

**READYBRAKE
INSTALLATION INSTRUCTIONS
NIGHT SHIFT AUTO, INC.**

Before you get started

To insure that you get optimum results from your Readybrake towed-vehicle braking system, please read through the instructions. The Readybrake braking system provides the braking assistance you need for your towed vehicle, but only when it is used according to the manufacturer's instructions.

Please NOTE the following.

- 1. Your Readybrake must be level with the tow bar on your towed vehicle.**
- 2. Your Readybrake must be used only with vehicles being towed with all 4 wheels on the ground.**
- 3. The loaded weight of your towed vehicle must not exceed the weight-rating on any of your towing accessories.**
- 4. Tow Bar is always hooked directly to the "Ready Brake" Do Not put any kind of drop between them.**
- 5. No adjustments are made by turning the nut on the end of "Ready Brake". The nut is the shock rod mount. Adjustment at the factory should not be needed unless it becomes loose.**

If your tow bar is more than two inches lower or higher than the Readybrake mounting tube, your Readybrake will not operate at maximum efficiency. Please call us if you need help in adapting your existing receiver hitch.

Installing your Readybrake

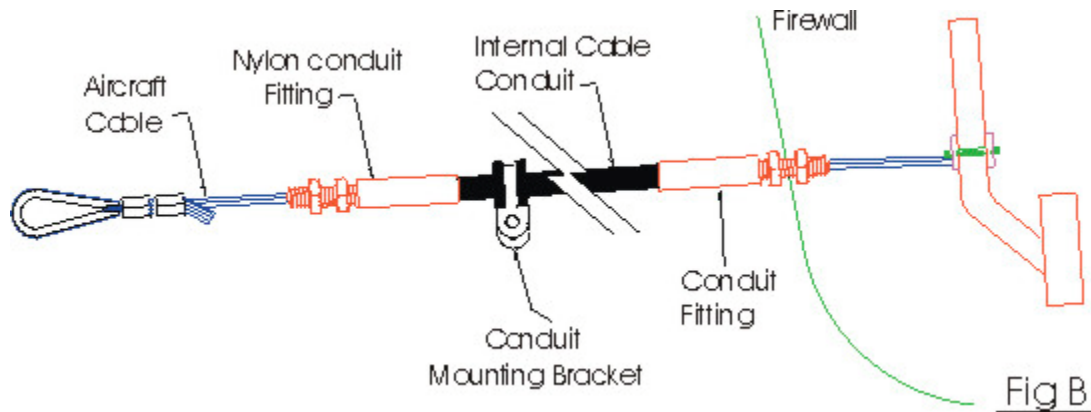
Place a small amount of grease in the receiver tube of your motor home's hitch. Then place the Readybrake into the receiver tube. Align the holes of the Readybrake and your hitch's receiver tube. Use a standard 5/8" cross-pin to secure the Readybrake in the receiver. The actuator arm on the Readybrake can travel 3 1/2" toward the bumper on the motor home. Allow for clearance.

- The "Ready Brake" has a small amount of preload on the internal spring. The lever must be moved slightly forward (towards motorhome) to install the 5/8" pin through the receiver and the "Ready Brake" on motorhome.**

Installing the Readybrake Internal Cable

STEP 1. Locate a hole in the firewall where the Internal Cable Assembly Conduit will be attached. Depress the brake pedal and mark a spot, with chalk, on the firewall directly across from the depressed brake arm, allowing for a straight pull between the brake pedal arm and the hole. **(See Figure B)**

****Please note:** Some vehicles have double wall or unibody frame boxes at the point you need to run conduit through the floorboard (Ford-Winstar, Honda-CRV, ETC.) If so, you may be able to go 2-3" in either direction and find only one thickness of floorboard. You will then need to remove the brake pedal pad (rubber part) and drill a small hole for the cable to go through at the end of the pedal. Drill a second hole in the pedal, near the brake arm. Pull the cable from the firewall through the hole at end of the pedal and push it back through the pedal. Hook to the arm as described in step 1.



STEP 2. Make sure there are no obstructions 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.

STEP 3. Install the Readybrake Conduit Fitting. When you have no obstructions in the firewall, enlarge the hole for the Readybrake conduit fitting using a 5/16" bit. Cut a small slit in the carpet where the hole is and slide the conduit fitting through the hole from the engine side of the firewall. Secure the conduit fitting tightly with the nuts.

For best results, the conduit fitting should protrude through the firewall as little as possible into the car. (See Figure B) 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 help the parts from falling off during installation..

STEP 4. Placement of the Readybrake Black Internal Cable Conduit from the firewall to the front end of your towed vehicle. Select a route that allows for each of the following:

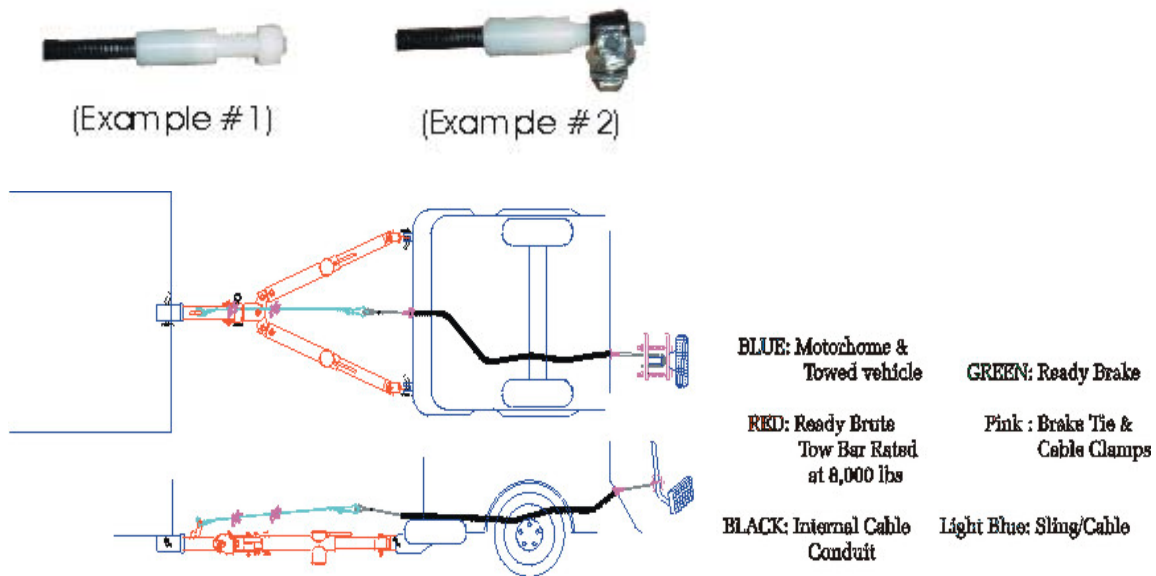
- A. The conduit must not interfere with any moving parts of your towed vehicle.
- B. The conduit must clear all hot parts in your engine compartment.
- C. The conduit must not make any sharp bends that will result in crimping the cable wire inside it. (6" radius or larger)
- D. The conduit must exit at the front end of your towed vehicle.
- E. The Black Cable Conduit needs to be anchored in many places along the route to the front of the towed vehicle, especially bends. When being pulled, the cable will try to straighten the conduit. Being secure is a priority.

STEP 5. At the front (near center) of your towed vehicle, select a location for securing the front end of the Readybrake Black Internal Cable Conduit with the provided nylon fitting. In order to alleviate any slippage of the black conduit, we have added a nylon fitting to be placed at the front of the towed vehicle.

- A. Trim the black conduit at the front bumper of the towed vehicle approximately 3/4" short of the place that you have selected to connect the conduit at the front of the towed vehicle. The selected connection point needs to be near the center.
- B. Run about 12" of cable through the nylon fitting and into the conduit to get started. (If you do not get it started in this manner, it could be difficult to put it through the fitting once the fitting is on the conduit.)
- C. Push the nylon fitting over the cut end of the internal cable, then push the cable & nylon

- fitting on to the black conduit and thread the cable up through the firewall.
- D. The fitting may be mounted by using the clamp as stated in the Readybrake Instructions by placing the clamp around the threaded part of the fitting instead of the conduit. (Example #2) If the conduit can be mounted by pushing it through a 3/8" drilled hole in the bumper, base plate mount or cross member, use the nylon that is supplied to hold the fitting in place. (Example #1)

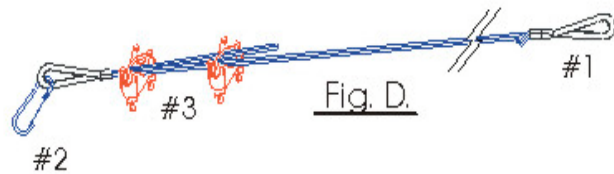
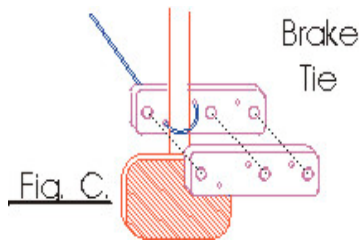
Note: Nylon fitting holds the FORWARD end of the conduit. The nuts and washers hold the FIREWALL end of the conduit. The conduit will make bends in route and will require zip ties to anchor it in place when the cable is pulled. Once installed, the Internal Wire Assembly Conduit must not move. Use heavy duty zip ties to anchor the conduit along the route, especially at bends. The Conduit should be as close to the center of the towed vehicle as possible.



STEP 6. Installing the Aircraft Cable Wire to your towed vehicle's brake pedal.

- Feed the cable through the conduit housing from the front bumper to the tow vehicle's brake pedal.
- Thread the 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. (See Figure C)
- Put the top piece of the brake tie on the front of the brake arm.
- Using the 1/4" x 2 1/4" cap screw, nuts and lock washers, lock the Brake tie tightly around the front and back of the brake arm. (See Figure C)
- Trim excess cable from the bottom brake tie.

Please 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, phone NSA at 1-800-933-3372.



Adjusting The Readybrake

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

- A. Attach and lock the tow bar to the Readybrake
- B. Hook the tow vehicle to the motorhome as normal. Make sure the vehicles are aligned and the tow bar, chains, lights and 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 peddle when you are adjusting the wire-cable. Pump the peddle of the towed vehicle several times to insure that the brakes are in an idle position. Then release the brake peddle.

Step 3. Adjust the Wire sling Assembly (See figure D) The adjustable wire sling assembly is used to connect the Readybrake to the cable thimble on the towed vehicle.

- A. The two holes in the actuator arm are for different weighted vehicles. Use the top hole for towed vehicles weighing 5,000 lbs. or less. The bottom hole is for towed vehicles weighing more than 5,000 lbs. The top hole will give more travel and less strength in the pull while the bottom hole give less travel and more strength in the pull.
- B. Attach the thimble (Fig. D #1) to the clevis on the actuator arm of the Readybrake.
- C. Using the spring clip (Fig. D#2) attach the other end of the adjustable wire sling to the cable loop protruding from the front of your towed vehicle.
- D. Take the slack out of the wire sling by pulling on the end of the cable. Tighten the wire sling until the brake lights on your towed vehicle are just about to be activated.

Please Note: You will need someone to stand at the back of the towed vehicle to alert you immediately when the brake lights come on. Slightly loosen the cable on the wire sling until advised that the brake lights have gone out.

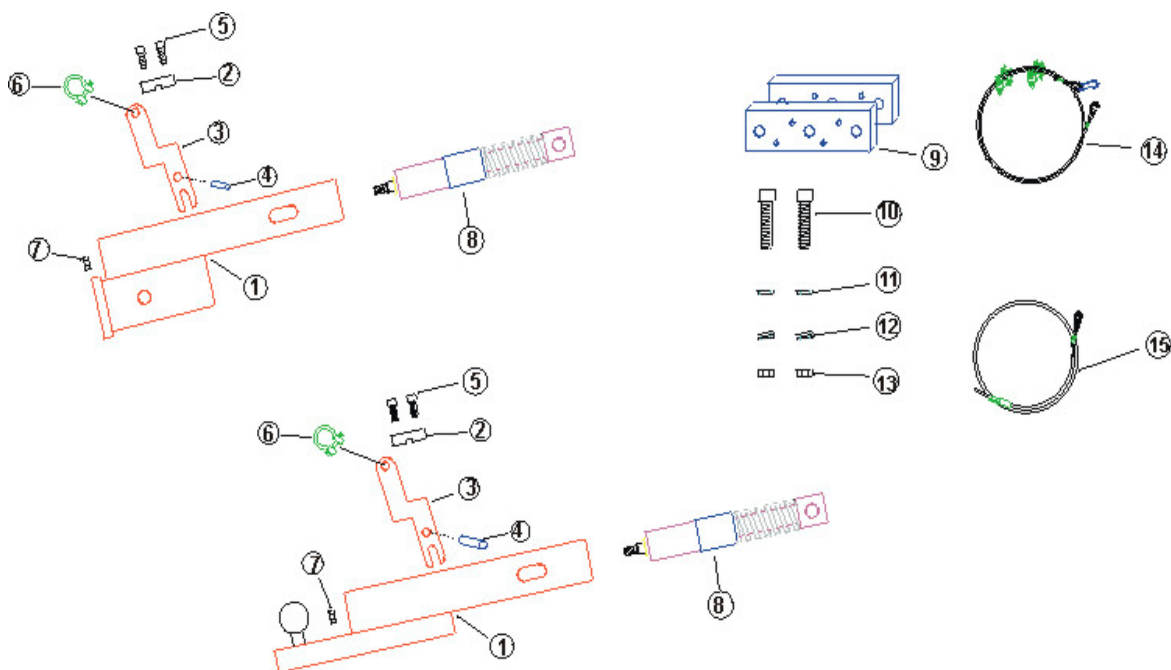
- E. Using a 7 mm hex wrench, tighten the two nuts on the cable clamp (Fig. D, #3) so that the wire sling length is no longer adjustable.
- F. After the cable clamp has been tightened, make sure that the towed vehicle's brake lights remain off. If the lights are lit, loosen the cable clamp and slacken the cable and again tighten the cable clamp and check the towed vehicle's brake lights. When the adjustment is completed, the brake lights will remain off. **Note:** Some brake light switches are very sensitive.
- G. The black conduit, when properly installed, should work easily. The cable should go in and out when the brake pedal is stepped on.
- H. If desired, put a bungy-cord from the brake pedal to the seat frame when towing. This will allow for added return pull on the cable.

Road Testing Your Readybrake

You are now ready to "road test" the Readybrake and make final adjustments that may be required. During the "road test" keep the following in mind:

- The Readybrake actuator arm should point towards the towed vehicle when moving down the road.
- When the brakes of the motor home are applied, the actuator arm moves towards the motor home to actuate the towed vehicle's brakes.

Ref#	Qty	Part#	Description
1	1	H-500	Readybrake
2	2	H-300	Actuator Arm Pin Holders
3	1	H-400	Actuator Arm
4	1	H-005	3/8" x 1" Actuator Arm Pin
5	4	RB-006	1/4-20 x 5/8" Cap Screw
6	1	RB-015	Clevis and Pin
7	1	RB-016	3/8 - 16 Lock Nut
8	1	H-1600	Shock Body
9	2	H-1200	1/4" x 2" Brake Tie
10	1	RB-010	1/4" - 20 x 2 1/4" Tap Bolts
11	2	RB-011	1/4" Zinc Washer
12	2	RB-007	1/4" Lock Washer
13	2	RB-013	1/4" - 20 Hex Nut
14	1	RB-014	Adjustable Wire Sling
15	1	RB-012	Towed Internal Wire Assembly



LIFETIME WARRANTY

NSA, Inc. Warrants to the original owner of this product that it will be free from defects in material and workmanship and has a lifetime guarantee on the Ready Brake. Which includes all

components inside and out of the Ready Brake only. The owner registration card must be completed and returned to NSA, Inc. IN NO EVENT WILL NSA, INC.. BE LIABLE FOR ANY SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGE, RESULTING DIRECTLY FROM POSSESSION, USE OR LOSS OF USE OF THIS PRODUCT.

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