

SCOTTS
Performance Products

Steering Stabilizer



MOUNTING GUIDELINES OWNERS MANUAL SPARE PARTS MANUAL

SCOTTS PERFORMANCE PRODUCTS
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Volume Eight - 2003

Congratulations! You just purchased one of the finest products money can buy for your bike. Please be sure you mount it correctly so it works the way it is intended to. We find a lot of people believe they already know how to install the stabilizer and just throw the instructions away. We spent a lot of time refining these instructions, so you might save yourself some grief and extra expense...it's not so bad, try reading the instructions!

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GENERAL MOUNTING GUIDELINES

1 You're going to pre-assemble everything before permanently mounting or drilling anything. This will insure proper alignment and fit, otherwise you may find some hidden problems you didn't anticipate. Each kit comes with a separate set of instructions in addition to this manual. **PLEASE READ ALL INSTRUCTIONS FIRST.**

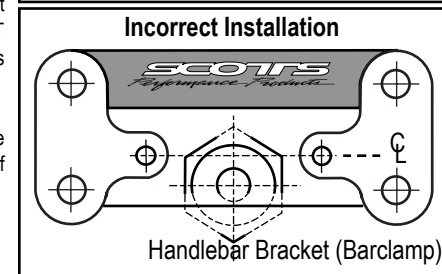
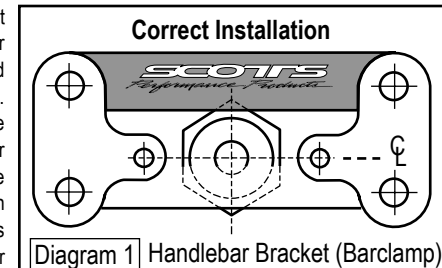
2 Your handlebars require a minimum of 40mm between the crossbar and the main bar in order for the stabilizer to physically fit. For applications with less than this clearance use: oversize bars, such as Protapers, or special Scotts Renthals with formed crossbar.



Renthal was nice enough to make special handlebars for SCOTTS, that incorporates a "bowed" crossbar for extra damper clearance. Unfortunately, Renthal will not sell "just" the Crossbar.

3 Incorrect installation could mean the unit will not function as designed, or could even get damaged. Don't be sorry! Please call us if you have ANY questions. (818) 248-6747

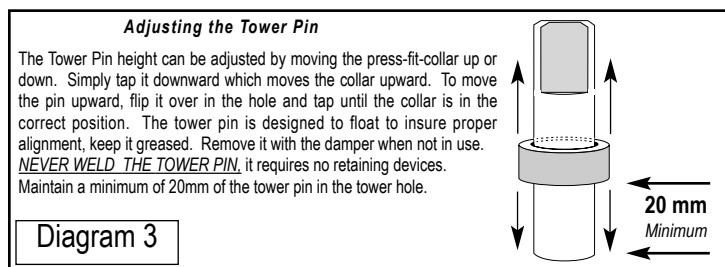
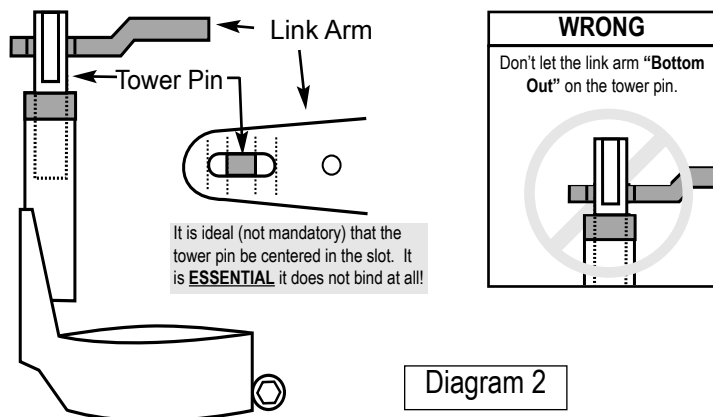
4 A critical point is to insure that the center line of the stabilizer mounting bolt holes be centered over your bike's steering stem. Most off-road bikes have multiple bar mounting positions. Our provided barclamp fits only in the position you specified when ordering. **VERIFY** that it matches Diagram 1, or change your lower perches until it does match. Just because it bolts on does NOT mean it's correct. The bolt holes **MUST** match Diagram 1.



At the right you can view both the correct and incorrect way of mounting.

5 Common Mistakes made during Mounting:

- a) Having the main shaft of the stabilizer NOT positioned over the center of the steer tube
- b) Installing the tower pin without grease.
- c) Not allowing the frame bracket to seat squarely and all the way down on the head tube as designed.
- d) Adjusting the tower pin height incorrectly. Do not allow it to bottom out on the flats.
- e) Not cutting the edge of the seal on the head tube bearing when it interferes.



6 Installing the frame bracket: There are several styles of frame brackets depending on the configuration of your frame. The supplemental instructions supplied with your kit will show the specifics for your bike. Off-road bikes normally require removal of the upper triple clamp, then sliding the frame bracket around the head tube, making sure that the bracket seats tightly and squarely around as much of the head tube as possible. If there is a lip on the inside of the ring portion, it is intended to seat squarely on top of your bike's head tube all the way around. The frame bracket needs to be an integral part of your frame and securely fastened for your kit to function correctly.

7 Replace your stock upper handlebar mounting clamps with the one piece aluminum barclamp provided in your kit. Deburr it first, no sharp edges should contact your handlebar. Try to keep the gap between front and back equal, so you will have room for adjustment. Equally Snug the four handlebar bolts.

8 Mount the damper to the NEW handlebar clamp and tighten two 6x20 Allens. In some cases the crossbar will not clear the damper unit, which can be cured by either "bowing" the crossbar slightly with a mallet or changing the bars. Do not let the crossbar make contact with the damper. Protaper, Renthal and other large diameter handlebars are also available from SCOTT'S, which eliminates crossbar problems.

9 Adjust the tower pin so it just sticks through the top of the damper link arm (See Diag. 2). Do not allow the link arm to "bottom-out" on the flats of the tower pin or the collar. Keep the hole greased so the tower pin is free to float.

10 While sitting on the bike, the damper link arm should line up with the backbone when the bars are aimed straight. Turn the bars gently, left to right, lock to lock, and verify nothing hits or binds. Be sure the steering stops make contact on both sides and that the stabilizer has not become the steering stop. If the steering stops do not work you will fracture the "shear pin", a built-in safety feature for crashes.

11 You must repair broken or damaged steering stops before installing our stabilizer.

12 Bikes with rubber mounted handlebar mounts need the linkarm positioned in the middle of the flats on the tower pin. Rubber mounts allow the link arm to flex downward during riding, this in turn may allow the link arm to bottom out on the frame tower, forcing the internal vane against the body, which causes premature non-warrantable wear!

13 Some models will have interference between the underside triple clamp casting and our bracket ring where it fits over the steering head tube. It feels like your steering head bearing got tight all of a sudden. Simply file or grind the minimum amount off the casting nub to allow clearance for free movement. (This is rare, and should only require slight filing.)

14 Occasionally, due to frame variations, the frame bracket may need filing or slight grinding to clear welds, ignition parts or tank parts. We try hard to make sure they will bolt right on.

15 **WARNING:** Double check all nuts, bolts, cable routing and wires to be sure they are correct! Do not allow cables to be routed where they might get pinched. Taller or extra wide bars normally require longer cables.

16 If you're not sure about anything, please call!

17 Now go and enjoy your new toy, you'll be very pleasantly surprised!

DAMPER CONTROLS



There are three valving circuits on your stabilizer which allows you infinite adjustability. You don't need to feel damping in order for it to be working. Start conservatively and slowly dial in your personal requirements. **Not sure? Call Us!!!**

THE BASE CONTROL VALVE

The Base Valve adjusts the amount of resistance you feel as you turn the bars left to right. As you turn this knob clockwise you will increase immediate flow restrictions, making a stiffer feeling. Counter clockwise would be less resistance, softer feeling.

Starting positions for the base valve are seven to eight clicks OUT from full CLOCKWISE. Start on softer settings at first (8 clicks or more out from full clockwise).

There is a Positive Stop at three full turns out. Do not force the valve into the positive stop. Gradually increase by one click at a time until you become accustomed to the characteristics.

It is not necessary to turn it up for it to be working, the high speed valve still functions.

You do not have to feel drag in order for it to be working.

More than twenty (20) clicks counter-clockwise is basically OFF, however the high speed valve will still absorb impact, depending on where you have it set. (8 Clicks = 1 full turn)

This key feature is to be able to adjust the base valve while riding to compensate for changes in terrain.

You may re-position the pointer by placing thumbs on the brass knob and lifting the pointer off with fingers. Re-position the pointer straight ahead at your most used setting. Now, at a quick glance you know if you're stiffer or softer than your preferred setting.



THE HIGH SPEED VALVE

(Located under the Black Cap which is just pushed on tight.)

This key feature is not found on any other stabilizer and is vital to proper steering stabilizer function!

Ride your Bike to get the feel of the high-speed valve before adjusting it.

CLOCKWISE equals more damping.

This valving circuit is designed to help absorb large, unexpected hits, such as a hidden tree root or pot hole. It reacts to spikes that exceed your current base valve setting.

The high speed valve is pre-set from the factory.

We recommend you leave it alone until you have some experience with your stabilizer.

Start at easy settings (2 turns out) and gradually work into your desired setting.

Warning: Do not adjust this valve too stiff, it can limit your steering response time.

By turning the high speed valve (CLOCKWISE) you will increase the moment at which the high speed will react and its intensity of energy absorption.

The high speed valve has less effect as you turn the base valve setting stiffer. Conversely, it has more effect as you turn the base valve softer.

To test the effect of the High Speed Valve, turn the base valve off. Then select a section of road or trail that you know well, that has obstacles you'd like to test. Gradually adjust the High Speed valve stiffer, one quarter turn at a time, to feel it's effect on each pass of this well-known trail or roadway. The high speed valve is not found on any other stabilizer and is a serious advantage once you learn how it works.

Do not try to test the high speed valve while the bike is on the stand.

THE SWEEP CONTROL VALVES

LOCATED ON BOTH SIDES, these are what control the distance of damping force (or sweep), from the center line out to either side until it releases. The stabilizer is then free to move to the steering stop. This allows for easy steering in tight turns.

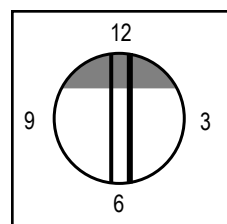
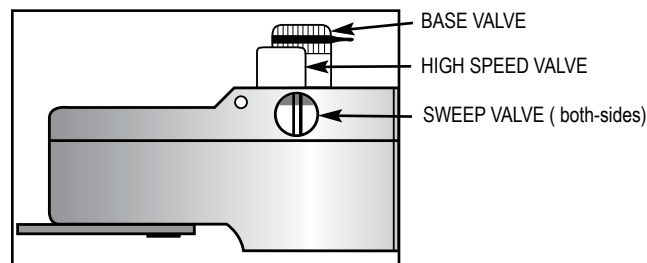
Key Feature: This prevents arm pump commonly created in other stabilizers.

In order to determine where your sweep control is set you'll notice a machined **bevel** on one side of the slot head groove, that is the **POINTER END**. Don't confuse the threaded hole as the pointer, it's the beveled side of the head of the sweep control.

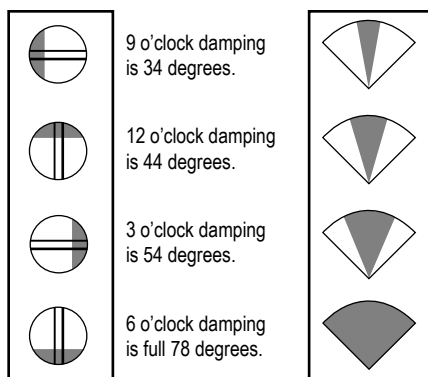
Always look at each sweep control as the **FACE** of a **CLOCK**.

If setting is at 3 o'clock, the right-side valve would face toward the **FRONT** of the bike and the left-side valve would be facing towards the **BACK** of the bike.

At the 12 o'clock setting both would be facing **UP**.
At the 6 o'clock setting both would be facing **DOWN**.



Sweep controls located on each side are normally set at the twelve o'clock position.



TROUBLE SHOOTING:

Binding or Squeaking:

1. Usually indicates a mounting problem. Review mounting procedure.
2. Be sure Tower Pin is greased in the hole and that it floats.
3. Check underneath your triple clamp to frame bracket clearance.
4. Be sure you haven't overtightened your headtube bearings.

Dampens more to one side than the other:

1. If It's new, give it a little time to seat the valving.
2. The oil is dirty and it needs servicing.
3. Check the Sweep Control positions
4. Too much damping; check where the knobs are set.

Little or no damping:

1. Check the Base Valve Settings.
2. Debris in valving or worn parts internally, probably needs service.
3. Shear pin on bottom has broken due to a crash or over stressing. This can be replaced easily by removing the link-arm with a link-arm puller (available from Scotts) and installing a new shear pin.

Crossbar Clearance:

- 1) Steel crossbars can be bowed slightly for additional clearance if needed. However, we recommend bars with more clearance to the cross bar (or bars that come with no crossbar) for correct installation. Do not remove a crossbar.

MAINTENANCE:

Your Scotts steering stabilizer is a precision hydraulic damper with tight tolerances. You should give it the same good care you would give your motorcycle engine or suspension. Oil changes are relative to how much it gets used. Regular oil changes are beneficial but not mandatory unless conditions are abnormal. We recommend Scotts Damper Fluid. Other oils can be used but could affect damping characteristics.

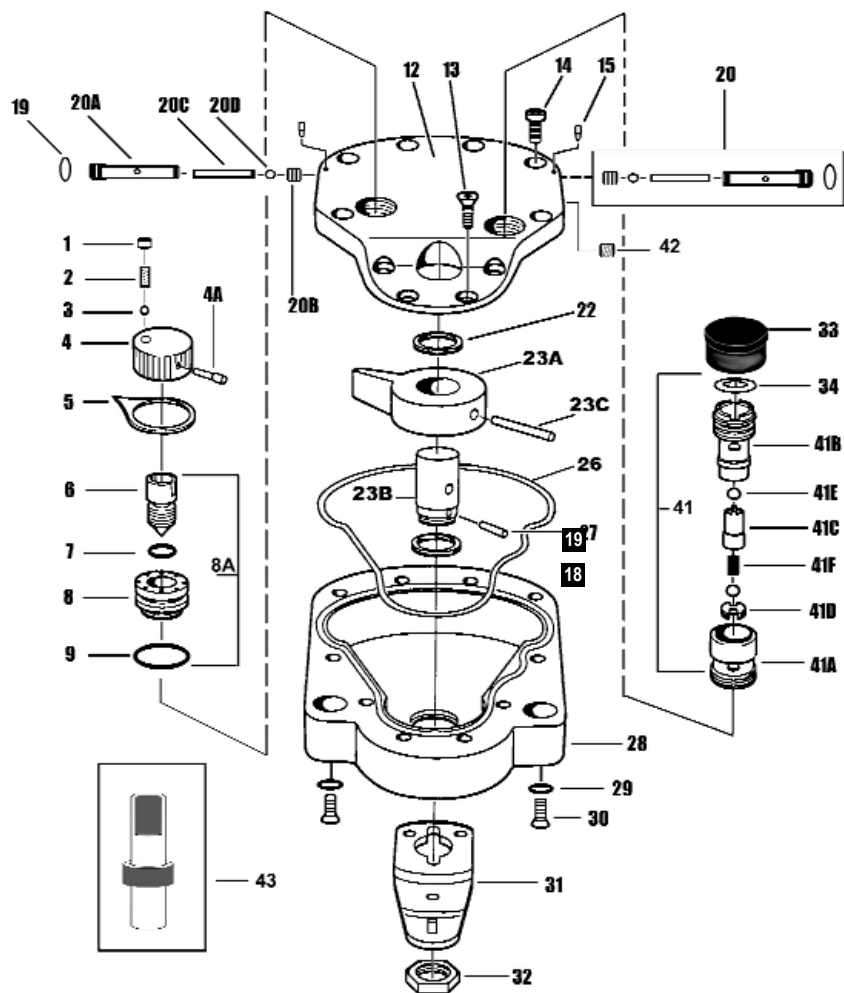
Normal washing will not hurt the stabilizer. However, avoid high pressure washing directly aimed at the main seals.

Maintenance tools and instructions are available upon request or can be downloaded from our website: www.scottsonline.com.

Do not try to remove the linkarm without a linkarm puller (Part Number 9007-03) or damage to the seal area could occur.

Scotts Performance uses only the highest quality materials, and if properly mounted the stabilizer needs very little attention. Should you require parts or maintenance, we offer fast, reliable, technical service.

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Number	Part #	Qty	Description
1	1502-04	1	Set screw
2	4017-01	1	Spring
3	0884-04	1	Steel ball
4	4016-01	1	Knob with pin
5	4030-01	1	Pointer
6	4015-01	1	Needle only (Off-Road)
	4015-02	1	Needle Only (Road Bikes)
7	0338-14	1	O-ring (needle to base valve)
8	4003-01	1	Base valve (needle, seat & o-ring)
9	0338-57	1	O-ring (knob to base valve)
12	4001-01	1	Top housing cover (Bare - Off-Road)
	4001-02	1	Top housing cover (Bare - Road Bike)
13	0382-04	4	Screw (Countersunk head)
14	1046-10	6	Screw (Cap head)
15	4006-01	2	Retainer pin
19	0338-14	1	O-ring (sweep control)
20	4035-01	1	Sweep control assembly (Off-road)
	4035-02	1	Sweep control assembly (Road Bike)
22	1027-02	2	Main seals
23	4028-01	1	Main wing assembly
26	0338-55	1	O-ring (Top cap to body)
27	4009-01	1	Shear pin
28	4002-01	1	Main housing (Body)
29	0338-56	2	O-ring (Bottom bleed hole)
30	0382-05	2	Screw (Bottom bleed hole)
31	4031-01	1	Link arm straight
	4032-01	1	Link arm stepped
32	4010-01	1	Nut
33	4024-01	1	Black cover (high speed valve)
34	0338-57	1	O-ring high speed valve
41	4005-01	1	High speed valve assembly (Off-road)
	4005-02	1	High speed valve assembly (Road Bike)
43	4033-00	1	Tower Pin And Collar

SCOTTS BILLET TRIPLE CLAMPS



6061 Aircraft Aluminum triple clamps complete with matching barclamp to mount our damper. Increased clamping area, reduced flex, optional bar mounting positions and anodized for long term usage. Available for most late model bikes. This insures proper mounting alignment, a common problem with other brand triple clamps.

THE DASHBOARD

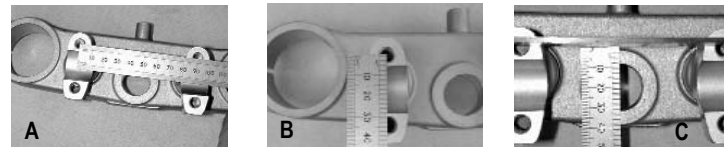
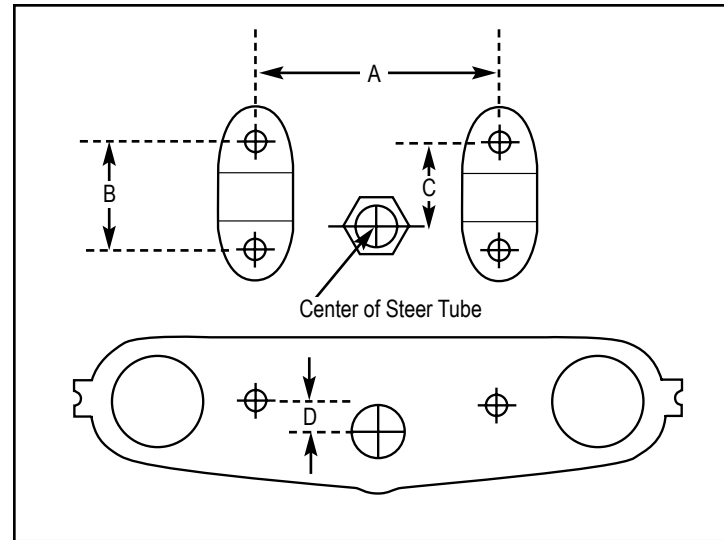
For those of you who want to mount an enduro computer *with* your damper, Scotts makes billet "dashboards" as shown below. The dashboard is made from 6061 aluminum and is designed to protect your expensive computer investment. It can be used with or without a stabilizer. Available for most common computers (Please call us).



HOW TO DETERMINE WHAT HANDLEBAR CLAMP YOU NEED:

Helping Hint: measurements are made more accurate by using a straight edge to lay across the center line of the bolt holes and the center line of the steer tube. Sight over the top when lining up over the steer tube, with the handlebars off & out of the way.

- A= The distance in "mm" from the center of the left bolt hole to the center of the right bolt hole that hold your handlebars tight.
- B= The distance in "mm" from the center of the front bolt hole to the center of the rear bolt hole that hold your handlebar tight.
- C= The distance in "mm" from the center line of the front bolt holes to the center of the steering tube. Be accurate! On some models the lower handlebar perches can be rotated 180° which would change dimension "C". Be sure they are in the position you are going to use before you measure. If you are not sure which position you want, send measurements from both "C" positions, we may only have one choice available.
- D= After removing the lower handlebar perches from the crown, measure the distance from the center of the lower perch mounting hole to the center of the steering tube hole.





Some applications require the Stabilizer to be mounted in the "Reverse" position in order to clear crossbars, computers, or other items. This position can be achieved by reversing the stepped link arm. A link arm puller (Scotts Part Number 9007-03) is recommended for this operation. (Flat link arms cannot be reversed.) Reversed mounting does not effect the bracketry or function of the stabilizer. It is simply an option to accomodate mounting differences.

In an effort to provide our stabilizer for some of the applications which cannot use the unit in the standard mounting location, Scotts developed a lower mounting system that would not compromise any of the highly refined attributes of our stabilizer. For the users who wanted another mounting position the compromise of being able to adjust it while riding was worth the trade off. The low mount unit mounts to a special plate on the front fender, so the adjustment feature is not far off. (There are limited applications available for the low mount.)



The XR 250, 400 and 650 have an optional "Forward" mount kit that was developed for Team Honda to race the Baja 1000. Having won 6 consecutive Baja 1000's with this set-up is proof of its durability. This style mount leaves quick access to the oil filler hole, but requires relocating the odometer. Scotts offers a stainless steel relocation bracket for the odometer.

Scotts offers high quality replacement Bar Mount Cones for KDX, KX and CR's that have rubber mounted handlebars. These not only absorb vibration better, but do not flex as much as the stockers which can make your bars feel bent. These also provide more clearance for our frame bracket and in some cases improve stabilizer mounting ease.



We offer Universal mounting kits that provide the ability to adapt our stabilizer to those "Hard to fit" bikes. There are some limitations with the Universal kits, but we've had great success so far.



Lifetime - Reuseable Oil Filters

Scotts Performance took oil filters one step higher and created a 304 medical grade stainless steel mesh filter. It filters better, it's washable and reuseable, basically lasts forever and best of all it allows oil to flow through during cold startups as opposed to opening the bypass valve and letting dirty oil warm your motor up. It filters particles almost as small as white blood cells and still flows up to 57 gallons per minute at 70 f and 1 psi. Impressed? Just think what your motor will say. Buy the very best and protect your investment. Available for almost any four stroke motorcycle, road bike or quad.

Billet Sharkfin

"The finest brake rotor protection made." Made from 6061 aluminum this is the only billet fin made that incorporates the brake carrier and fin as one integral piece, making it virtually indestructible. The rear axle passes through the part. Precision CNC machined to exacting specifications for a perfect fit. Attractive and functional. Sharkfins that bolt to your swingarm tabs are not only weak but threaten damage to your swingarm on large impacts. If you want the best, this is it.



HERE'S WHAT THE PROS HAVE TO SAY ABOUT OUR DAMPER

DIRT BIKE MAGAZINE:

"Having one of these is almost like cheating! The smartest thing we ever did was put a SCOTTS Damper on!"

MOTOCROSS ACTION MAGAZINE:

"The most advanced, high tech, well-made and adjustable steering control in the world!"

DIRT RIDER MAGAZINE:

"This little gem is worth every penny! Completely removed headshake and improved the bike's manners everywhere. One of the best investments we've made!"

MOTOCROSS ACTION MAGAZINE:

"One of the ten best products ever, you can't live without it...it really works!"

LARRY ROESLER: 10 TIME Baja 1000 & ISDE GOLD MEDAL WINNER

"I won 10 BAJA 1000's thanks to the SCOTTS Steering Stabilizer."

TY DAVIS: NATIONAL HARE AND HOUND CHAMPION

"I've used the other brands and finally decided if I was going to be the best I needed to use the best damper. The SCOTTS Damper is a serious advantage."

MIKE LAFFERTY: NATIONAL ENDURO CHAMPION

"You're just plain crazy not to be using one of these Stabilizer."

DOUG BLACKWELL: NATIONAL HARE SCRAMBLES CHAMPION

"Winning a national championship would be very hard without the Stabilizer."

SCOTT PLESSINGER: GRAND NATIONAL CROSS COUNTRY CHAMPION

"I didn't think I needed one until I tried it. What a difference compared to others."

MALCOLM SMITH (Motorcycle legend)

"I've been using the SCOTTS Damper now for 13 years... what a great product!"

Other Scotts Stabilizer Users:

Destry Abbot	Dick Burleson	Cannondale Team	Mike Lafferty
Ty Davis	Malcolm Smith	Duane Conner	SCR Racing
Johnny Campbell	Randy Hawkins	Ricky Johnson	Matt Stavish
Steve Hengeveld	Team Serpent Racing	Nick Pearson	Danny Laporte
Scott Plessinger	Joe Kopp	Brian Deegan	Scot Harden
Doug Blackwell	Tom Webb	Team Yamaha R6's	Josh McLevy
Tommy Norton	Team Green	Team Honda	Team KTM

Endorsed by Paul Thede and RaceTech

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