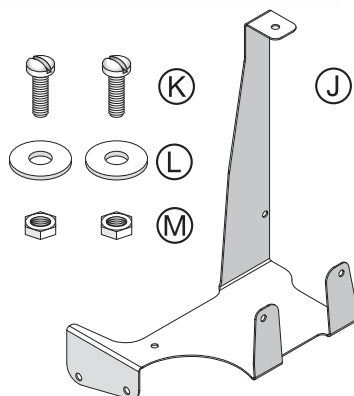
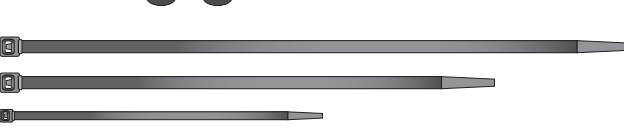
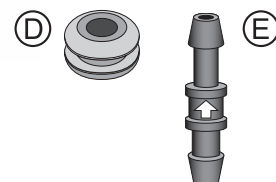
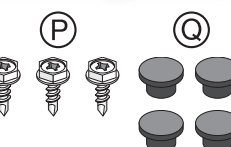
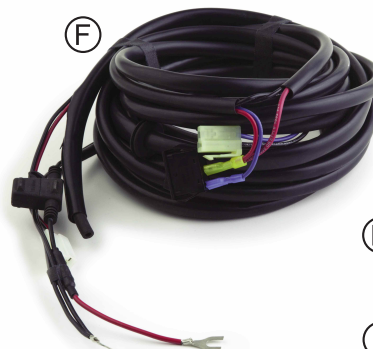


Thank you for purchasing a National Cycle product. Read these instructions carefully and thoroughly before beginning work. Dealers, if installing this windshield for a customer, please give them this manual upon completion. It contains information needed to properly maintain and use this product.

Description:	Wash'n'Wipe Kit for N30403 Full Size WIndshield	Model:	BRP® Commander
Part Number:	N30403-WK	Installation Time:	60-90 min.

N30403-WK PARTS LIST

ITEM	PART NO.	DESCRIPTION	QUANTITY	TOOLS REQUIRED FOR ASSEMBLY
A	80-875150-000	Wiper Motor Assembly with Switch	1	Flat Blade Screwdriver
B	80-875153-000	Wiper Assembly Arm, 350mm (14.00")	1	#2 or #3 Phillips Screwdriver or Phillips Bit for Drill
C	80-875155-000	Wiper Assembly Blade, 400mm (15.75")	1	T-25 Torx Wrench
D	44-447167-000	Rubber Grommet	1	1/4" Wrench or Socket
E	44-441927-000	Inline Check Valve for Washer Tubing	1	7/16" Wrench or Socket
F	80-830326-000	Wire Harness and Switch	1	Metal Scribe or Marker
				X-Acto® Knife, or similar
G	80-875156-000	Spindle Hardware Kit	1	Wire Cutters
H	80-875157-000	M8 Stud Hardware Kit	1	Power Drill with 3/4" (19mm) hole saw or step drill bit
I	44-442523-000	Reservoir & Pump Assembly	1	Small Drill Bits (1/16" or 3/32", 1/8") for pilot holes
J	37-373687-000	Reservoir Mounting Bracket	1	Torque Wrench
K	55-562600-000	Machine Screw, Panhead, Slotted, 10-32 x 5/8	2	
L	49-490543-000	Flat Washer, .253 x .875 x .05	2	
M	42-450024-000	Nylok Hex Nut, 10-32	2	
N	44-448710-000	Wire Tie, 11.00"	2	
O	44-448726-000	Wire Tie, 7.50" x .18	10	
BAG#1142				
P	55-550260-000	Machine Screw, Phillips, 12 x .75	3	
Q	44-448829-000	Rubber Push-In Bumper	4	
R	44-448760-000	Wire Tie, 14.00"	7	



PREPARATION

Carefully unpack your Wash'n'Wipe™ Kit, sort the parts, and make sure you have everything required to complete the assembly.



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.

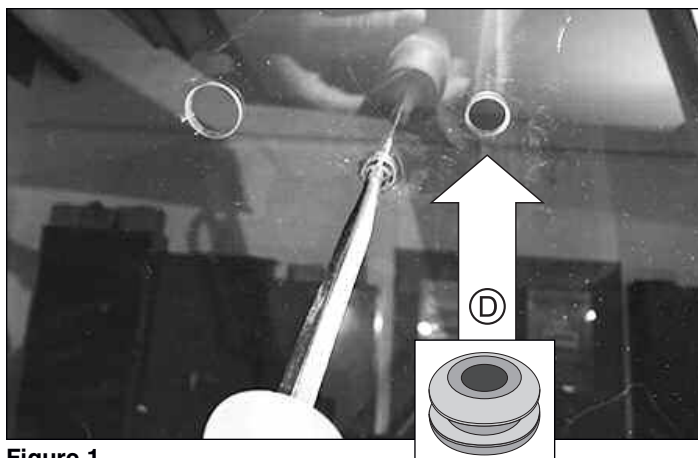


Figure 1

INSTALL THE WIPER MOTOR

It is recommended that you begin by removing the existing N30403 Windshield prior to installing the Wiper Motor.

Figure 1

From the inside of the Windshield, push out the three Plugs in the top center of Windshield. (*Any Conveniently Pointed Tool*)

Install Grommet (D) into the far right hole as shown.

Figure 2

Loosen and remove the Panhead Philip Screws from the seven Wraparound Clamps securing Windshield to the vehicle frame.

Loosen the Velcro® on the bottom section and carefully remove the Windshield, making sure you don't lose the the seven Retaining Pins, five Spacing Washers or the two cable guides. Place the Windshield on the floor away from the vehicle.

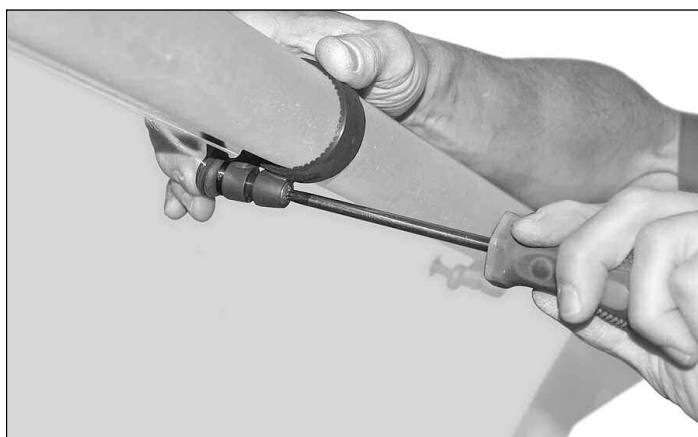


Figure 2

Illustration A

Open the Spindle Hardware Kit (G) and M8 Stud Hardware Kit (H) and lay out the parts in order.



Note: The rubber washers will go against both inside and outside of the Windshield.

Onto the Stud and Spindle of the Wiper Motor, assemble the parts that go to the inside of the Windshield as shown between the motor and the silkscreened motor outline.

Illustration B (next page)

Hold the Wiper Motor up to the inside of the Windshield and insert the wiper motor Stud and Spindle through the holes in the Windshield per the diagram, and assemble the remaining kit hardware located outside of the Windshield.

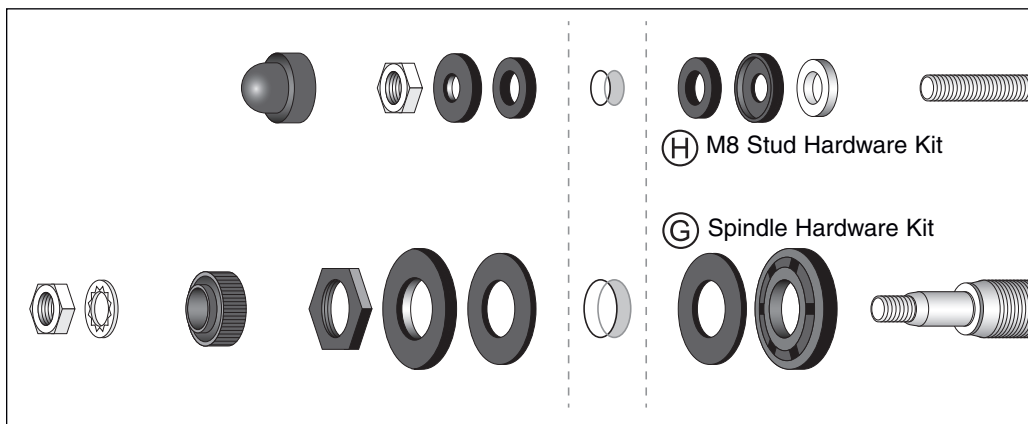


Illustration A

The nut on the stud (smaller) shaft needs to be torqued to 3 ft-lbs. (4 N-m). (*Torque Wrench*)

The nut on the spindle (larger) shaft needs to be torqued to 4.5 ft-lbs. (6 N-m). (*Torque Wrench*)

WIPER MOTOR ASSEMBLY DIAGRAM

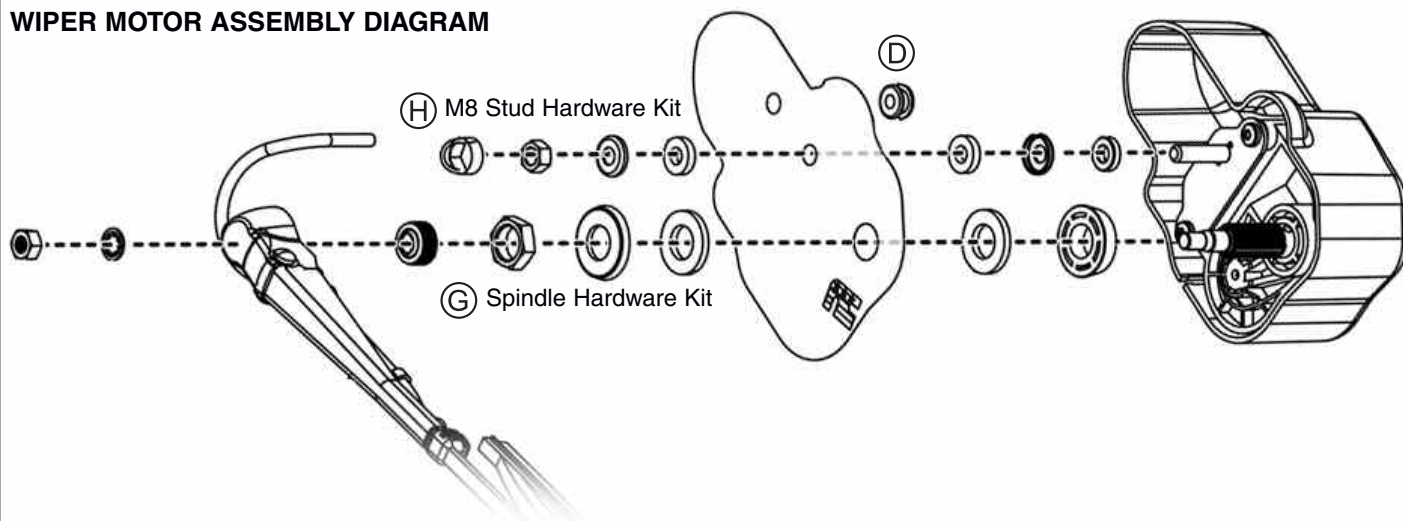


Illustration B

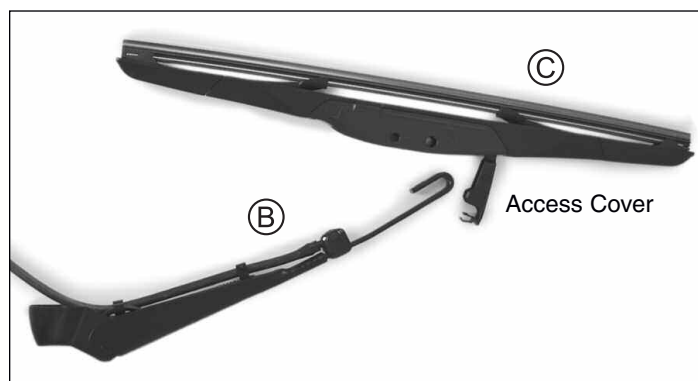


Figure 3

INSTALL THE WIPER ARM

Figure 3

Open the small access cover on the Wiper Blade (C). Place the J-hook of the Wiper Arm (B) over the Blade's plastic mounting clip until it clicks and locks into place. Close the small access cover.

Figure 4

Open the access cover of the Wiper Arm as shown.

Assemble the Wiper Arm onto the Wiper Motor Spindle so that it is horizontal on the driver's side, then install its lock washer and nut as shown in Illustration B.



Figure 4

Hold the Wiper Arm horizontal while tightening the nut. Torque to 16 ft-lbs. (22 N-m). (*Torque Wrench*)

Close the Wiper Arm cover over the nut.

WIRE HARNESS REFERENCE POINTS

(I) Motor Connector and Fluid Hose
Installs to Motor

(II) Grommet
Seals 3/4" Hole

(III) Pump Switch for Washer
Mounts to Dash Inside Cab

(V) Battery Connections:
Black-Negative
Red-Positive

(IV) Pump Connector and Fluid Hose
Install to Fluid Reservoir and Pump

Illustration C



Figure 6

PREPARE THE VEHICLE FOR WIRING

Figure 6, Figure 7



Note: the Pump Switch will mount to the Optional Accessory Port provided in Console Switch Panel.

Loosen the two pins and two screws holding the Center Switch Console Cover in place. (*Small Flat Blade Screwdriver, T25 Torx*)



Figure 7





Figure 8a



Figure 8b



Figure 8c



Figure 9

PREPARE THE VEHICLE FOR WIRING; CONT'D.

Figure 8a, 8b, 8c

Open Glove Box.

Separate Console Cover from dash just enough to install Pump Switch.

Figure 9

Remove the top cover from the Optional Accessory Port.

Figure 10

Loosen the two hose clamps from Clutch Vent Duct. (*Flat Blade Screwdriver*)

Cut the zip ties on left end of the Vent Duct above the Battery.

Figure 11

Slide the left side Dash Outer Corner Panel rearwards and off vehicle.

Figure 12

Remove Air Duct Filter from side panel of vehicle.



Figure 10



Figure 11



Figure 12



Figure 13



Figure 14

CUTTING THE 3/4" PASSAGE HOLE

Illustration E

On the hood of the vehicle on the driver's side, measure a point 1.00" (25mm) from the frame on driver's side (left) of vehicle. Mark that location and drill a pilot hole with a 1/8" drill bit. (Scribe or Marker, Power Drill with 1/8" bit)

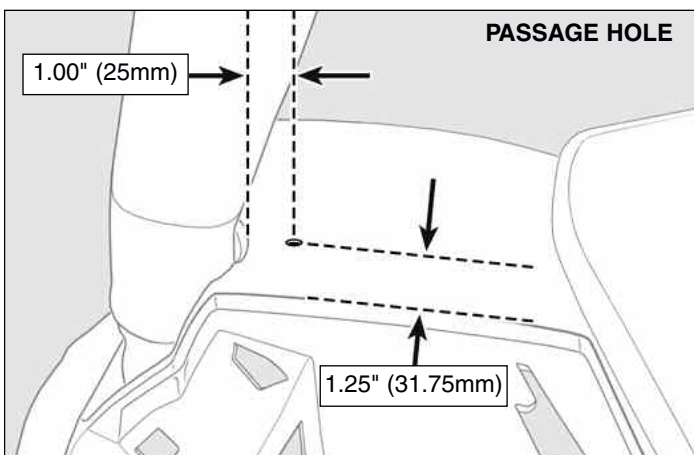


Illustration E

PREPARE THE VEHICLE FOR WIRING; CONT'D. DRILLING MOUNT HOLE FOR FLUID RESERVOIR

Figure 13

Push the Rubber Boot Flange into the vehicle body under the dash.

Figure 14, Illustration D

Remove Vent Duct from vehicle.

Place Vent Duct on firm surface as oriented in Figure 6 and Illustration D. Drill a 1/16" or 3/32" (2mm) hole in the duct as shown in Illustration A. (Power Drill with 1/16" or 3/32" drill bit)

Remove any debris that gets inside the Vent Duct.

Replace the Vent Duct Assembly in reverse order.

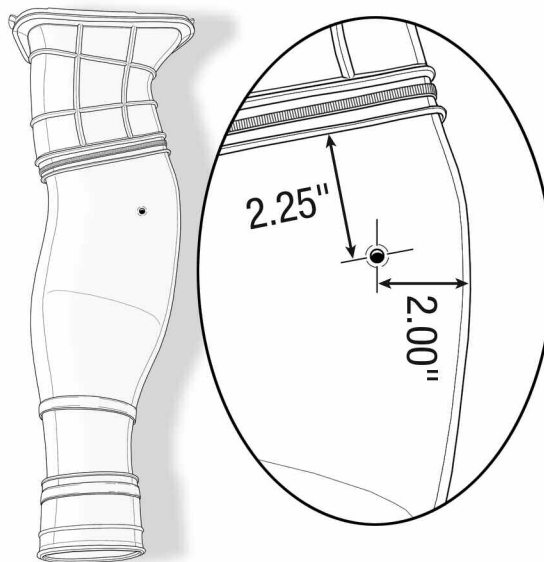


Illustration D

Figure 15

Insert a step drill bit into your drill as shown (or 3/4" hole saw) and drill a 3/4" (19mm) hole in the body cover at the location marked in Figure 5. (Power Drill with 3/4" step drill bit or hole saw)



Figure 15

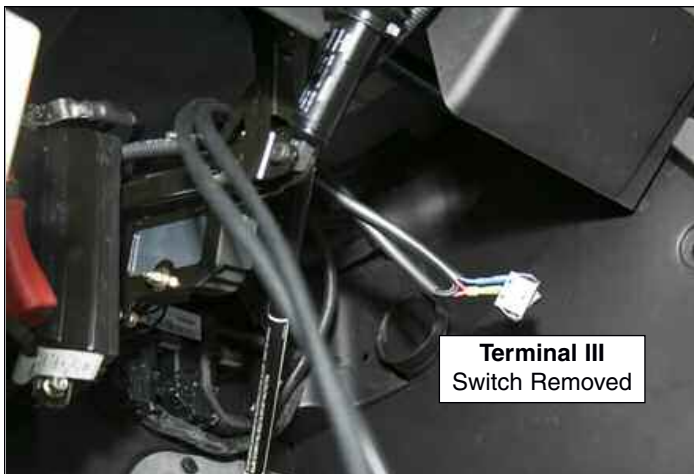


Figure 16



Figure 17



Figure 18

WIRE HARNESS INSTALLATION: ROCKER SWITCH TO DASH PANEL

Place Wire Harness on vehicle floor on the left under the battery.

Refer to "WIRE HARNESS REFERENCE POINTS" on Page 4.

Locate the section of Wire Harness (Terminal III) that ends in the Two-Way Rocker Switch. Temporarily remove the Rocker Switch from the Wiring Harness.

Figure 16

Route the Wire Harness Section (III) over the steering column and under the switch console which you loosened in Figure 8a, 8b, 8c.

WIRE HARNESS INSTALLATION: CUT RECTANGULAR HOLE IN EMPTY SWITCH BAY

Figure 17 Insets

Check the size of the Pump Switch against the vehicle's switch bay. Scribe or draw a 17/32" x 1-1/8" (13.5mm x 28.5mm) guide.

Using a power drill, drill a series of holes in the plastic cover as starting guides for cutting. Then use an X-Acto® knife to cut out the cover's face to the scribed edges shown.

Thread the Wire End of Terminal III through the dash panel's Optional Accessory Port hole.

Re-attach the Two-Way Rocker Switch to the two Nylon Pin Connectors (polarity doesn't matter) and then push the Rocker Switch into the Accessory Port hole.

Figure 17

Completed dash panel Rocker Switch should appear as shown. Re-install Center Console in reverse order of instructions on Pages 5-6.

WIRE HARNESS INSTALLATION: ROUTE TERMINAL I TO OUTSIDE OF VEHICLE

Figure 18

Remove Air Duct Filter from side panel of vehicle.

Figure 19

Route Motor Connector and Fluid Hose Terminal I through passage hole drilled in hood on Page 6, Figure 15.

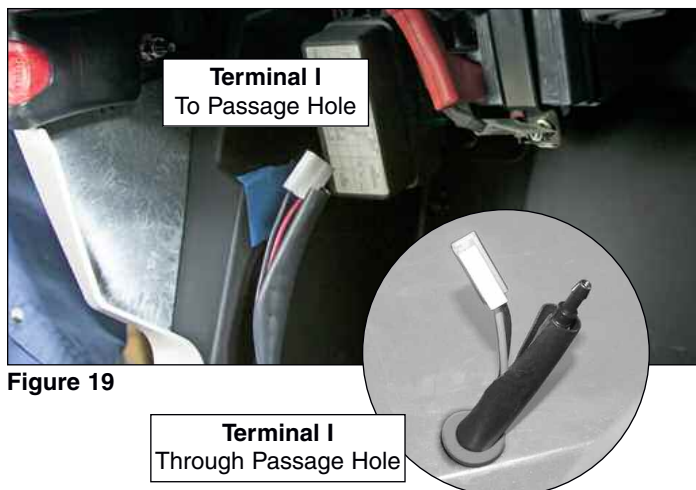


Figure 19



Figure 20



Figure 21



Figure 22

REINSTALL THE VEHICLE WINDSHIELD



Follow the installation guide in **Windshield Installation Instruction Sheet 10-118034-000**.

Need the instructions? Go to www.nationalcycle.com and insert **N30403** into the search box on the top right of the home page. Click the product listing, then click on the *N30403 Installation Instructions PDF link*.

Figure 20

Pull enough harness length through passage hole so that Terminal I follows the vehicle's frame to the top center where Wiper Motor will be installed.

Figure 21

On the driver's side, route harness wiring/fluid hose underneath Windshield (inside of cab) but over the two side Wraparound Clamps as shown.

At the top of the vehicle frame, route the harness wiring/fluid hose through the two Cable Clamps attached to the back of the top driver-side and top center Wraparound Clamps.

TERMINAL CONNECTIONS TO WIPER MOTOR

Figure 22

Check that the Wiper Arm Fluid Hose is threaded through the Grommet in the Windshield to the inside of the cabin. If it is not, do this now.

Figure 23

Connect the Wiper Arm Fluid Hose to the fluid hose from Wiring Harness Terminal I with the Inline Check Valve (E). A little moisture on the Check Valve ends will make the hoses join easier.



The arrow on the Inline Check Valve (E) must point towards the Wiper Motor, not towards the Fluid Reservoir.

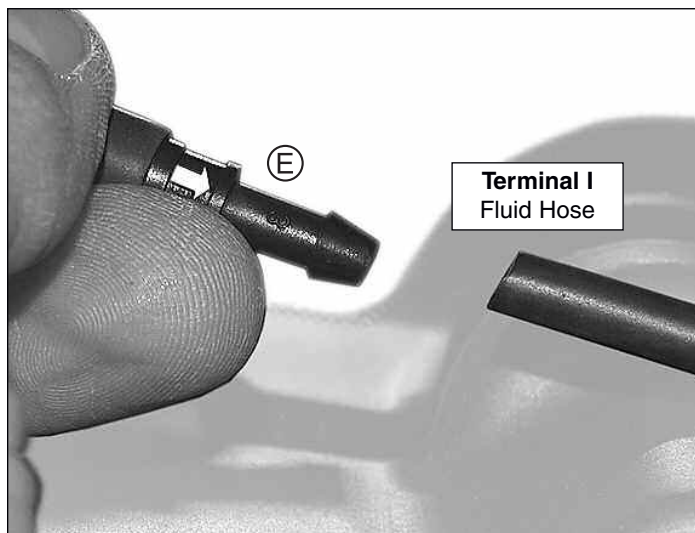


Figure 23



Figure 24



Figure 25



Figure 26

WIRE HARNESS INSTALLATION: CONNECTIONS TO WIPER MOTOR; CONT'D.

Figure 24

Join the power connectors from the Wiper Motor and from Terminal I.

Tuck excess wiring behind the Wiper Motor assembly.

Figure 25

The completed Wiper Motor installation should appear as shown.

CONNECTIONS TO BATTERY TERMINALS

Figure 26

Locate the Battery Terminal **V** on the Wiring Harness.

Figure 27

Loosen the negative terminal nut of the vehicle's battery. Slip the brass open ring connector on the black wire of Terminal **V** under the negative terminal nut and re-tighten securely.

Repeat for the red wire of Terminal **V** to the battery's positive terminal. (*Phillips Screwdriver*)

COIL EXCESS WIRE HARNESS

Use the 7.50" Zip-Ties (O) to coil and secure the Wire Harness above the Clutch Vent Duct.

Do not leave loose Harness wiring anywhere in the vehicle. Use 7.50" Zip-Ties (O) to secure excess wiring length.



Figure 27



MOUNT FLUID RESERVOIR/PUMP BRACKET

Illustration F

Install Rubber Bumpers (Q) into each of the four holes in the Reservoir Bracket (J) as shown.

Figure 28

Use one Phillips Machine Screw (P) to attach the Reservoir Bracket to the Clutch Vent Duct hole drilled in Illustration A on Page 3. (*Phillips Screwdriver*)

Figure 29

After mounting to the Clutch Vent Duct, mark where the remaining two mount holes meet the interior side wall. Use a 1/8" drill bit to drill these mount holes. (*Power Drill*)

Figure 30

Use two Phillips Machine Screw (P) to attach the Reservoir Bracket to the interior side wall of the vehicle. (*Phillips Screwdriver*)

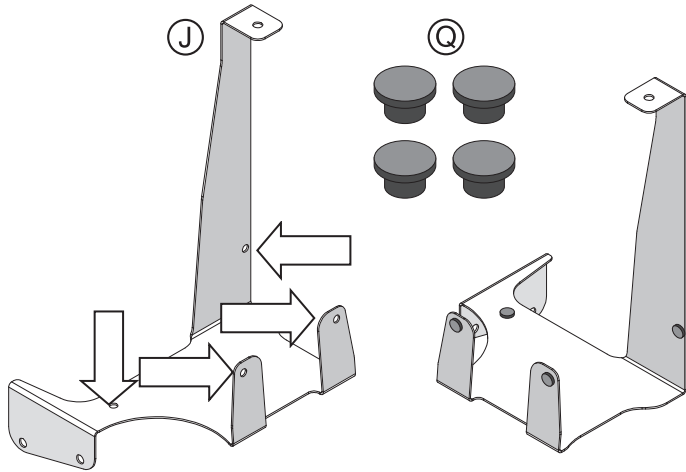


Illustration F



Figure 28



Figure 29



Figure 30

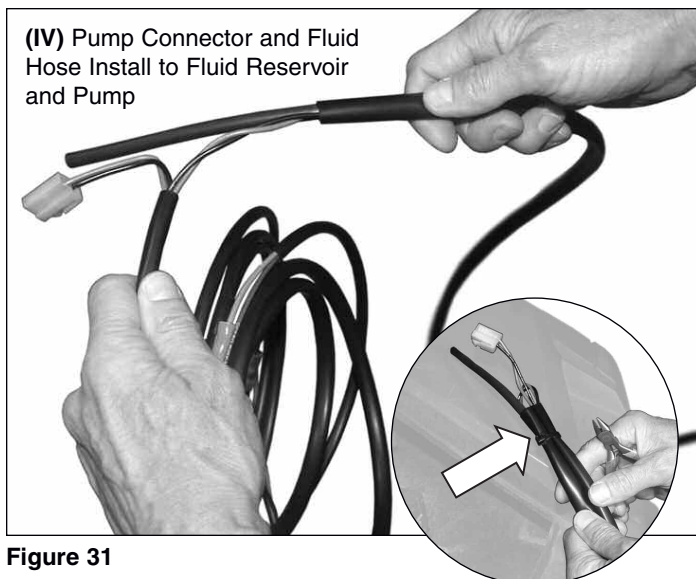


Figure 31



Figure 32



Figure 33

WIRE HARNESS INSTALLATION: PUMP CONNECTOR AND FLUID HOSE

Figure 31

Take Pump Quick Connector Terminal **IV** of the Wire Harness and locate the end of the Rubber Hose and the Large Nylon 2-Pin Electrical Quick-Connector with red and black wires.

Take the Quick-Connector section and fold it against the Rubber Hose section as shown. Secure the two sheaths with a 7.5" Zip-Tie (P) and trim the hose excess. (Wire Cutters)

Figure 32

Connect the Rubber Hose to the bottom of the Reservoir's Electrical Pump.

Figure 33

Push the Nylon Quick-Connector onto the two pins on top of the Reservoir's Electrical Pump.

FILL THE FLUID RESERVOIR AND PLACE INTO BRACKET

Illustration H

Fill the Reservoir (I) with plain water during warm weather, and glycol-based automotive windshield washer fluid in freezing weather.



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).

Illustration H



Figure 34

Place Reservoir (I) into Bracket (J).

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

Enjoy Your New Wash'n'Wipe™ Windshield!

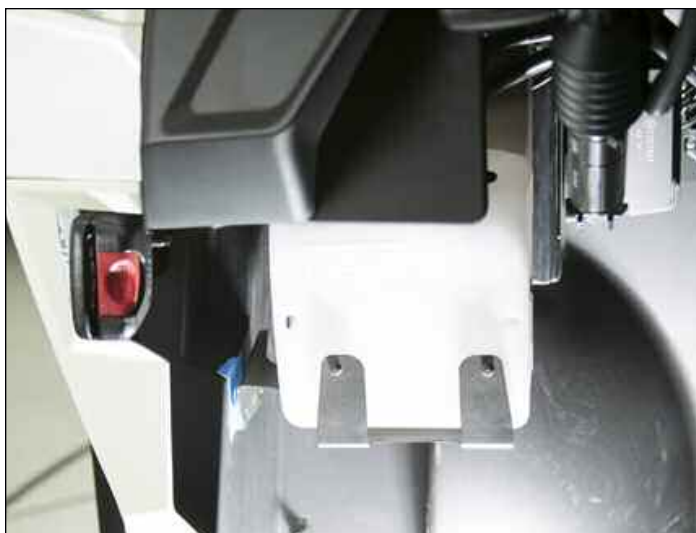


Figure 34

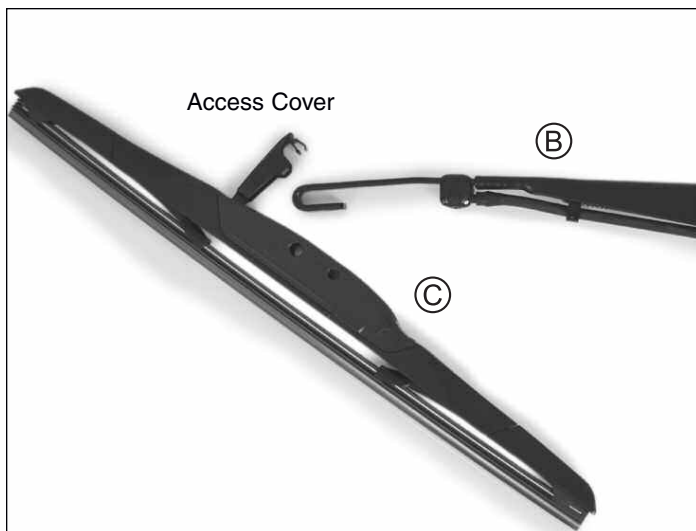


Figure 27



Figure 28



Figure 29

WINDSHIELD WIPER OPERATION



The Wiper is intended for use with the wash cycle or during rain. **DO NOT** use the Wiper on a dry windshield. **DO NOT** run the Pump without fluid.

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

The newly installed dash panel Rocker Switch controls the fluid spray. Momentarily hold the Switch in the on position to spray water from the Wiper Arm. It should spray in four separate directions.

The four spray jets can be manually (but carefully) redirected.

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 N30911.

REPLACING THE WIPER BLADE AND WIPER ARM

Figure 27

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

To install a new Wiper Blade, join the end of the Wiper Arm (B) to the Wiper Blade. 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 28

To remove the Wiper Arm (B), open the Wiper Arm cover and remove the Internal Tooth Lock Washer and Small Mounting Nut (M8 Stud Hardware Kit H). Then remove the Wiper Arm from the Wiper Motor (A) Spindle.

To replace the Wiper Arm back on the Spindle, reinstall the Internal Tooth Lock Washer and Small Mounting Nut.

Use a torque wrench to tighten the Small Mounting Nut to 16 ft-lbs. (22 N-m). Then swivel the mount cover of the Wiper Arm back to its closed position. *(Torque Wrench with 13mm Socket)*





Ask for Shield Wash™ and RainZip® at your local dealer or visit www.nationalcycle.com.

CLEANING AND MAINTENANCE

To clean your windshield, wash with a clean soft cloth and plenty of warm water and, if necessary, a non-abrasive soap such as dishwashing liquid. Flannel or soft chambrais make good cleaning cloths. **Paint, glue residue or grease removal:** Moisten cotton wad 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 household glass cleaners.

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

RAIN REPELLENT

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



National Cycle 3-Year Limited Warranty

Register Your Windshield Online at www.nationalcycle.com

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 freight expenses 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 all National Cycle windshields. Visit www.nationalcycle.com for further details or call or write National Cycle Inc.

⚠ 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.