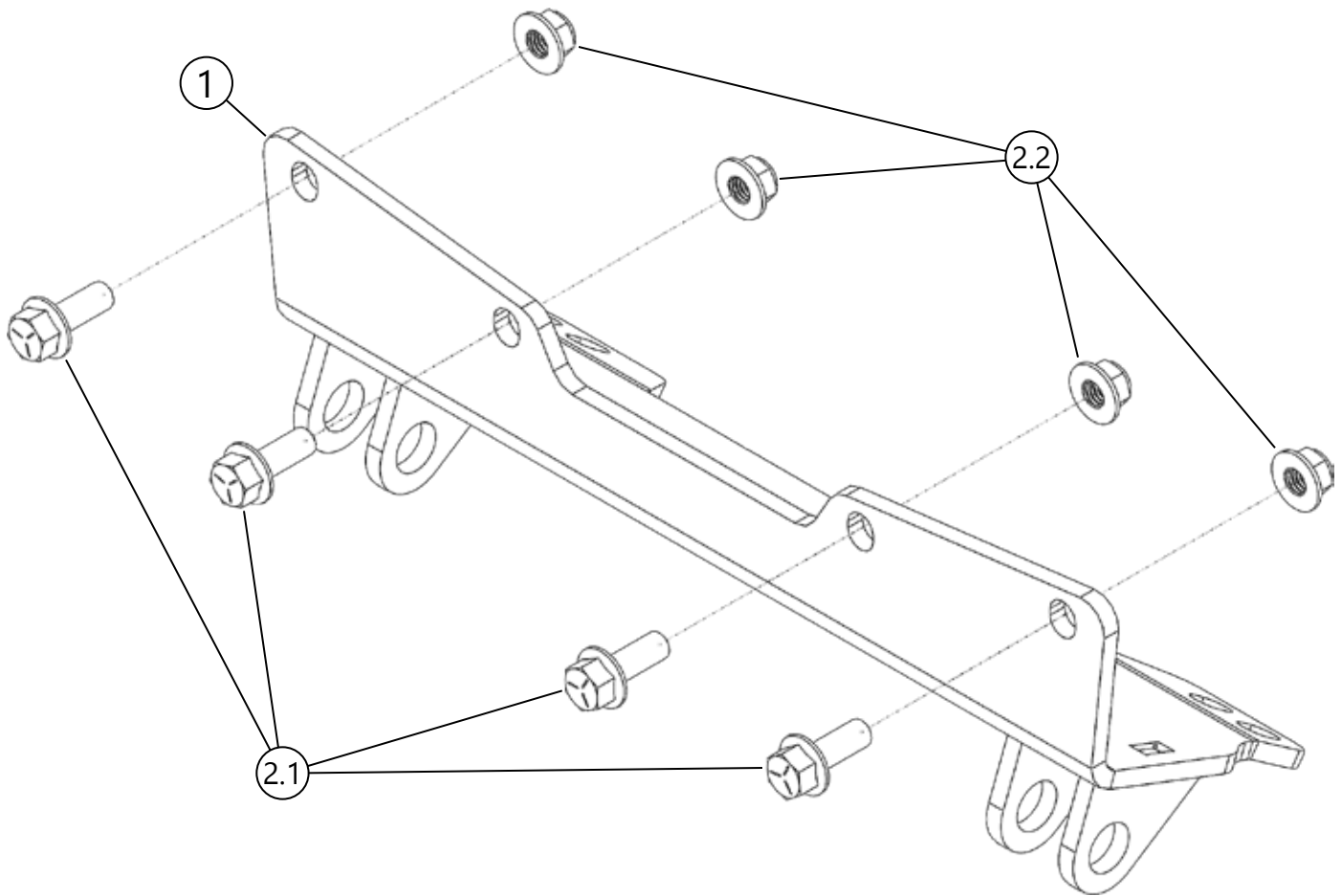


# POLARIS RANGER 1000

Plow Mount

PART #106165

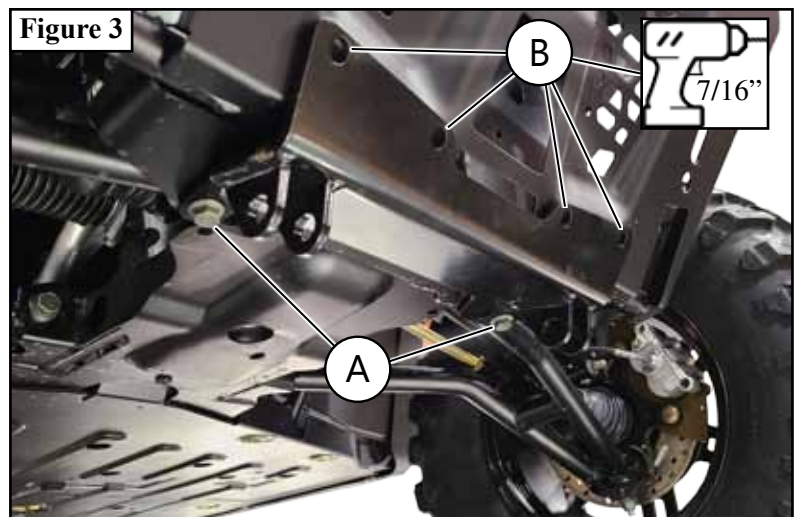
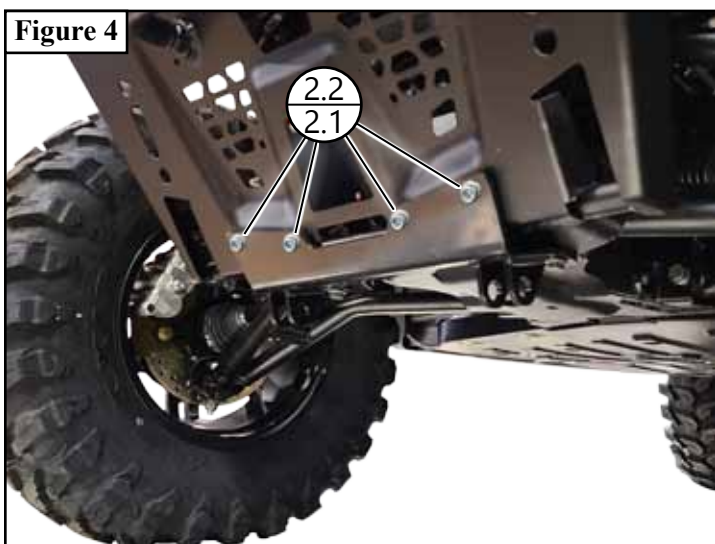
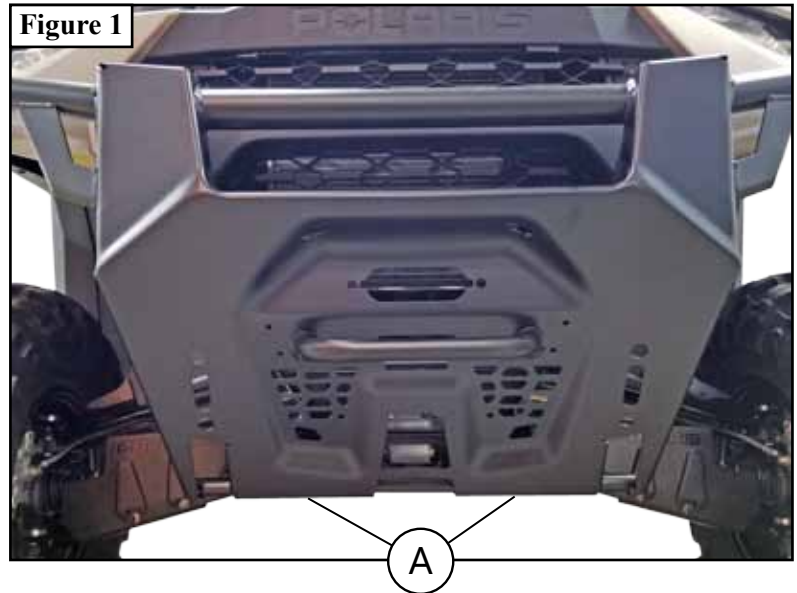
| Kit Components: |      |                                |
|-----------------|------|--------------------------------|
| Item #          | Qty. | Description                    |
| 1               | 1    | Plow Mount                     |
| 2               | 1    | Hardware Kit (HK-391)          |
| 2.1             | 4    | 3/8"-16 x 1.00 Hex Flange Bolt |
| 2.2             | 4    | 3/8"-16 Hex Flange Nylock Nut  |
| 2.3             | 4    | 3/8"-16 Square Nut (not used)  |



# INSTALLATION INSTRUCTIONS

**Note:** Make sure all hardware needed to complete this mount is in the package. Thoroughly read through and understand the instructions before installing.

1. Remove OEM hardware (A) securing bottom of the front bumper as shown in **Figure 1 & 2**. *Note: Set hardware (A) aside as it will be reused in a later step.*
2. Set plow mount (1) in place and secure using OEM hardware (A) removed in step 1 as shown in **Figure 3**.
3. Using plow mount (1) as a template, drill holes (B) using a 7/16" drill bit as shown in **Figure 3**.
4. Secure top of plow mount (1) in locations (B) using bolts (2.1) and nuts (2.2) as shown in **Figure 4**.
5. Tighten all hardware evenly.



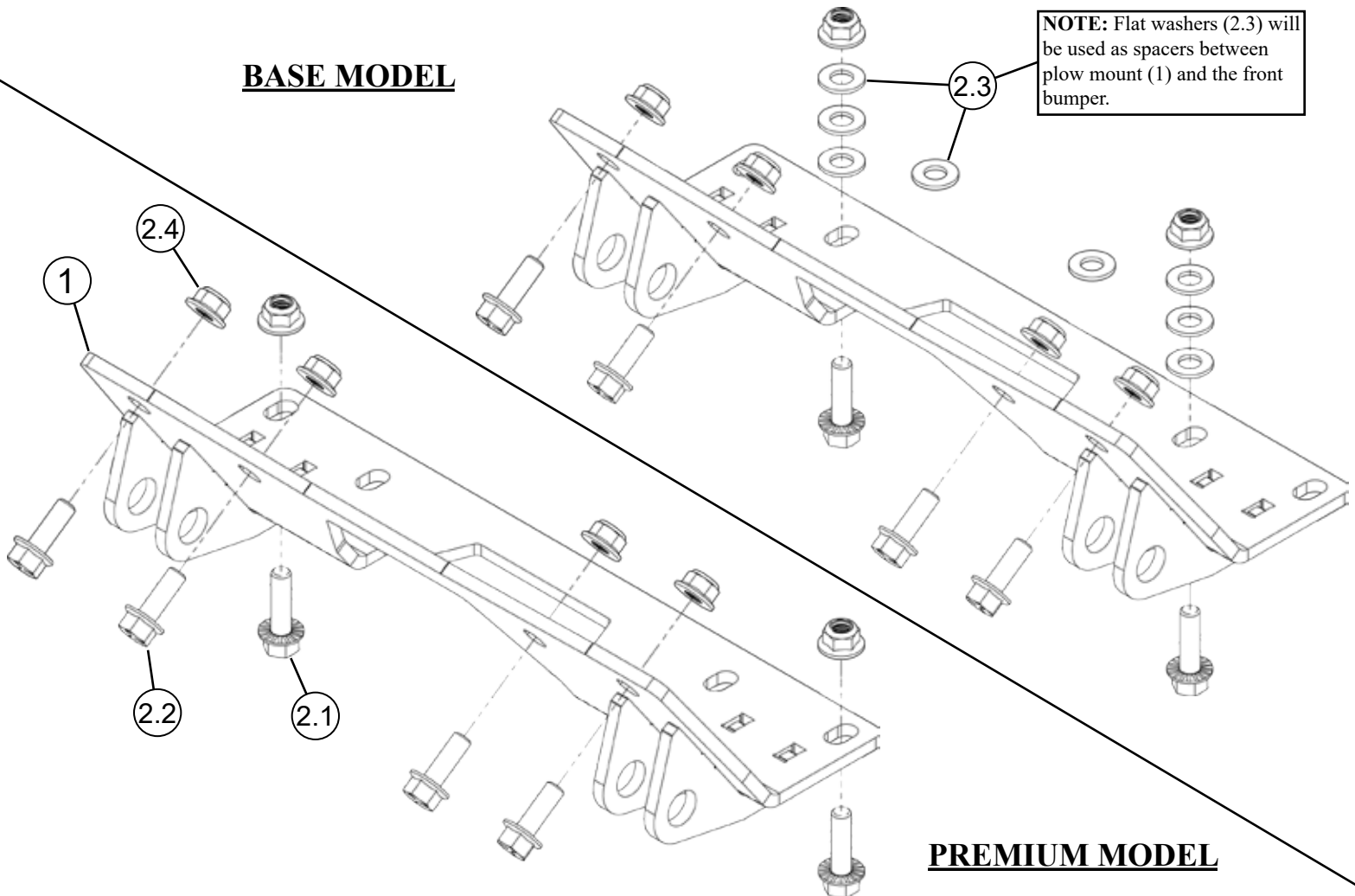
# POLARIS RANGER SP 570

Plow Mount

PART #106400

| Kit Components: |      |                                            |
|-----------------|------|--------------------------------------------|
| Item #          | Qty. | Description                                |
| 1               | 1    | Plow Mount                                 |
| 2               | 1    | Hardware Kit (HK-413)                      |
| 2.1             | 2    | 3/8"-16 x 1.25 Hex Flange Bolt             |
| 2.2             | 4    | 3/8"-16 x 1.00 Hex Flange Bolt             |
| 2.3             | 8    | 3/8" Flat Washer (used on base model only) |
| 2.4             | 6    | 3/8"-16 Hex Flange Nylock Nut              |

## BASE MODEL



## PREMIUM MODEL

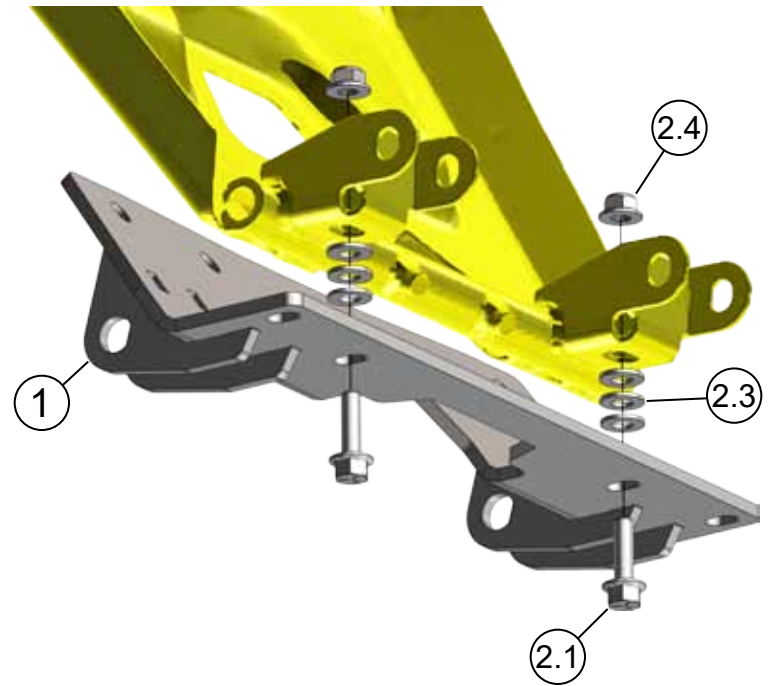
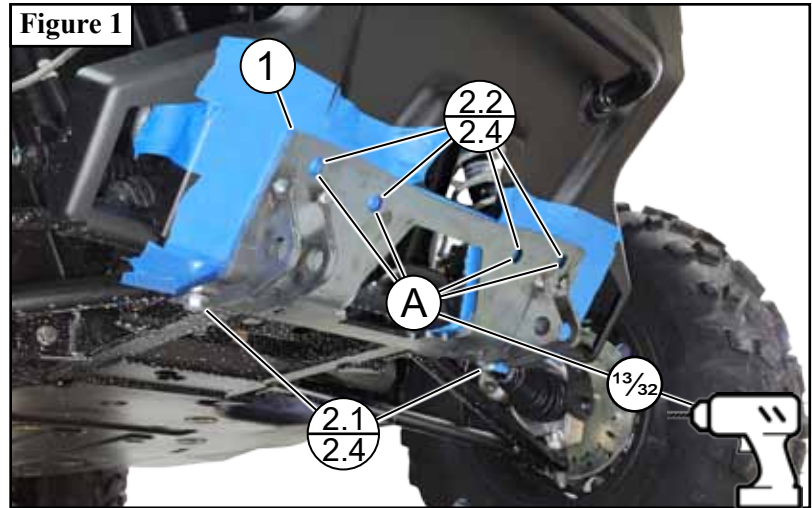




# INSTALLATION INSTRUCTIONS

**Note:** Make sure all hardware needed to complete this mount is in the package. Thoroughly read through and understand the instructions before installing. **NOTE:** *If the plow mount is being installed on a BASE model machine, skip step 1. If installing on a PREMIUM, skip step 2.*

1. Set plow mount (1) in place over the bottom of the front bumper of the machine. Loosely secure the bottom of plow mount (1) using bolts (2.1) and nuts (2.4) as shown in **Figure 1**.
2. Set plow mount (1) in place over the bottom of the front bumper using washers (2.3) as spacers between the plow mount and the front bumper and secure using bolts (2.1) and nuts (2.4) as shown in **Figure 2**.
3. Using plow mount (1) as a template, drill holes (A) using a 13/32" drill bit. Secure the top of plow mount (1) using bolts (2.2) and nuts (2.4) as shown in **Figure 1**. **NOTE:** be sure plow mount (1) is pushed up tightly to the front bumper before marking holes to drill.
4. Tighten all hardware evenly.



# POLARIS RANGER XP 900

## Plow Mount PART #105475

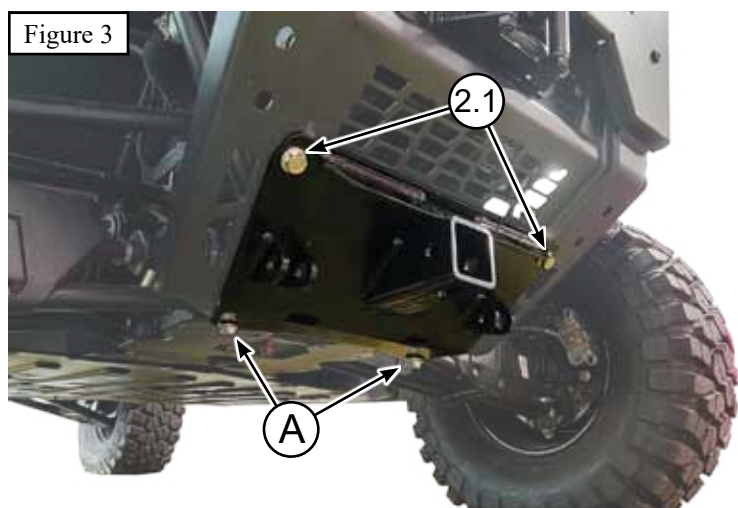
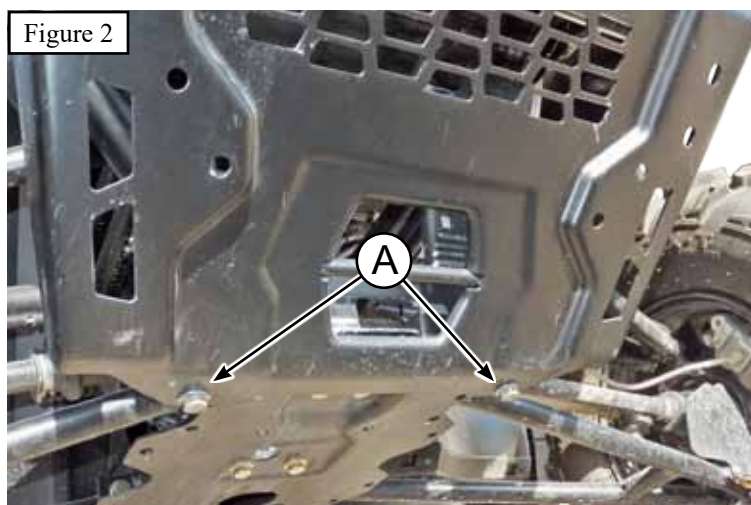
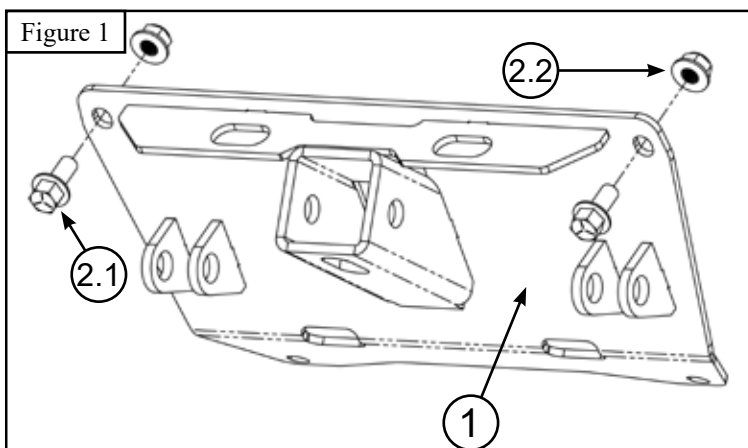
### Kit Components:

| Item # | Qty. | Description                         |
|--------|------|-------------------------------------|
| 1      | 1    | Plow Mount                          |
| 2      | 1    | Hardware Kit HK-147                 |
| 2.1    | 2    | 7/16"-14 X 1.00 Hex Bolt Flange GR5 |
| 2.2    | 2    | 7/16"-14 Hex Nut Flange Nylock GR5  |

**Note:** Make sure all hardware needed to complete this mount is in the package. Thoroughly read through and understand the instructions before installing.

### Installation Instructions:

1. Remove lower bumper bolts and nuts (A), as shown in Figure 2.
2. Place mount plate up to the machine and install bolts (2.1) and nuts (2.2), as shown in Figures 1 & 3.
3. Reinstall lower bumper bolts and nuts (A) through plow mount and frame.
4. Tighten all bolts evenly.
5. See UTV Plow Tube System instruction manual for tube attachment.





# POLARIS RANGER 2009-OLDER

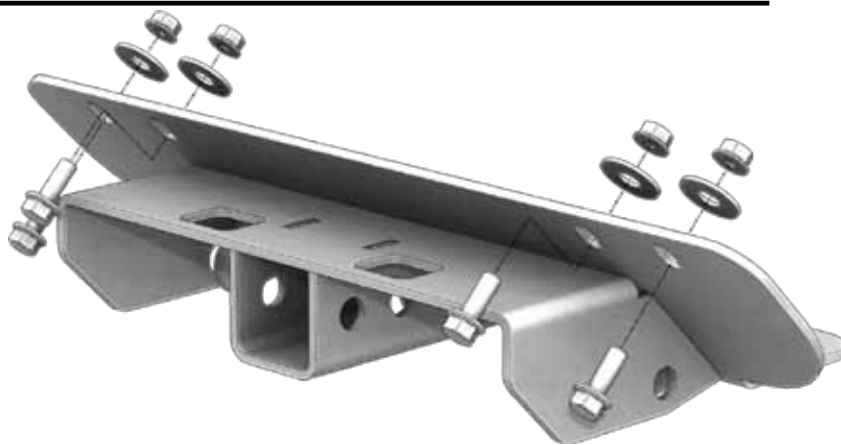
Plow Mount

PART # 105260

Hardware Kit: HK-042

## Kit Components:

| Qty.   | Part Description              |
|--------|-------------------------------|
| 1..... | Plow Mount Plate              |
| 4..... | 3/8"-16 x 1-1/4" Flanged Bolt |
| 8..... | 7/16" USS Flat Washer         |
| 4..... | 3/8"-16 Flanged Nylock Nut    |

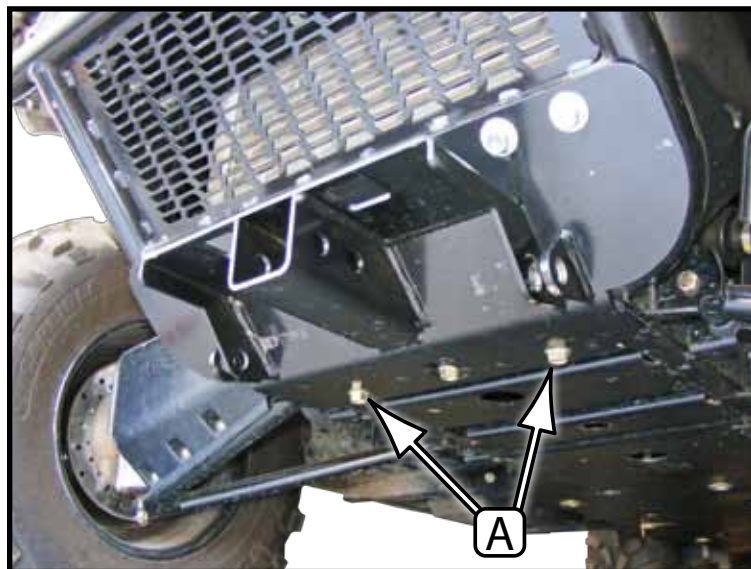


*"Figure 1"*

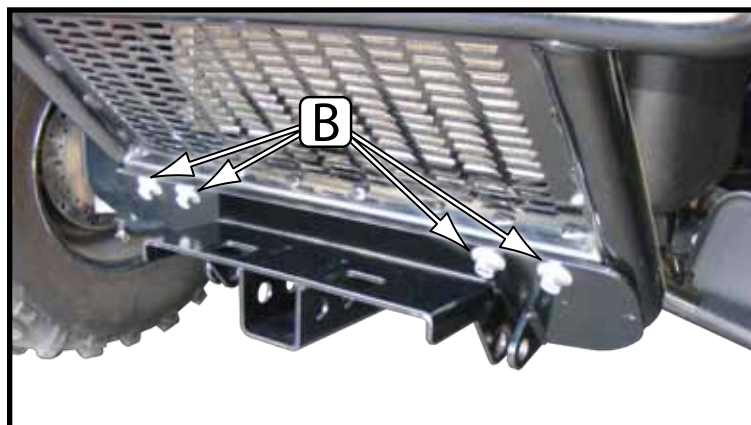
## INSTALLATION INSTRUCTIONS:

*NOTE: You may need to drill holes in your bumper if there are no OEM holes already.*

1. Remove 2 outer bolts (A) on front lower panel before install of mount as shown in Figure 2.
2. Place mount plate over lower front panel and reinstall 2 outer bolts (A) as shown in Figure 2.
3. Install upper hardware (B) as shown in Figures 1&3.
4. Tighten down all bolts.
5. See UTV Plow Tube System instruction manual for tube attachment.



*"Figure 2" Front of UTV*

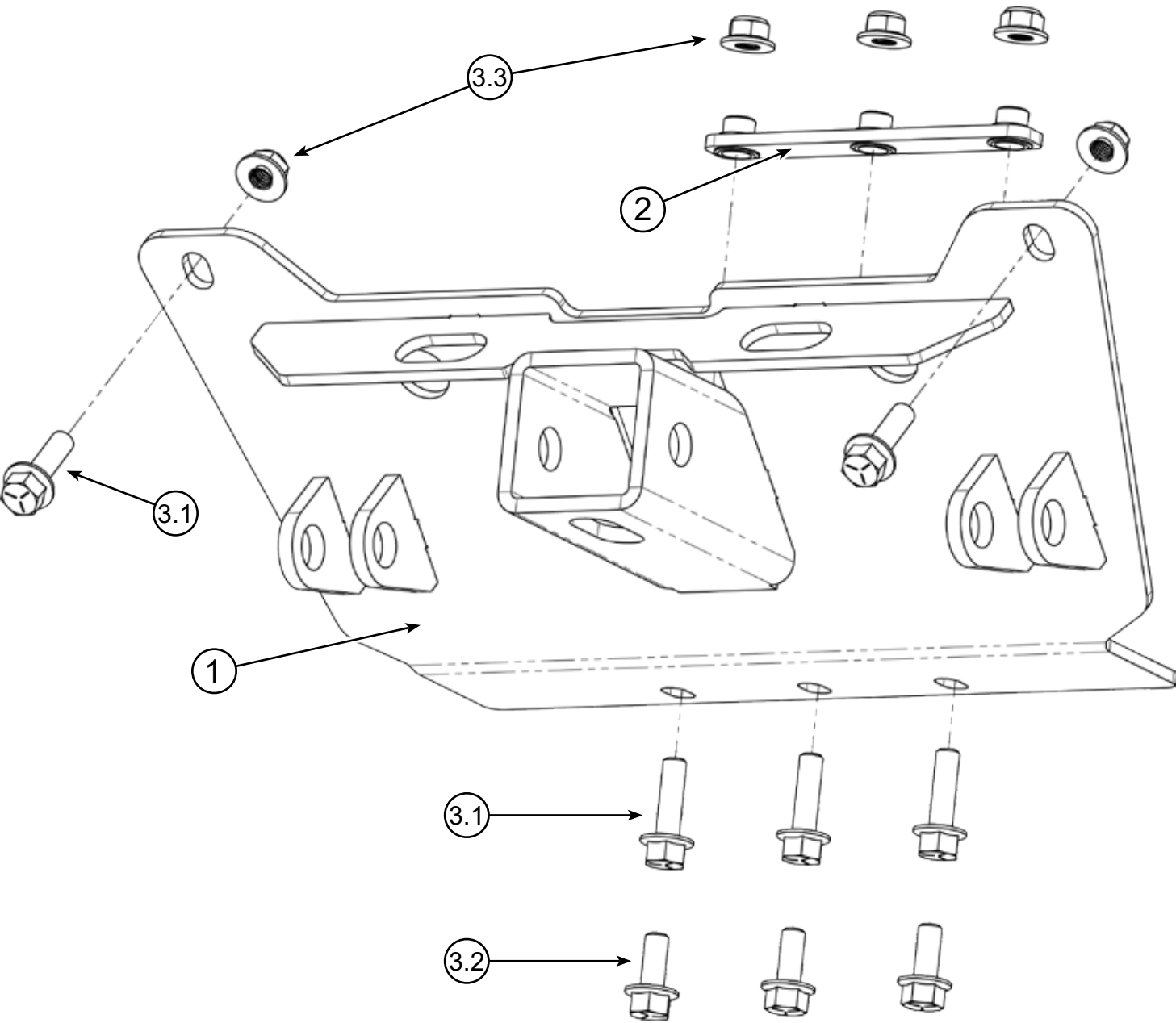


*"Figure 3" Mount Plate Install*



# RANGER RECEIVER/PLOW MOUNT

Plow Mount      PART #105255 Rev. L



| Kit Components: |      |                     |        |      |                                                |
|-----------------|------|---------------------|--------|------|------------------------------------------------|
| Item #          | Qty. | Description         | Item # | Qty. | Description                                    |
| 1               | 1    | Plow Mount          | 3.1    | 5    | 3/8" - 16 X 1.25" Hex Bolt Flange GR5 Serrated |
| 2               | 1    | Back Plate          | 3.2    | 3    | 3/8" - 16 X .88" Hex Bolt Flange GR5 Serrated  |
| 3               | 1    | Hardware Kit HK-051 | 3.3    | 5    | 3/8" - 16 Hex Nut Flange Nylock                |

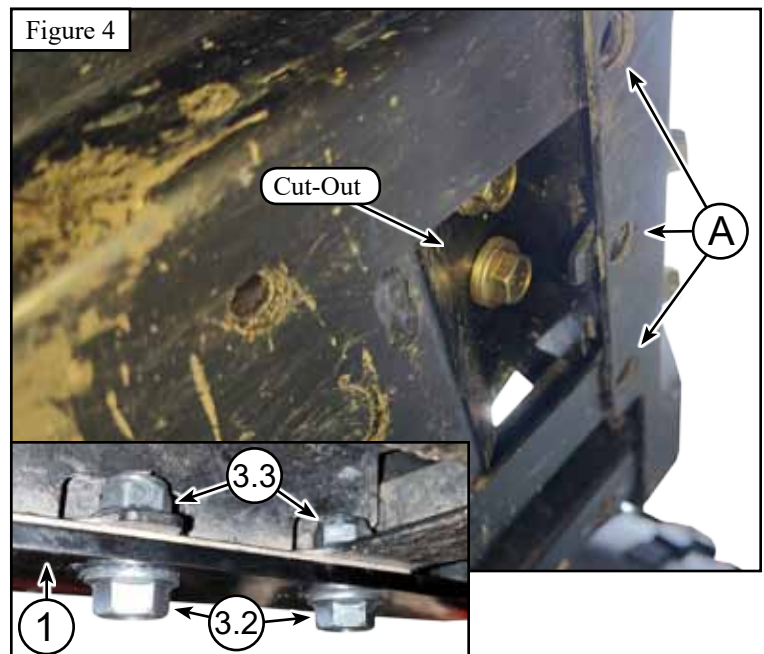
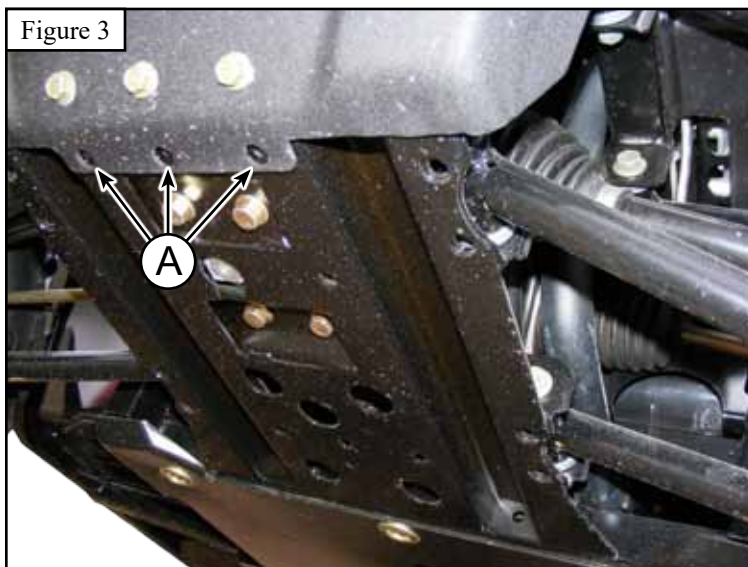
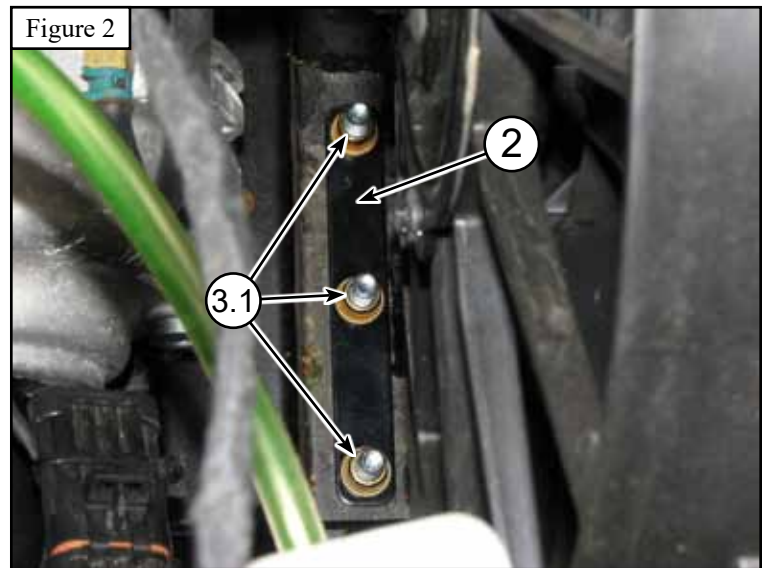
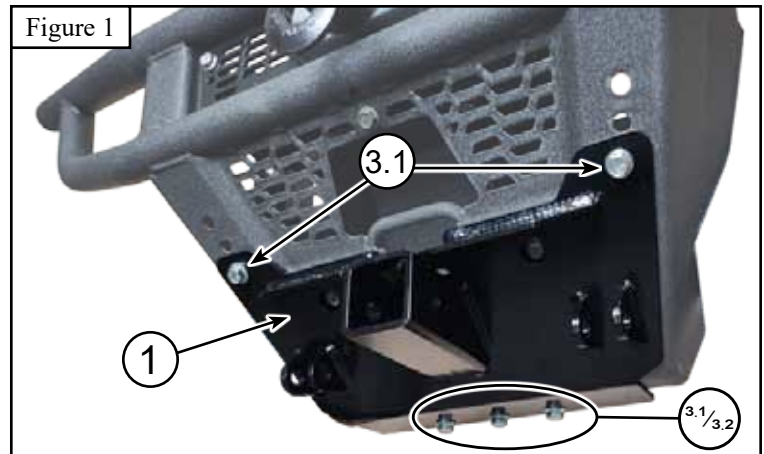


# INSTALLATION INSTRUCTIONS

**Note:** Make sure all hardware needed to complete this mount is in the package. Thoroughly read through and understand the instructions before installing.

## Installation Instructions

1. Place plow mount (1) up to the machine, as shown in **Figure 1**.
2. While holding the plow mount up to the machine, loosely install the upper Bolts (3.1) and Nuts (3.3), as shown in **Figure 1**.
3. For Diesel Rangers, skip to **Step 6**. For all other machines, continue to the next step.
4. Place Back Plate (2) inside the frame on the top of holes (A), as shown in **Figures 2 and 3**.
5. Attach Plow Mount (1) to bolt plate (2) using 3 Bolts (3.1), as shown in **Figures 1 & 2**.
6. If you are installing this on a Diesel Ranger and the bottom of the frame has a cut-out under the front differential as shown in **Figure 4**, Use Bolts (3.2) and Nuts (3.3) to secure the bottom of the plow mount through holes (A). The Back Plate (2) will not fit in the frame on this machine.
7. Tighten all hardware evenly.





# V PLOW HAND REMOTE

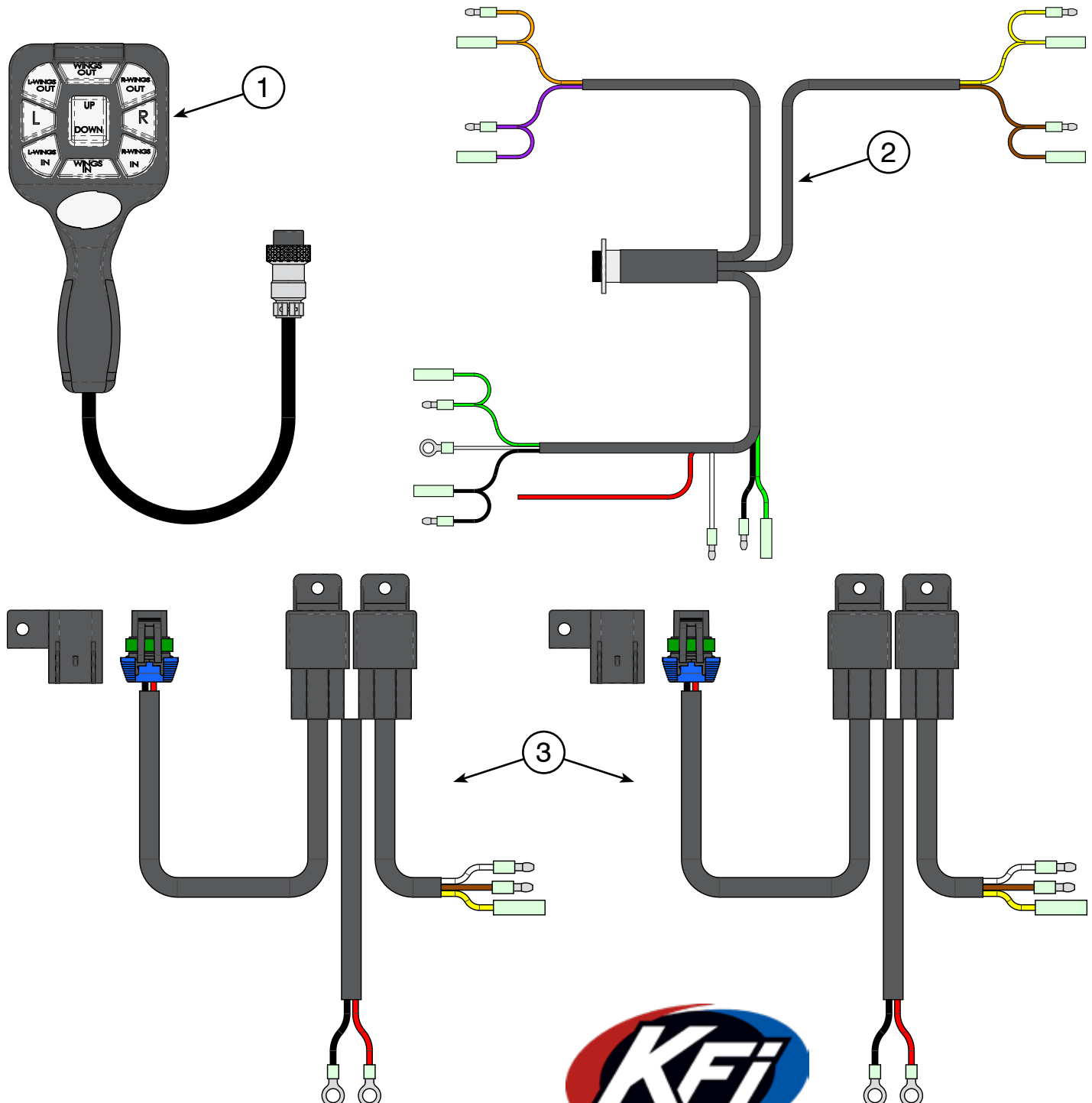
PART #106180-APH

Rev A.1

## Kit Components 106180-APH

| Item # | Qty. | V-Plow Hand Remote Kit           |
|--------|------|----------------------------------|
| 1      | 1    | Hand Remote (ACT-VHR)            |
| 2      | 1    | Hand Remote Harness (ACT-HR-HAR) |
| 3      | 2    | Main Actuator Harness (ACT-HAR)  |

DESIGNED TO BE COMPATIBLE WITH KFI AND OTHER BRAND WINCHES. FOR NON-KFI WINCHES, USE THE PROVIDED CONNECTORS TO TAP INTO THE "IN" AND "OUT" WIRES ON THE WINCH CONTACTOR.



# WIRING INSTRUCTIONS 106180-APH

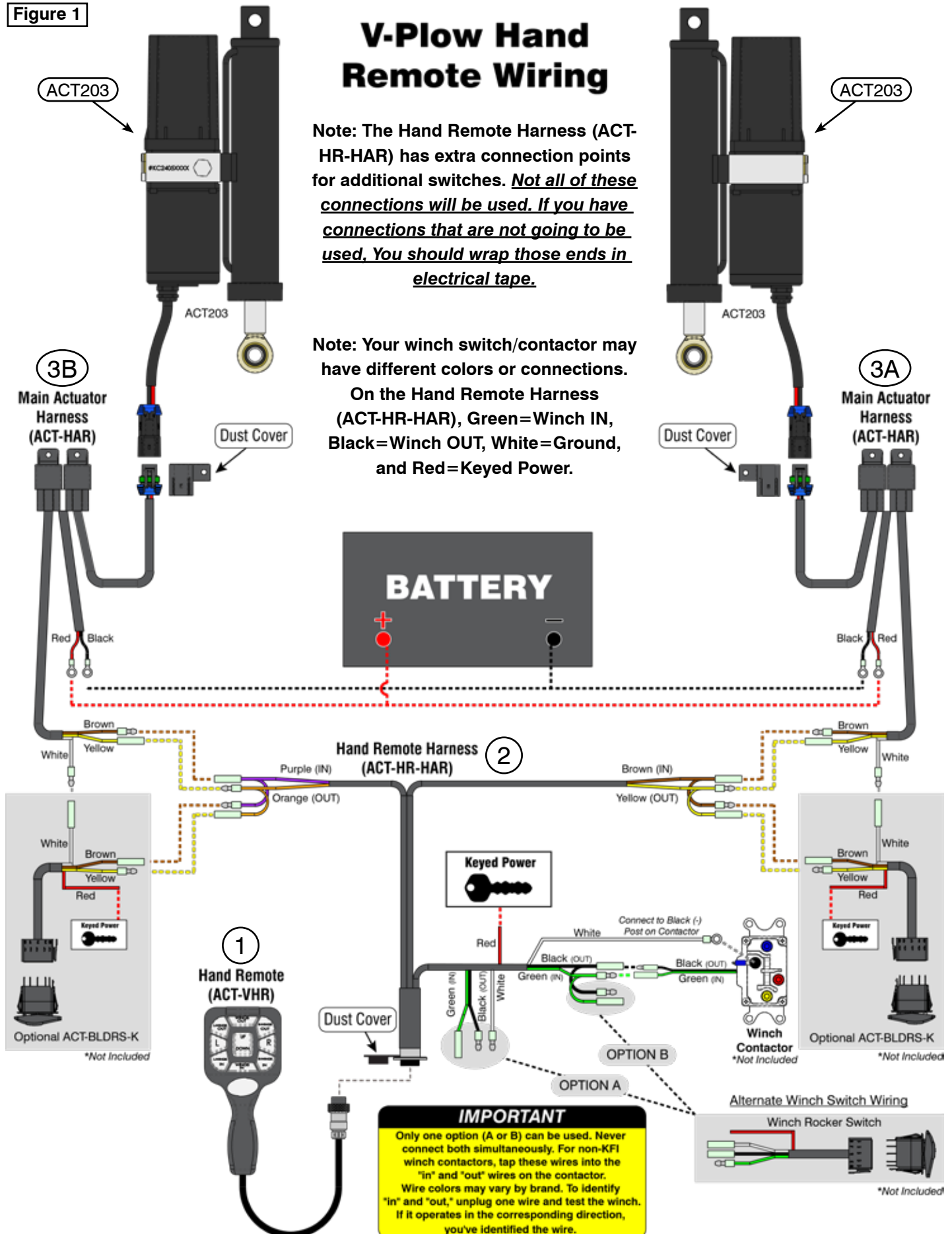
Figure 1

## V-Plow Hand Remote Wiring

Note: The Hand Remote Harness (ACT-HR-HAR) has extra connection points for additional switches. Not all of these connections will be used. If you have connections that are not going to be used, You should wrap those ends in electrical tape.

Note: Your winch switch/contactor may have different colors or connections.

On the Hand Remote Harness (ACT-HR-HAR), Green=Winch IN, Black=Winch OUT, White=Ground, and Red=Keyed Power.





# WIRING INSTRUCTIONS 106180-APH

## Notice

Be careful to not crimp/cut any wires during the install. Keep wires away from sharp and hot objects when securing to the machine.

**Note:** Make sure components needed to complete this installation are in the package. Thoroughly read through and understand the instructions before installing.

### Installation Instructions

1. Connect the Red and Black wires from the **Main Actuator Harness (3A and 3B)** to the battery. See **Figure 1** for reference.
  - Red wires to the Positive (+) terminal
  - Black wires to the Negative (-) terminal
2. Splice the end of the red wire from the **Hand Remote Harness (2)** into a power source that is controlled by the ignition (Keyed Power). Use a test light to identify a wire that receives power only when the key is in the ON position.
3. Connect the green and black wires on the **Hand Remote Harness (2)** to the green and black wires on the winch contactor. Then, connect the white wire to the negative (-) post on the contactor.
4. Connect the Brown and Yellow wires from the **Hand Remote Harness (2)** to the **Main Actuator Harness (3A)**:
  - Brown (Female) to Brown (Male)
  - Yellow (Male) to Yellow (Female)
5. Connect the Purple and Orange wires from the **Hand Remote Harness (2)** to the **Main Actuator Harness (3B)**:
  - Purple (Female) to Brown (Male)
  - Orange (Male) to Yellow (Female)
6. Choose a suitable location to mount the 8-pin panel plug on the **Hand Remote Harness (2)**. Ideally, place it under the dash on a flat surface, but feel free to mount it wherever is most convenient. Once you've selected the spot, drill a **3/4" (19mm) hole**. If necessary, the hole may need to be enlarged so the panel plug fits snugly. Secure the plug using the supplied screws, **being careful not to overtighten them**. Refer to **Figures 2 and 3** for details.
7. Find a clean and dry location to mount the relays. Make sure the location you choose allows sufficient clearance from all metal components. Keep away from sharp and hot objects when securing. Drill a mounting hole if required. Secure with zip ties or self tapping screws.
8. When the **Hand Remote (1)** is not in use, always cover the panel plug on the **Hand Remote Harness (2)** with

the dust cover to keep it clean. Be sure to store the Hand Remote (1) in a safe location when not in use. See **Figure 2**.

9. Use zip ties to secure the dust covers on the **Main Actuator Harnesses (3A and 3B)** to the front of the machine. Ensure they are positioned so the plugs going to the actuator (ACT203) can be easily connected when the plow is not in use.
10. See the manual included with the **Hand Remote (1)** for information on pre-programmed controls and button layout.
11. If additional controls are wanted for the V Plow, see **Figure 1** for how to add (2x) **Dash Rocker Switches (ACT-BLDRS-K)** to your set up.

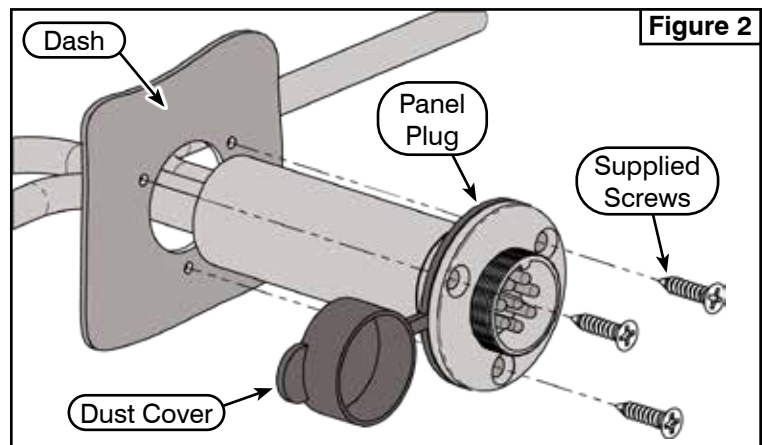


Figure 2

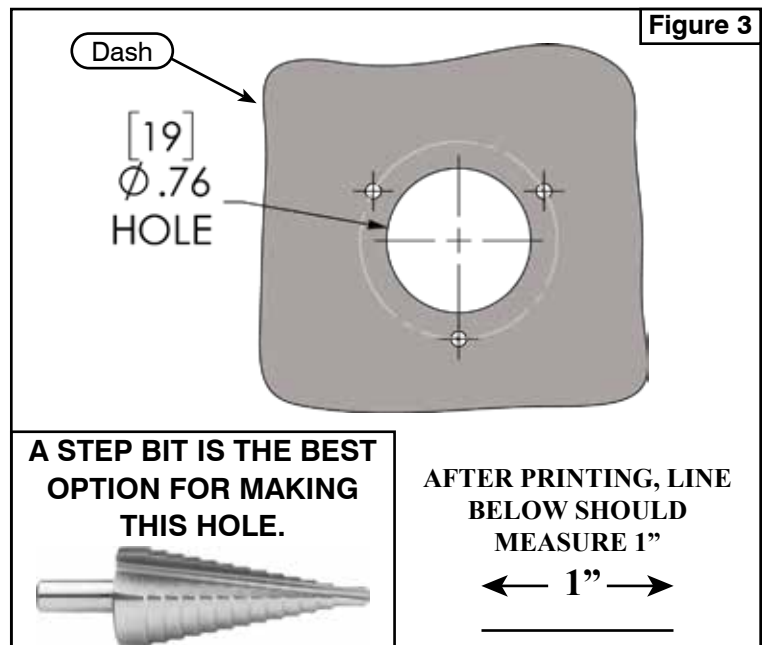


Figure 3

# PRO-V PLOW SYSTEM

V-Plow

PART #106180 Rev B.3



# Important Safety Information

## Manual Conventions

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 a plow.

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.

### CAUTION

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

### WARNING

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

### CAUTION

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

To help you make informed decisions regarding safety, we have included instructions and information on labels. This information is provided with the intent to help avoid potential hazards that may harm you or others. It is, in no way, possible for us to inform you of every hazard you may come across with this product.

### NOTE

If you have questions regarding your plow, we can help. Please call our help line at 1-877-346-2050.

---

## Safety Rules

### 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 KFI 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 or winch (if applicable).
- 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

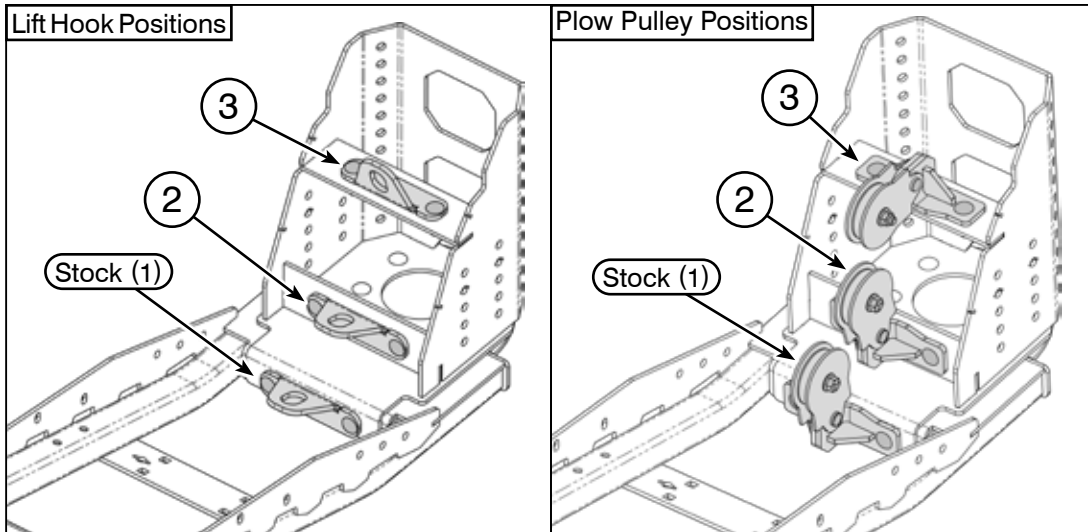
Never stand or ride on the plow.

# Important Information Before Assembly

This plow system is adjustable for different machine heights. This allows the blade to operate in the V-Position, and the Scoop Position without the blade tips digging into the ground. This manual will use your machine during the assembly process to ensure its at the correct height. This will need to be done on a level surface for proper results. The blade can be adjusted at a later date if you modify your machine or your plow foot height. A leveling kit can be purchased for extreme cases. Height adjustment information can be found on Page 9 for clarity.

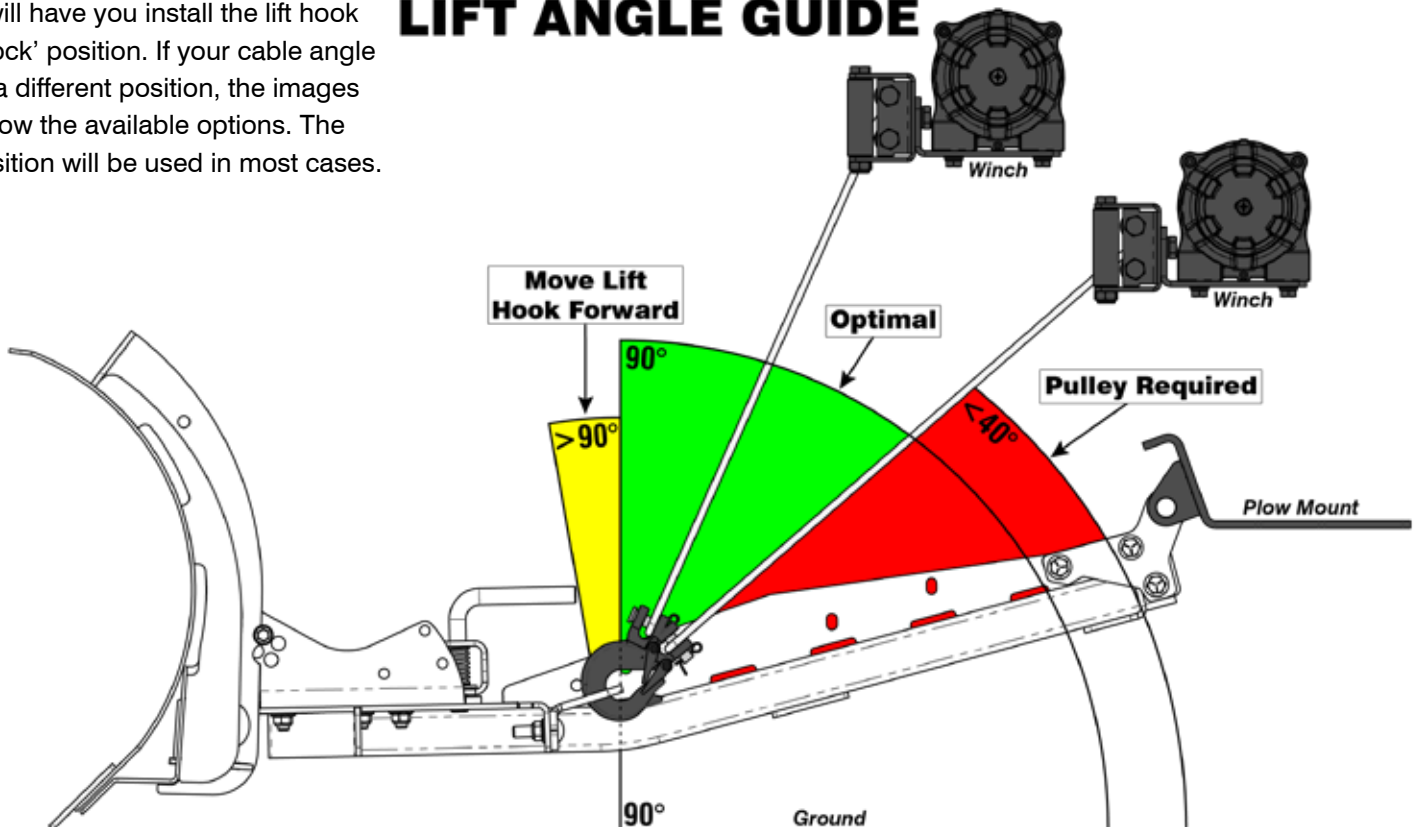
Install your winch mount and plow mount, if needed, before assembling the blade.

If your V-Plow has Hydraulic Actuators, you can choose to install the wire harness ahead of time. The V-Plow Wire Harness Manual from Box 4, (M106180-HAR) can be used for that installation. If you purchased the V-Plow Hand Remote, this will operate the winch, so having the winch pre-installed will help in that connection process.



The lift hook or plow pulley has different attachment points that are available. The manual will have you install the lift hook in the 'stock' position. If your cable angle requires a different position, the images above show the available options. The stock position will be used in most cases.

## UTV PLOW LIFT ANGLE GUIDE



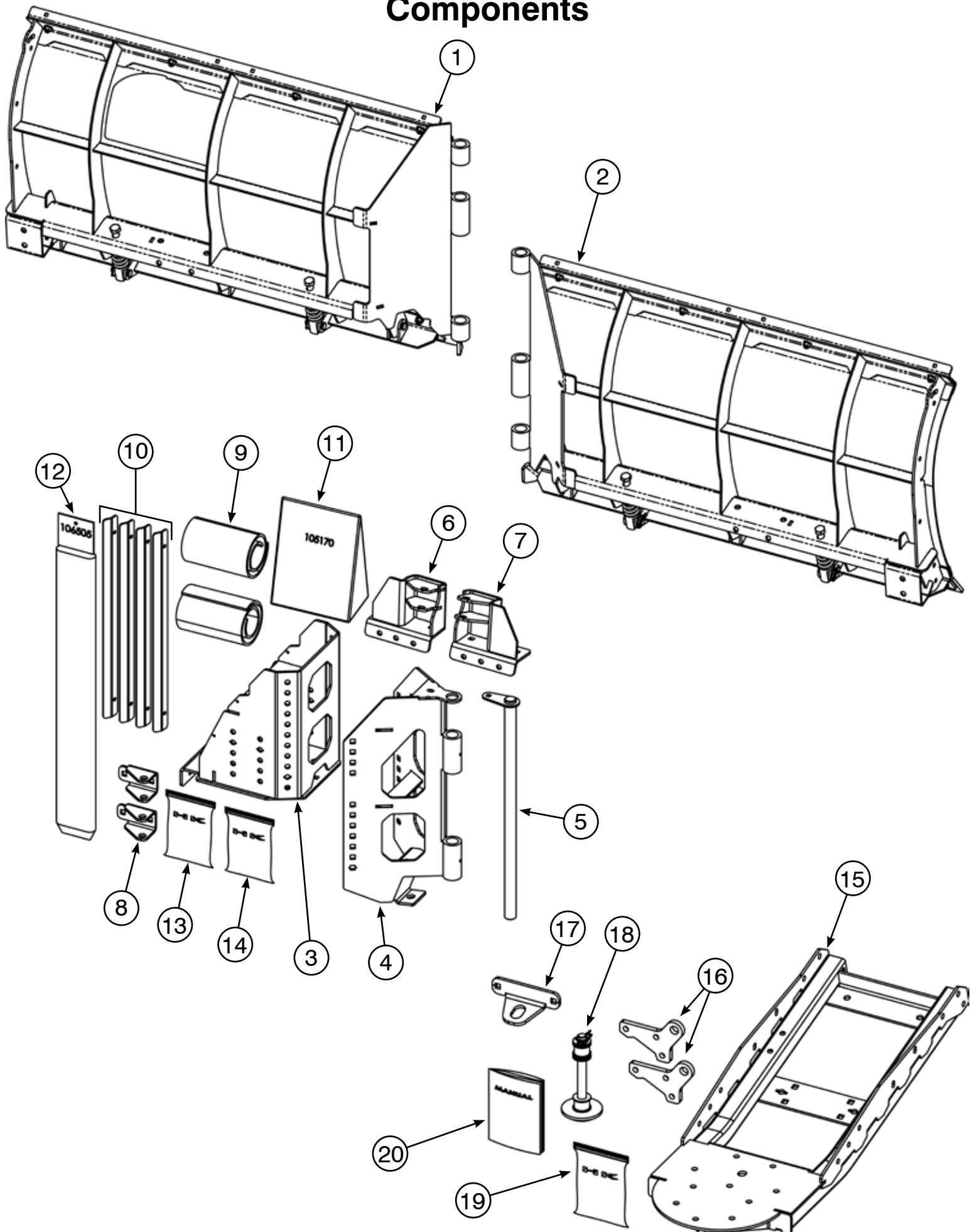
# Components

**Note:** Make sure all hardware needed to complete this assembly is in the package. Thoroughly read through and understand the instructions before assembly.

| Kit Components: |                    |                                                                                |      |
|-----------------|--------------------|--------------------------------------------------------------------------------|------|
| Item #          | Part #             | Description                                                                    | Qty. |
| Box 1           | 106180-DS          |                                                                                | 1    |
| 1               | 106180-DS          | Driver Side Wing Assembly                                                      | 1    |
| Box 2           | 106180-PS          |                                                                                | 1    |
| 2               | 106180-PS          | Passenger Side Wing Assembly                                                   | 1    |
| Box 3           | 106180-CP          |                                                                                | 1    |
| 3               | 106517             | V-Plow Push Tube Center Pivot                                                  | 1    |
| 4               | 106516             | V-Plow Blade Center Pivot                                                      | 1    |
| 5               | 106061             | V-Plow Pivot Pin                                                               | 1    |
| 6               | 106507             | Driver Side Wing Actuator Bracket                                              | 1    |
| 7               | 106506             | Passenger Side Wing Actuator Bracket                                           | 1    |
| 8               | 106153             | V-Plow Bulkhead Actuator Bracket                                               | 2    |
| 9               | 106088             | V-Plow Flap                                                                    | 2    |
| 10              | 106087             | V-Plow Flap Trim                                                               | 4    |
| 11              | 105170             | Plow Skid Kit - Straight - 2pc (Manual Included)                               | 1    |
| 12              | 106505             | Pro-Poly Premium Plow Marker                                                   | 1    |
| 13              | HK-102             | Hardware Kit HK-102                                                            | 1    |
| 13.1            | CB-5Z-025-20-100   | 1/4"-20 X 1.00" Carriage Bolt GR5                                              | 9    |
| 13.2            | FW-SAE-Z-025       | 1/4" Flat Washer                                                               | 9    |
| 13.3            | HNN-5Z-025-20      | 1/4"-20 Hex Nut Nylock GR5                                                     | 9    |
| 14              | HK-430             | Hardware Kit HK-430                                                            | 1    |
| 14.1            | CB-5Z-038-16-100   | 3/8"-16 X 1.00" Carriage Bolt GR5                                              | 22   |
| 14.2            | CB-5Z-038-16-150   | 3/8"-16 X 1.50" Carriage Bolt GR5                                              | 2    |
| 14.3            | HNFN-5Z-038-16     | 3/8"-16 Hex Nut Flange Nylock GR5                                              | 28   |
| 14.4            | P890033            | 5/16"-18 X .75" Carriage Bolt GR5                                              | 1    |
| 14.5            | P890014            | 5/16"-18 Hex Nut Flange Nylock GR5                                             | 1    |
| 14.6            | P800558            | 5/8" Hitch Pin                                                                 | 2    |
| 14.7            | P800559            | Bridge Pin Clip (Used With 5/8" Pin)                                           | 2    |
| 14.8            | HBF-5Z-038-16-100  | 3/8"-16 X 1.00" Flange Bolt GR5                                                | 4    |
| Box 4           | 106180-(MP/AP/APH) | 106180-AP/APH will have an additional manual for installing the wiring harness | 1    |
| 15              | 106301             | Push Tube Weldment                                                             | 1    |
| 16              | 106302             | UTV Push Tube Ear                                                              | 2    |
| 17              | 105138             | UTV Lift Hook                                                                  | 1    |
| 18              | 105490             | Single Plow Foot Kit                                                           | 1    |
| 19              | HK-398             | Hardware Kit HK-398                                                            | 1    |
| 19.1            | HBF-5Z-038-16-125  | 3/8"-16 X 1.25" Hex Bolt Flange GR5 Serrated                                   | 6    |
| 19.2            | HNFN-5Z-038-16     | 3/8"-16 Hex Nut Flange Nylock GR5                                              | 6    |
| 20              | M106180            | Plow System Assembly Instructions                                              | 1    |



# Components

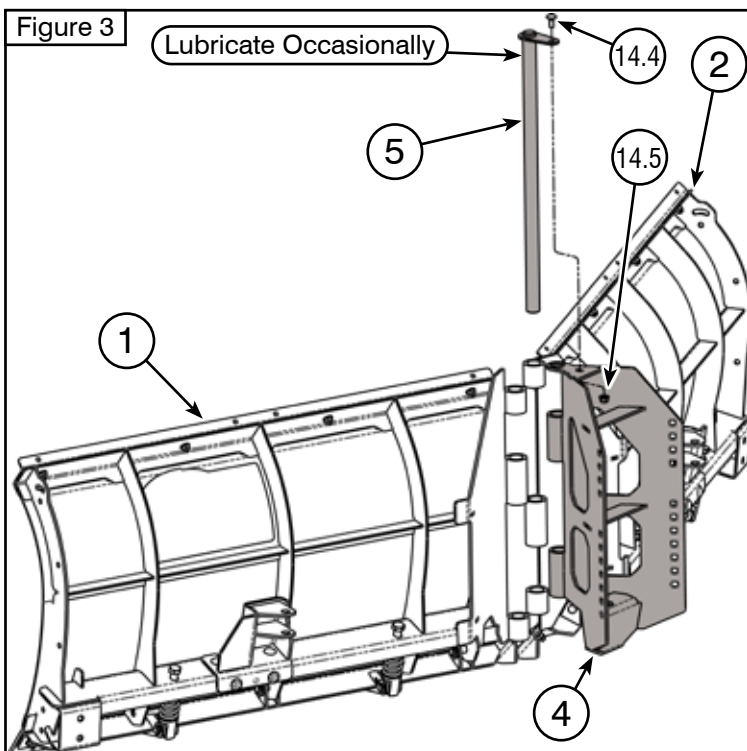
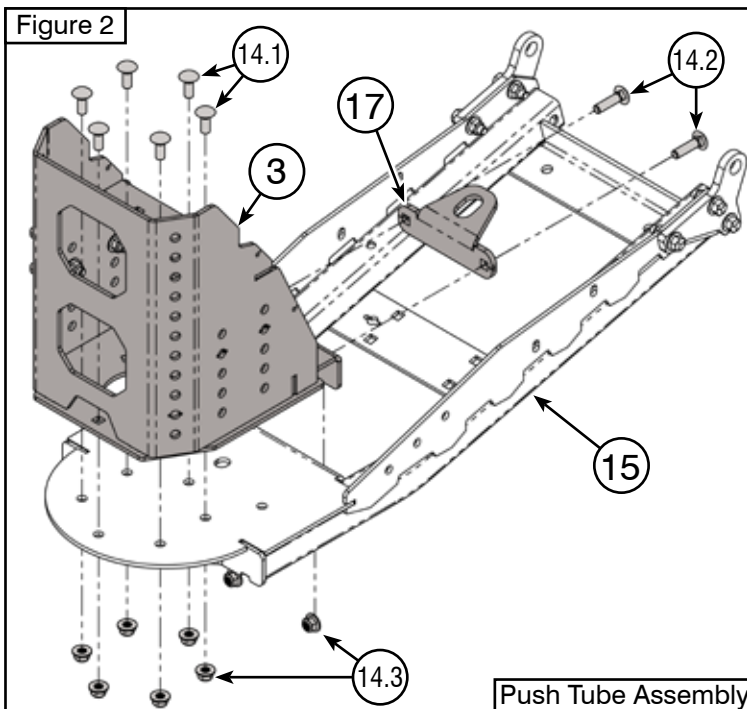
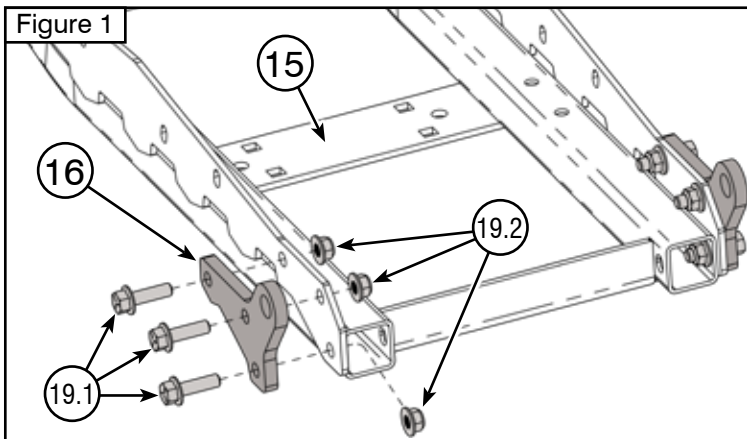


# INSTALLATION INSTRUCTIONS

## Notice

Torque bolts to ANSI specifications. After the initial use, at the beginning of each season, and following any accidental impacts, recheck the torque.

1. Make sure this plow system is assembled on a large, level surface to ensure proper set-up.
2. From Box 4, assemble the Push Tube Ears (16) to the Push Tube Weldment (15) with HK-398 as shown in **Figure 1**. *If your machine requires a leveling kit, or you purchased a Glacier Mount, refer to that installation manual at this point, then continue below.*
3. If installing on a Machine with Tracks, continue below. Otherwise, skip to **Step 4**.
  - The V-Plow Track Extension (106280) is required if you plow with tracks installed on your machine. For ease of installation, install the track extension now. Refer to **Step 3, Figure 3** of the 106280 installation manual. After completing that manual, resume this manual from **Step 6**.
4. Install the Push Tube Center Pivot (3) onto the front of the Push Tubes Weldment (15) and secure with 6 Bolts and Nuts (14.1 & 14.3). See **Figure 2**.
5. Attach Lift Hook (17) with Carriage Bolts (14.2) and Nuts (14.3) through the Center Pivot (3) and Push Tube Weldment (15). Tighten all hardware evenly. See **Figure 2**.
6. Set Push Tube Assembly aside for a later step.
7. Un-box 106180-DS (1) and 106180-PS (2) and place Driver and Passenger Wing next to each other. Insert Blade Center Pivot (4) into the gaps of the wings. See **Figure 3**. After lubricating the Center Pivot Pin (5), Slide the Center Pivot Pin (5) through all components. Secure the Center Pivot Pin (5) with Carriage Bolt (14.4) and Nut (14.5) through the top flange of the Pivot Pin and Center Piece as shown in **Figure 3**. *Lubricate this pin occasionally throughout the season, and at the start and end of each season.*
8. Attach the front Actuator Brackets (6 & 7) using 4 Bolts (14.1 and 14.8) and 4 Nuts (14.3). See **Figure 4 on next page**. (Driver side is mirrored from **Figure 4** and uses Actuator Bracket 7)



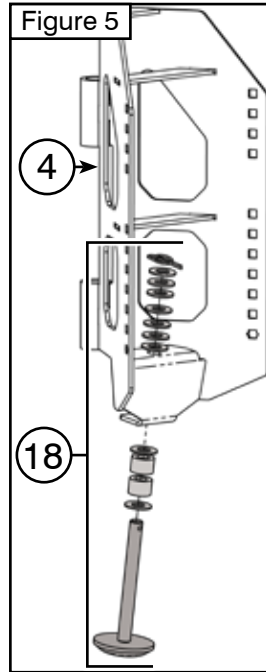
# INSTALLATION INSTRUCTIONS

9. The Top Flap (9) can be installed to each wing using two Trim Pieces (10) and Hardware (13.1-13.3) as shown in **Figure 4**. Note top flap recommended orientation.

10. Plow Markers (12) can be installed to each wing as shown in **Figure 4**. Hardware included in plow marker package. (Driver Side Mirrored)

11. Install Plow Feet (11 & 18) as needed. See **Page 4-5** to identify Plow Feet (11)

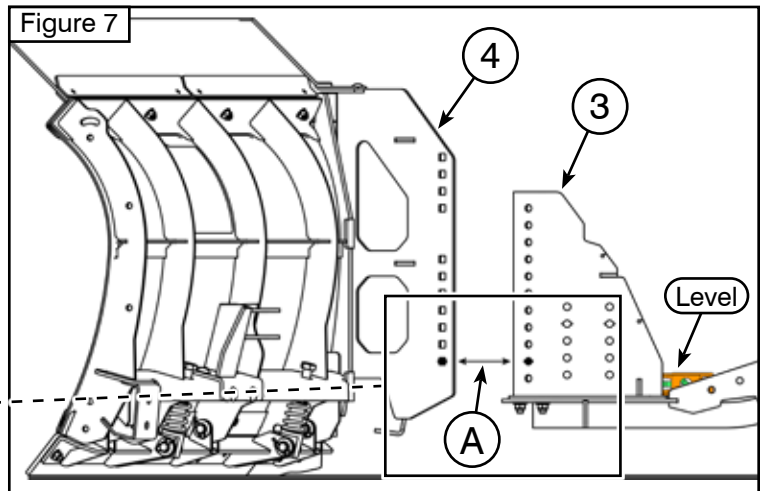
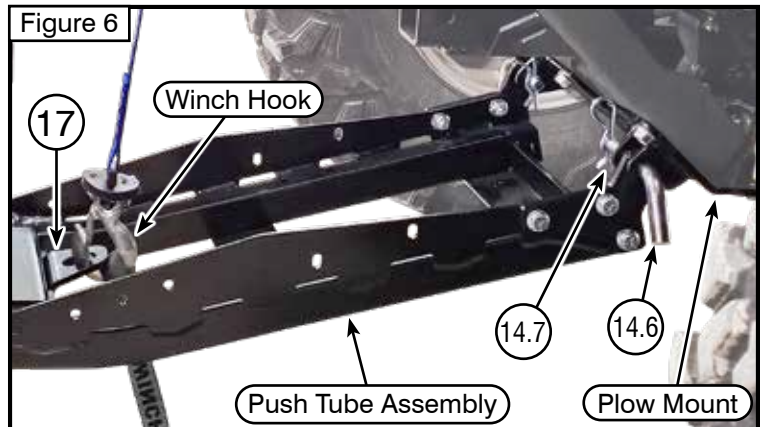
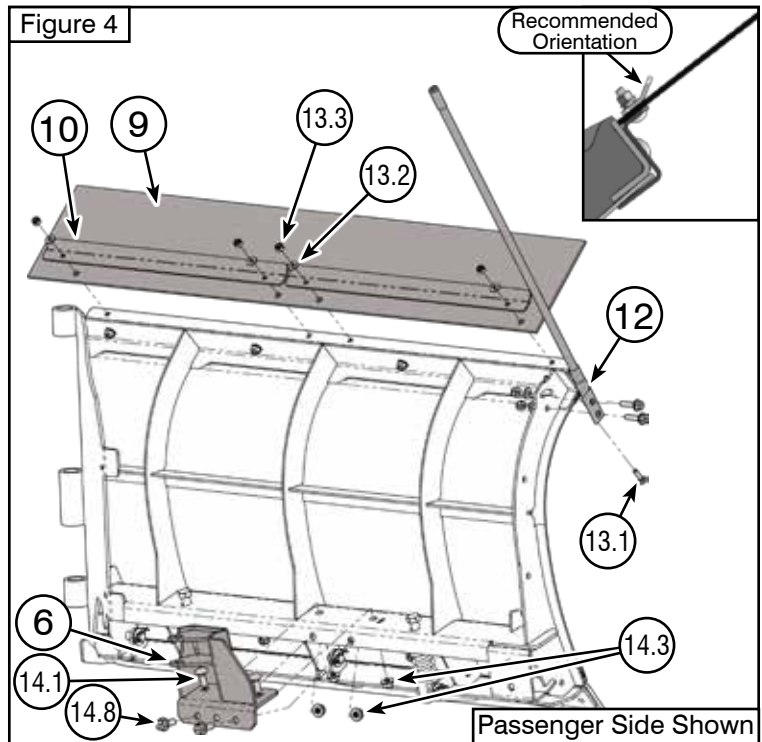
- Plow feet can be configured in various positions: high to allow the wear bar to scrape the ground, flush with the wear bar (shown in **Figure 5**), or low to keep the wear bar off the ground. Decide on the configuration now for proper blade alignment on the machine.
- Wing Plow Feet (11) come inside the box labeled "105170" (inside **Box 3**). A manual is included. See that manual for bracket attachment. The height of these feet must match the center foot.



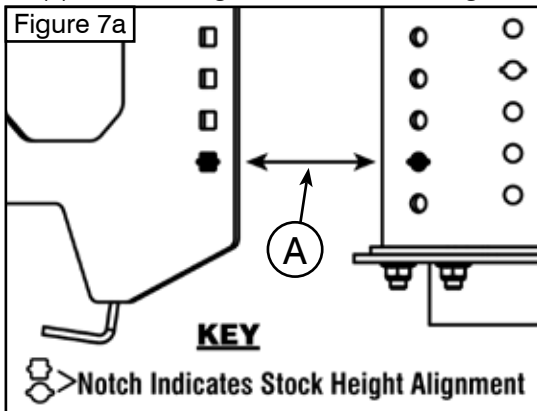
12. Attach the Push Tube Assembly to your plow mount with 5/8" Hitch Pins (14.6) and Bridge Pin Clips (14.7). Connect your winch hook to the Lift Bracket (17) on the push tubes. See **Figure 6**. If you have a Glacier Mount, attach that appropriately.

13. With the blade assembly in the scoop formation (shown in **Figures 3 & 7**), drive your machine forward so the push tubes are close to the rear of the blade assembly as shown in **Figure 7**.

14. Place a level on the Push Tube Center Pivot (3) and raise or lower the winch until it is level as shown in **Figure 7**. Pull ahead until the Push Tube Center Pivot (3) and Blade Center Pivot (4) are touching. **See note under Figure 7.**



**Note:** Line (A) between the holes with notches indicates "Stock" height as shown in **Figure 7(a)**. These holes may not line up for your machine. This is part of the height adjustment system.

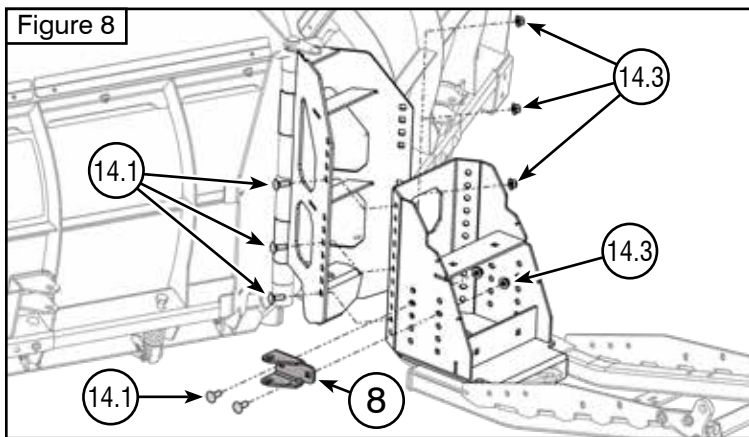




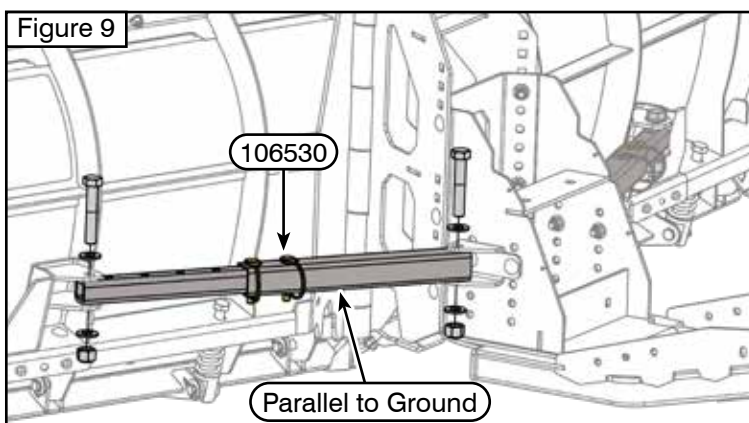
# INSTALLATION INSTRUCTIONS

15. Use the holes that line up closest for your machine height. Insert 3 bolts (14.1) through each side of the center bulkhead and secure with nuts (14.3) as shown in **Figure 8**. *This hardware should be through the lowest hole available, the highest hole available, and one of the center holes. Tighten evenly.*

- Detailed information about this connection can be found on **Page 9**. If you need to re-adjust your height at a later date, this can be adjusted by removing the 6 bolts (14.1) that hold these components together, and moving the rear actuator bracket (8) appropriately.



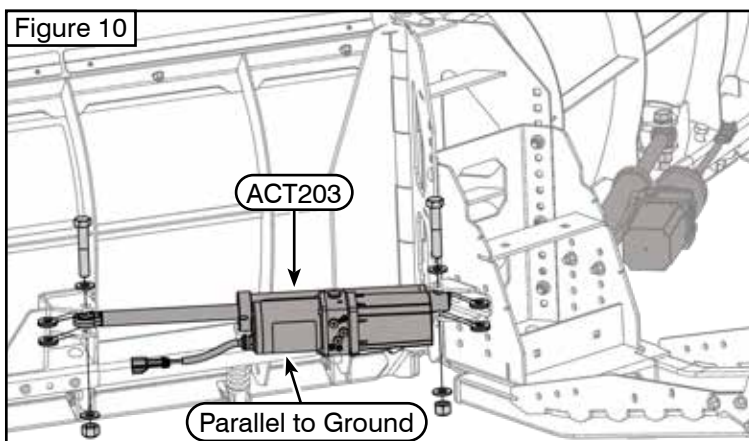
16. Install Rear Actuator Bracket (8) in it's appropriate location by using the information shown on **Page 9** once you determine your plow height. Attach with Hardware (14.1 & 14.3). **Figure 8** shows the stock location for the rear actuator bracket. The front and rear actuator brackets should be parallel with the ground.



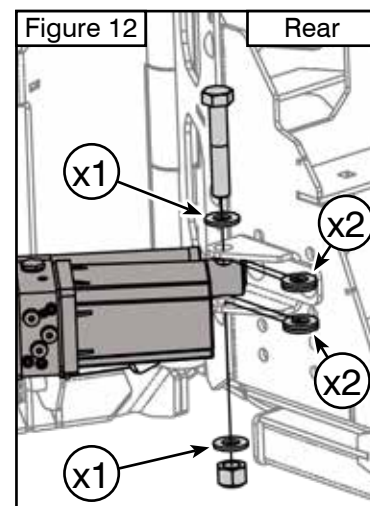
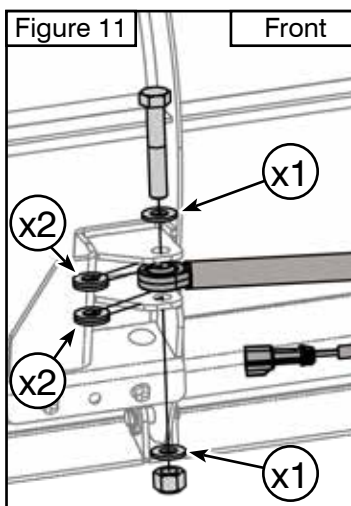
17. If installing Hydraulic Actuators, move on to step 18. For manual angling, continue below.

- Install Manual Angling Tubes (106530) using the hardware provided within this box. Install hardware as shown in **Figure 9**. The 106530 box comes with it's own manual. See that manual for more detail.

18. Hydraulic Actuators (ACT203) should be installed with the hardware provided with the actuators. The hardware can be used in the orientation shown in **Figures 10-12**. The same hardware configuration will be used for the front and rear of each actuator.

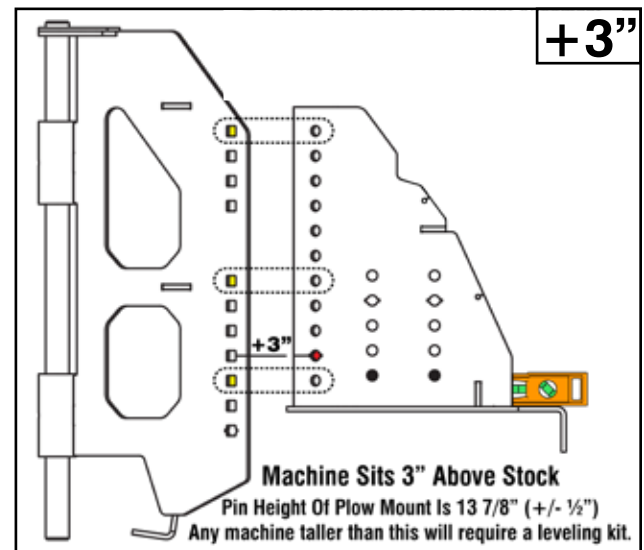
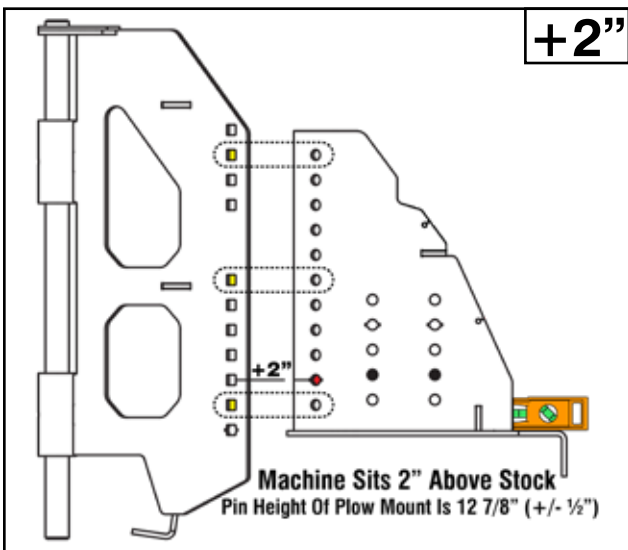
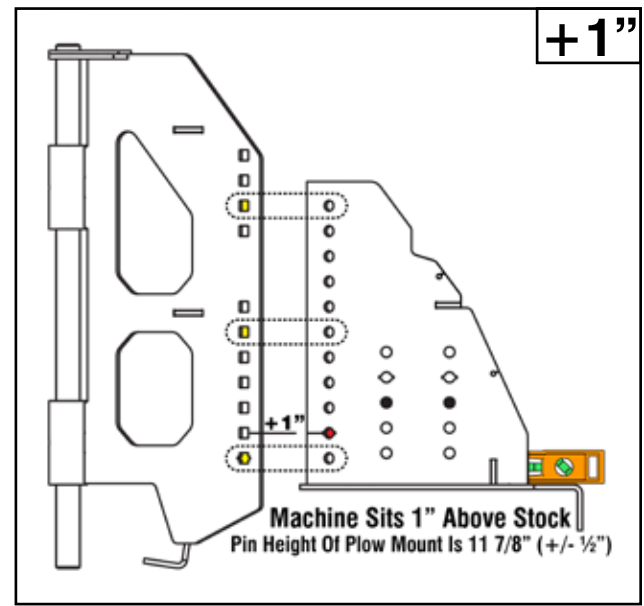
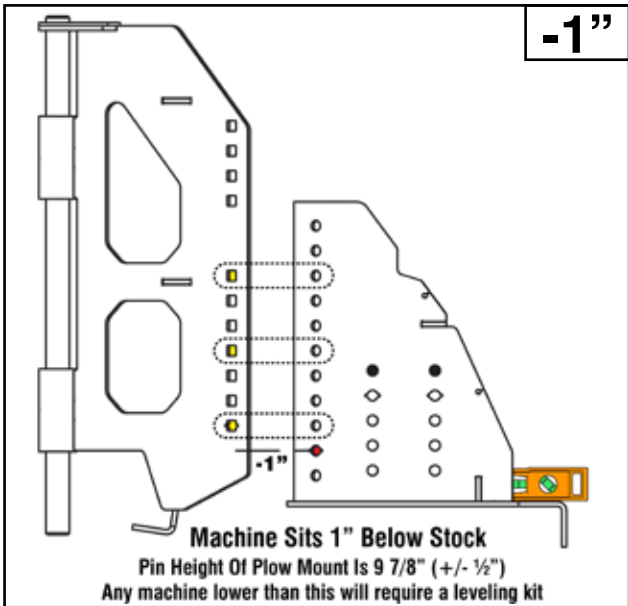
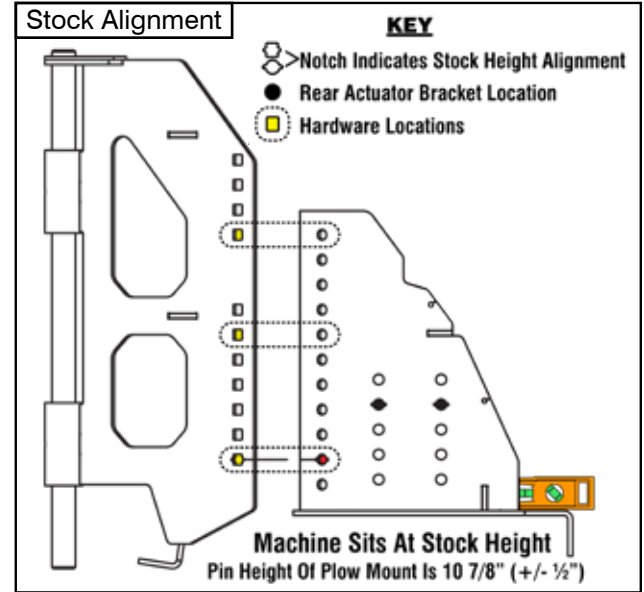
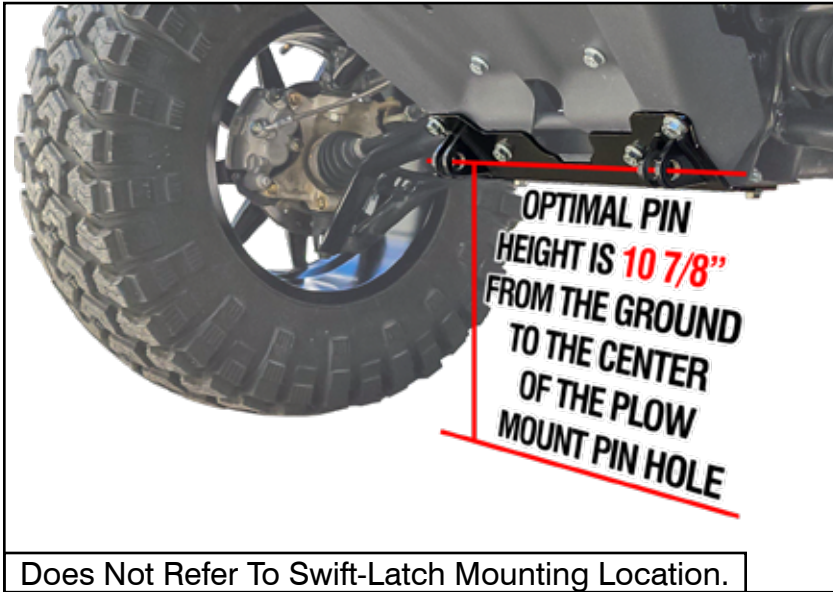


19. Hydraulic V-Plows include a separate manual for wiring the actuators. If not already completed, refer to that manual.



# Height Adjustment Details

This page shows the height options available for the plow system. All attachment options from +3" to -1" are shown in detail. Your plow foot height can affect this attachment as well.

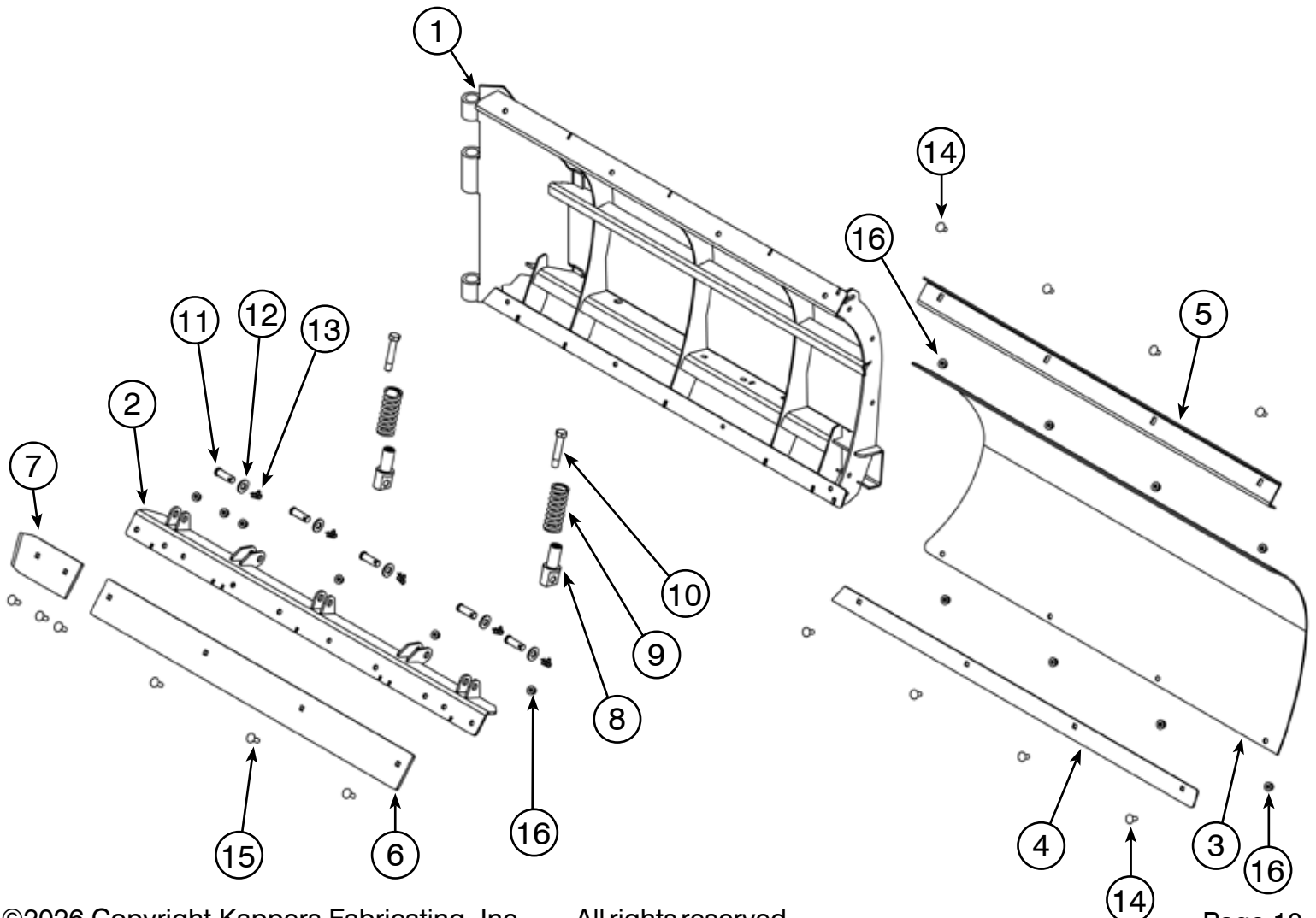




# Replacement Components For Box 1 (106180-DS)

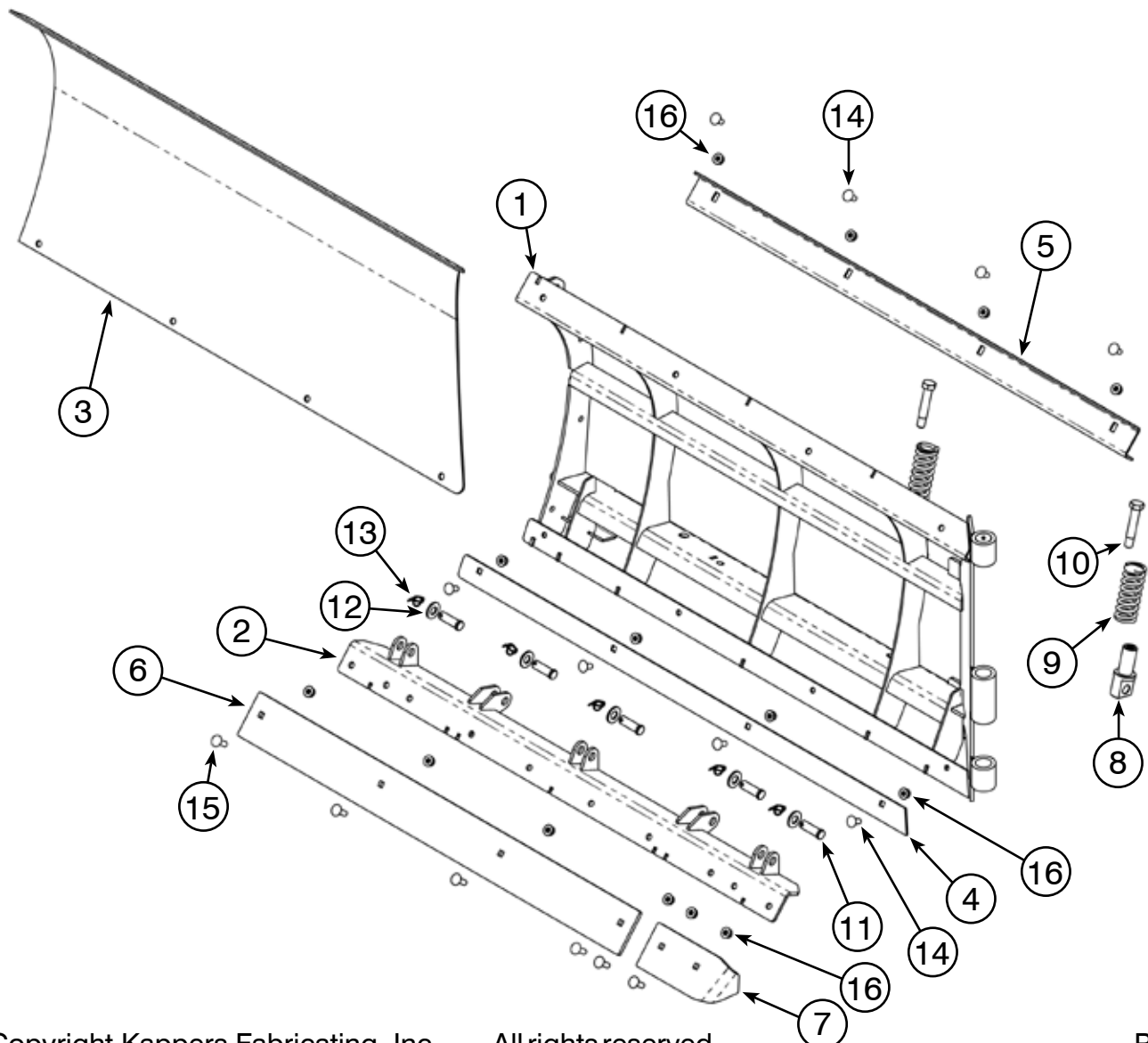
Replacement components per box can be looked up here.

| Item # | Part #    | Description                           | Qty. |
|--------|-----------|---------------------------------------|------|
| Box 1  | 106180-DS | V-Plow Driver Wing Box - Full Kit     | 1    |
| 1      | 106182    | V-Plow Driver Wing                    | 1    |
| 2      | 106184    | V-Plow Trip Edge                      | 1    |
| 3      | 106024    | Poly Face V-Plow DS Wing              | 1    |
| 4      | 106103    | Poly Face V-Plow Lower Clamp          | 1    |
| 5      | 106086    | Upper Hold Down V-Plow Wing           | 1    |
| 6      | 106057    | V-Plow Wing Wear Bar                  | 1    |
| 7      | 106299    | DS Center V-Plow Wear Bar             | 1    |
| 8      | P800554   | Plow Trip Spring Pivot                | 2    |
| 9      | P800557   | Plow Trip Spring                      | 2    |
| 10     | P800562   | Modified 1/2"-13 X 3.25" Hex Bolt GR5 | 2    |
| 11     | P800610   | Clevis Pin 1/2" x 1 17/64"            | 5    |
| 12     | P890048   | 1/2" Flat Washers                     | 5    |
| 13     | P800609   | Self Locking Cotter Pin 1/2"          | 5    |
| 14     | P890033   | 5/16"-18 X .75" Carriage Bolt GR5     | 8    |
| 15     | P890003   | 5/16"-18 X 1.00" Carriage Bolt GR8    | 6    |
| 16     | P890014   | 5/16"-18 Hex Nut Flange Nylock GR5    | 14   |



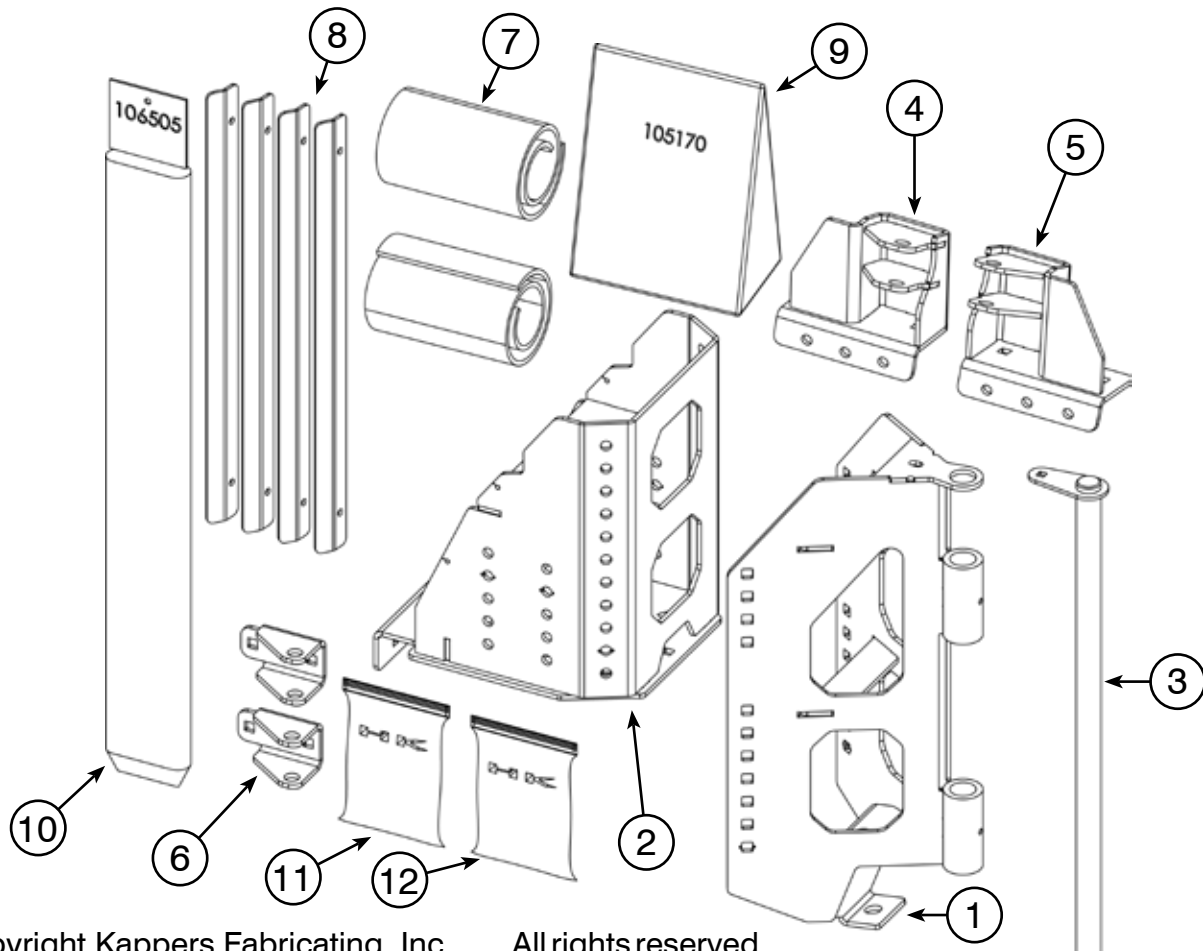
# Replacement Components For Box 2 (106180-PS)

| Item # | Part #    | Description                           | Qty. |
|--------|-----------|---------------------------------------|------|
| Box 2  | 106180-PS | V-Plow Passenger Wing Box - Full Kit  | 1    |
| 1      | 106181    | V-Plow Passenger Wing                 | 1    |
| 2      | 106184    | V-Plow Trip Edge                      | 1    |
| 3      | 106023    | Poly Face V-Plow PS Wing              | 1    |
| 4      | 106103    | Poly Face V-Plow Lower Clamp          | 1    |
| 5      | 106086    | Upper Hold Down V-Plow Wing           | 1    |
| 6      | 106057    | V-Plow Wing Wear Bar                  | 1    |
| 7      | 106298    | PS Center V-Plow Wear Bar             | 1    |
| 8      | P800554   | Plow Trip Spring Pivot                | 2    |
| 9      | P800557   | Plow Trip Spring                      | 2    |
| 10     | P800562   | Modified 1/2"-13 X 3.25" Hex Bolt GR5 | 2    |
| 11     | P800610   | Clevis Pin 1/2" x 1 17/64"            | 5    |
| 12     | P890048   | 1/2" Flat Washers                     | 5    |
| 13     | P800609   | Self Locking Cotter Pin 1/2"          | 5    |
| 14     | P890033   | 5/16"-18 X .75" Carriage Bolt GR5     | 8    |
| 15     | P890003   | 5/16"-18 X 1.00" Carriage Bolt GR8    | 6    |
| 16     | P890014   | 5/16"-18 Hex Nut Flange Nylock GR5    | 14   |



# Replacement Components For Box 3 (106180-CP)

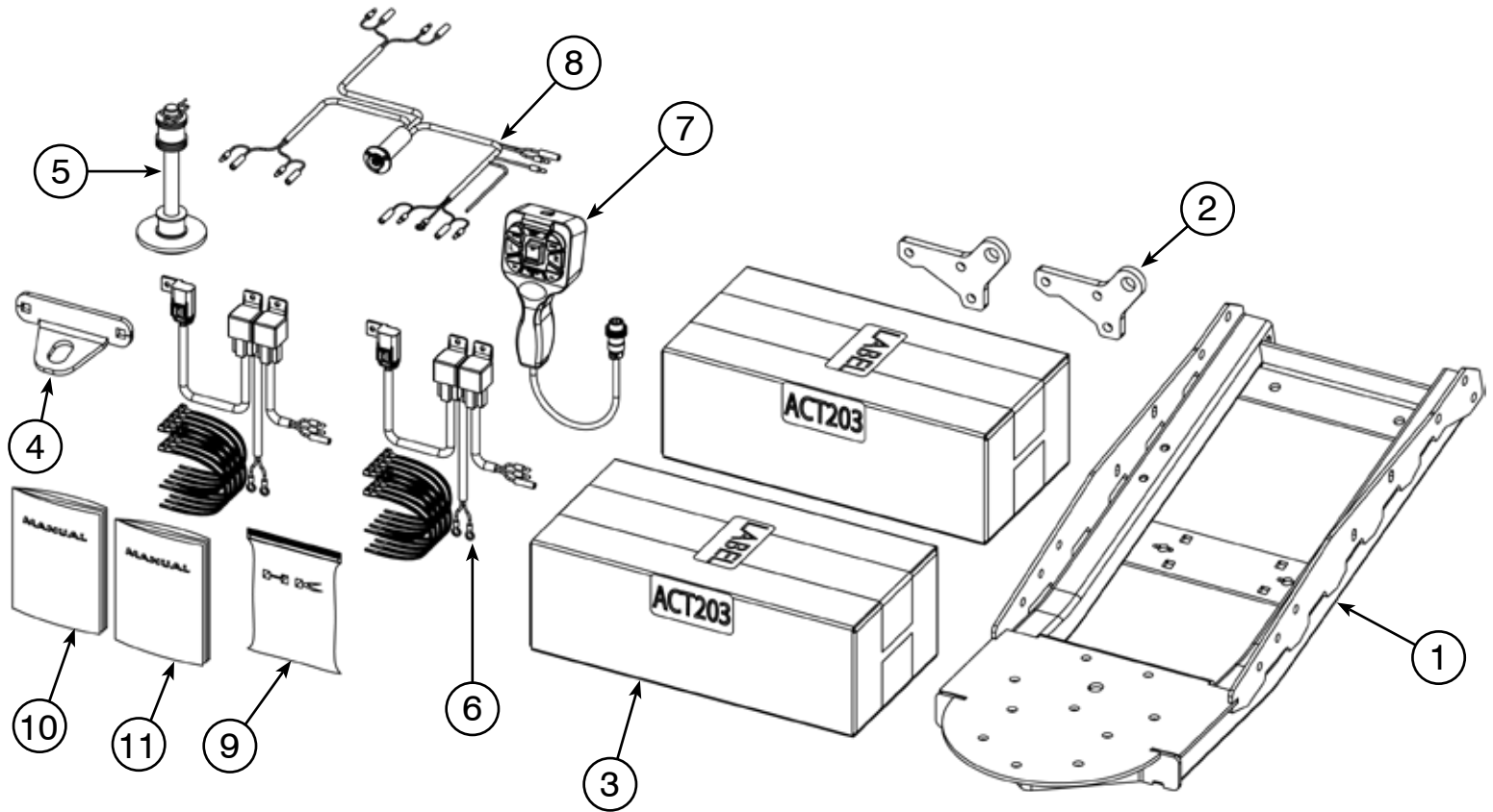
| Item # | Part #            | Description                                      | Qty. |
|--------|-------------------|--------------------------------------------------|------|
| Box 3  | 106180-CP         |                                                  | 1    |
| 1      | 106517            | V-Plow Push Tube Center Pivot                    | 1    |
| 2      | 106516            | V-Plow Blade Center Pivot                        | 1    |
| 3      | 106061            | V-Plow Pivot Pin                                 | 1    |
| 4      | 106507            | Driver Side Wing Actuator Bracket                | 1    |
| 5      | 106506            | Passenger Side Wing Actuator Bracket             | 1    |
| 6      | 106153            | V-Plow Bulkhead Actuator Bracket                 | 2    |
| 7      | 106088            | V-Plow Plow Flap                                 | 2    |
| 8      | 106087            | V-Plow Plow Flap Trim                            | 4    |
| 9      | 105170            | Plow Skid Kit - Straight - 2pc (Manual Included) | 1    |
| 10     | 106505            | Pro-Poly Premium Plow Marker                     | 1    |
| 11     | HK-102            | Hardware Kit HK-102                              | 1    |
| 11.1   | CB-5Z-025-20-100  | 1/4"-20 X 1.00" Carriage Bolt GR5                | 9    |
| 11.2   | FW-SAE-Z-025      | 1/4" Flat Washer                                 | 9    |
| 11.3   | HNN-5Z-025-20     | 1/4"-20 Hex Nut Nylock GR5                       | 9    |
| 12     | HK-430            | Hardware Kit HK-430                              | 1    |
| 12.1   | CB-5Z-038-16-100  | 3/8"-16 X 1.00" Carriage Bolt GR5                | 26   |
| 12.2   | CB-5Z-038-16-150  | 3/8"-16 X 1.50" Carriage Bolt GR5                | 2    |
| 12.3   | HNFN-5Z-038-16    | 3/8"-16 Hex Nut Flange Nylock GR5                | 28   |
| 12.4   | P890033           | 5/16"-18 X .75" Carriage Bolt GR5                | 1    |
| 12.5   | P890014           | 5/16"-18 Hex Nut Flange Nylock GR5               | 1    |
| 12.6   | P800558           | 5/8" Hitch Pin                                   | 2    |
| 12.7   | P800559           | Bridge Pin Clip (Used With 5/8" Pin)             | 2    |
| 12.8   | HBF-5Z-038-16-100 | 3/8"-16 X 1.00" Flange Bolt GR5                  | 4    |



# Replacement Components For Box 4 - Option 1 (106180-APH)

Box 4 has 3 possible configurations. Other configurations are on the following pages.

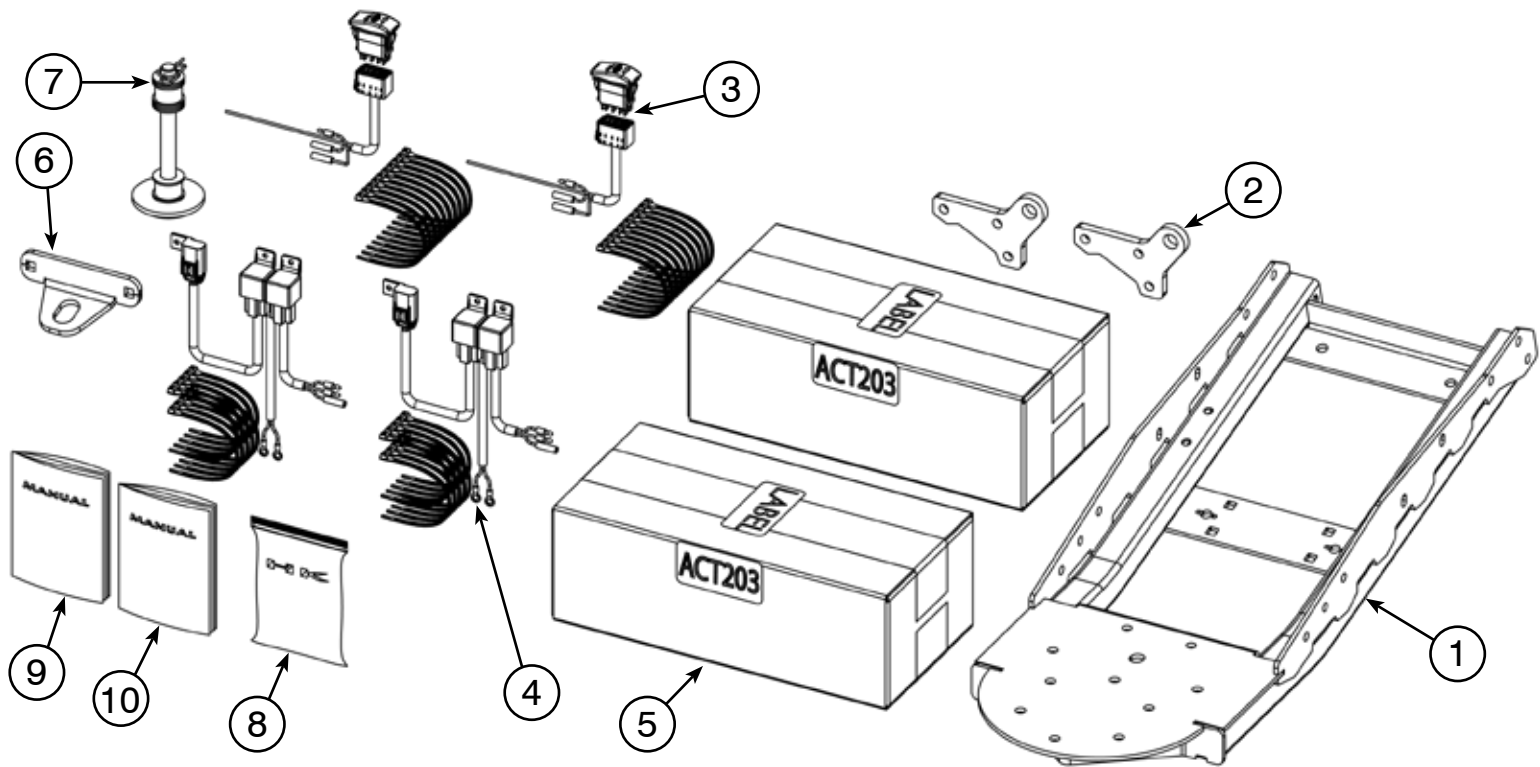
| Item # | Part #            | Description                                      | Qty. |
|--------|-------------------|--------------------------------------------------|------|
| Box 4  | 106180-APH        | V-Plow Actuator Push Tube - Full Kit             | 1    |
| 1      | 106301            | Push Tube Weldment                               | 1    |
| 2      | 106302            | UTV Push Tube Ear                                | 2    |
| 3      | ACT203            | KFI Hydraulic Actuator (203mm) (Manual Included) | 2    |
| 4      | 105138            | UTV Lift Hook                                    | 1    |
| 5      | 105490            | Single Plow Foot Kit                             | 1    |
| 6      | ACT-HAR           | Actuator Relay Harness                           | 2    |
| 7      | ACT-VHR           | Actuator V-Plow Hand Remote                      | 1    |
| 8      | ACT-HR-HAR        | Hand Remote Harness                              | 1    |
| 9      | HK-398            | Hardware Kit HK-398                              | 1    |
| 9.1    | HBF-5Z-038-16-125 | 3/8"-16 X 1.25" Hex Bolt Flange GR5 Serrated     | 6    |
| 9.2    | HNFN-5Z-038-16    | 3/8"-16 Hex Nut Flange Nylock GR5                | 6    |
| 10     | M106180           | 106180 Assembly Manual                           | 1    |
| 11     | M106180-HAR       | V-Plow Actuator Wiring Manual                    | 1    |



# Replacement Components For Box 4 - Option 2 (106180-AP)

Box 4 has 3 possible configurations. Other configurations are on the previous and following page.

| Item # | Part #             | Description                                      | Qty. |
|--------|--------------------|--------------------------------------------------|------|
| Box 4  | 106180-AP          | V-Plow Actuator Push Tube - Full Kit             | 1    |
| 1      | 106301             | Push Tube Weldment                               | 1    |
| 2      | 106302             | UTV Push Tube Ear                                | 2    |
| 3      | ACT-BLDRS-K        | Actuator Wiring Harness and Rocker Switch        | 2    |
| 4      | ACT-HAR            | Actuator Relay Harness                           | 2    |
| 5      | ACT203             | KFI Hydraulic Actuator (203mm) (Manual Included) | 2    |
| 6      | 105138             | UTV Lift Hook                                    | 1    |
| 7      | 105490             | Single Plow Foot Kit                             | 1    |
| 8      | HK-398             | Hardware Kit HK-398                              | 1    |
| 7.1    | HB5F-5Z-038-16-125 | 3/8"-16 X 1.25" Hex Bolt Flange GR5 Serrated     | 6    |
| 7.2    | HNFN-5Z-038-16     | 3/8"-16 Hex Nut Flange Nylock GR5                | 6    |
| 9      | M106180            | 106180 Assembly Manual                           | 1    |
| 10     | M106180-HAR        | V-Plow Actuator Wiring Manual                    | 1    |

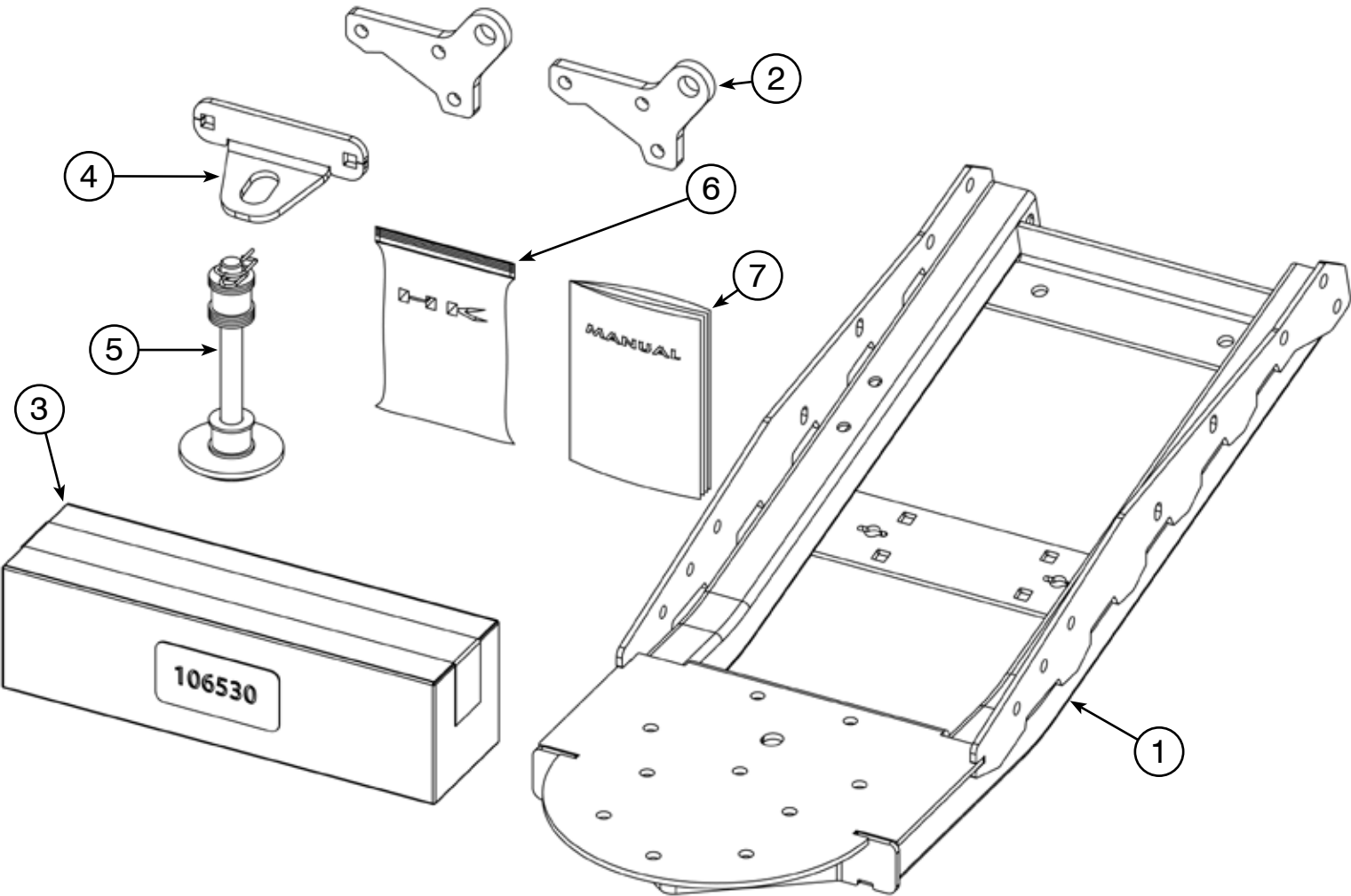




# Replacement Components For Box 4 - Option 3 (106180-MP)

Box 4 has 3 possible configurations. Other configurations are on the previous pages.

| Item # | Part #            | Description                                  | Qty. |
|--------|-------------------|----------------------------------------------|------|
| Box 4  | 106180-MP         | V-Plow Manual Push Tube - Full Kit           | 1    |
| 1      | 106301            | Push Tube Weldment                           | 1    |
| 2      | 106302            | UTV Push Tube Ear                            | 2    |
| 3      | 106530            | V-Plow Manual Kit (Manual Included)          | 1    |
| 4      | 105138            | UTV Lift Hook                                | 1    |
| 5      | 105490            | Single Plow Foot Kit                         | 1    |
| 6      | HK-398            | Hardware Kit HK-398                          | 1    |
| 6.1    | HBF-5Z-038-16-125 | 3/8"-16 X 1.25" Hex Bolt Flange GR5 Serrated | 6    |
| 6.2    | HNFN-5Z-038-16    | 3/8"-16 Hex Nut Flange Nylock GR5            | 6    |
| 7      | M106180           | 106180 Assembly Manual                       | 1    |



## Maintenance Information

Any components that swivels or pivots should be lubricated occasionally to reduce wear, increase longevity, and ensure proper operation. Some components that should be lubricated include the Center Pivot Pin, Tripping Wear Bar Pins and Actuator Bolts or Manual Wing Adjustment Bolts (depending on your configuration).

The plow system should be inspected at the start of each season and after any accidental impacts. If any component is bent or damaged, it could lead to excess damage later on, or even addition components becoming damaged if not fixed correctly. If needed, individual components can be purchased from KFI by contacting us directly at [tech@kfiproducs.com](mailto:tech@kfiproducs.com) or 877-346-2050 Option 2.

It is best to store the Hydraulic Actuators out of the weather or in a temperature controlled environment when not in use. If you need to store the plow system outdoors, it would be best to cover the actuators at minimum, or remove them from the plow system for storage. More information can be found in the actuator manual.

# NOTES

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins or other markings on the paper.



# 2 YEAR LIMITED WARRANTY

Kappers Fabricating, Inc. (KFI) warrants to the original purchaser that the product is free from defects in materials and workmanship for a period of two (2) years from the original date of purchase. We will repair or replace, at our discretion, parts found to be defective due to materials or workmanship. This warranty is subject to the following limitations and exclusions:

**Commercial Use:** The warranty period for any product used for commercial or rental is limited to ninety (90) days from the date of original purchase.

**Limitations:** This warranty applies only to products which have been properly assembled, adjusted, and operated in accordance with the instructions contained within this manual. This warranty does not apply to any product of Kappers Fabricating, Inc. that has been subject to alteration, misuse, abuse, improper assembly or installation, or shipping damage.

**Exclusions:** Excluded from this warranty are normal wear, normal adjustments, and normal maintenance.

THIS WARRANTY DOES NOT APPLY TO ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES AND ANY IMPLIED WARRANTIES ARE LIMITED TO THE SAME TIME PERIODS STATED HEREIN FOR ALL EXPRESSED WARRANTIES.

THE WARRANTY SET FORTH ABOVE IS THE ONLY WARRANTY. THERE ARE NO OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

Some states do not allow the exclusion of implied warranties or the exclusion or limitation of liability for incidental or consequential damages, or limitations on how long an implied warranty lasts, so the above limitation or exclusion may not apply to you. This warranty gives you specific legal rights. You may also have other rights that vary from state to state.

In the event you have a claim under this warranty, contact KFI's Technical Service and KFI will troubleshoot any issue via phone or e-mail. If the problem is not corrected by this method, KFI will, at its option, authorize evaluation, repair or replacement of the defective part or component at a KFI Service Center. KFI will provide you with a case number for warranty service. Please keep it for future reference. Repairs or replacements without prior authorization, or at an unauthorized repair facility, will not be covered by this warranty.

All transportation charges, damage, or loss incurred during transportation of parts submitted for replacement or repair under this warranty shall be borne by the purchaser. Should you have any questions concerning this warranty, please contact us toll-free at 1-877-346-2050. The model number, serial number (if applicable), date of purchase, and the name of the authorized KFI dealer from whom you purchased the product will be needed before any warranty claim can be processed.

For warranty inquiries outside the U.S.A. and Canada, contact your local dealer/distributor.

For countries not covered by a local dealer/distributor, please contact us at [www.kfiproductions.com](http://www.kfiproductions.com).

## Product Registration

Please register your product with Kappers Fabricating, Inc. (KFI) within fifteen (15) days of purchase to assist us in handling any warranty issues that may arise by filling out this Registration card and submitting it with a copy of your sales receipt from one of KFI's official resellers. Failure to complete and return this Registration card does not diminish your warranty rights.

Please refer to the above section for complete terms of this warranty.

### WARRANTY IS NON-TRANSFERABLE

Please Print Clearly

Blade P/N \_\_\_\_\_

Name \_\_\_\_\_

Street Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip Code \_\_\_\_\_

Phone \_\_\_\_\_ Email \_\_\_\_\_

Date of Purchase \_\_\_\_\_

Authorized KFI Dealer Name \_\_\_\_\_

Fill out and send this section to:  
Kappers Fabricating, Inc.  
Warranty Registration Department  
1015 Industrial Drive, PO Box 32  
Spring Valley, MN 55975, U.S.A.

Or  
**Register  
Online**





**Kappers Fabricating, Inc.**

**721 Sata Dr.  
Spring Valley, MN 55975**

**1-877-346-2050**

**[www.kfiproductions.com](http://www.kfiproductions.com)**

# PRO-V PLOW SYSTEM

V-Plow

PART #106180 Rev B.3





# Important Safety Information

## Manual Conventions

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 a plow.

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.

### CAUTION

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

### WARNING

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

### CAUTION

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

To help you make informed decisions regarding safety, we have included instructions and information on labels. This information is provided with the intent to help avoid potential hazards that may harm you or others. It is, in no way, possible for us to inform you of every hazard you may come across with this product.

### NOTE

If you have questions regarding your plow, we can help. Please call our help line at 1-877-346-2050.

---

## Safety Rules

### 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 KFI 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 or winch (if applicable).
- 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

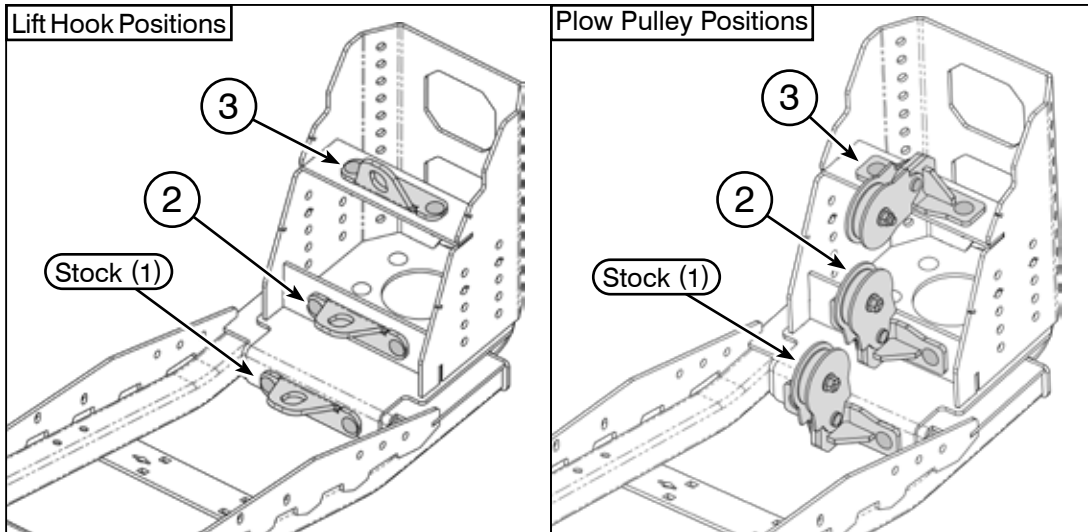
Never stand or ride on the plow.

# Important Information Before Assembly

This plow system is adjustable for different machine heights. This allows the blade to operate in the V-Position, and the Scoop Position without the blade tips digging into the ground. This manual will use your machine during the assembly process to ensure its at the correct height. This will need to be done on a level surface for proper results. The blade can be adjusted at a later date if you modify your machine or your plow foot height. A leveling kit can be purchased for extreme cases. Height adjustment information can be found on Page 9 for clarity.

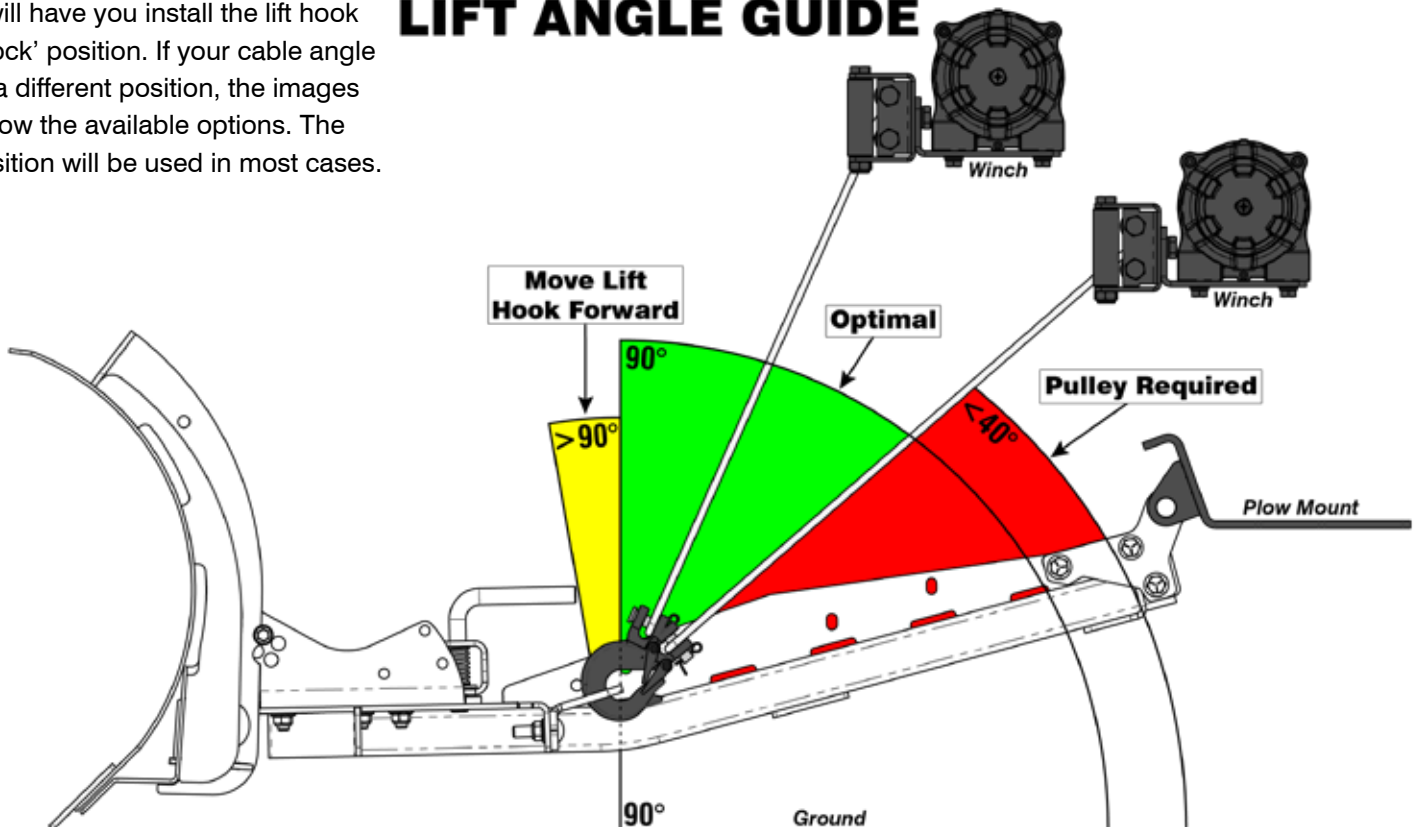
Install your winch mount and plow mount, if needed, before assembling the blade.

If your V-Plow has Hydraulic Actuators, you can choose to install the wire harness ahead of time. The V-Plow Wire Harness Manual from Box 4, (M106180-HAR) can be used for that installation. If you purchased the V-Plow Hand Remote, this will operate the winch, so having the winch pre-installed will help in that connection process.



The lift hook or plow pulley has different attachment points that are available. The manual will have you install the lift hook in the 'stock' position. If your cable angle requires a different position, the images above show the available options. The stock position will be used in most cases.

## UTV PLOW LIFT ANGLE GUIDE

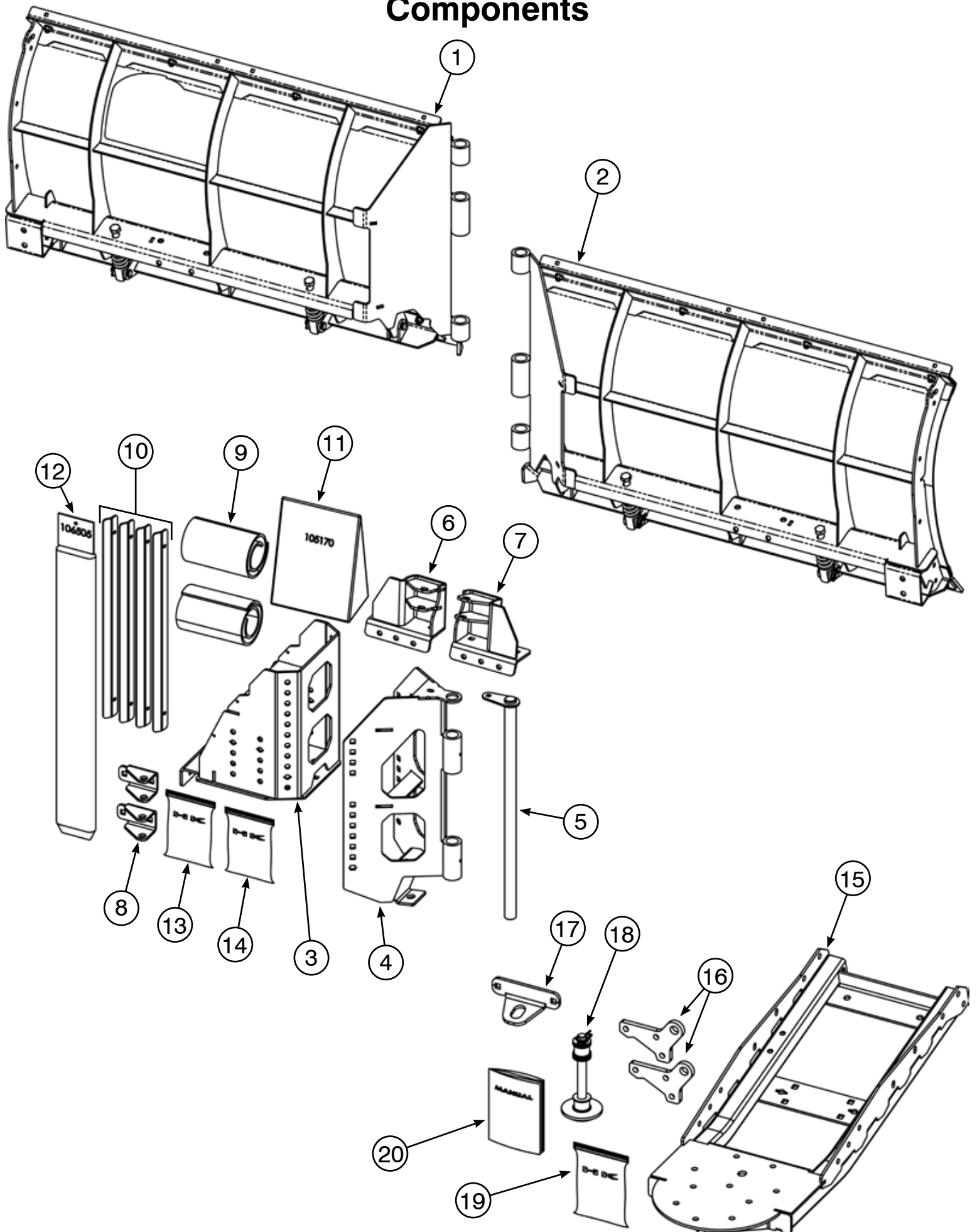


# Components

**Note:** Make sure all hardware needed to complete this assembly is in the package. Thoroughly read through and understand the instructions before assembly.

| Kit Components: |                    |                                                                                |      |
|-----------------|--------------------|--------------------------------------------------------------------------------|------|
| Item #          | Part #             | Description                                                                    | Qty. |
| Box 1           | 106180-DS          |                                                                                | 1    |
| 1               | 106180-DS          | Driver Side Wing Assembly                                                      | 1    |
| Box 2           | 106180-PS          |                                                                                | 1    |
| 2               | 106180-PS          | Passenger Side Wing Assembly                                                   | 1    |
| Box 3           | 106180-CP          |                                                                                | 1    |
| 3               | 106517             | V-Plow Push Tube Center Pivot                                                  | 1    |
| 4               | 106516             | V-Plow Blade Center Pivot                                                      | 1    |
| 5               | 106061             | V-Plow Pivot Pin                                                               | 1    |
| 6               | 106507             | Driver Side Wing Actuator Bracket                                              | 1    |
| 7               | 106506             | Passenger Side Wing Actuator Bracket                                           | 1    |
| 8               | 106153             | V-Plow Bulkhead Actuator Bracket                                               | 2    |
| 9               | 106088             | V-Plow Flap                                                                    | 2    |
| 10              | 106087             | V-Plow Flap Trim                                                               | 4    |
| 11              | 105170             | Plow Skid Kit - Straight - 2pc (Manual Included)                               | 1    |
| 12              | 106505             | Pro-Poly Premium Plow Marker                                                   | 1    |
| 13              | HK-102             | Hardware Kit HK-102                                                            | 1    |
| 13.1            | CB-5Z-025-20-100   | 1/4"-20 X 1.00" Carriage Bolt GR5                                              | 9    |
| 13.2            | FW-SAE-Z-025       | 1/4" Flat Washer                                                               | 9    |
| 13.3            | HNN-5Z-025-20      | 1/4"-20 Hex Nut Nylock GR5                                                     | 9    |
| 14              | HK-430             | Hardware Kit HK-430                                                            | 1    |
| 14.1            | CB-5Z-038-16-100   | 3/8"-16 X 1.00" Carriage Bolt GR5                                              | 22   |
| 14.2            | CB-5Z-038-16-150   | 3/8"-16 X 1.50" Carriage Bolt GR5                                              | 2    |
| 14.3            | HNFN-5Z-038-16     | 3/8"-16 Hex Nut Flange Nylock GR5                                              | 28   |
| 14.4            | P890033            | 5/16"-18 X .75" Carriage Bolt GR5                                              | 1    |
| 14.5            | P890014            | 5/16"-18 Hex Nut Flange Nylock GR5                                             | 1    |
| 14.6            | P800558            | 5/8" Hitch Pin                                                                 | 2    |
| 14.7            | P800559            | Bridge Pin Clip (Used With 5/8" Pin)                                           | 2    |
| 14.8            | HBF-5Z-038-16-100  | 3/8"-16 X 1.00" Flange Bolt GR5                                                | 4    |
| Box 4           | 106180-(MP/AP/APH) | 106180-AP/APH will have an additional manual for installing the wiring harness | 1    |
| 15              | 106301             | Push Tube Weldment                                                             | 1    |
| 16              | 106302             | UTV Push Tube Ear                                                              | 2    |
| 17              | 105138             | UTV Lift Hook                                                                  | 1    |
| 18              | 105490             | Single Plow Foot Kit                                                           | 1    |
| 19              | HK-398             | Hardware Kit HK-398                                                            | 1    |
| 19.1            | HBF-5Z-038-16-125  | 3/8"-16 X 1.25" Hex Bolt Flange GR5 Serrated                                   | 6    |
| 19.2            | HNFN-5Z-038-16     | 3/8"-16 Hex Nut Flange Nylock GR5                                              | 6    |
| 20              | M106180            | Plow System Assembly Instructions                                              | 1    |

# Components

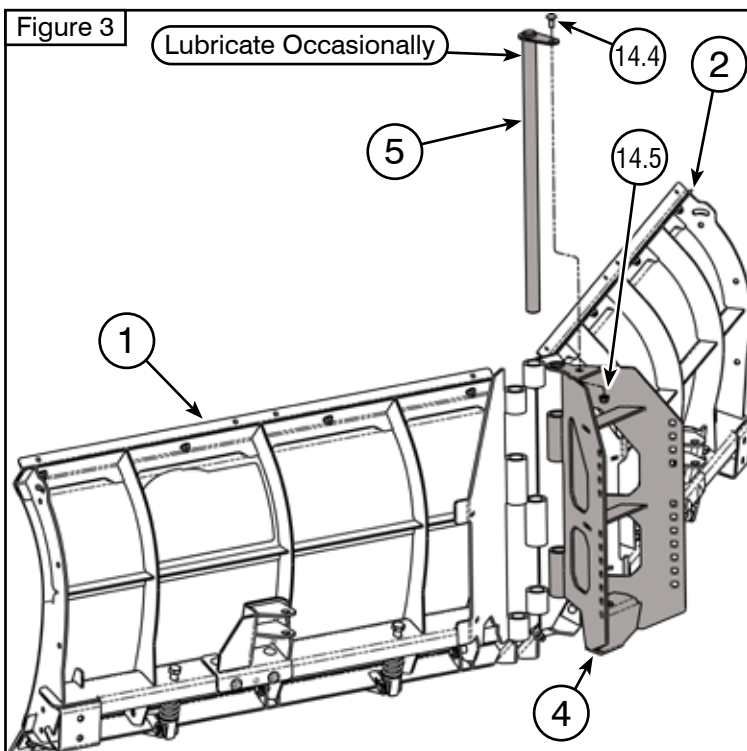
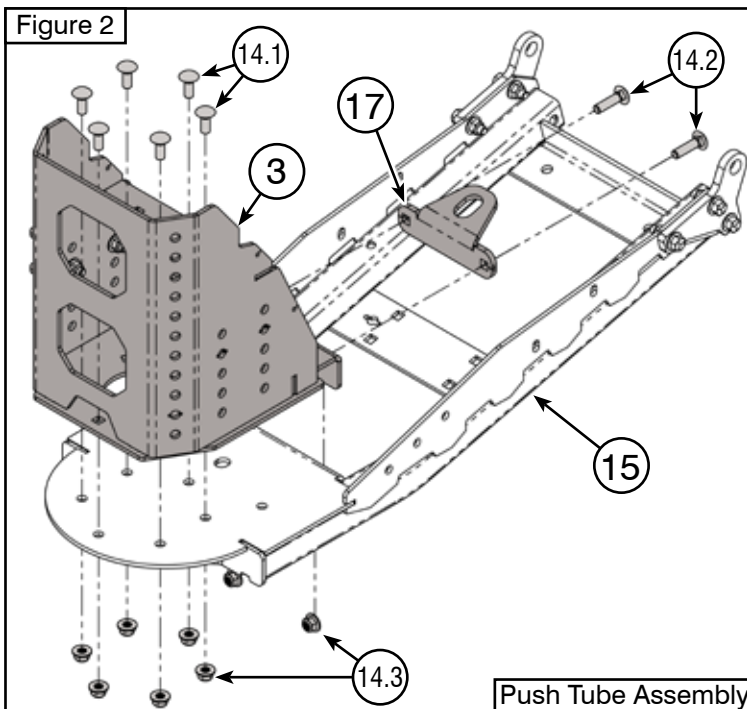
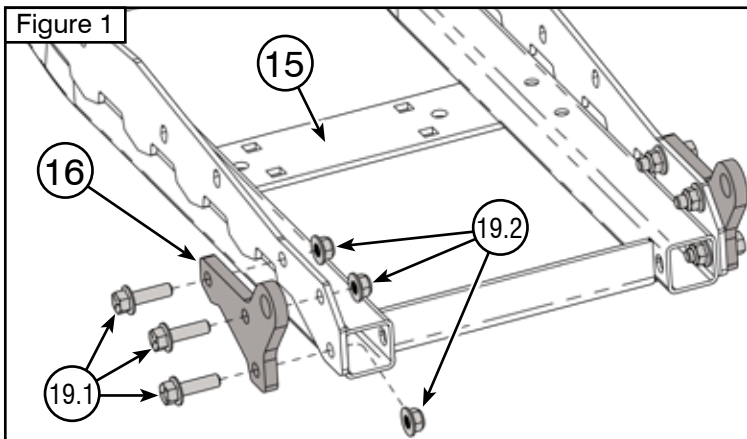


# INSTALLATION INSTRUCTIONS

## Notice

Torque bolts to ANSI specifications. After the initial use, at the beginning of each season, and following any accidental impacts, recheck the torque.

1. Make sure this plow system is assembled on a large, level surface to ensure proper set-up.
2. From Box 4, assemble the Push Tube Ears (16) to the Push Tube Weldment (15) with HK-398 as shown in **Figure 1**. *If your machine requires a leveling kit, or you purchased a Glacier Mount, refer to that installation manual at this point, then continue below.*
3. If installing on a Machine with Tracks, continue below. Otherwise, skip to **Step 4**.
  - The V-Plow Track Extension (106280) is required if you plow with tracks installed on your machine. For ease of installation, install the track extension now. Refer to **Step 3, Figure 3** of the 106280 installation manual. After completing that manual, resume this manual from **Step 6**.
4. Install the Push Tube Center Pivot (3) onto the front of the Push Tubes Weldment (15) and secure with 6 Bolts and Nuts (14.1 & 14.3). See **Figure 2**.
5. Attach Lift Hook (17) with Carriage Bolts (14.2) and Nuts (14.3) through the Center Pivot (3) and Push Tube Weldment (15). Tighten all hardware evenly. See **Figure 2**.
6. Set Push Tube Assembly aside for a later step.
7. Un-box 106180-DS (1) and 106180-PS (2) and place Driver and Passenger Wing next to each other. Insert Blade Center Pivot (4) into the gaps of the wings. See **Figure 3**. After lubricating the Center Pivot Pin (5), Slide the Center Pivot Pin (5) through all components. Secure the Center Pivot Pin (5) with Carriage Bolt (14.4) and Nut (14.5) through the top flange of the Pivot Pin and Center Piece as shown in **Figure 3**. *Lubricate this pin occasionally throughout the season, and at the start and end of each season.*
8. Attach the front Actuator Brackets (6 & 7) using 4 Bolts (14.1 and 14.8) and 4 Nuts (14.3). See **Figure 4 on next page**. (Driver side is mirrored from **Figure 4** and uses Actuator Bracket 7)





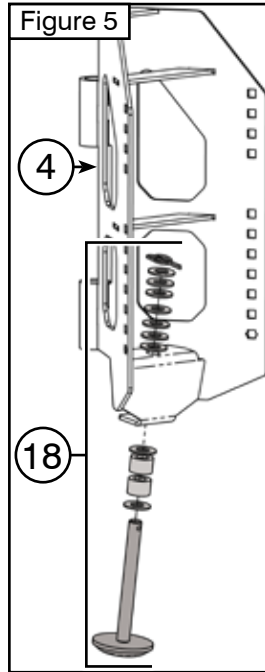
# INSTALLATION INSTRUCTIONS

9. The Top Flap (9) can be installed to each wing using two Trim Pieces (10) and Hardware (13.1-13.3) as shown in **Figure 4**. Note top flap recommended orientation.

10. Plow Markers (12) can be installed to each wing as shown in **Figure 4**. Hardware included in plow marker package. (Driver Side Mirrored)

11. Install Plow Feet (11 & 18) as needed. See **Page 4-5** to identify Plow Feet (11)

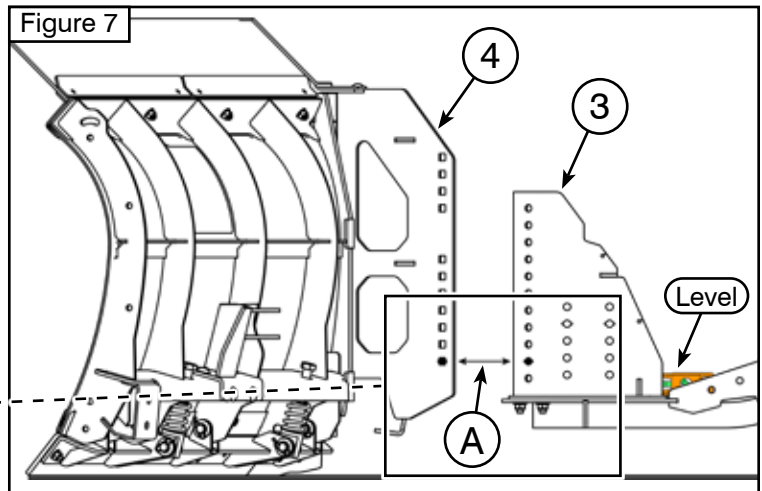
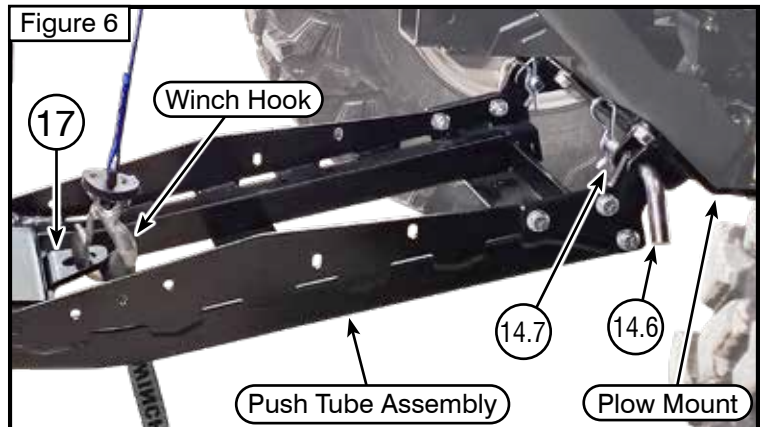
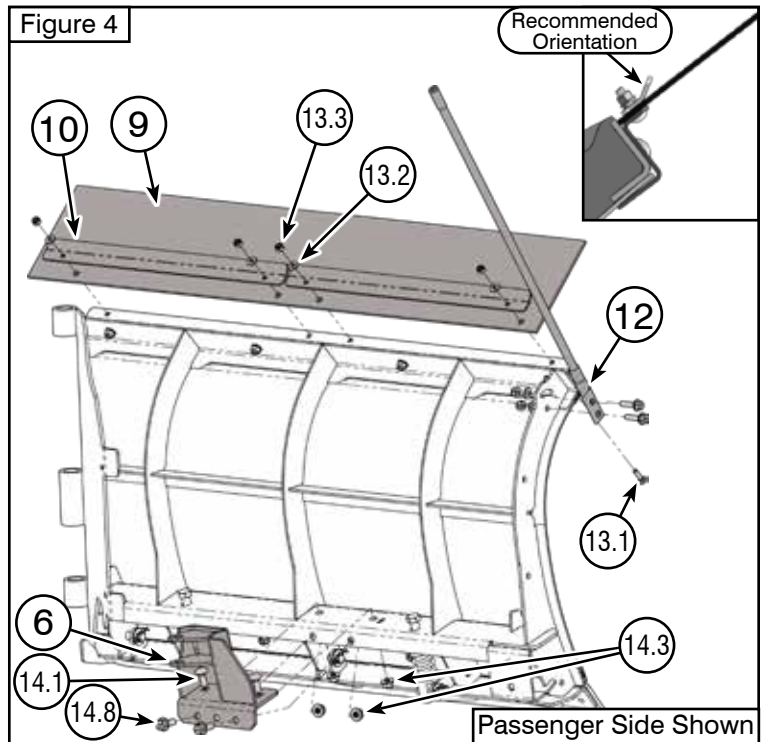
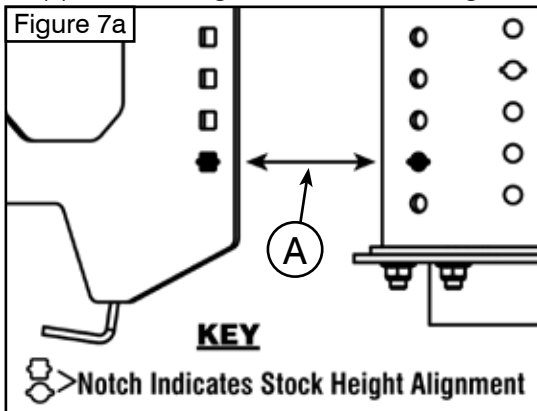
- Plow feet can be configured in various positions: high to allow the wear bar to scrape the ground, flush with the wear bar (shown in **Figure 5**), or low to keep the wear bar off the ground. Decide on the configuration now for proper blade alignment on the machine.
- Wing Plow Feet (11) come inside the box labeled "105170" (inside **Box 3**). A manual is included. See that manual for bracket attachment. The height of these feet must match the center foot.



12. Attach the Push Tube Assembly to your plow mount with 5/8" Hitch Pins (14.6) and Bridge Pin Clips (14.7). Connect your winch hook to the Lift Bracket (17) on the push tubes. See **Figure 6**. If you have a Glacier Mount, attach that appropriately.

13. With the blade assembly in the scoop formation (shown in **Figures 3 & 7**), drive your machine forward so the push tubes are close to the rear of the blade assembly as shown in **Figure 7**.

14. Place a level on the Push Tube Center Pivot (3) and raise or lower the winch until it is level as shown in **Figure 7**. Pull ahead until the Push Tube Center Pivot (3) and Blade Center Pivot (4) are touching. See note under **Figure 7**.

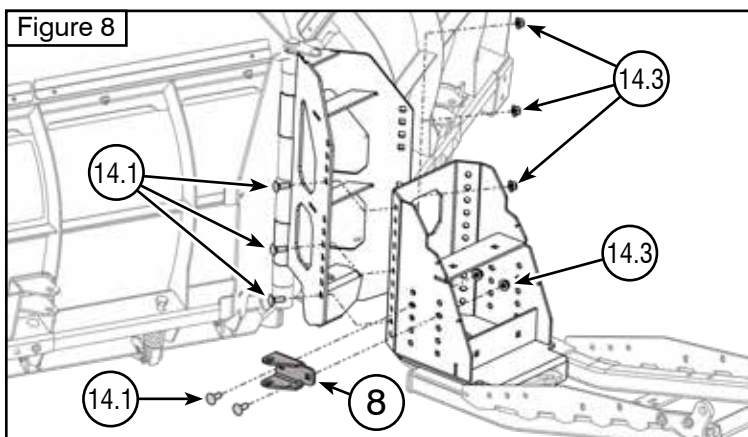


**Note:** Line (A) between the holes with notches indicates "Stock" height as shown in **Figure 7(a)**. These holes may not line up for your machine. This is part of the height adjustment system.

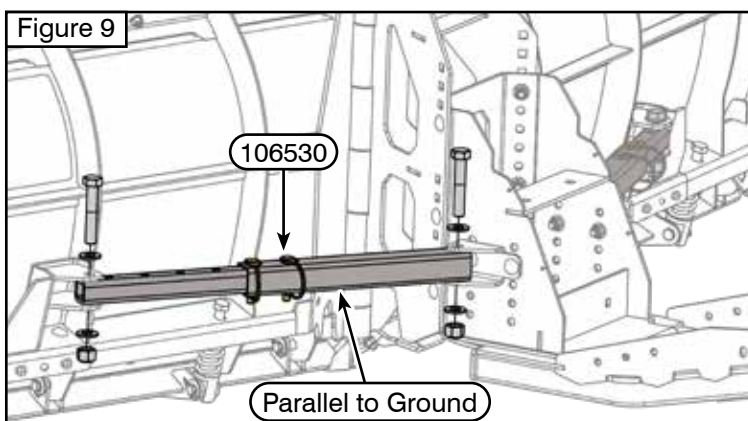
# INSTALLATION INSTRUCTIONS

15. Use the holes that line up closest for your machine height. Insert 3 bolts (14.1) through each side of the center bulkhead and secure with nuts (14.3) as shown in **Figure 8**. *This hardware should be through the lowest hole available, the highest hole available, and one of the center holes. Tighten evenly.*

- Detailed information about this connection can be found on **Page 9**. If you need to re-adjust your height at a later date, this can be adjusted by removing the 6 bolts (14.1) that hold these components together, and moving the rear actuator bracket (8) appropriately.



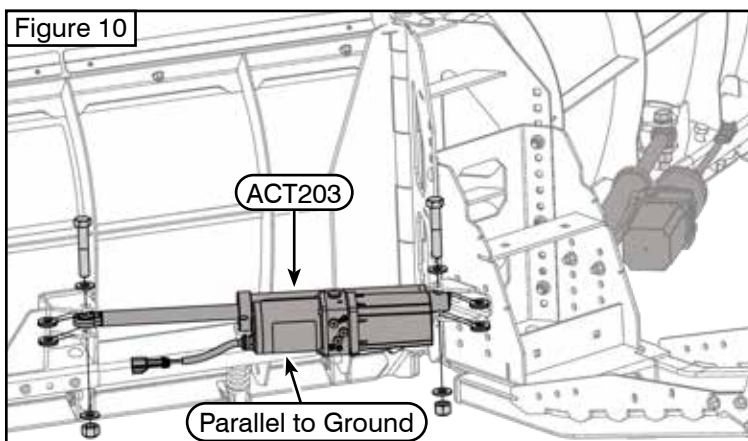
16. Install Rear Actuator Bracket (8) in it's appropriate location by using the information shown on **Page 9** once you determine your plow height. Attach with Hardware (14.1 & 14.3). **Figure 8** shows the stock location for the rear actuator bracket. The front and rear actuator brackets should be parallel with the ground.



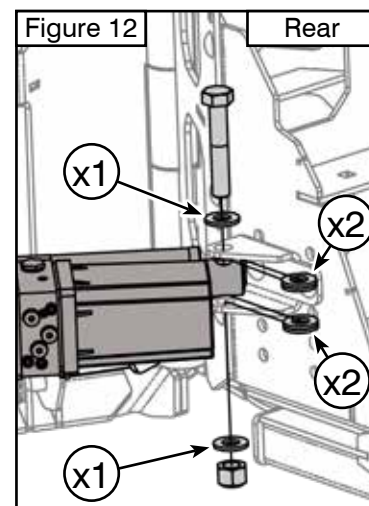
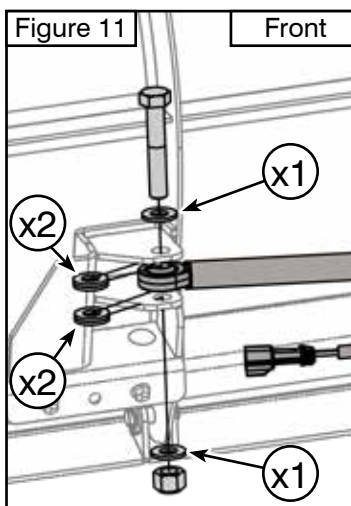
17. If installing Hydraulic Actuators, move on to step 18. For manual angling, continue below.

- Install Manual Angling Tubes (106530) using the hardware provided within this box. Install hardware as shown in **Figure 9**. The 106530 box comes with it's own manual. See that manual for more detail.

18. Hydraulic Actuators (ACT203) should be installed with the hardware provided with the actuators. The hardware can be used in the orientation shown in **Figures 10-12**. The same hardware configuration will be used for the front and rear of each actuator.

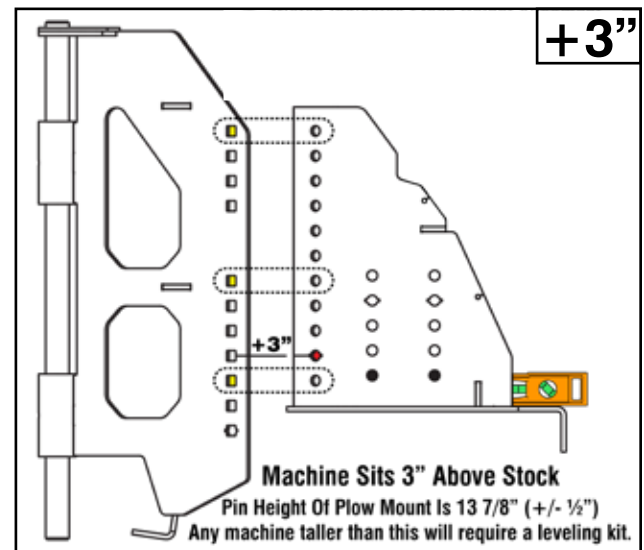
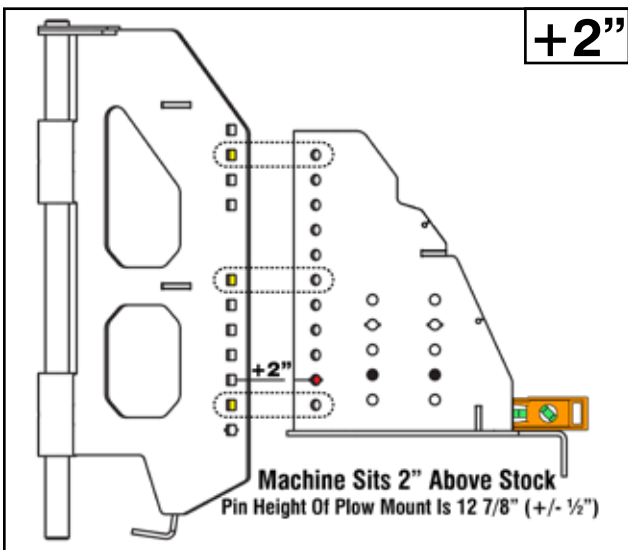
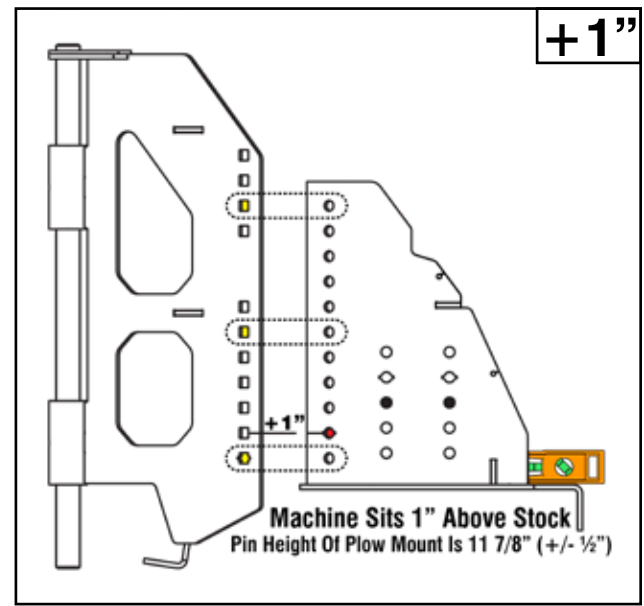
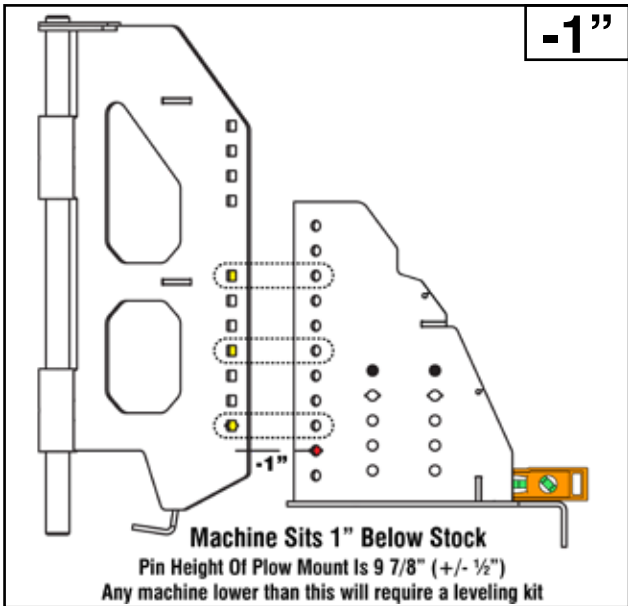
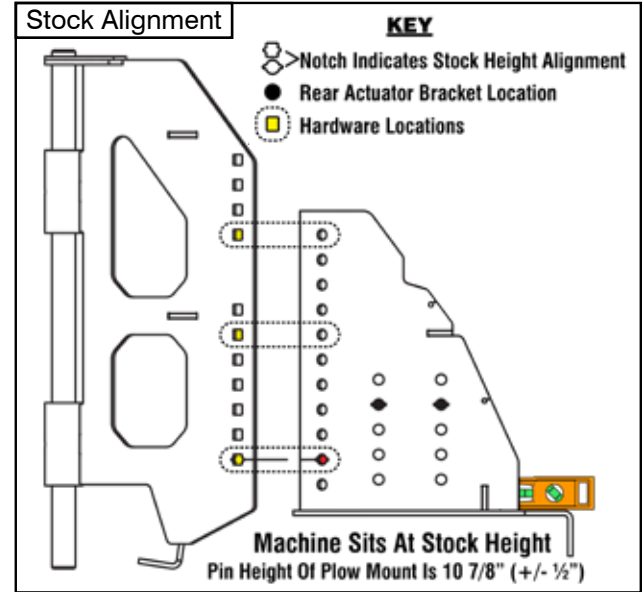
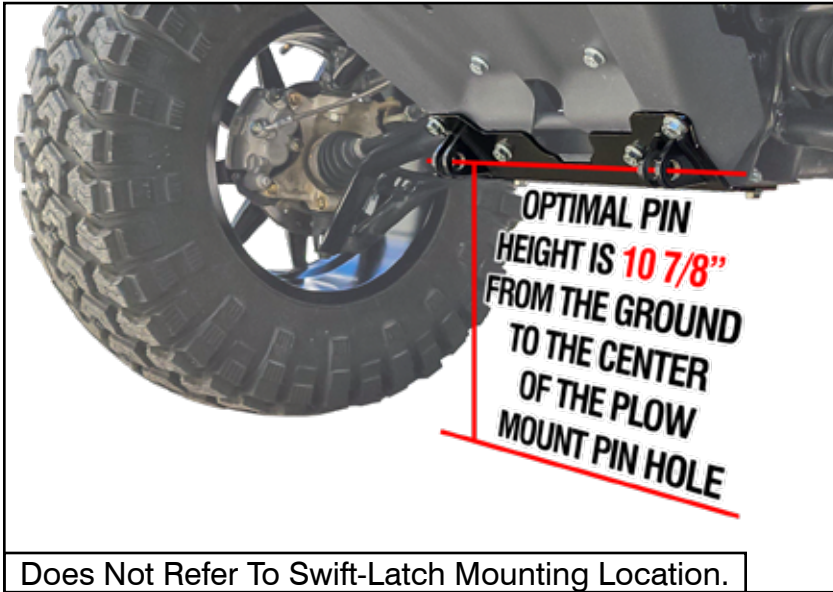


19. Hydraulic V-Plows include a separate manual for wiring the actuators. If not already completed, refer to that manual.



# Height Adjustment Details

This page shows the height options available for the plow system. All attachment options from +3" to -1" are shown in detail. Your plow foot height can affect this attachment as well.

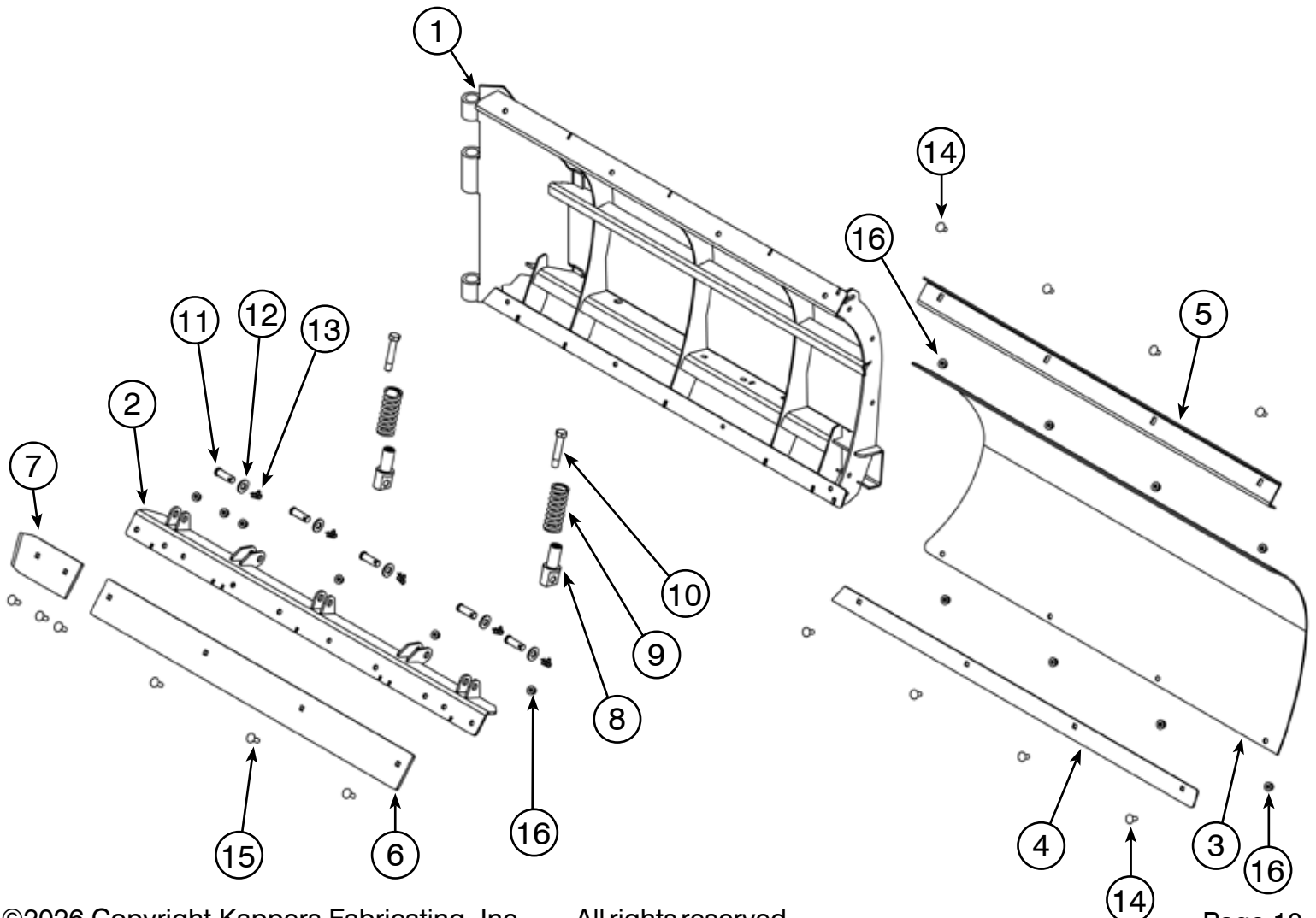




# Replacement Components For Box 1 (106180-DS)

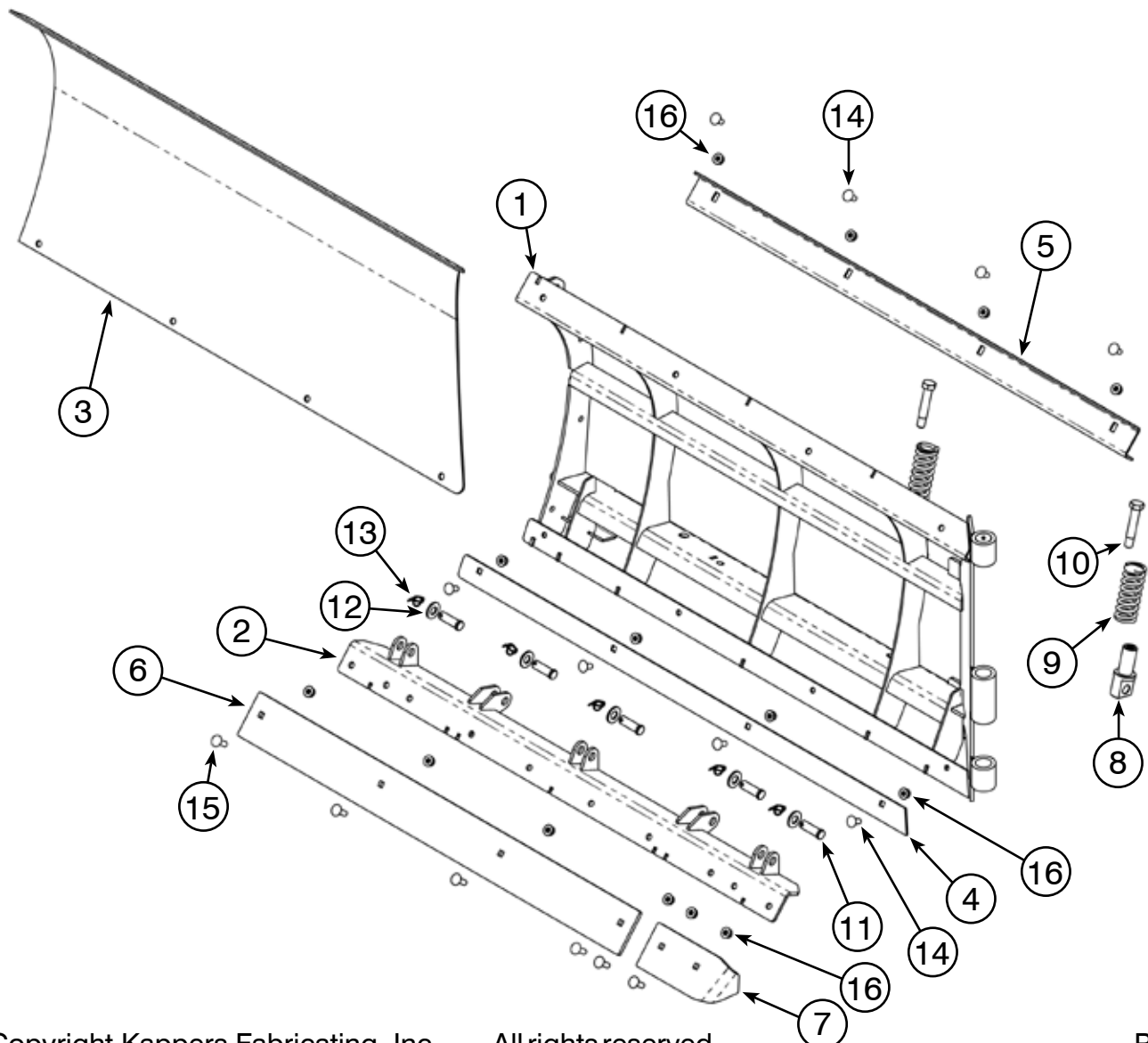
Replacement components per box can be looked up here.

| Item # | Part #    | Description                           | Qty. |
|--------|-----------|---------------------------------------|------|
| Box 1  | 106180-DS | V-Plow Driver Wing Box - Full Kit     | 1    |
| 1      | 106182    | V-Plow Driver Wing                    | 1    |
| 2      | 106184    | V-Plow Trip Edge                      | 1    |
| 3      | 106024    | Poly Face V-Plow DS Wing              | 1    |
| 4      | 106103    | Poly Face V-Plow Lower Clamp          | 1    |
| 5      | 106086    | Upper Hold Down V-Plow Wing           | 1    |
| 6      | 106057    | V-Plow Wing Wear Bar                  | 1    |
| 7      | 106299    | DS Center V-Plow Wear Bar             | 1    |
| 8      | P800554   | Plow Trip Spring Pivot                | 2    |
| 9      | P800557   | Plow Trip Spring                      | 2    |
| 10     | P800562   | Modified 1/2"-13 X 3.25" Hex Bolt GR5 | 2    |
| 11     | P800610   | Clevis Pin 1/2" x 1 17/64"            | 5    |
| 12     | P890048   | 1/2" Flat Washers                     | 5    |
| 13     | P800609   | Self Locking Cotter Pin 1/2"          | 5    |
| 14     | P890033   | 5/16"-18 X .75" Carriage Bolt GR5     | 8    |
| 15     | P890003   | 5/16"-18 X 1.00" Carriage Bolt GR8    | 6    |
| 16     | P890014   | 5/16"-18 Hex Nut Flange Nylock GR5    | 14   |



# Replacement Components For Box 2 (106180-PS)

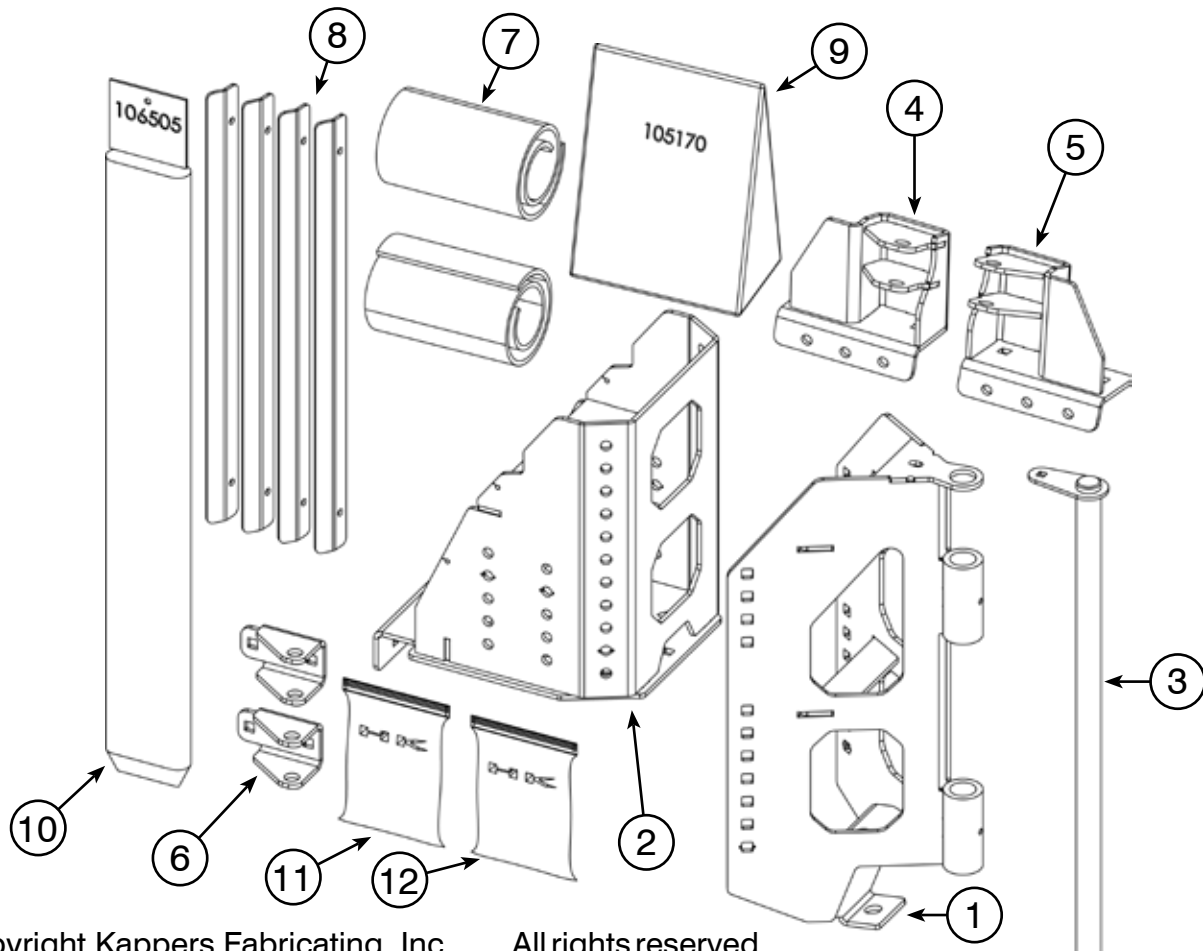
| Item # | Part #    | Description                           | Qty. |
|--------|-----------|---------------------------------------|------|
| Box 2  | 106180-PS | V-Plow Passenger Wing Box - Full Kit  | 1    |
| 1      | 106181    | V-Plow Passenger Wing                 | 1    |
| 2      | 106184    | V-Plow Trip Edge                      | 1    |
| 3      | 106023    | Poly Face V-Plow PS Wing              | 1    |
| 4      | 106103    | Poly Face V-Plow Lower Clamp          | 1    |
| 5      | 106086    | Upper Hold Down V-Plow Wing           | 1    |
| 6      | 106057    | V-Plow Wing Wear Bar                  | 1    |
| 7      | 106298    | PS Center V-Plow Wear Bar             | 1    |
| 8      | P800554   | Plow Trip Spring Pivot                | 2    |
| 9      | P800557   | Plow Trip Spring                      | 2    |
| 10     | P800562   | Modified 1/2"-13 X 3.25" Hex Bolt GR5 | 2    |
| 11     | P800610   | Clevis Pin 1/2" x 1 17/64"            | 5    |
| 12     | P890048   | 1/2" Flat Washers                     | 5    |
| 13     | P800609   | Self Locking Cotter Pin 1/2"          | 5    |
| 14     | P890033   | 5/16"-18 X .75" Carriage Bolt GR5     | 8    |
| 15     | P890003   | 5/16"-18 X 1.00" Carriage Bolt GR8    | 6    |
| 16     | P890014   | 5/16"-18 Hex Nut Flange Nylock GR5    | 14   |





# Replacement Components For Box 3 (106180-CP)

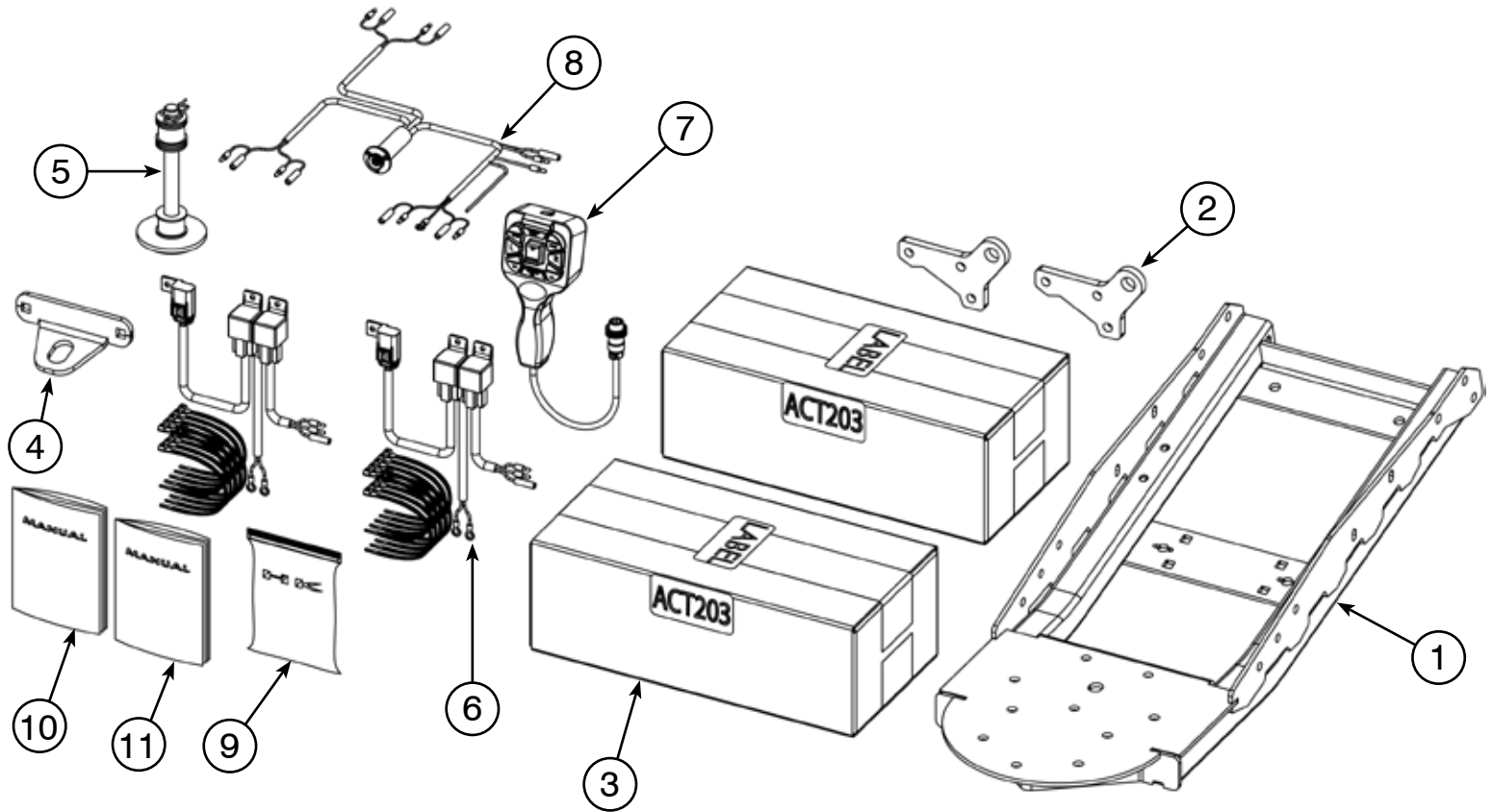
| Item # | Part #            | Description                                      | Qty. |
|--------|-------------------|--------------------------------------------------|------|
| Box 3  | 106180-CP         |                                                  | 1    |
| 1      | 106517            | V-Plow Push Tube Center Pivot                    | 1    |
| 2      | 106516            | V-Plow Blade Center Pivot                        | 1    |
| 3      | 106061            | V-Plow Pivot Pin                                 | 1    |
| 4      | 106507            | Driver Side Wing Actuator Bracket                | 1    |
| 5      | 106506            | Passenger Side Wing Actuator Bracket             | 1    |
| 6      | 106153            | V-Plow Bulkhead Actuator Bracket                 | 2    |
| 7      | 106088            | V-Plow Plow Flap                                 | 2    |
| 8      | 106087            | V-Plow Plow Flap Trim                            | 4    |
| 9      | 105170            | Plow Skid Kit - Straight - 2pc (Manual Included) | 1    |
| 10     | 106505            | Pro-Poly Premium Plow Marker                     | 1    |
| 11     | HK-102            | Hardware Kit HK-102                              | 1    |
| 11.1   | CB-5Z-025-20-100  | 1/4"-20 X 1.00" Carriage Bolt GR5                | 9    |
| 11.2   | FW-SAE-Z-025      | 1/4" Flat Washer                                 | 9    |
| 11.3   | HNN-5Z-025-20     | 1/4"-20 Hex Nut Nylock GR5                       | 9    |
| 12     | HK-430            | Hardware Kit HK-430                              | 1    |
| 12.1   | CB-5Z-038-16-100  | 3/8"-16 X 1.00" Carriage Bolt GR5                | 26   |
| 12.2   | CB-5Z-038-16-150  | 3/8"-16 X 1.50" Carriage Bolt GR5                | 2    |
| 12.3   | HNFN-5Z-038-16    | 3/8"-16 Hex Nut Flange Nylock GR5                | 28   |
| 12.4   | P890033           | 5/16"-18 X .75" Carriage Bolt GR5                | 1    |
| 12.5   | P890014           | 5/16"-18 Hex Nut Flange Nylock GR5               | 1    |
| 12.6   | P800558           | 5/8" Hitch Pin                                   | 2    |
| 12.7   | P800559           | Bridge Pin Clip (Used With 5/8" Pin)             | 2    |
| 12.8   | HBF-5Z-038-16-100 | 3/8"-16 X 1.00" Flange Bolt GR5                  | 4    |



# Replacement Components For Box 4 - Option 1 (106180-APH)

Box 4 has 3 possible configurations. Other configurations are on the following pages.

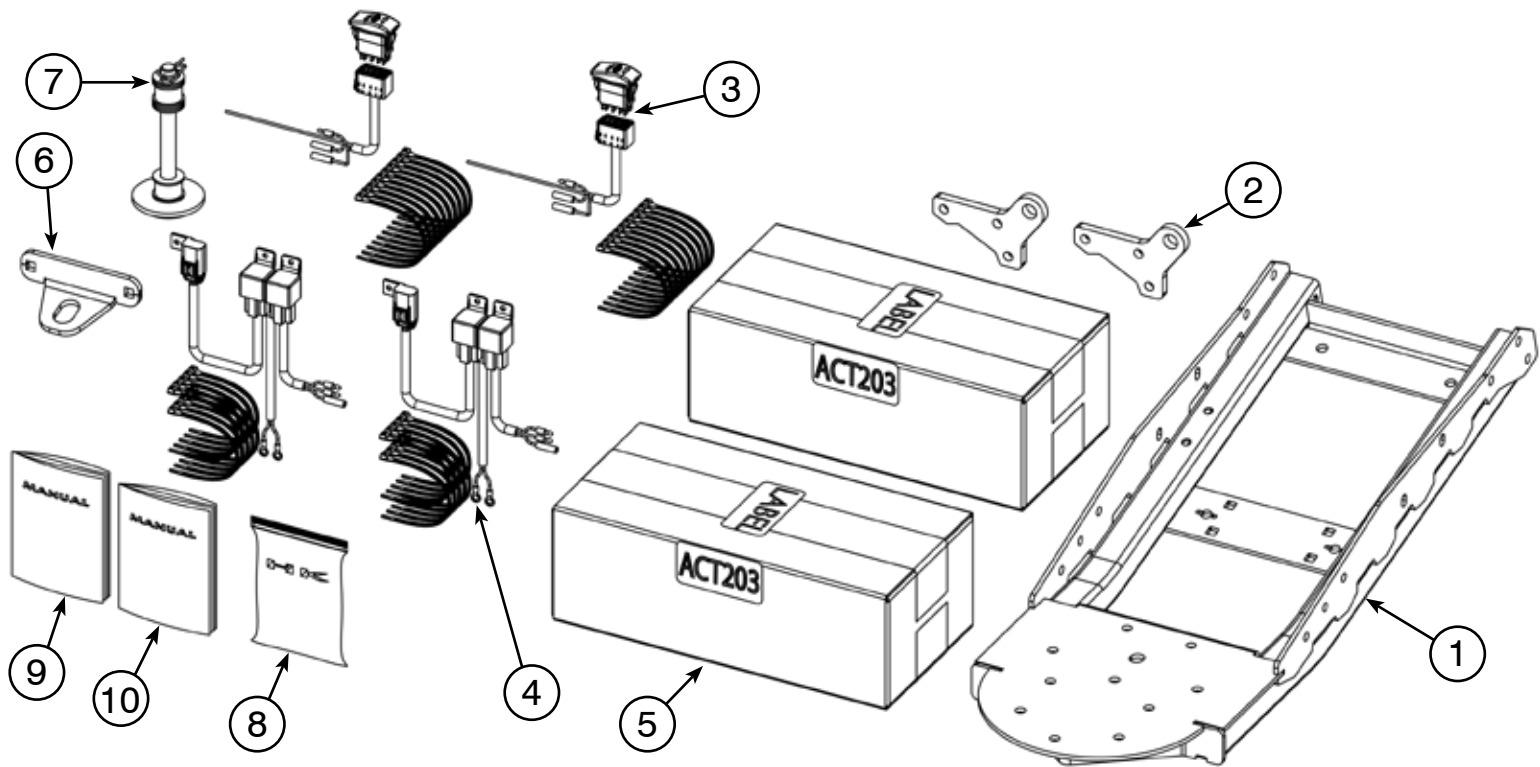
| Item # | Part #            | Description                                      | Qty. |
|--------|-------------------|--------------------------------------------------|------|
| Box 4  | 106180-APH        | V-Plow Actuator Push Tube - Full Kit             | 1    |
| 1      | 106301            | Push Tube Weldment                               | 1    |
| 2      | 106302            | UTV Push Tube Ear                                | 2    |
| 3      | ACT203            | KFI Hydraulic Actuator (203mm) (Manual Included) | 2    |
| 4      | 105138            | UTV Lift Hook                                    | 1    |
| 5      | 105490            | Single Plow Foot Kit                             | 1    |
| 6      | ACT-HAR           | Actuator Relay Harness                           | 2    |
| 7      | ACT-VHR           | Actuator V-Plow Hand Remote                      | 1    |
| 8      | ACT-HR-HAR        | Hand Remote Harness                              | 1    |
| 9      | HK-398            | Hardware Kit HK-398                              | 1    |
| 9.1    | HBF-5Z-038-16-125 | 3/8"-16 X 1.25" Hex Bolt Flange GR5 Serrated     | 6    |
| 9.2    | HNFN-5Z-038-16    | 3/8"-16 Hex Nut Flange Nylock GR5                | 6    |
| 10     | M106180           | 106180 Assembly Manual                           | 1    |
| 11     | M106180-HAR       | V-Plow Actuator Wiring Manual                    | 1    |



# Replacement Components For Box 4 - Option 2 (106180-AP)

Box 4 has 3 possible configurations. Other configurations are on the previous and following page.

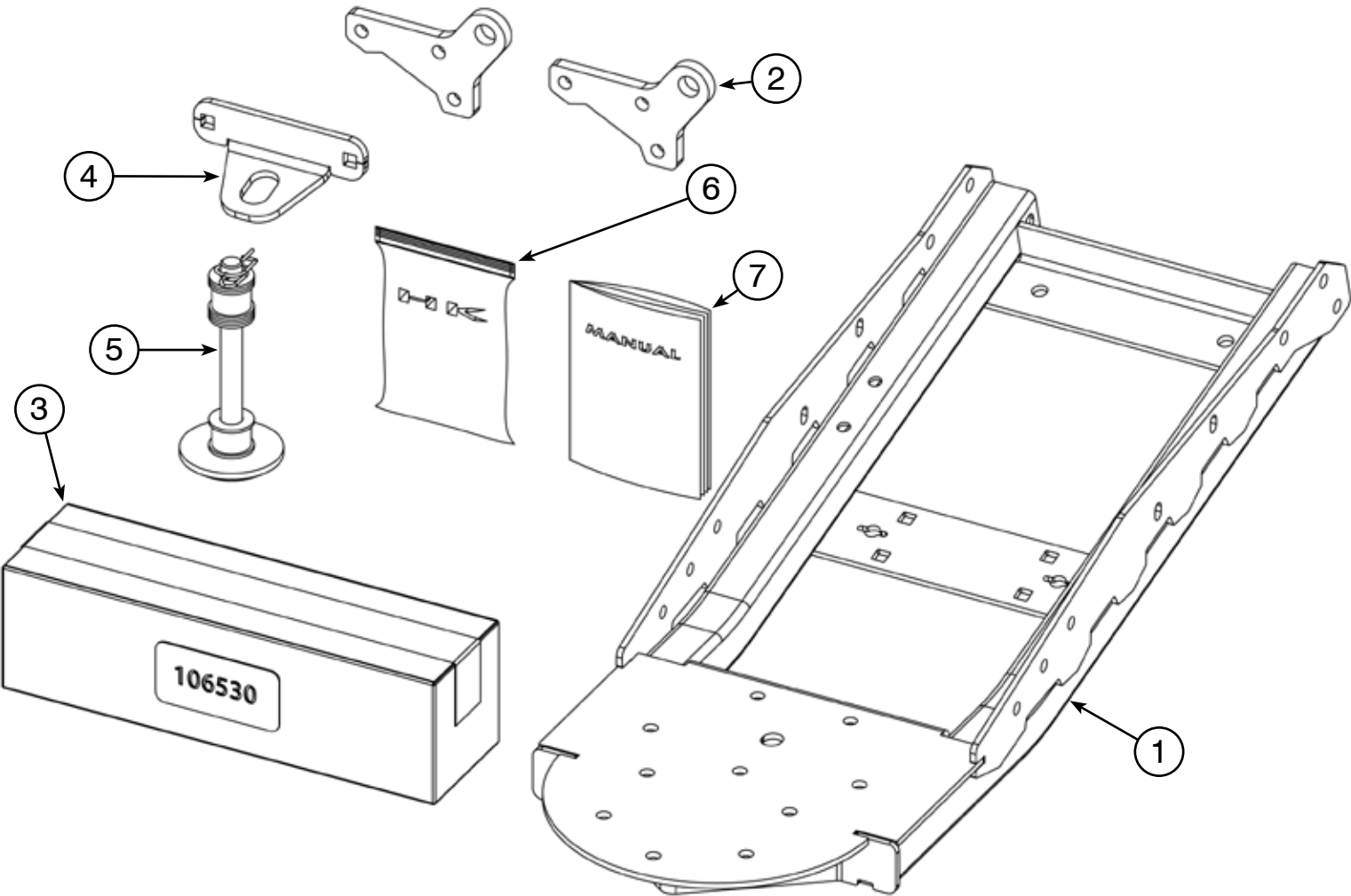
| Item # | Part #             | Description                                      | Qty. |
|--------|--------------------|--------------------------------------------------|------|
| Box 4  | 106180-AP          | V-Plow Actuator Push Tube - Full Kit             | 1    |
| 1      | 106301             | Push Tube Weldment                               | 1    |
| 2      | 106302             | UTV Push Tube Ear                                | 2    |
| 3      | ACT-BLDRS-K        | Actuator Wiring Harness and Rocker Switch        | 2    |
| 4      | ACT-HAR            | Actuator Relay Harness                           | 2    |
| 5      | ACT203             | KFI Hydraulic Actuator (203mm) (Manual Included) | 2    |
| 6      | 105138             | UTV Lift Hook                                    | 1    |
| 7      | 105490             | Single Plow Foot Kit                             | 1    |
| 8      | HK-398             | Hardware Kit HK-398                              | 1    |
| 7.1    | HB5F-5Z-038-16-125 | 3/8"-16 X 1.25" Hex Bolt Flange GR5 Serrated     | 6    |
| 7.2    | HNFN-5Z-038-16     | 3/8"-16 Hex Nut Flange Nylock GR5                | 6    |
| 9      | M106180            | 106180 Assembly Manual                           | 1    |
| 10     | M106180-HAR        | V-Plow Actuator Wiring Manual                    | 1    |



# Replacement Components For Box 4 - Option 3 (106180-MP)

Box 4 has 3 possible configurations. Other configurations are on the previous pages.

| Item # | Part #            | Description                                  | Qty. |
|--------|-------------------|----------------------------------------------|------|
| Box 4  | 106180-MP         | V-Plow Manual Push Tube - Full Kit           | 1    |
| 1      | 106301            | Push Tube Weldment                           | 1    |
| 2      | 106302            | UTV Push Tube Ear                            | 2    |
| 3      | 106530            | V-Plow Manual Kit (Manual Included)          | 1    |
| 4      | 105138            | UTV Lift Hook                                | 1    |
| 5      | 105490            | Single Plow Foot Kit                         | 1    |
| 6      | HK-398            | Hardware Kit HK-398                          | 1    |
| 6.1    | HBF-5Z-038-16-125 | 3/8"-16 X 1.25" Hex Bolt Flange GR5 Serrated | 6    |
| 6.2    | HNFN-5Z-038-16    | 3/8"-16 Hex Nut Flange Nylock GR5            | 6    |
| 7      | M106180           | 106180 Assembly Manual                       | 1    |



## Maintenance Information

Any components that swivels or pivots should be lubricated occasionally to reduce wear, increase longevity, and ensure proper operation. Some components that should be lubricated include the Center Pivot Pin, Tripping Wear Bar Pins and Actuator Bolts or Manual Wing Adjustment Bolts (depending on your configuration).

The plow system should be inspected at the start of each season and after any accidental impacts. If any component is bent or damaged, it could lead to excess damage later on, or even addition components becoming damaged if not fixed correctly. If needed, individual components can be purchased from KFI by contacting us directly at [tech@kfiproducs.com](mailto:tech@kfiproducs.com) or 877-346-2050 Option 2.

It is best to store the Hydraulic Actuators out of the weather or in a temperature controlled environment when not in use. If you need to store the plow system outdoors, it would be best to cover the actuators at minimum, or remove them from the plow system for storage. More information can be found in the actuator manual.

# NOTES

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins or other markings on the paper.





# 2 YEAR LIMITED WARRANTY

Kappers Fabricating, Inc. (KFI) warrants to the original purchaser that the product is free from defects in materials and workmanship for a period of two (2) years from the original date of purchase. We will repair or replace, at our discretion, parts found to be defective due to materials or workmanship. This warranty is subject to the following limitations and exclusions:

**Commercial Use:** The warranty period for any product used for commercial or rental is limited to ninety (90) days from the date of original purchase.

**Limitations:** This warranty applies only to products which have been properly assembled, adjusted, and operated in accordance with the instructions contained within this manual. This warranty does not apply to any product of Kappers Fabricating, Inc. that has been subject to alteration, misuse, abuse, improper assembly or installation, or shipping damage.

**Exclusions:** Excluded from this warranty are normal wear, normal adjustments, and normal maintenance.

THIS WARRANTY DOES NOT APPLY TO ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES AND ANY IMPLIED WARRANTIES ARE LIMITED TO THE SAME TIME PERIODS STATED HEREIN FOR ALL EXPRESSED WARRANTIES.

THE WARRANTY SET FORTH ABOVE IS THE ONLY WARRANTY. THERE ARE NO OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

Some states do not allow the exclusion of implied warranties or the exclusion or limitation of liability for incidental or consequential damages, or limitations on how long an implied warranty lasts, so the above limitation or exclusion may not apply to you. This warranty gives you specific legal rights. You may also have other rights that vary from state to state.

In the event you have a claim under this warranty, contact KFI's Technical Service and KFI will troubleshoot any issue via phone or e-mail. If the problem is not corrected by this method, KFI will, at its option, authorize evaluation, repair or replacement of the defective part or component at a KFI Service Center. KFI will provide you with a case number for warranty service. Please keep it for future reference. Repairs or replacements without prior authorization, or at an unauthorized repair facility, will not be covered by this warranty.

All transportation charges, damage, or loss incurred during transportation of parts submitted for replacement or repair under this warranty shall be borne by the purchaser. Should you have any questions concerning this warranty, please contact us toll-free at 1-877-346-2050. The model number, serial number (if applicable), date of purchase, and the name of the authorized KFI dealer from whom you purchased the product will be needed before any warranty claim can be processed.

For warranty inquiries outside the U.S.A. and Canada, contact your local dealer/distributor.

For countries not covered by a local dealer/distributor, please contact us at [www.kfiproductions.com](http://www.kfiproductions.com).

## Product Registration

Please register your product with Kappers Fabricating, Inc. (KFI) within fifteen (15) days of purchase to assist us in handling any warranty issues that may arise by filling out this Registration card and submitting it with a copy of your sales receipt from one of KFI's official resellers. Failure to complete and return this Registration card does not diminish your warranty rights.

Please refer to the above section for complete terms of this warranty.

### WARRANTY IS NON-TRANSFERABLE

Please Print Clearly

Blade P/N \_\_\_\_\_

Name \_\_\_\_\_

Street Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip Code \_\_\_\_\_

Phone \_\_\_\_\_ Email \_\_\_\_\_

Date of Purchase \_\_\_\_\_

Authorized KFI Dealer Name \_\_\_\_\_

Fill out and send this section to:  
Kappers Fabricating, Inc.  
Warranty Registration Department  
1015 Industrial Drive, PO Box 32  
Spring Valley, MN 55975, U.S.A.

Or  
**Register  
Online**





**Kappers Fabricating, Inc.**

**721 Sata Dr.  
Spring Valley, MN 55975**

**1-877-346-2050**

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