

# INSTALLATION MANUAL

# 70149

## Level of Difficulty

Difficult

Installation difficulty levels are based on time and effort involved and may vary depending on the installer level of expertise, condition of the vehicle and proper tools and equipment.

## Installed Attachment Tabs

Height	22"
Width	30"

## Parts List

Qty	Description
1	70149-DSWA
1	70149-PSWA
1	70149-EB-WA
10	1/2-13 Handle Nut, GRD8, ZP
10	1/2 S-Con Washers ZP
2	1/2-13 x 5", Hex Head Bolt, GRD5, ZP
10	1/2 Flat Washer
4	1/2 -13, Nylock Hex Nut, ZP
2	1/2-13 x 1", Hex Head Bolt, GRD5, ZP
1	1/4-20 x 3/4, Hex Head Bolt, GRD5, ZP
1	1/4-20 Nylock Nut, GRD5, ZP
2	12-14 x 1", Self Drilling Screw, ZP
2	.500" Quick Link
2	Cap Plug, #DOP-1375
2	Baseplate T-Bolt
1	Electrical Flat Bracket
10	1/2-13 x 1 1/2", Hex Head Bolt, GRD8, ZP
2	Safety Cable, 7500lbs

## Tools Required

Flat Screwdriver	Utility Knife
Torque Wrench	Drill
Reciprocating Saw	Loctite® RED
1/2 Drill Bit	Socket, 10mm
Socket, 13mm	Socket, 15mm
Socket, 18mm	Wrench, 18mm
Torx bit, T-15	Ratchet
Trim panel pry tool	

## Product Registration and Warranty

CURT stands behind our products with industry-leading warranties. To get copies of the product warranties, register your purchase or provide feedback, visit: [warranty.curtgroup.com/surveys](http://warranty.curtgroup.com/surveys)

## ⚠ WARNING

Never exceed the vehicle manufacturer's recommended towing capacity.

## Product Photo



## ⚠ CAUTION

Take care when cutting any plastic or metal as injury may occur if done improperly.

## NOTICE

Visit [www.curtmfg.com](http://www.curtmfg.com) for a full-color copy of this instruction manual, as well as helpful videos, guides and much more!

Before you begin installation, read all instructions thoroughly.

Proper tools will improve the quality of installation and reduce the time required.

This installation requires:

- Removal of recovery loops / D-rings (permanent)
- Removal of bumper (temporarily)
- Removal of skid shield (temporarily)
- Possible trimming (permanent)
- No fishwiring required

Periodic inspection of your product should be performed to ensure all hardware and / or components remain secure.

To help prevent damage to the product or vehicle, refer to the specified torque specifications when securing hardware during the installation process.

## SAFETY INSTRUCTIONS

Safety glasses should be worn at all times while installing this product.

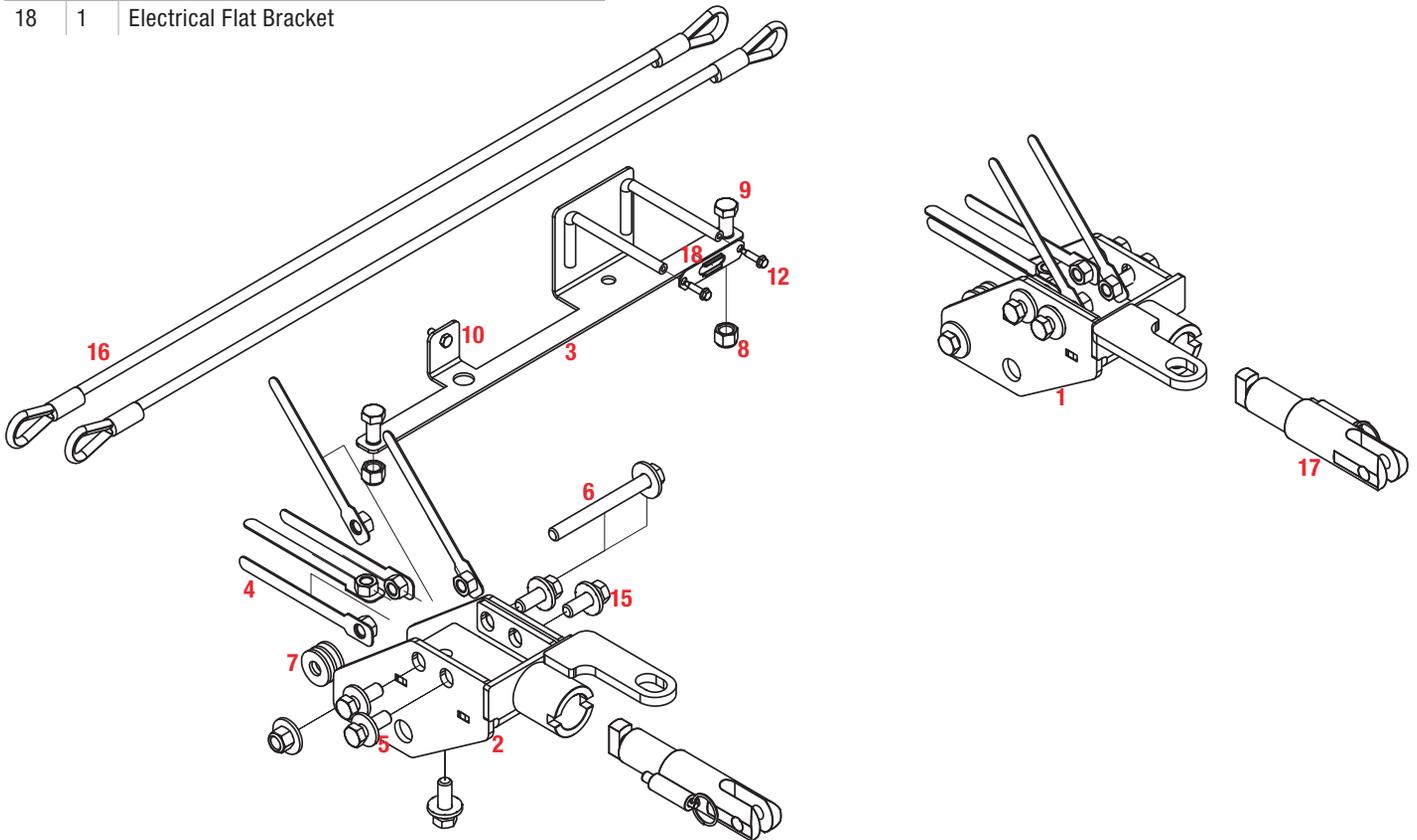
## Maintenance

Mild automotive detergent may be used to clean the product. Do not use dish detergent, abrasive cleaners, abrasive pads, wire brushes or other similar products that may damage the finish.

# ASSEMBLY

## Parts List

Item	Qty	Description
1	1	70149-DSWA
2	1	70149-PSWA
3	1	70149-EB-WA
4	10	1/2-13 Handle Nut, GRD8, ZP
5	10	1/2 S-Con Washers ZP
6	2	1/2-13 x 5", Hex Head Bolt, GRD5, ZP
7	10	1/2 Flat Washer
8	4	1/2 -13, Nylock Hex Nut, BZP
9	2	1/2-13 x 1", Hex Head Bolt, GRD5, ZP
10	1	1/4-20 x 3/4, Hex Head Bolt, GRD5, ZP
11	1	1/4-20 Nylock Nut, GRD5, ZP (Not Shown)
12	2	12-14 x 1", Self Drilling Screw, ZP
13	2	.500" Quick Link (Not Shown)
14	2	Cap Plug, #DOP-1375 (Not Shown)
15	10	1/2-13 x 1 1/2", Hex Head Bolt, GRD8, ZP
16	2	Safety Cable, 7500lbs
17	2	Baseplate T-Bolt
18	1	Electrical Flat Bracket



### Step 1

Using a T15 Torx, remove the two (2) bolts from the handle.

Remove and set it aside to be reinstalled later.



### Step 2

Remove the ten (10) push pins from along the top and bottom of the fascia cover.

Remove fascia cover and set it aside to be reinstalled later.



### Step 3

Using a 10MM socket, remove the four (4) bolts, two (2) on each side, from the top of the core support.



### Step 4a

Remove the grille by pulling outward on top corners to release push pins on each side.

Start at the top left arrow and moving top to bottom to release the push pins.

Then pull outward on the bottom corners of the grille to release remaining push pins.

Pull outward and upward on the grille to remove it from the vehicle.

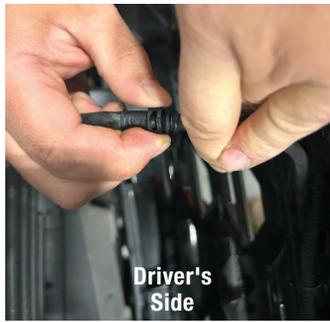


### Step 4b

As the grille is removed, unplug the two (2) electrical connections on the passenger side.

Then unplug the one (1) hose on the driver side of the vehicle by squeezing both sides and pulling.

Remove the grille and set it aside to be reinstalled.



### Step 5

Using a 13MM socket, remove the six (6) bolts from the skid plate on the underside of the vehicle.

#### **CAUTION**

Support skid plate. Removing the last bolt may cause skid plate to fall.

Remove the skid plate and set it aside to be reinstalled later.



### Step 6

Using a 15MM socket, remove the two (2) bolts from the support bracket behind the bumper, on the underside of the vehicle.

Do this on both sides of the vehicle.



### Step 7

Using an 18MM socket, remove the one (1) bolt next to the tow hook housing behind the bumper.

Do this on both sides of the vehicle.



### Step 8

Remove the plastic shroud above the bumper by removing one (1) push pin from each corner of the shroud next to the shutter housing.

Using the auto trim tool remove the remaining eight (8) push pins.

The plastic shroud will not be reinstalled.

Note: Three (3) of the push pins on the driver side of the vehicle attached to the loom will be reinstalled later.

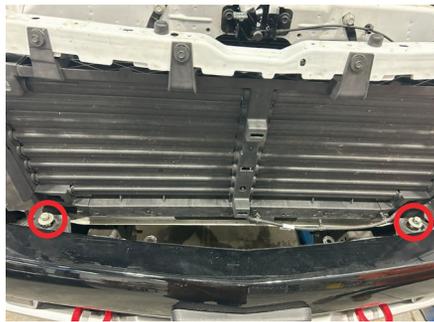


### Step 9

Using an 18MM socket, remove the two (2) bolts from the top of the bumper.

#### ⚠ CAUTION

Once the bolts are removed, the bumper is no longer supported.



### Step 10

Pull the bumper away enough to unplug the electrical connection on the passenger side of the vehicle and remove the push pin with trim tool.

Remove the bumper and set it aside to be reinstalled later.



### Step 11

Using an 18MM socket and an 18mm wrench, remove the two (2) bolts from the tow hook.

Remove tow hook, it will not be reinstalled.

Do this on both sides of the vehicle.



### Step 12

Using an 18MM socket and 18mm wrench, remove the front bolt from the bracket under the tow hook housing.

Then loosen, but do not remove, the back bolt

Do this on both sides of the vehicle.



### Step 13

Using a 1/2" drill bit, drill out the existing hole on the bottom of the tow hook housing.

Do this on both sides of the vehicle.



### Step 14

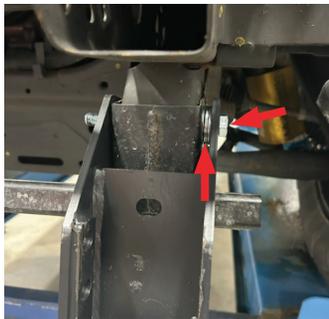
Slide the baseplate onto bracket below the tow hook housing.

Start one (1) 1/2" x 5" bolt with hardware into the back hole on the baseplate.

Install one (1) washer on each side of the baseplate and two (2) to three (3) washers, as able, between the bracket and the baseplate. You may have to tape washers to baseplate.

Then start nylon lock nut, but leave it loose.

Do this on both sides of the vehicle.



### Step 15

Rotate the baseplate upward and install (1) one 1/2" X 1" S-Con washer, and handle nut into the bottom hole on the baseplate and torque to 110 ft-lbs.

Make sure the handle is pushed to the side as shown in the photo.

Do this on both sides of the vehicle.

Once the bottom bolt is installed and torqued properly, torque the rear bolt from step 14 to 64 ft-lbs

\*\* Use Loctite® Red on all bolt threads and tighten all bolts to the appropriate torque. \*\*



### Step 16

Using a 1/2" drill bit, drill out the back slotted hole using the baseplate as a template as shown in photo.

Do this on both sides of the vehicle.

Note: Ream out the rest of the side holes with 1/2" drill bit as needed.



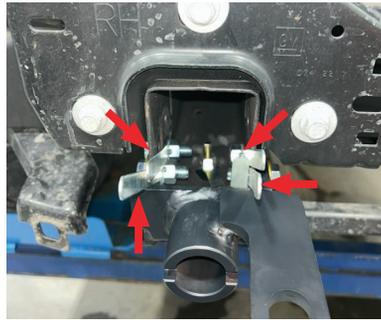
### Step 17a

Install four (4) 1/2" x 1-1/2" bolts with S – Con washers, and handle nuts and tighten them.

Then tighten the bottom two (2) bolts on bracket below the tow hook housing. Torque to 110 ft-lbs.

Do this on both sides of the vehicle.

\*\* Use Loctite® Red on all bolt threads and tighten all bolts to the appropriate torque. \*\*



### Step 17b

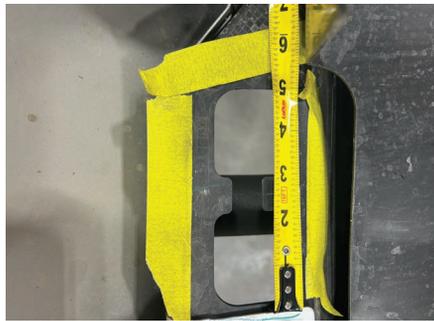
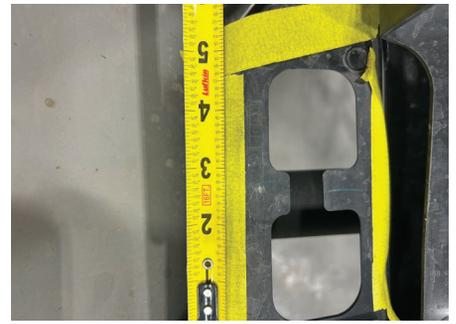
Once all bolts are tightened to the specified torque bend in all of the handles on the nuts so they are out of the way.



### Step 18

Using a reciprocating saw, trim the back of the bumper around each tow hook opening as shown to allow clearance for the baseplate.

Trim as needed for the best fit.



### Step 19

Using a reciprocating saw, cut the bottom right of center rib on the grille to allow clearance (trim as needed for proper fitment) for the electrical rods.



### Step 20

Attach the permanent baseplate safety cables to the provided convenience link on the baseplate.

These photos show the recommended installation of the cables to the frame of the vehicle.

Additional options may interfere with the suggested mounting; in this case, secure the cables to a solid piece of the frame.

Be sure the safety cables do not rub against any hoses or moving parts.

Do this on both sides of the vehicle.



## Step 22

Reinstall the bumper at the bottom of the shutter housing.

Attach the electrical mounting bracket to the vehicle using two (2) 1/2" x 1" bolts with nylon lock nuts.



## Step 22

Reinstall the skid plate, grille, and fascia cover.

Make sure all electrical connectors and hoses are connected properly.

Note: The electrical mounting rods may need to be bent to fit into the grille.



## TOWING BASICS & SAFETY INFORMATION

For information on safely towing your trailer, visit [curtmfg.com/understanding-towing](https://curtmfg.com/understanding-towing).

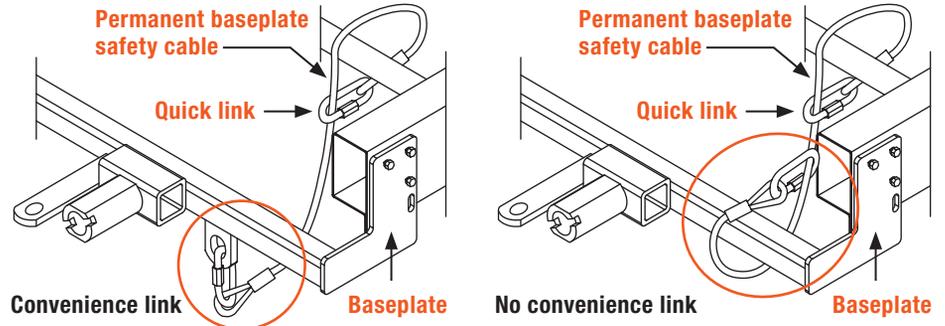
# SAFETY CABLE INSTALLATION

## Installing the Permanent Base Plate Safety Cables

When dinghy towing a vehicle with a tow bar, base plate safety cables should be used at all times. In the event of a disconnect, the safety cables are designed to help prevent complete vehicle separation. When installing the safety cables, use the illustrations below as a guide.

### Installation guidelines

1. The cables must be connected to the base plate and the vehicle frame.
2. Two cables must be installed.
3. Each cable must meet or exceed the gross weight of the towed vehicle.
4. Make sure cables do not pinch or interfere with hoses, wiring or other components.



**Note:** Base plate safety cables are not a replacement for safety chains connecting the tow vehicle to the towed vehicle.

## ADDITIONAL INFORMATION

### Towing Tips

<b>Check your equipment</b>	Periodically check the condition of all towing equipment. Ensure all fasteners are tight and that all structural components are sound. Do not tow with worn or damaged parts.
<b>Vehicle manufacturer's recommendations</b>	Review the owner's manual for your towed vehicle and towing vehicle for specific recommendations, capacities and requirements.