POLARIS The Way Out.

An extra edition of December 2002 Snowmobile Team Tips

SNOW TEAM TIPS EXTRA!

Vol. 10, No. 12.5 *Published for Polaris Dealers, Distributors, and Service Staff* December, 2002

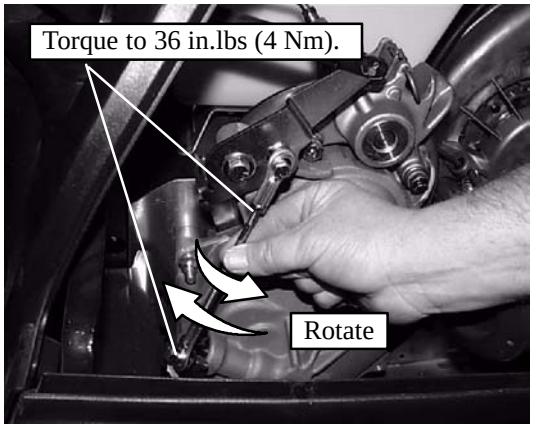
Reverse Adjustment Procedure

We have had some reports of mechanical reverse system not working correctly on 2003 model snowmobiles. The symptom is when pulling the reverse lever, the snowmobile does not go into reverse. If this occurs, perform the following:

1. Loosen jam nuts on the reverse linkage threaded rod.

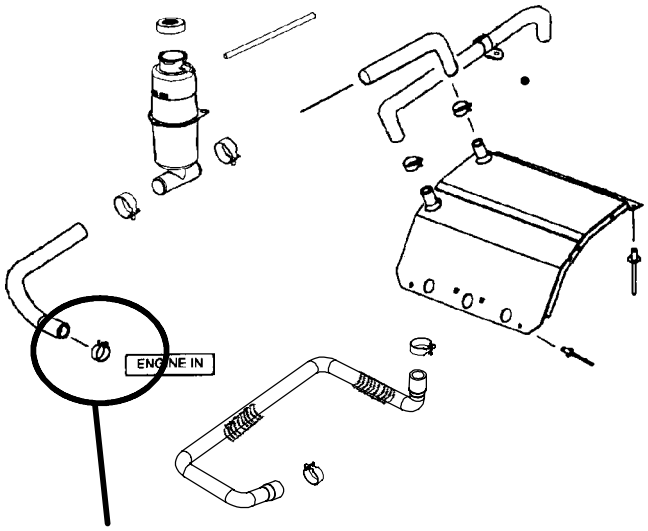
2. With left hand, lightly push the plastic reverse push/pull handle in against console.

3. With right hand, turn threaded rod on the chaincase shift linkage until shift lever in the cover comes to the top or bottom of its travel. This takes all free play out. It should not take more than 2 turns to do this.
4. Turn threaded rod in the *opposite* direction 3/4 turn.
5. Torque jam nuts to 36 in.lbs. (4 Nm). Take care not to over-tighten the jam nuts, or the rod ends will bind. If they are over-tightened and bind, they usually have to be replaced because they do not unbind if the jam nut is loosened.
6. Add a drop of oil to the ball of the rod ends to prevent corrosion and aid in pivoting.
7. If, when pulling the reverse lever, it still gets caught between gears, turn the threaded rod 1/2 turn clockwise to shorten the linkage.
8. If the reverse handle is very hard to pull when approaching full travel, turn the threaded rod 1/2 turn counter-clockwise to lengthen the linkage.



2003 700/800 Hose Clamp Torque

It has come to our attention that the inlet hose to water pump hose clamp may not be torqued to the correct specification. If the hose clamp is not tightened properly, antifreeze may leak from the water pump inlet area. On all 2003 models with 700 or 800 Liberty engines, please re-torque the inlet hose to water pump clamp to 30 in.lbs. (3.4 Nm).



Torque to 30 in.lbs. (3.4 Nm)

2003 700/800Classic Touring Suspension Set-Up

The Edge Touring suspension set-up information is missing from the 2003 700 and 800 Classic Touring Owner's Manual. Reference the following for appropriate set-up information.

THE PERFECT FIT

Edge Touring Suspension

Before proceeding with the tuning of your Edge Touring Suspension (ETS), you should familiarize yourself with the following terms:

Edge Touring Features

Long Travel - Refers to the over 10" of REAL travel that the ETS has between the rear arm cross-shaft and the slide rail. This is the location to measure suspension vertical travel. In the Edge chassis, the rear axle travel is 15.2".

Biased Couple - Describes the linked relationship between the front and rear arms of the ETS. When the ETS's front arm contacts a bump, the couple forces the rear arm to react instantly. This limits the angle of incidence between the rail and bump as the rear arm crosses it. the flatter this angle is kept, the less secondary reaction (kick) the rider will feel.

Couple Blocks - Are the plastic sliding blocks located at the rear of the rail. These pieces facilitate the ETS's actual couple function.

Ride Control Adjuster (RCA) - RCA refers to the adjustable lower rear shock attachments. Changing this location has two effects on tuning. Moving the shock forward increases shock speed, resulting in firmer damping on both compression and rebound. It also increases the effect of the rear spring by displacing it further.

The adjuster is infinitely variable between those settings. Adjustments are made quickly and easily.

Threaded Preload Adjuster - The forward facing shock absorber has a threaded collar on it. The spring has a lock tab that fits into the collar to allow easy PRELOAD adjustment.

To increase PRELOAD, turn the spring with both hands so that the collar moves up the shock body.

Indy Select Shock - The forward facing shock absorber has a small compression damping screw near the bottom of the shock. Turning the screw clockwise increases the stiffness of the shock up to 300%.

THE PERFECT FIT

Edge Touring Suspension

Edge Touring Features

Torsion Springs - Two torsion springs are used on the rear arm of the ETS. Preload adjustments can be made by turning the rectangular adjusters with a spark plug wrench.

Optional Spring Rates - Optional springs have been designed to allow adaptation of the ETS to the varied needs of our customers.

The optional front track spring and the firm torsion spring should be used if frequent bottoming is encountered during two up riding on rough trails.

The soft torsion spring should be used for frequent one up riding on smooth trails.

Initial Set-up Reference Chart1

This chart is only a guideline for initial suspension setup. Your setup may vary based on your desired riding style.

		Torsion Spring & Block Setting	RCA Position	Front Track Spring Preload (Inches)	Front Track Indy Select - Turns From Full Open
1 Rider	Soft	Low	1-2	0.25	0-1
	Firm	Med	2-3	0.50	1-2
2 Riders	Soft	Med	3-4	0.75	1-3
	Firm	High	4-5	1.00 max	2-3

	Optional Torsion Spring		Optional Front Track Spring
	Left Hand	Right Hand	
Soft	7042242-067	7042243-067	-------
Firm	7042240-067	7042241-067	7041404-067

THE PERFECT FIT

Edge Touring Suspension

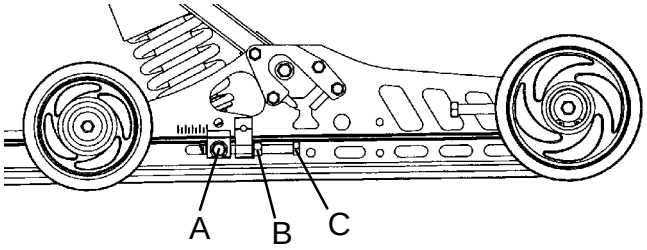
Initial Setup and Calibration

The following information has been compiled to assist you in tuning your ETS to its maximum potential.

The Ride Control Adjuster (RCA)

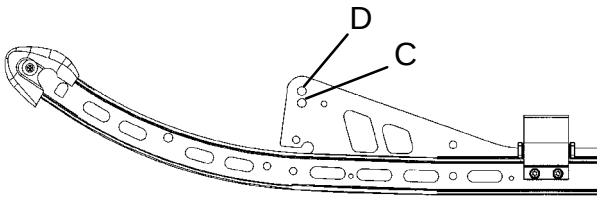
1. Refer to the initial setup reference chart (located under the hood of your snowmobile) to determine the desired RCA position.
2. To adjust, loosen the hex bolts (A) attaching the rear lower shock cross shaft to the rail beam.
3. Using a 9/16” wrench, loosen the jam nuts (B) on the preload bolts.
4. Adjust the preload bolts (C) to the desired RCA position.
5. Tighten the jam nuts (B). **NOTE:** Make sure the preload bolt contacts the slide block before tightening the jam nut.
6. Tighten the hex bolts (A) and torque to 35 ft. lbs. (47 Nm).

NOTE: The RCA setting is the primary rear suspension adjustment. It will have the MOST effect on the rear suspension performance.



Front Arm Mounting Holes

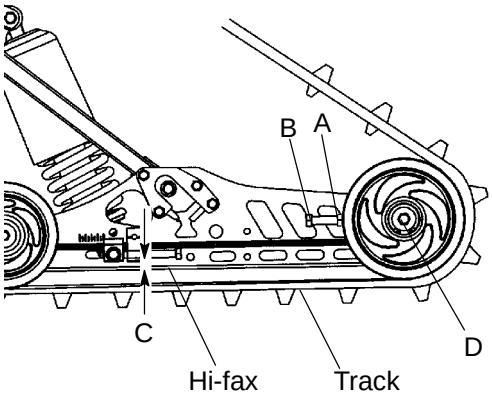
There are also two front arm mounting holes in the slide rail that can adjust ski pressure. The lower hole (C) increases ski pressure while the upper hole (D) decreases ski pressure.



THE PERFECT FIT

Edge Touring Suspension

Track Tension



Track adjustment is critical for proper handling. Always maintain correct tension and alignment.

Tension adjustments should be made only after the track is warmed up and limber.

1. . Turn the machine off.
2. . Lift the rear of the machine and safely support it off the ground.
3. . Place a 10 lb. weight on the track approximately 16” ahead of the rear axle to slightly preload the track.

NOTE: Measure at a point 16” ahead of the center of the rear idler wheel.

4. . Check for 1-1/8” - 1-3/8” gap between the wear surface of the track clip and the plastic hi-fax (C).

If the track needs adjustment:

5. . Loosen rear idler shaft bolts (D) and locknuts (A).
6. . Tighten or loosen the track adjusting screws (B) as necessary to provide equal adjustment on both sides of the track.
7. . Tighten Locknuts (A). Then tighten the idler shaft bolts (D) to 35 ft. lbs. (47 Nm).

NOTE: Always inspect track alignment after track tension adjustment. Track alignment affects track tension. misalignment will cause excessive wear to the track and slide rail. Excessive Hi Fax wear will appear on units with track tension set too tight. Refer to the Master Repair Manual for track alignment procedure.

Track Tension Data

Suspension	Weight	Measurement Location	Measurement
Edge Touring	10 lbs. (4.54 kg)	16″ ahead of rear idler shaft	1 1/8″ - 1 3/8″ (2.9 - 3.5 cm)

THE PERFECT FIT

Edge Touring Suspension

Torsion Spring Tension

To adjust rear torsion spring tension, rotate the two-position cam using the engine spark plug tool.

Different rate torsion springs are available if greater tension is desired. Refer to the setup chart on page 3 and under the hood of the snowmobile.

The following information is provided only as a guideline to be used for initial suspension setup. Your setup may vary based on your desired riding style.

1a - Soft Tension - long end of cam to front

1b - Firm Tension - short end of cam up

2a - Turn screw clockwise to tighten compression (stiffen)

2b - Turn spring clockwise to tighten preload