



Hercules
Towbar & Brake Combo
#10002



Installation Instructions



Limited Lifetime Guarantee

N.S.A. RV Products, Inc. warrants to the original owner only that this product will be free from defects in material and workmanship upon original purchase.

The lifetime Guarantee on the Ready Brute Elite unit covers the Ready Brute Elite from front to back 100% replacement to the original owner only. The Lifetime Guarantee does not cover damage resulting from tamper, abuse, unreasonable use, mistreatment, negligence or accidental breakage. The Guarantee also does not cover any hardware, cables or any component of the DL-300 In-Dash Light Monitoring System or the safety cables.

IN NO EVENT WILL N.S.A. RV PRODUCTS, INC. BE LIABLE FOR ANY SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGE, RESULTING DIRECTLY FROM POSSESSION, MISUSE OR IMPROPER CARE OF THE READY BRUTE ELITE UNIT.

Returns

Anyone wishing to return merchandise must call to obtain authorization to do so.

- 1.) 30 day money back guarantee begins on date of purchase.
- 2.) When we receive a return our Q.C. department will inspect the items and determine a refund amount to be issued.
- 3.) Shipping charges are non-refundable and we do not pay return shipping fees.
- 4.) Late returns will be charged a 20% restocking fee.

Before you get started

To ensure that you get optimum results from your Hercules tow bar please read through the instructions. The Hercules provides the towing and braking assistance you need for your towed vehicle, but only when it is used according to the manufacturer's instructions. **NOTE the following:**

Base plates need to be installed on your towed vehicle prior to installing the Hercules.

N.S.A. Hercules Towbar is rated for 12,000 lb. towing capacity. Be sure that the towed vehicle mounting brackets, safety chains and hitch pins are also rated higher than the towed vehicle weight. (Tow car base plates are not included)

Installing your Ready Brake

Make sure the receiver on your motor home is clean and free from debris before placing the Ready Brake into the receiver tube. Align the holes of the Ready Brake and your hitch's receiver tube. Use a standard 5/8" cross pin to secure the Ready Brake in the receiver. The actuator arm on the Ready Brake can travel 3 1/2" toward the bumper on the motor home. Allow for clearance. Most motor homes have a standard 6" deep receiver but some are shorter. In case of a shorter depth it is ok to cut 1" off the end of the 2" square tube of the Ready Brake to allow it to fit a shorter receiver.

Step 1. Drill a hole in the firewall where the internal cable conduit will be attached. Depress the brake pedal and mark a spot with chalk on the firewall or floorboard directly across from the depressed brake arm allowing for a straight pull between the brake pedal arm and the hole. (Fig. B)

Step 2. Make sure there is no obstruction on the engine side of the firewall. Pull back the carpet and drill a 1/8" pilot hole allowing your drill bit to barely go through the firewall. If anything is interfering with this location, drill another pilot hole. Remember to maintain as straight a line as possible.

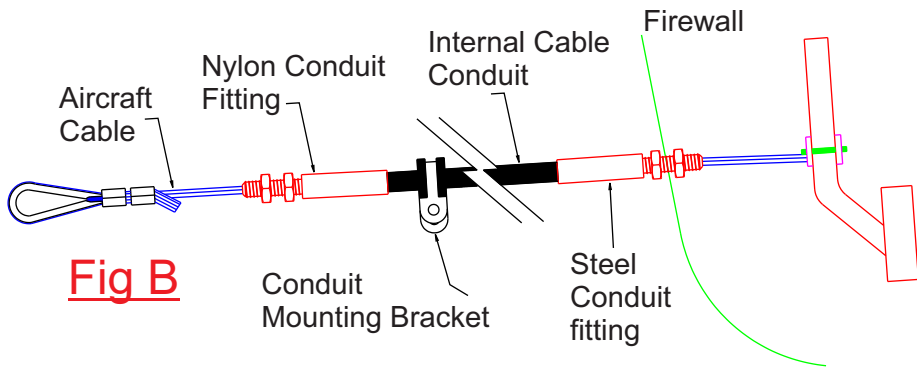


Fig B

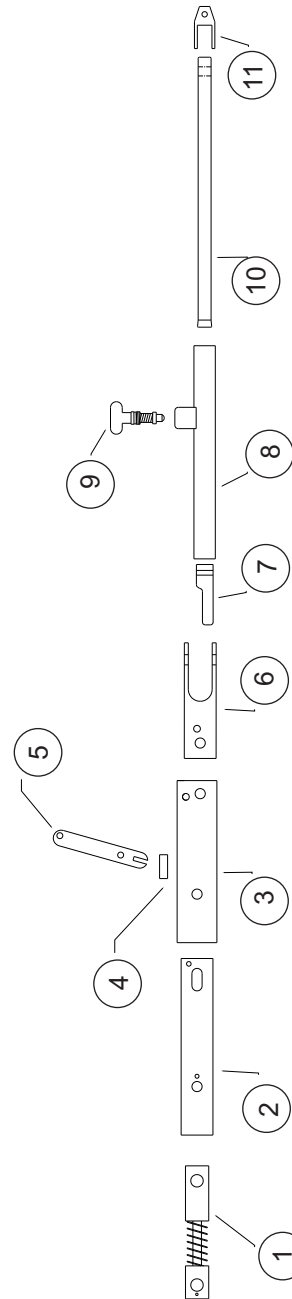
Step 3. Install the Ready Brake conduit fitting. When you have no obstructions in the firewall, enlarge the hole for the steel conduit fitting using a 5/16" bit. Cut a small slit in the carpet where the hole is and slide the steel conduit fitting through the hole from the engine side of the firewall. Secure the steel conduit fitting with the nuts and washers provided. This should protrude through the firewall as little as possible into the car.(Fig B)

Tip: If the area where you have drilled the hole for the black cable conduit is congested, put a small dab of silicone (RTV) between the nut and the washer to keep the parts from falling off during installation.

Step 4 At the front (near center) of your towed vehicle, select a location for securing the front end of the Ready Brake black internal cable conduit with the provided nylon fitting. In order to alleviate any slippage of the black conduit, we have added a white nylon fitting to be placed at the front of the towed vehicle.

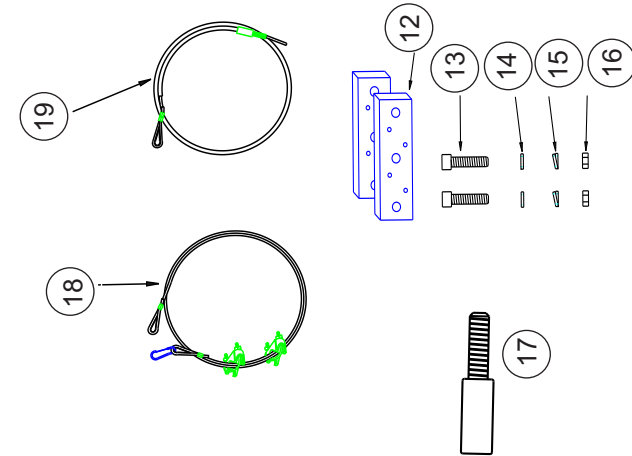
A. If the fitting can be mounted by pushing it through a 3/8" drilled hole in the bumper, baseplate mount or cross member, use the nylon nut that is supplied to hold the fitting in place.(Ex.#1 pg. 4) Or the fitting may be mounted using the clamp provided by placing the clamp around the threaded part of the fitting and bolting to a flat surface of the bumper, cross member or baseplate bracket (as shown in Ex. #2, page 4).

B. Cut the black conduit approximately 3/4" short of the place that you have selected to connect it at the front of the of the towed vehicle. (A cut-off wheel like a Dremel tool works well for this)



Maintenance

The only items on this tow bar that need to have any maintenance is the connection where the black actuator arm #5 connects to the inside brake body inside #2. The tow bar is designed to be pretty much maintenance free.



Ref#	Qty	Description
1	1	Shock Complete
2	1	Inside brake body #10032
3	1	Combo Head #10021
4	1	Holder #10022
5	1	Actuator Arm #10023
6	4	U-Joint #10011
7	1	Elbow #10012
8	1	Outside tube #10009
9	1	T-Handle #10033
10	1	Inside tube #10001
11	1	Clevis
12	1	Brake Tie
13	2	1/4-20 x 2 1/4" SHCS
14	2	Washer
15	2	Split Washer
16	2	1/4-20 Nut
17	1	Nylon Fitting
18	1	Sling Cable
19	1	Cable Conduit Assembly

SAFETY CABLE INSTALLATION:

SAFETY CABLES MUST CONNECT THE TOWING VEHICLE TO THE TOWED VEHICLE FRAME TO FRAME. DO NOT USE DAMAGED CABLES!

1. Using the cable hooks, attach the cables to a solid part of the chassis of the towed vehicle.
2. Wrap each cable once around their respective towbar leg.
3. Using the cable hooks, attach the opposite ends of the cables to a solid part of the RV's chassis. The preferred method would be to criss cross the cables. For example: Left side of car to right side of RV.
4. When attaching the safety cables it is important to allow enough slack for towbar & towed vehicle's turning radius. It is equally important that the safety cables not be allowed to drag or touch the ground. If this happens, the cables may become damaged and ineffective.
5. Be sure each cable used has the proper length and load rating for the towbar being used.

How to Install Clevis Connectors on a Hercules Tow Bar



After removing the tow bar from the box you will see the end of the legs have no clevis's to hook to any brand of baseplate. You will need to install these clevis connectors.

With two 3/4" wrench's take the 1/2" bolt out of the tow bar leg. While pulling the 1/2" bolt Slide a clevis onto the tow bar leg and reinsert the 1/2" bolt through the leg.



Put the 1/2-13" nylock nut on the bottom of the 1/2" bolt. Tighten the nut with the the 3/4" wrench until the nut squeezes the ends of the clevis. Do not over tighten so that the clevis can't pivot back and forth. Make sure the nylon in the nylock nut is past the threads.

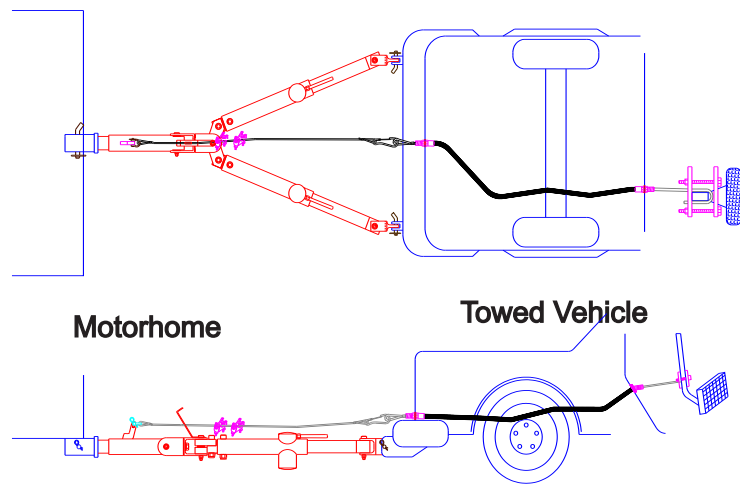
Repeat this process for the other leg and you are ready to tow.

- C. Run about 12" of aircraft cable through the nylon fitting and into the black conduit to get started. (If you don't get it started in this manner it will be difficult to put it through the nylon fitting once the fitting is on the conduit.)
- D. Push the nylon fitting over the cut end of the black conduit, then thread the cable through the black conduit.

Step 5. Attaching the aircraft cable to your towed vehicle's brake pedal.

- A. Place the black brake tie on the bottom of the brake pedal arm. Thread the aircraft cable through the small hole of the bottom piece of the brake tie. Loop it around the brake pedal arm then back through the second small hole on the right.(Fig C)
- B. Put the top piece of the brake tie on the front of the brake arm.
- C. Using the 1/4" x 2 1/4" bolts, nuts and lock washers lock the brake tie tightly around the brake pedal arm.(Fig C) Keep in mind if you are working on a vehicle with adjustable pedals to place pedals in highest position. Always tow with pedals in the highest position.
- D. Trim excess aircraft cable from the bottom of the brake tie.

Note: The brake tie and cap screws provided fit the brake arm on most vehicles. (You may need a longer bolt), If you experience any difficulty, please call N.S.A. RV Products at 620-365-7714



****Please Note:** Some vehicles have double-wall or uni-body frame boxes at the point you need to run conduit through the floorboard (Ford-Windstar, Honda-CRV, Etc.). If so, you may be able to go 2-3" in either direction and find only one thickness of floorboard. The easiest way to hook the brake pedal to the aircraft cable is to remove the brake pedal pad (rubber part) and drill a small hole for the cable to go through. Drill a second hole near the brake arm. Pull the cable from the firewall through the hole of the pedal and go across the face of the pedal and push it back through the pedal. Hook to the arm as described in step 1. Then replace pedal pad.

Adjusting The Ready Brake

Step 1. Prepare your motor home and towed vehicle for towing.

- A. Hook the tow vehicle to the motor home as normal. Make sure the vehicles are aligned straight (IMPORTANT) and the tow bar, chains, lights, etc. are connected properly.

Step 2. Make sure your towed vehicle's brakes are in an idle position.

- Do not apply pressure to the towed vehicle's brake pedal when you are adjusting the aircraft cable sling that drapes across the tow bar by pulling on the cable.
- B. Fig D #1 This side attaches to the black actuator arm on the ReadyBrake. #2 attaches to the loop sticking out of the front bumper. Keep in mind this sling moves so do not allow #3 to come in contact with the towbar black stow strap. (Fig #13 page 11)
- C. Using an 8mm hex wrench, tighten the two nuts on the cable clamp so that the wire sling length is no longer adjustable. Make sure one clamp is up against the aluminum sleeve and against thimble on one end.

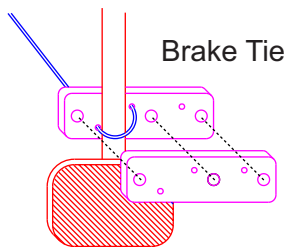


Fig C



Fig D Black Sling

- D. A good way to check your adjustment is to lift up on the cable at the center and see how far it will raise before movement can be seen on the car's side of the cable. There should be about 2-3 inches of movement.
- E. After the cable clamp has been tightened, make sure that towed vehicle's brake lights remain off. If the lights are lit, loosen the cable clamp and slacken the cable, again tighten the cable clamp and check the towed vehicles's brake lights. When the adjustment is complete, the brake lights will remain off.
Note: some brake light switches are very sensitive.
- F. The black conduit, when properly installed, should work easily. The cable should go in and out freely when the brake pedal is stepped on.
- G. If desired, connect a bungee cord from the brake pedal to the seat frame while towing. This will allow for added return pull on the brake pedal.

Installing Hercules Towbar

- Place the Ready Brake drawbar portion into the receiver tube on the RV and secure it with a standard 5/8" cross pin. The drawbar is designed to fit in a 6" depth receiver. If yours is 5" it is ok to cut 1" length off the end of the drawbar.
- The actuator arm on the Ready Brake can travel 3 1/2" towards the bumper on the RV so allow for clearance.
- Hooking to the towed vehicle's baseplate
 - Pull the car close enough to connect towbar to baseplate.
 - Grab a clevis (Figure D) and connect it directly to the baseplate using the pin and hair pin cotter in the clevis. Repeat this for the other tow bar leg.
 - Now go ahead and drive your motorhome forward until the tow bar legs extend out and the T-handle drops down. (Figure E)



- D. Always make sure the legs are extended out for towing.
- E. After the legs are extended and locked you can hook up the sling cable for the Ready Brake. Do not do this until the pins are down and locked in.