Assembly Instructions and Owner's Manual

Description:	Quantum® Hardcoated Polycarbonate UTV Windshield, **Wash'n'Wipe™** Full Size	Model:	Polaris Ranger Full Size, Rd. Frame Tube, Various Models
Part Number:	N30208	Installation Time:	60 min.

Thank you for purchasing a National Cycle product. Read these instructions carefully and thoroughly before beginning work. Dealers, if installing this windshield for a customer, please give them this manual. It contains information needed to properly maintain and use this product.

Attention:
Special notes and cautionary measures which can prevent damage to the accessory or vehicle.

Note:
Tips for facilitation of operation, control and adjustment, as well as maintenance work.

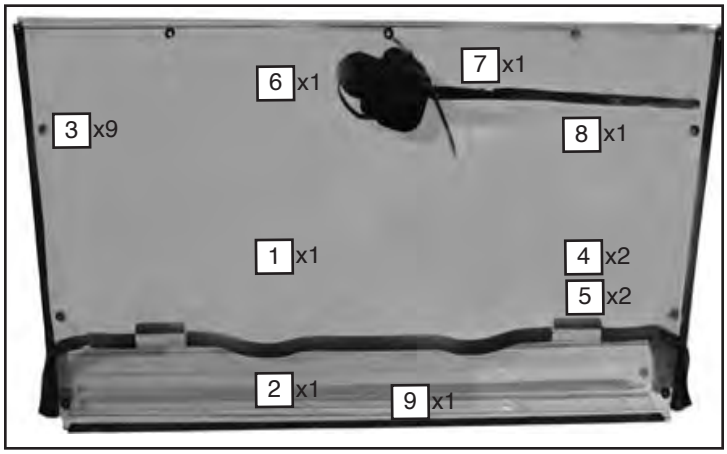
PREPARATION

This Kit has been carefully packed and inspected at the factory. Report any missing part directly to National Cycle, Inc. along with the Bag No. and Date on outside of Windshield Carton.

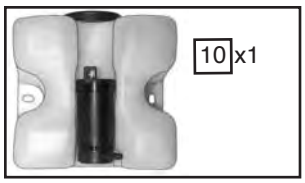
Carefully unpack the windshield, sort the parts, and make sure you have everything required to complete the installation to the vehicle.

TOOL LIST

Flat Blade Screwdriver
Marker
X-Acto® Knife, or similar
Wire Cutters
Power Drill with 3/4" (19mm) hole saw, or similar
Small Drill Bit (1/8") (3mm) for pilot hole
#2 or #3 Phillips Screw Driver or Phillips Bit for Drill



KIT
RESERVOIR and WIRE HARNESS
(Harness, Page 2)

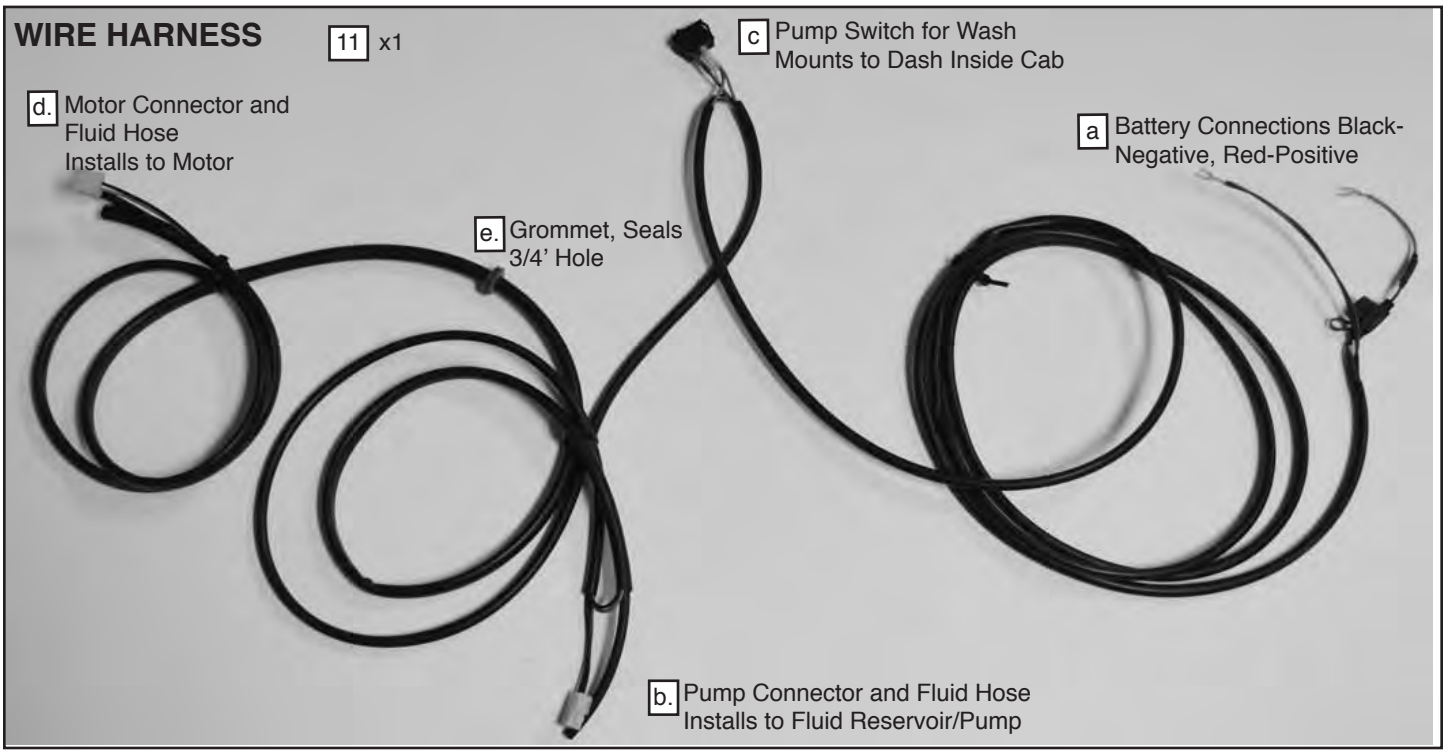


Parts Installed on Two-Part Windscreen — Tools Required

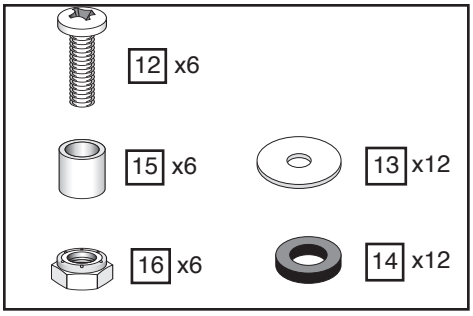
Item	Part No.	Description	Qty.	Notes and Tools
1	20-290402-000	Windscreen, Upper Section	1	Grommets Installed
2	20-290433-000	Windscreen, Lower Section	1	Grommets and Velcro Fastener Installed
3	44-447165-000	Grommets for Windshield	9	Installed on Windscreen
4	77-771152-001	Marine Grade Velcro, Hook	2	Installed on Windscreen
5	77-771153-001	Marine Grade Velcro, Loop	2	Installed on Windscreen
6	80-875150-000	Motor Assembly	1	Installed on Windscreen
7	80-875153-000	Arm, Wiper Assembly, 14" 350mm	1	**Replacement Blade Part No. is N30910**
8	80-875155-000	Blade, Wiper Assembly, 16" (406mm)	1	**Replacement Blade Part No. is N30901**
9	44-447002-000	Foam Tape, 1/8 x 1" W	1	Installed on Windscreen
	KIT			
10	44-442523-000	Reservoir & Pump Assembly	1	
11	80-830326-000	Wire Harness and Switch	1	With Grommet and Switch, **Page 2**

Parts List Continues on Next Page

©2015 National Cycle, Inc.

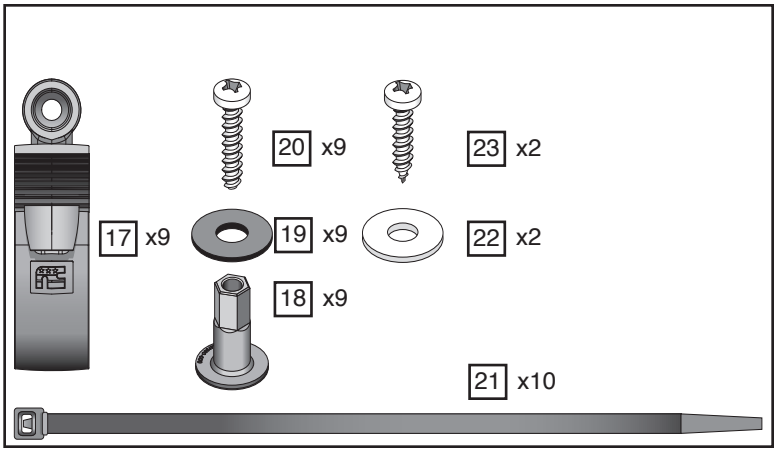


BAG#1168



Keep this page as a reference guide during the assembly process.

BAG#1167



Parts Included in Bags				Tools Required
Item	**Part No.**	**Description**	**Qty.**	**Notes and Tools**
Bag#1168				Parts to attach upper and lower screens
12	55-563144-000	Screw, Philips, 1/4-20 x 1"	6	#2 or #3 Phillips Screw Driver
13	49-490491-000	Washer, Flat, .265 x .875 x .062"	12	
14	75-762021-000	Washer, Rubber, 7/8 OD x 3/8 ID	12	
15	34-346055-000	Spacer, .375 x .277 x .53"	6	
16	42-423242-000	Nut, Nylon Insert, 1/4-20	6	
Bag#1167				
17	44-449370-000	Clamp, Wraparound	9	
18	44-449380-000	Retaining Pin	9	
19	49-490355-000	Washer, Flat, Black	9	
20	55-563131-000	Screw, Philips, #12 x 1.25”, SS	9	#2 or #3 Phillips Screw Driver
21	44-448726-000	Zip-Tie, Black	10	
22	49-490543-000	Washer, Flat, .253 x .875 x .053”	2	
23	55-550260-000	Screw, Philips, #12 x .75" SS	2	#2 or #3 Phillips Screw Driver

©2015 National Cycle, Inc.

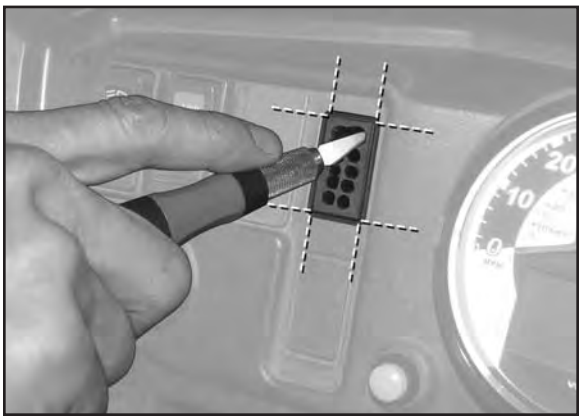


Figure 1

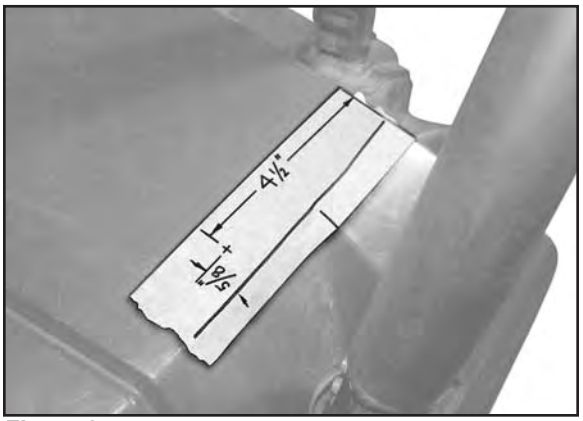


Figure 2

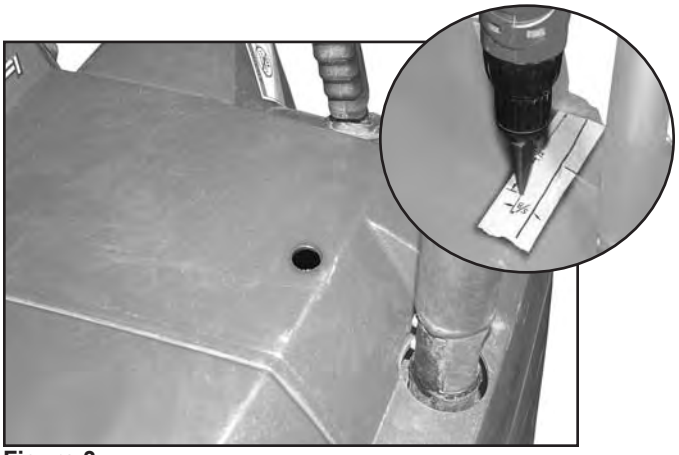


Figure 3

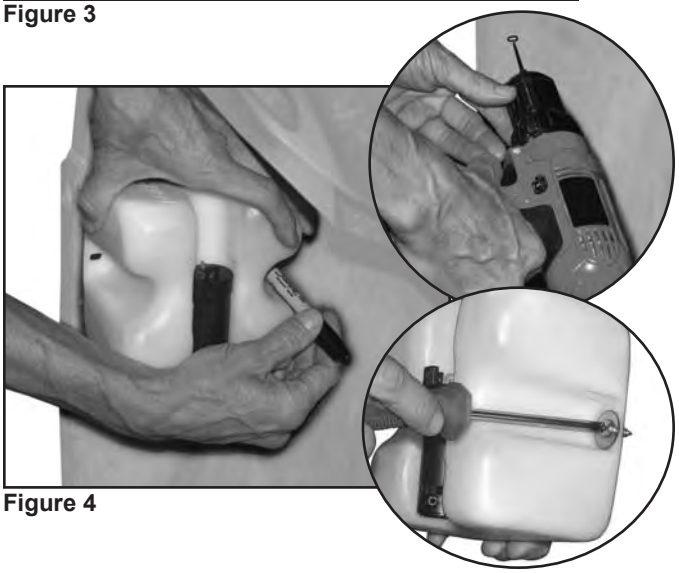


Figure 4

PREPARE THE VEHICLE FOR WIRING

CUTTING THE PUMP SWITCH HOLE

☞ In most vehicles, on the dashboard panel to the left of the speedometer are accessory switch locator bays. Select a bay to locate the Pump Switch.

1. Disconnect the Pump Switch (c) from the main Wire Harness. Check the size of Pump Switch against the locator bay. Scribe or draw a 17/32” x 1 1/8” (13.5mm x 28.5mm) guide in the desired location.

2. Using a drill, drill some holes in the plastic cover to serve as starting holes for cutting. Then use your X-Acto knife to cut out the cover’s face to the edges shown.
Figure 1

CUTTING THE PASSWAY 3/4” HOLE

3. On the hood of the vehicle behind the engine cover on the driver’s side, measure a point 4.5" (114mm) from the back of the body and 5/8" (17mm) from the right at the point where it slopes downward. Mark that location. This hole should be located near the Left Frame Bar.
Figure 2

4. Insert a step drill bit into your drill as shown (or 3/4 hole saw) and dr ill a 3/4” (19mm) hole in the body cover at the location marked in figure 2.
Figure 3

MOUNT RESERVOIR/PUMP ASSEMBLY

☞ The installation of the Reservoir on this vehicle is in the lower left side of the driver’s cab. If you prefer a different location you may use it.

1. Take the Reservoir/Pump Assembly (10) and position it inside the vehicle’s body, under the dash on the driver’s side as shown.
Figure 4

2. Using a marker, mark inside the holes of the Reservoir’s mounting tabs.
Figure 4 (Marker)

3. Using a 1/16" (2mm) drill bit, drill two holes at the locations marked.
Figure 4 (Drill)

4. Mount the Reservoir to the side of the cab with Sheet Metal Screw (23) and Flat Washer (22) from Bag#1167.
Figure 4 (Phillips Screwdriver)

©2015 National Cycle, Inc.

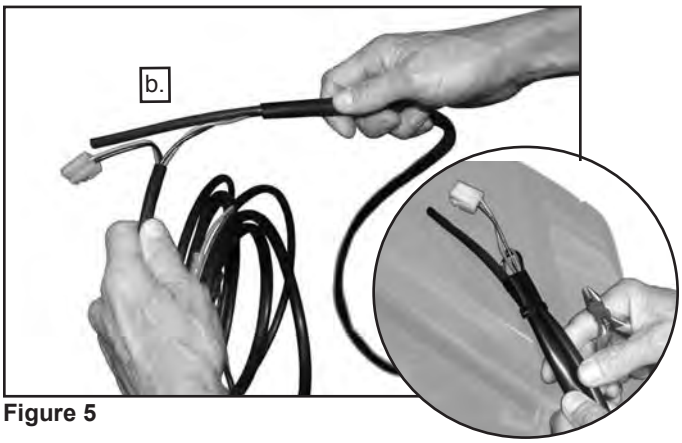


Figure 5

WIRE HARNESS PREPARATION

1. Take Pump Quick Connector section (b) of the Wire Harness and locate the terminus of the Rubber Hose and the Large Nylon 2-Pin Electrical Quick-Connector with red and black wires.
Figure 5

2. Take the Quick-Connector section and fold it against the Rubber Hose section. Secure the two sheaths with a Zip-Tie (21) and trim the excess.
Figure 5 (Wire Cutters)

Figure 6

WIRE HARNESS INSTALLATION-
PUMP CONNECTOR AND FLUID HOSE

1. Open the hood and insert this zip-tied Harness Section (b) under the vehicle's left (driver's side) wheel cover and towards the interior cab's dash panel.
Figure 6

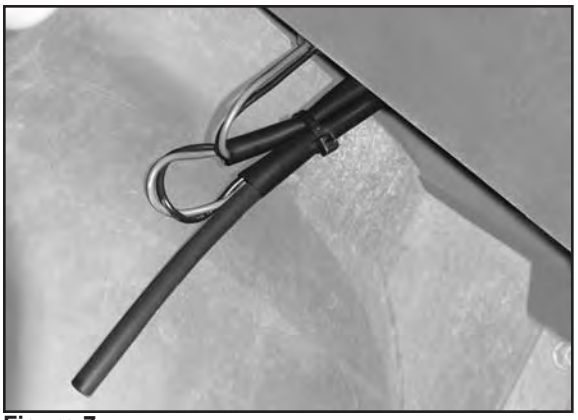


Figure 7

2. Keep pushing the zip-tied Harness Section (b) until it emerges under the dash above the cab's floorboards.
Figure 7

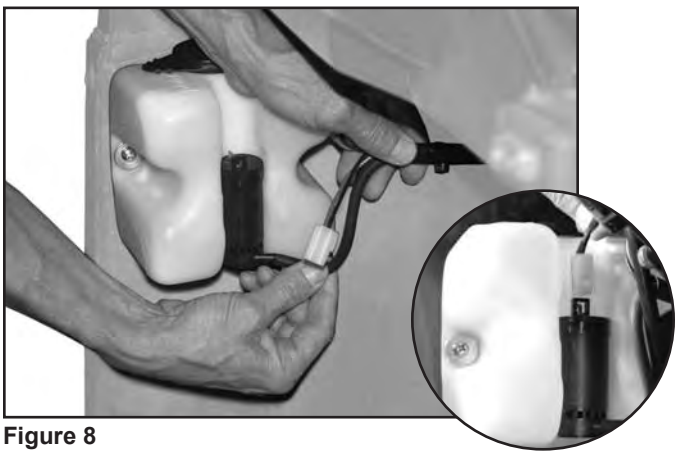


Figure 8

3. Move inside the cab and pull the zip-tied Harness components until you can connect the Rubber Hose to the bottom of the Reservoir's Electrical Pump.
Figure 8

4.Then push the Nylon Quick-Connector onto the two pins on top of the Reservoir's Electrical Pump.
Figure 8

©2015 National Cycle, Inc.

Figure 9

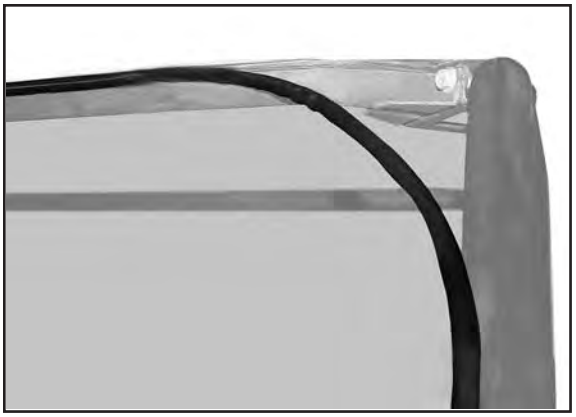


Figure 10

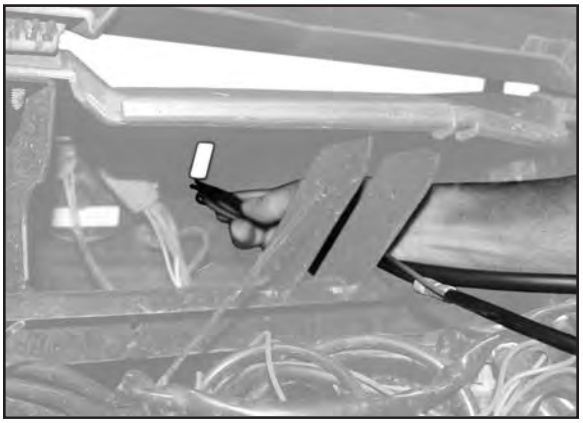


Figure 11

Figure 12

WIRE HARNESS INSTALLATION-
MOTOR CONNECTOR AND FLUID HOSE

5. Find the Motor Quick Connector section (d) of the Wire Harness and thread it through the 3/4" hole cut into the vehicle's body. Pull entire motor connector section of harness through the hole.
Figure 9, 10

6. Use Rubber Grommet (e), attached to the wire harness to plug the hole.
Figure 9

WIRE HARNESS INSTALLATION-
ROCKER SWITCH TO DASH

1. Locate the section of Wire Harness (c) that terminates in the Two-Way Rocker Switch. Temporarily remove the Rocker Switch and thread the wiring under the hood toward the hole you cut in the dash panel's accessory bay in Figure 1. Thread the Wire End (c) through the hole.
Figure 12

©2015 National Cycle, Inc.

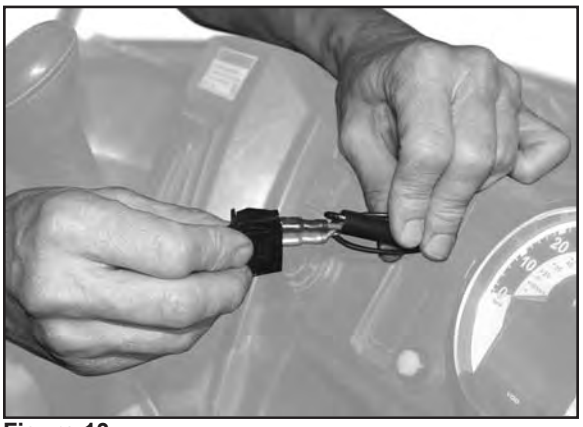


Figure 13

WIRE HARNESS INSTALLATION-
ROCKER SWITCH TO DASH, Continued

2. Move inside the vehicle and reattach the Two-Way Rocker Switch to the two Nylon Pin Connectors (polarity doesn't matter) and then push the Rocker Switch into the cutout.
Figure 13

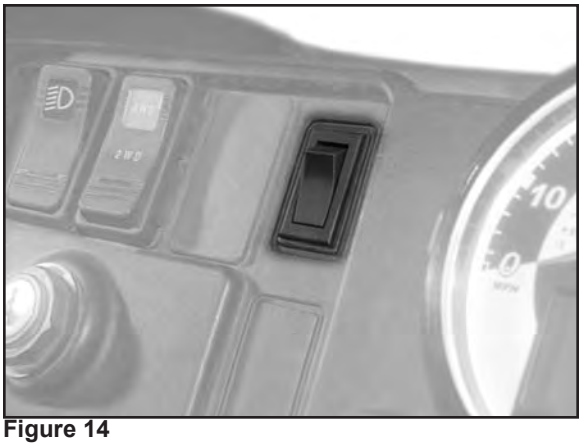


Figure 14

3. Completed dash panel Rocker Switch should appear as shown.
Figure 14

Figure 15

WIRE HARNESS INSTALLATION-
BATTERY TERMINUS

1. Locate section (a) of the Wire Harness that terminates in a Brass Open Ring Connector. Loosen the positive terminal nut of the vehicle's battery.
Figure 15 (Phillips Screwdriver)

Figure 16

2. Slip the Brass Open Ring Connector under the positive terminal nut and tighten securely.
Figure 16

3. Repeat procedure for negative terminal.

©2015 National Cycle, Inc.

Figure 17

Figure 18

Figure 19

WIRE HARNESS INSTALLATION-
BATTERY TERMINUS, Continued

4. Use Zip-Ties (21) to organize and secure any slack coils of the Wire Harness and securely stow the excess coils under the left front wheel cover inside the engine compartment. Clip ends of Zip-Ties.
Figure 17, 18 (Wire Cutters)

5. Close the vehicle's engine cover.
Figure 19

©2015 National Cycle, Inc.

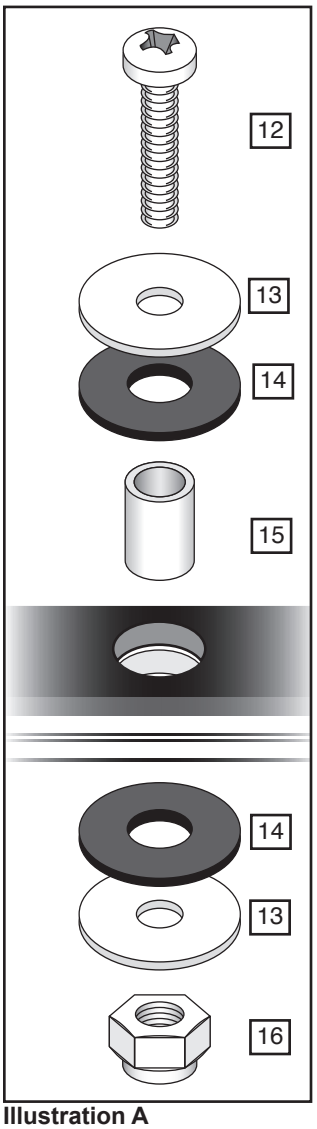


Illustration A

WINDSHIELD INSTALLATION

ATTACH UPPER AND LOWER SHIELD TOGETHER

1. Assemble six sets of Panhead Machine Screw (12), Flat Zinc Washer (13), Rubber Washer (14) and Windshield Spacer (15).
Illustration A

2. Insert the assembled components into each of the mounting holes where the lower edge of the Windshield Upper Section meets the top edge of the Windshield Lower Section. Make sure the Windshield Spacers do not come loose and fall out.
Illustration A

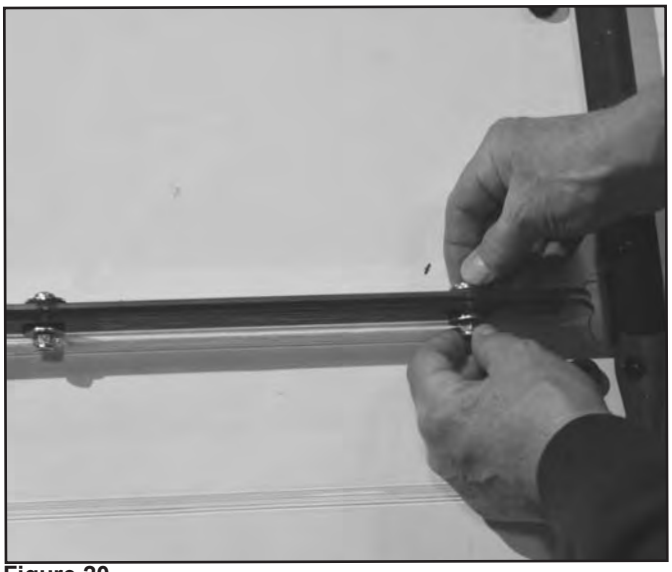


Figure 20

3. From the bottom of the two edges, assemble a Rubber Washer (14), Flat Zinc Washer (13), and Nylon Insert Nut (16), and tighten the Nuts finger-tight for now.
Figure 20

☞ The Spacers (15) should fit through the Rubber Washers (14) and up against the metal washers (13).

4. Made sure the Upper and Lower Windshields are flush with each other and the side edges are in line.

5. Tighten the Screws (12) and Nuts (16) securely.

©2015 National Cycle, Inc.

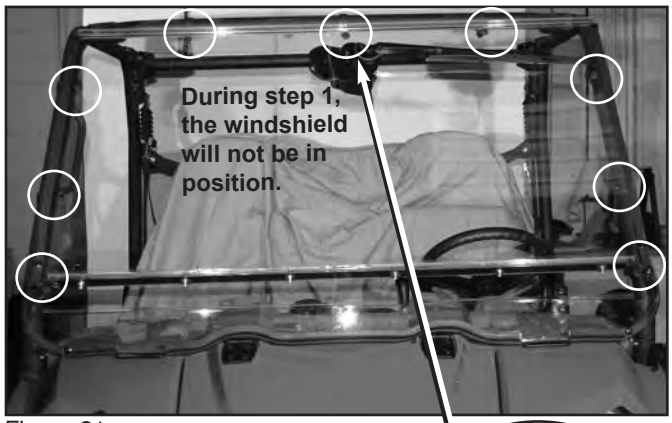


Figure 21

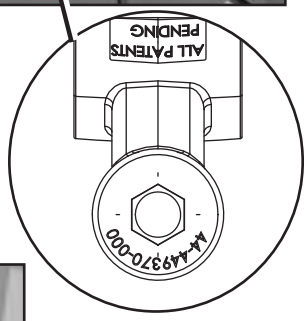
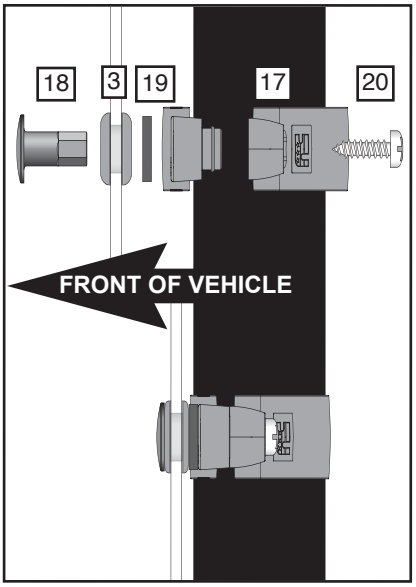


Illustration B

Figure 22



Perspective from bottom of top frame looking up, or outside of left frame.

Illustration C

WINDSHIELD INSTALLATION

1. Snap 3 Wraparound Clamps (17) on the top frame of the vehicle. Orient the top clamps facing down and male half (with embossed part number) toward the front of the vehicle.
Figure 21 and Illustration B

Read these helpful tips for a smooth installation:

Place fasteners within reach of assembling clamps.

Note the hex shape of Retainer Pin (18), and male Clamp (17) half.

While installing the windshield Clamps (17) in the next step, **tuck Wire Harness between Clamp and Windshield.**
Figure 23

Place Spacing Washer (19) between Grommets (3) and Clamps (17).

Start Machine Screws (20) but do not tighten.

The tabbed section of the Windshield should be touching the hood of the vehicle.

2. Place Windshield on hood. Tuck Wire Harness between Clamp and Windshield. Using Screws (20) install top Clamps (17), but do not fully tighten.
Figure 22, 23 and Illustration C
(Phillips Screwdriver or Power Drill on low setting)

3. Snap the remaining 6 Wraparound Clamps (17) on the frame of the vehicle. Orient the clamps so that the male half (with embossed part number) is toward the front of the vehicle. Install Clamps, but do not fully tighten.
Figure 21, 23 and Illustration B,C
(Phillips Screw Driver or Power Drill on low setting)

4. Check the alignment and position of the windshield and make sure it is even and symmetrical.

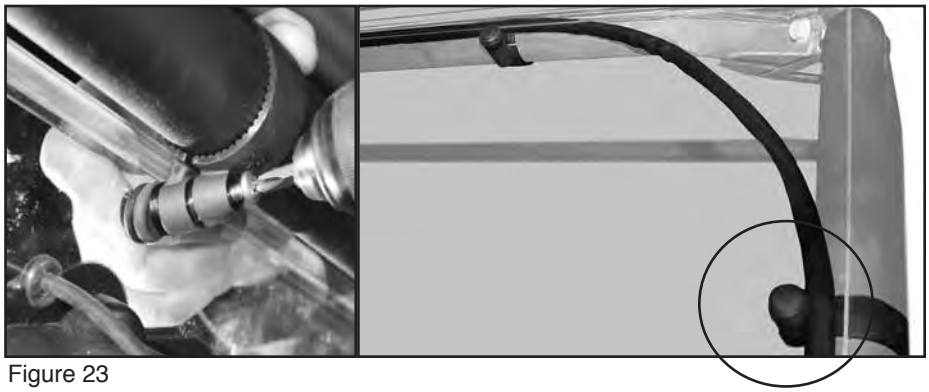


Figure 23

©2015 National Cycle, Inc.

Figure 24

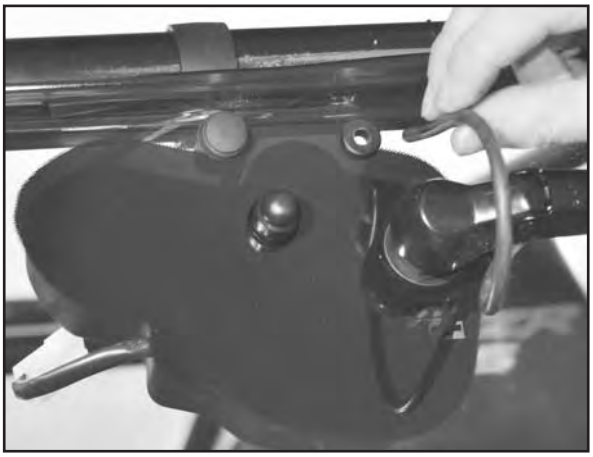


Figure 25

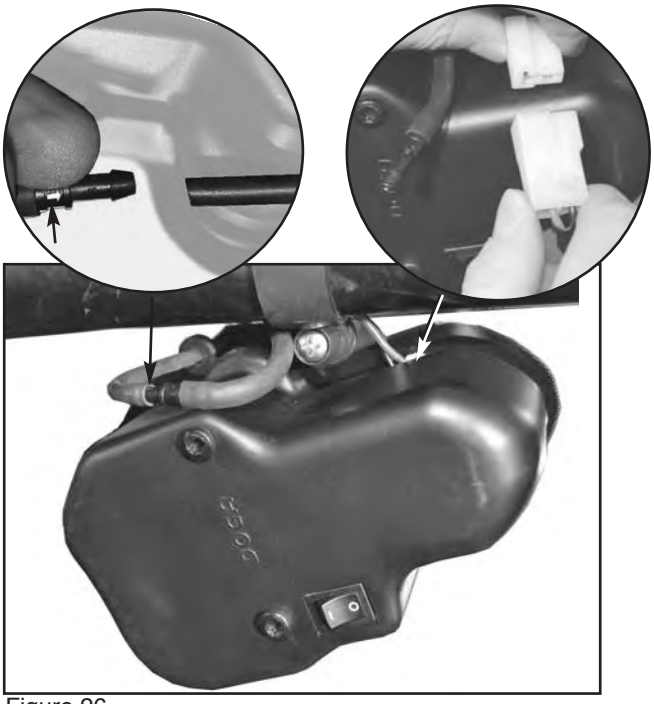


Figure 26

WINDSHIELD INSTALLATION, continued

5. Remove the adhesive backing from the Velcro loop material and then press the windshield tab firmly onto the hood of the vehicle.
Figure 24

FINAL TIGHTENING and REINSTALLATION OF PARTS REMOVED FROM VEHICLE

1. Securely tighten the Machine Screws (20) in all Wrap-around Clamps (17).

2. Check that the Wire Harness is coiled and secured.

FINALIZE CONNECTIONS TO WIPER

1. Check that the Wiper Arm Fluid Hose is threaded through the Grommet in windshield. If it is not, do this now.
Figure 25

2. Connect the Wiper Motor Power and Fluid Hose.
Figure 26

A little moisture on the Fluid Hose end will make them join easier.

The arrow on the fluid check valve must point towards the wiper arm, not towards the fluid reservoir.
Figure 26 Inset

3. Tuck Motor Connector behind Motor assembly.

4. Completed Windshield Wiper Motor installation should appear as shown in Figure 26.

FILL THE FLUID RESERVOIR

1. Fill the Reservoir (10) inside the vehicle's cab with plain water during warm weather and glycol-based automotive windshield washer fluid in freezing weather.

2. DO NOT run the pump dry. Minimum amount of fluid to maintain in the Reservoir is:

12 oz. (.35L) or to a depth of 1 1/2" (38mm)

Minimum depth of 1 1/2"

Please refer to page 11 and 12 for operation, replacement parts and warranty.

Enjoy Your New Wash'n'Wipe™ Windshield!

©2015 National Cycle, Inc.

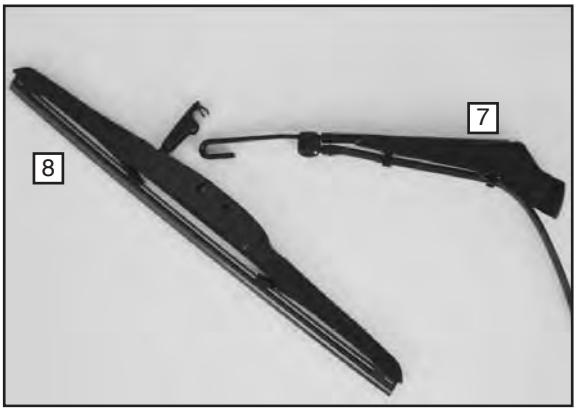


Figure 27

Figure 28

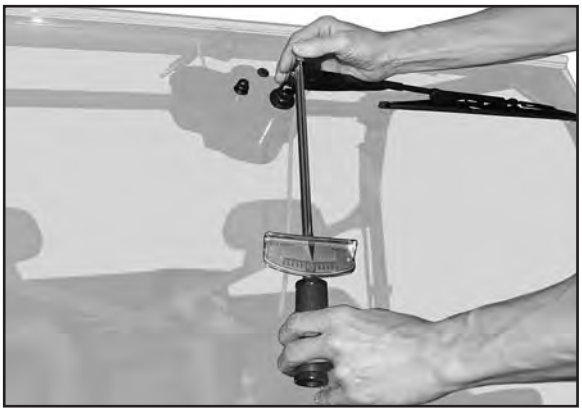


Figure 29

WINDSHIELD WIPER OPERATION

The Wiper is intended for use with the wash cycle or during rain. DO NOT Wipe a dry windshield.

DO NOT run the Pump without fluid.

The Wiper Motor has an on/off Rocker Switch as shown. Turn the switch on and verify that the Wiper works as expected.

The dash panel Rocker Switch installed controls the fluid spray. Momentarily hold the Switch in the on position to spray water from the Wiper Arm.

WIPER ARM AND BLADE

Your Wash'n"Wipe Windshield is equipped with a quality silicone Wiper Blade. Replacement Wiper Blades are available from your local dealer or by contacting National Cycle.

Replacement Wiper Blade Part Number is N30901
Replacement Wiper Arm Part Number is N30910

REPLACING THE WIPER BLADE AND ARM

Open the small access cover on the Wiper Blade and pull the blade towards the motor end of Wiper Arm to loosen blade.

Join the end of the Wiper Arm (7) to the Wiper Blade (8). Place the J-hook of the Arm over the Blade's plastic mounting clip until it clicks and locks into place. Close the small access cover.
Figure 27

Swivel up the mount cover of the Wiper Arm as shown and then mount the Wiper Arm over the Motor's Spindle.
Figure 28

Once the Wiper Arm is on the Spindle, install the Internal Tooth Lock Washer and Small Mounting Nut. Use a torque wrench to tighten the Small Mounting Nut to 16 foot-pounds (22Nm). Then swivel the mount cover of the Wiper Arm back to its closed position.
Figure 29 (Torque Wrench with 13 mm Socket)

©2015 National Cycle, Inc.

CLEANING AND MAINTENANCE

To clean the screen, wash with a clean soft cloth, plenty of warm water and if necessary, a non-abrasive soap such as dishwashing liquid. Flannel or soft chamois make good cleaning cloths. **Paint, glue residue or grease removal:** Moisten cotton with naphtha or turpentine followed by a wash as above.

National Cycle **Shield Wash™** (N1401-01) makes a good daily cleaner and comes with a handy travel size bottle. Shield Wash is safe for all windshields and helmet visors.

Do not clean polycarbonate in hot sun or high temperatures. Do not clean the screen with glass cleaners.

Do not allow brake fluid, alcohol, or strong solvents to contact the screen.

RAIN REPELLENT

Do not use rain protective products made for glass. We recommend National Cycle's **RainZip®** (N1410-01) to help shed water in rainy weather.

Register your windshield online at www.nationalcycle.com

National Cycle's UTV Windshield 3-Year Limited Warranty

National Cycle hereby warrants to the original registered owner of a National Cycle polycarbonate windshield for a period of three years from the date of purchase against breakage. This limited warranty is expressly limited to the replacement of the polycarbonate windscreen. This limited warranty does not include scratches, coating failure, cosmetic wear and tear, replacement of hardware, or any consequential damages or expenses including labor cost of installation, removal and/or replacement, inconvenience, inbound or replacement outbound freight expenses (outbound freight must be paid in advance by cc or check) or damage to any other component of the vehicle or any other accessories. Certain chemicals, generally known as acidic hydrocarbons, are known to cause polycarbonate damage and will not be covered under this limited warranty. Please refer to the cleaning instructions supplied with your UTV Windshield.

⚠ WARNING

Never operate your vehicle with loose accessory mounting hardware. Check the hardware for tightness regularly.

UTVs are built with enough frame rigidity to withstand the moderate loads imposed on them by the foreseeable addition of an accessory(ies). If an accessory(ies) adversely affects your vehicle's stability, immediately remove the accessory(ies). Do not operate a vehicle that exhibits unsafe handling traits.

Have experienced service personnel correct any problem before driving with the accessory(ies) installed. For further questions concerning handling problems associated with an accessory(ies), contact your dealer, UTV manufacturer, or accessory manufacturer.

CAUTION: Do not clean polycarbonate in hot sun or high temperatures. Do not clean the screen with glass cleaners. Certain chemicals, generally known as acidic hydrocarbons, are known to cause polycarbonate damage. Do not allow brake fluid, alcohol, or strong solvents to contact the screen.

CAUTION: Do not use rain protective products made for glass. We recommend National Cycle's **RainZip®** (N1410-01) to help shed water in rainy weather.

CAUTION: Always face windshield forward (in direction of travel) while carrying on truck or trailer.

©2015 National Cycle, Inc.