

## CHAPTER 2

# MAINTENANCE / TUNE UP

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# MAINTENANCE/TUNE UP Maintenance Schedule

## 500 Mile (805 km) Initial Maintenance Inspection

Customer Name \_\_\_\_\_ Phone \_\_\_\_\_

Machine Model \_\_\_\_\_ Machine Serial \_\_\_\_\_ Miles \_\_\_\_\_

\_\_1. Torque cylinder head(s) (cold) & cylinder base nuts  
Only the following models need to have their cylinder heads periodically re-torqued:  
EC34-2PM(E)02, EC44-3PM01 & 02 (PRIOR TO 1996)  
EC50-PM(E) 03,04,05 & 06, EC50-PL(E) 17,18,19 & 20  
EC65-PL(E)05

\_\_2. Check ignition timing  
\_\_\_\_\_ observed BTDC  
\_\_\_\_\_ corrected BTDC

\_\_3. Check clutch offset (belt removed)

\_\_4. Check belt condition

\_\_5. Check and adjust belt tension

\_\_6. Inspect rubber engine mounts

\_\_7. Torque engine mounting plate to chassis fasteners

\_\_8. Adjust engine torque stop (if equipped)

\_\_9. Carburetor Inspections

- A. Adjust choke plungers
- B. Adjust pilot air screw
- C. Synchronize carburetor slide valves at idle and off idle
- D. Adjust engine idle RPM
- E. Adjust throttle lever free play
- F. Synchronize oil pump lever

\_\_10. Electronic Fuel Injection System Inspections

- A. Check and adjust throttle position sensor
- B. Check and adjust MR screw
- C. Check battery state of charge
- D. Adjust idle RPM
- E. Check charging system
- F. Adjust throttle lever free play
- G. Synchronize oil pump lever

\_\_11. Check ski toe alignment

\_\_12. Torque and inspect all steering fasteners

\_\_13. Torque suspension to tunnel mounting bolts

\_\_14. Check rear suspension fasteners for tightness

\_\_15. Adjust track tension and align track

\_\_16. Remove chaincase cover, flush chaincase, inspect and adjust chain, refill with new chaincase oil.

\_\_17a.Brakes-Hydraulic

- A. Check brake fluid level. Should be 1/4" from top on large style reservoir, 1/8" from top on older small style reservoir.
- B. Check for proper hose security and routing
- C. Check for system fluid leaks
- D. Visually inspect pads for wear damage or looseness
- E. Check security and surface condition of brake disc.

\_\_17b.Brake-Mechanical

- A. Lubricate brake cable. NOTE: Must use Polaris Cable lubricant.
- B. Check brake pad and brake disc condition and mounting
- C. Adjust brake to proper specifications

\_\_18. Check auxiliary shut-off switch

\_\_19. Perform throttle safety switch tests

\_\_20. Check brake light for proper operation

\_\_21. Check tail lights

\_\_22. Check headlamp security and high-low beam operation.

\_\_23. Liquid cooled models:

- A. Check coolant level and specific gravity
- B. Check water pump drive belt condition & deflection (where applicable)
- C. Check coolant hose, routing and clamps
- D. Inspect heat exchangers condition and fasteners
- E. Check cooling system for proper coolant circulation.

\_\_24. Lubricate rear suspension pivot shafts.

\_\_25. Check all suspension mounting fasteners.

### Recommendations

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Polaris Service Technician \_\_\_\_\_

Base Inspection Price \_\_\_\_\_

Authorized Dealer \_\_\_\_\_

Parts \_\_\_\_\_

Date \_\_\_\_\_

Labor \_\_\_\_\_

# MAINTENANCE/TUNE UP Maintenance Schedule

## 1500 Mile (2400 km) Maintenance Inspection

Customer Name \_\_\_\_\_ Phone \_\_\_\_\_

Machine Model \_\_\_\_\_ Machine Serial \_\_\_\_\_ Miles \_\_\_\_\_

- |  |  |
|--|--|
| <p>__1. Torque cylinder head(s) &amp; cylinder base nuts (cold)<br/>Only the following models need to have their cylinder heads &amp; cylinder base nuts periodically re-torqued:<br/>EC34-2PM(E)02, EC44-3PM01 &amp; 02 (PRIOR TO 1996)<br/>EC50-PM(E) 03,04,05 &amp; 06, EC50-PL(E) 17,18,19 &amp; 20<br/>EC65-PL(E)05</p> <p>__2. Check compression and record readings</p> <p>__3. Check ignition timing<br/>_____ observed BTDC<br/>_____ corrected BTDC</p> <p>__4. Inspect recoil starter rope</p> <p>__5. Check drive to driven clutch offset (belt removed)</p> <p>__6. Remove clutches, disassemble &amp; inspect all wear surfaces. Clean sheaves, repair clutch as necessary, reassemble clutches and torque to specifications.</p> <p>__7. Check belt condition</p> <p>__8. Check and adjust belt deflection</p> <p>__9. Inspect rubber engine mounts</p> <p>__10. Torque engine mounting plate to chassis fasteners</p> <p>__11. Adjust engine torque stop (if equipped)</p> <p>___ Carburetor Inspections</p> <p>A. Adjust choke plungers</p> <p>B. Adjust pilot air screw</p> <p>C. Synchronize carburetor slide valves at idle and off idle</p> <p>D. Adjust engine idle RPM</p> <p>E. Adjust throttle lever free play</p> <p>F. Synchronize oil pump lever</p> <p>__12. Electronic Fuel Injection System Inspections</p> <p>A. Synchronize throttle bodies</p> <p>B. Check and adjust throttle position sensor</p> <p>C. Check and adjust MR screw</p> <p>D. Remove battery, check fluid level and specific gravity of each cell. Charge if necessary.</p> <p>E. Adjust idle RPM</p> <p>F. Check charging system</p> <p>G. Adjust throttle lever free play</p> <p>H. Synchronize oil pump lever</p> <p>I. Replace secondary filter @ 5,000 miles</p> <p>__13. Remove chaincase cover, flush chaincase, inspect and adjust chain, refill with new chaincase oil.</p> <p>__14. Change primary fuel filter and oil filter</p> <p>__15. Check fuel and oil line condition and routing</p> <p>__16. Inspect fuel and oil tank vent lines/routing</p> <p>__17. Inspect airbox fit/air filter. Clean or replace</p> <p>__18. Change shock oil (Fox) annually before storage</p> | <p>__19a. Brakes-Hydraulic</p> <p>A. Check brake fluid level. Should be 1/4" from top on large style reservoir, 1/8" from top on older small style reservoir.</p> <p>B. Check for proper hose security and routing</p> <p>C. Check for system fluid leaks</p> <p>D. Visually inspect pads for wear damage or looseness</p> <p>E. Check security and surface condition of brake disc.</p> <p>F. Flush brake fluid and change every two years.</p> <p>__19b. Brake-Mechanical</p> <p>A. Lubricate brake cable. NOTE: Must use Polaris Cable lubricant.</p> <p>B. Check brake pad and brake disc condition and mounting</p> <p>C. Adjust brake to proper specifications</p> <p>__20. Check auxiliary shut-off switch &amp; perform throttle safety switch tests.</p> <p>__21. Inspect brake light, tail light, oil light and all electrical accessories</p> <p>__22. Inspect Hi/Lo beam operation and aim headlight</p> <p>__23. Liquid cooled models:</p> <p>A. Check coolant level and specific gravity</p> <p>B. Check water pump drive belt condition &amp; deflection (where applicable)</p> <p>C. Check coolant hose, routing and clamps</p> <p>D. Inspect heat exchangers condition and fasteners</p> <p>E. Check cooling system for proper coolant circulation</p> <p>F. Replace recovery line filter: NOTE: Must use correct filter</p> <p>G. Check coolant recovery line one way check valve (must hold pressure)</p> <p>H. Pressure test cooling system</p> <p>__24. Fan Cooled: Inspect cooling fins and shrouds</p> <p>__25. Remove chaincase cover, flush chaincase, inspect chain &amp; sprockets and adjust chain. Inspect chaincase seals.</p> <p>__26. Check condition of drive shaft and jackshaft bearings. Lubricate greaseable bearings with Premium All Season grease.</p> <p>__27. Inspect and adjust reverse cable (if applicable)</p> <p>__28. Remove ski pivot bushings and lubricate</p> <p>__29. Inspect ski wear bars, replace if worn to 1/2 original diameter</p> <p>__30. Check camber alignment and lubricate spindles</p> <p>__31. Remove radius rod end bushings, lubricate and reinstall, inspect all radius rod ends.</p> <p>__32. Reinstall skis and inspect/adjust toe alignment</p> <p>__33. Check handlebar centering and lubricate steering bell crank</p> <p>__34. Torque tie rod end bolts and jam nuts</p> <p>__35. Inspect steering arms and torque bolts. Inspect handlebar bolt torque</p> <p>__36. Lubricate rear suspension pivot shafts (1000 mile intervals)</p> <p>__37. Torque suspension mounting bolts and check all rear suspension fasteners and components</p> <p>__38. Inspect rear suspension wheels, bearings and hi-fax</p> <p>__39. Inspect track for damage. Adjust tension and alignment</p> |
|--|--|

Polaris Service Technician: \_\_\_\_\_  
 Authorized Dealer: \_\_\_\_\_  
 Base Inspection Price: \_\_\_\_\_  
 Date: \_\_\_\_\_ Parts: \_\_\_\_\_ Labor: \_\_\_\_\_

**For optimum performance and reliability, repeat the above maintenance and inspections annually (preferably before off-season storage) or every 1500 miles, except where noted.**

RECOMMENDATION: \_\_\_\_\_  
 \_\_\_\_\_

**MAINTENANCE/TUNE UP**  
**Recommended Maintenance Products**

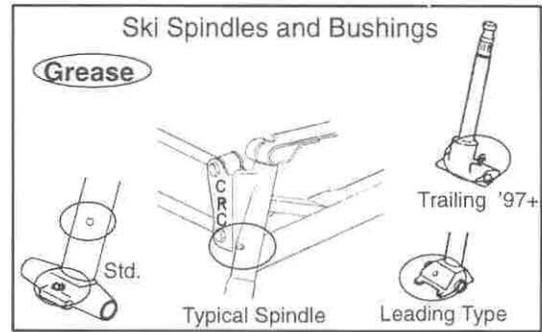
**Recommended Maintenance Products**

ENGINE OIL			RETAINING/SEALING PRODUCTS		
Part #	Description	Packaging (size / quantity)	Part #	Description	Packaging (size/quantity)
2871721	Synthetic 2-Cycle Premium Gold	Quart Cans / 6	2870585	Primer N, Aerosol	25 gr / 1
2871722	Synthetic 2-Cycle Premium Gold	Gallon / 4	2870584	680 Retaining Compound	10cc /
2871723	Synthetic 2-Cycle Premium Gold	16 Gallon Drum	2871949	Threadlock 242	50cc / 10
2871098	Premium 2-Cycle Oil (TC-W3)	Quart Cans / 12	2871950	Threadlock 242	6cc / 12
2871097	Premium 2-Cycle Oil (TC-W3)	Gallon / 6	2871951	Threadlock 262	50cc / 10
2871240	Premium 2-Cycle Oil (TC-W3)	2.5 Gallon / 2	2871952	Threadlock 262	6cc / 12
2871566	Premium 2-Cycle Oil (TC-W3)	16 Gallon Drum	2871953	Threadlock 271	6cc / 12
2871385	Premium 2-Cycle Oil (TC-W3)	30 Gallon Drum	2871954	Threadlock 271	36cc / 6
2871096	Premium 2-Cycle Oil (TC-W3)	55 Gallon Drum	2871955	Instant Adhesive: Prisim 401	3cc / 30
2871281	Premium-4 Synthetic 4 Cycle Oil (0W-40)	Quart Cans / 12	2871956	Pipe Sealant 565	50cc / 6
2871567	Premium-4 Synthetic 4 Cycle Oil (0W-40)	16 Gallon Drum	2871957	Silicone, Black RTV	3 oz tube / 12
<b>MAINTENANCE PRODUCTS</b>			2871958	Silicone, Black RTV	11 oz Cartridge/12
2871326	Carbon Clean Plus	12 oz / 12	2871959	Ultra Blue RTV	3.35 oz / 12
2871478	Premium Synthetic Gearcase Lube	12 oz / 12	2871960	Ultra Blue RTV	13 oz Cartridge/12
2871477	Premium Synthetic Gearcase Lube	Gallon / 4	2871961	518 Flange Sealant	50cc / 10
2871280	Chain Case Lubricant	Quart / 12	<b>CRANKCASE SEALANTS</b>		
2870464	Chain Case Lubricant	Gallon / 6	2870587	518 Gasket Eliminator Supercedes 515	50cc
2871323	Premium Antifreeze 60/40 Premix	Gallon / 6			
2871534	Premium Antifreeze 60/40 Premix	Quart / 12	2871557	3 Bond 1215	5oz
2870995	Premium Gas Shock Oil	Quart / 6			
2870990	Premium Brake Fluid DOT-3	12 oz / 12			
2870791	Premium Fogging Oil (spray)	12 oz / 12			
2871517	Premium Fogging Oil (liquid with spout)	Quart / 12			
2871518	Premium Fogging Oil (liquid)	Gallon / 6			
2871312	Grease Gun Kit (All Season)	3 oz / 4			
2871322	Premium All Season Grease	3 oz / 24			
2871423	Premium All Season Grease	14 oz / 10			
2871460	Premium Starter Grease	2 oz / 12			
2871592	Barrel Pump (for 16/30/55 gallon drums)	Each			
2871285	Flex Spout (fits gallon and 2.5 gallon jugs)	25			
2870505	Isopropyl	10 oz / 24			
2870652	Fuel Stabilizer	16 oz / 12			
2871027	Corrosion Resistant DiElectric Grease	2 oz			
2871064	T-9 Metal Protectant				
2870632	Metal Polish	8 oz			
2871076	Battery Tender™				

## MAINTENANCE/TUNE UP Lubrication

Lubricate the following fittings with Polaris Premium All Season grease annually or approximately every 1000 miles (1600 km). Remove weight from the component being greased to permit better penetration and flushing of the joint.

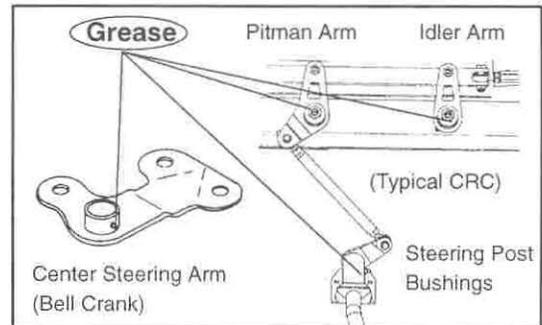
- Spindles, left and right.
- Rear suspension pivot shafts.
- Lubricate both front ski pivots at fitting as shown using low temperature grease.
- Grease jackshaft and driveshaft (clutch side) bearings.
- Grease steering post support bracket bushings.



- Grease center steering arm (bell crank), pitman arm, and idler arm (where applicable).

**NOTE:** A grease gun kit complete with grease and adaptors is available to lubricate all fittings on Polaris snowmobiles.

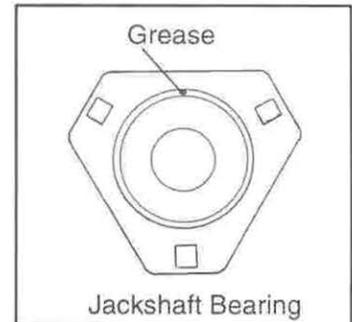
**Polaris Premium All Season Grease**  
14 oz. PN 2871423  
**Grease Gun Kit PN 2871312**



### Jackshaft Bearing Greasing

Loosen driven clutch retaining bolt and pull clutch outward to expose bearing. Use a point type grease gun fitting to inject grease through hole in flange into bearing until grease purges out inside or outside bearing seal. Push clutch back onto shaft and replace clutch retaining bolt.

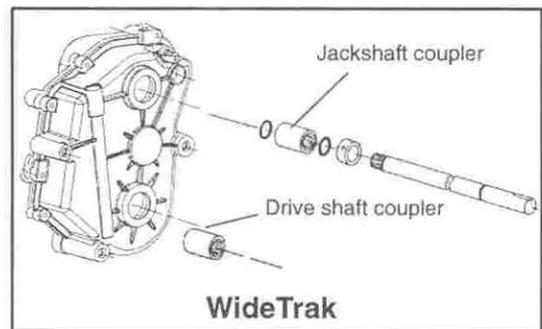
**Grease Gun Adapter: 2871174**  
**Point Type**



### Driveshaft Bearing Greasing

Inject grease into fitting on speedometer drive adaptor until grease purges out inside or outside bearing seal.

### Driveshaft Bearing Greasing - WideTrak



### 1996 Ultra Models

The water pump gear case is a sealed unit on 1996 EC68PL (Ultra) engines and required separate oil level maintenance. 1997 models are open to the crankcase and periodic maintenance is not required. The level should be inspected every 1000 miles on 1996 models, and changed annually (end of season before storage).

### Water Pump Oil Level Inspection (1996)

4. With the machine on a level surface, check the fluid level in the sight glass.
5. If the oil level is below the top of the sight glass (see illustration at right), remove filler plug and add Polaris Premium 4 0W40 synthetic oil as required to bring the level back up to the top of the sight glass.

**CAUTION:**

Failure to maintain the proper level could result in severe engine damage.

**NOTE:** Care should be taken when checking the oil level not to confuse the level with the water pump gear which can be seen through the glass. Be sure that what you are seeing in the window is indeed the oil level and *not the gear*.

Should overfilling occur, drain to proper level by removing drain plug. An atmospheric vent located on the crankcase just below the mag and center carburetors will allow a small amount of excess oil to be vented out of the case.

### Water Pump Oil Change (1996)

1. To change lubricant, remove drain plug.
2. Allow oil to drain completely and reinstall plug. Torque to 12 ft. lbs.
3. Add oil to top of sight glass as outlined in oil level inspection.

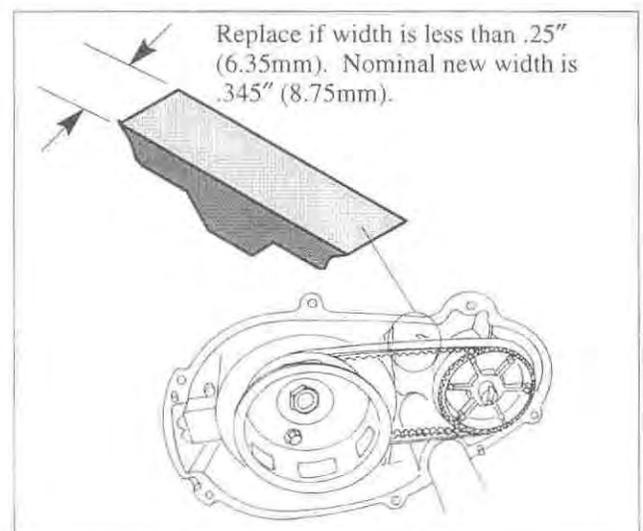
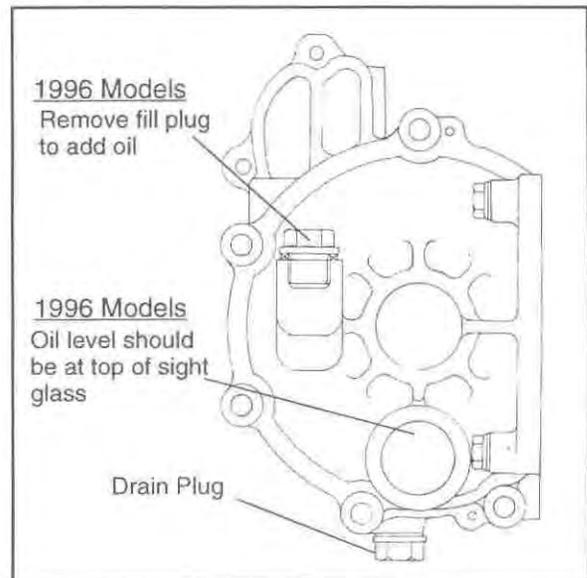
### 1997 to Current Ultra Models

Periodic maintenance is not required on 1997 to current EC68PL engine water pump gear case. The drive gears are lubricated by engine oil. Do not add oil to the gearcase on 1997 to current models.

### 1997 Current 600 & 700 Domestic Twins

The water pump belt on all 600 & 700 domestic twins snowmobile engines should be inspected every 1500 miles. Belts should be inspected by measuring the width at several locations around the belt. Belt width at any location should not be thinner than .250" (6.35mm). Replace the belt if you notice any loose cords, broken cracked or missing cogs, and variations in width. If the water pump belt fails, serious engine damage could result. Nominal thickness of a new belt should be approximately .345" (8.75mm).

Check belt tension by rotating crankshaft 1/8 turn at a time. The tension should be equal at all points of rotation.

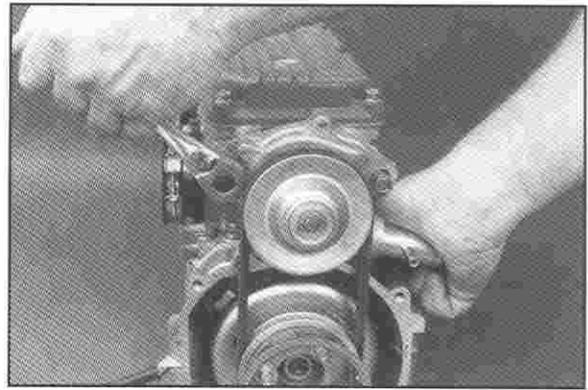


## MAINTENANCE/TUNE UP

### Lubrication

#### Water Pump Belt Tension - Fuji

1. Loosen pump mounting bolts.
2. Push on pump housing to apply tension to belt and hold in this position. Tighten pump mounting bolts.
3. Apply light pressure at center of belt span. Check total deflection of belt span and compare to specifications. Re-adjust if necessary.



#### Water Pump Belt Tension

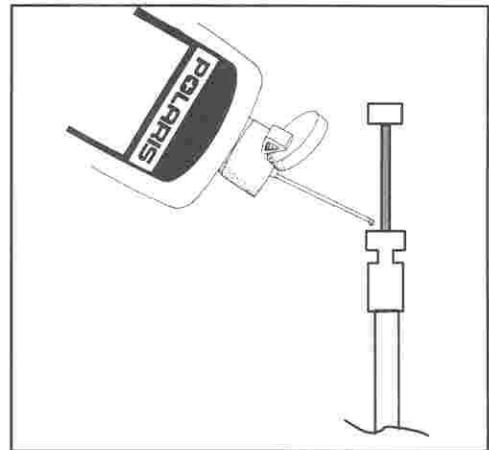
1/8" - 3/16" (3-4mm)

#### Throttle Cable Lubrication

With the engine off, remove the throttle cable from the throttle flipper and block. Lubricate the throttle cable with Polaris Clutch and Cable Lubricant. Turn the handlebars to the left and lubricate liberally as shown.

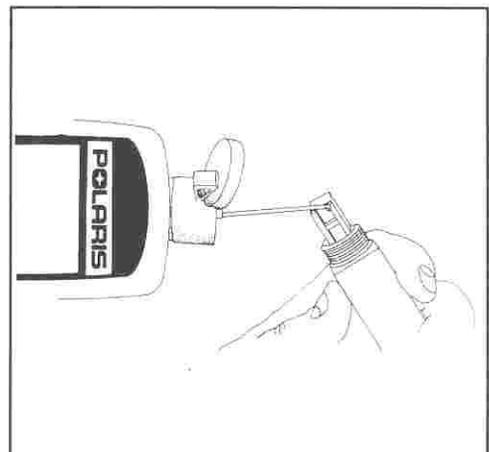
#### Polaris Cable Lube

PN 2870510



#### Choke Cable Lubrication

Lubricate the choke slide and cables as shown with Polaris Cable Lubricant. Operate the choke intermittently before turning the machine off. This draws moisture out of the choke plunger area and reduces the possibility of the choke becoming frozen.



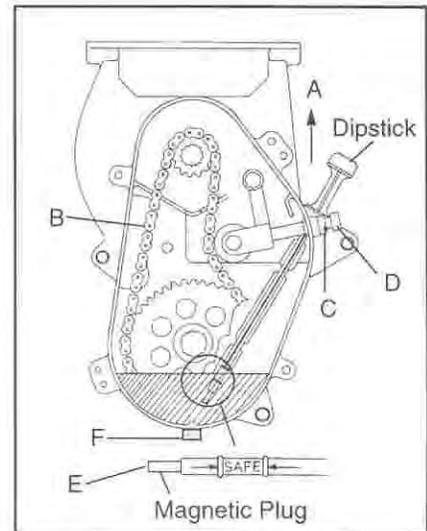
**Chaincase Oil Level (All Except WideTrak Models)**

Proper chaincase oil level is determined by checking the level on the dipstick with machine placed on a level surface. The oil level should be between the "safe" marks on the dipstick. Add oil through dipstick opening as required to maintain proper level. Use Polaris Chaincase Lubricant or Polaris Synthetic Chaincase Lubricant. *Do not overfill.*

**Chaincase Lubricant PN 2870337**  
**Synthetic Chaincase Lubricant PN 2870337**  
**Refer to Page 9.1-9.1b for model type and capacity**

**CAUTION:**

Polaris Synthetic Chaincase Lubricant is compatible with Polaris petroleum based chaincase oil and can be mixed. However, do not mix or use other types of lubricant. Excessive wear to chain, sprockets and bearings may result.



**Drive Chain Tension (All Except WideTrak Models)**

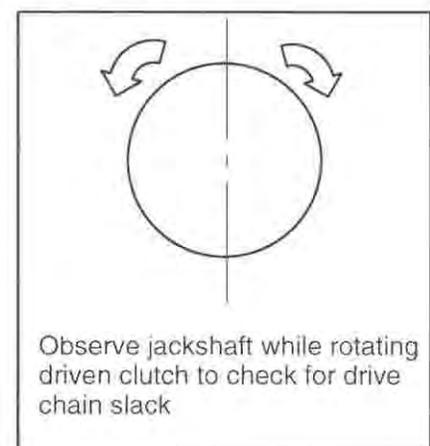
To obtain correct chain tension:

1. Remove drain plug (F) and drain oil into a suitable container. Dispose of properly.
2. Remove the chaincase cover.
3. While putting a slight reverse tension on the chain by turning brake disc as indicated by the arrow (A), there should be approximately 1/4-3/8" (.6-1 cm) deflection on the chain at point (B).
4. The chain is adjusted by loosening the adjusting bolt locknut (C) and turning adjusting bolt (D) until correct chain deflection is obtained.
5. Lock the adjusting bolt locknut (C) while holding a wrench on the adjusting bolt (D) to prevent it from turning.
6. Reinstall the chaincase cover and drain plug. Add Polaris chaincase lubricant (PN 2870337) through the dipstick opening to the level described above.

**NOTE:** Clean the magnetic plug (E) every 500 miles (800 km) and whenever checking or changing lubricant.

The chain may also be tightened without removing the cover using the following procedure. Do Not over-tighten!

1. Rotate driven clutch counterclockwise to move all chain slack to the tensioner side.
2. Loosen the adjuster bolt jam nut.
3. Finger tighten the adjuster bolt until no movement or slack can be detected on the *jackshaft* when moving the driven clutch back & forth. Some play may be evident on driven clutch key way, and must not be confused with movement on the jackshaft.
4. Back off the adjuster bolt by 1/4 turn.
5. Tighten the jam nut while holding the adjuster bolt.
6. The chain is now tensioned. Release the brake lock lever.



## MAINTENANCE/TUNE UP

### Chaincase

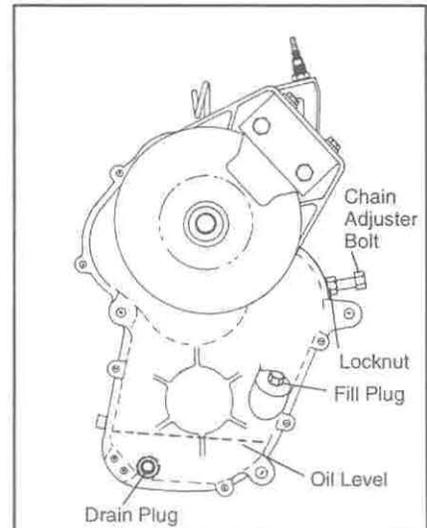
#### Chaincase Oil Level (WideTrak Models)

Maintain the proper oil level by removing the magnetic check plug. Remove the fill plug and add lubricant until a small amount of oil flows from the check plug hole. Wipe off any metal particles from the magnetic check plug. Small amounts of particles will be common on this plug. Reinstall the check plug and fill plug. Use Polaris Synthetic Chaincase Lubricant

#### Polaris Synthetic Chaincase Lubricant

1996 . . . . . 11 fl. oz. (330cc)

1997/1998 . . . . . 20 fl. oz. (600cc)



#### CAUTION:

Polaris Synthetic Chaincase Lubricant is compatible with our petroleum based chaincase oil and can be mixed. However, do not mix or use other types of lubricant. Excessive wear to chain, sprockets and bearings may result.

#### Drive Chain Tension (1996 and prior WideTrak Models & all models with reverse kits installed)

To obtain correct chain tension:

1. Loosen locknut and chain adjuster.
2. Rotate driven clutch in the normal direction of rotation (top forward) to apply slight tension on drive chain.
3. Tighten adjuster bolt to 20 in. lbs. (.23 Kg-m)
4. Back off adjuster bolt (counterclockwise) 1 1/4 to 1 1/2 turns.
5. Hold adjuster bolt in position and tighten locknut.

#### Drive Chain Tension (1997 WideTrak Models)

The 1997 model WideTrak Transmissions have self-adjusting chain tensioners and no adjustment is necessary.

#### Drive Chain Tension (1998 WideTrak Models)

Drive chain service is not required on 1998 model WideTrak Transmissions.

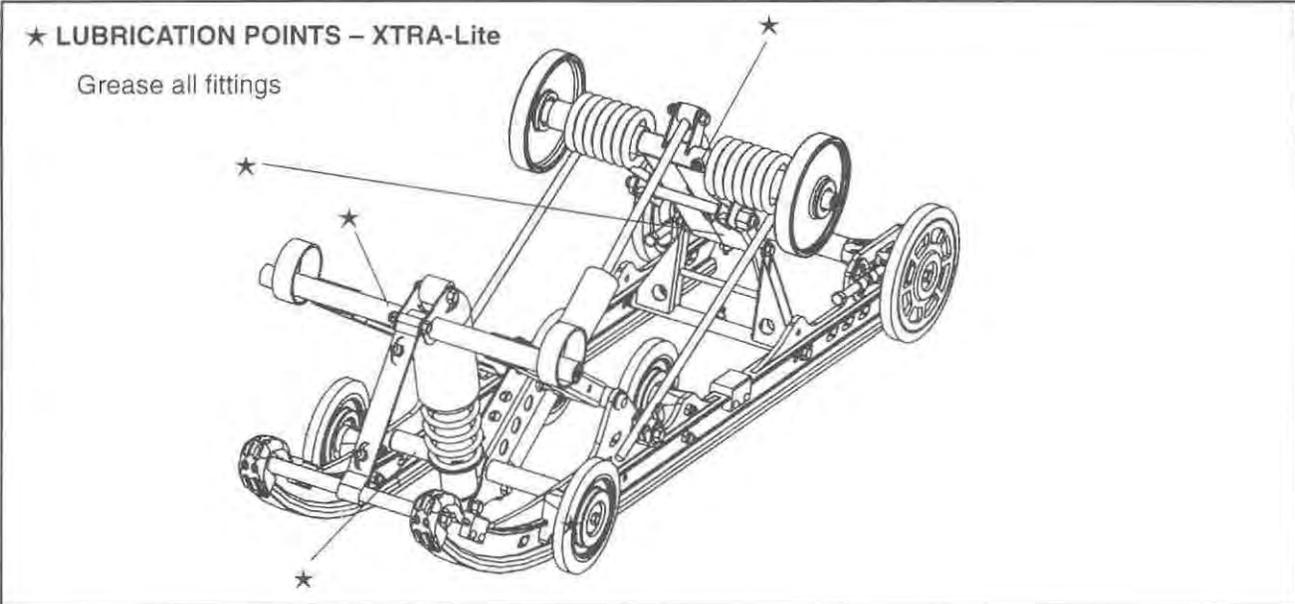
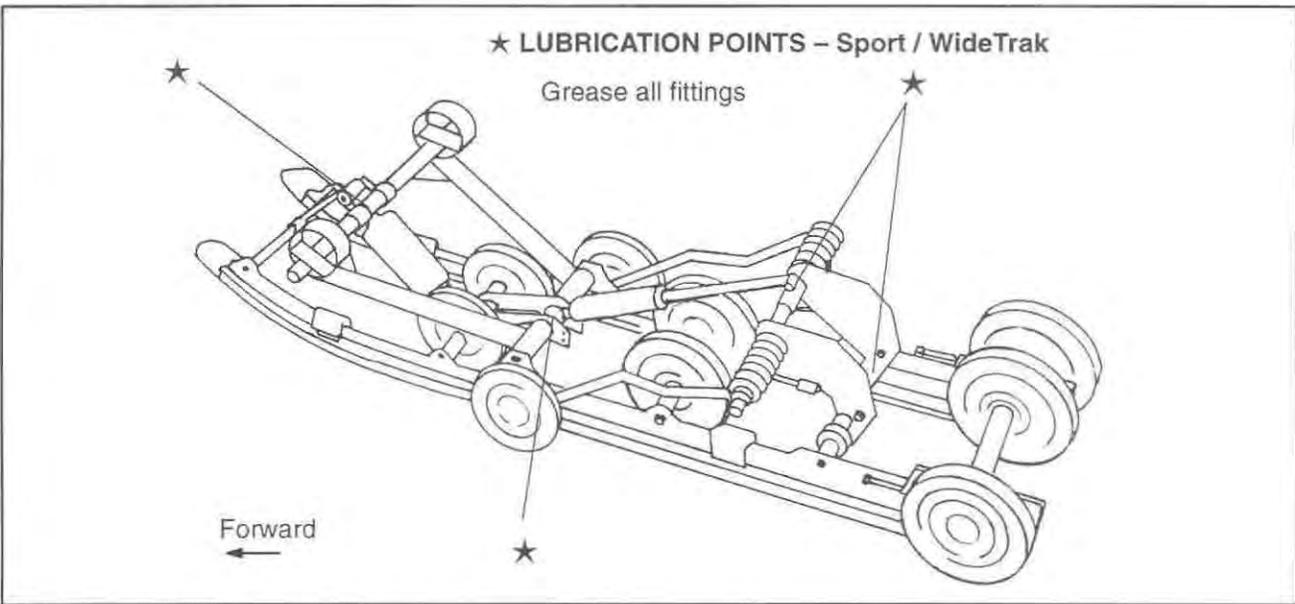
**Suspension Lubrication**

To maintain rider comfort and to retard wear of the pivot shafts, the suspension pivot shafts should be lubricated with Polaris Premium All Season Grease, PN 2871423, at 500 miles (800 km) initially; 1000 miles (1600 km) and before summer storage each year. The riding characteristics of the snowmobile will be affected by lack of lubrication of these shafts. **NOTE:** A grease gun kit complete with grease and adaptors is available to lubricate all fittings on Polaris snowmobiles. Order PN 2871312.

**Polaris Premium Grease PN 2871423**  
**Grease Gun Kit PN 2871312**

Refer to the following diagrams for suspension lubrication points.

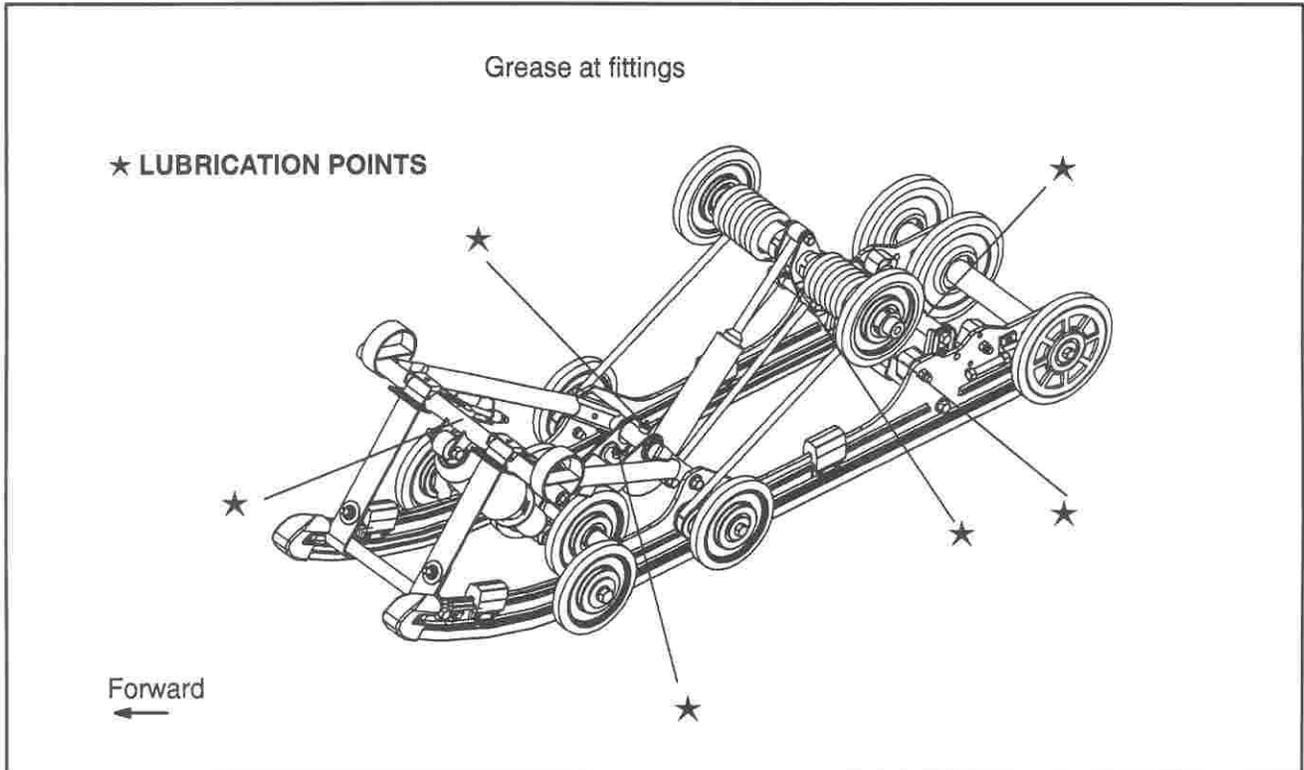
**Sport Style and WideTrak Style**



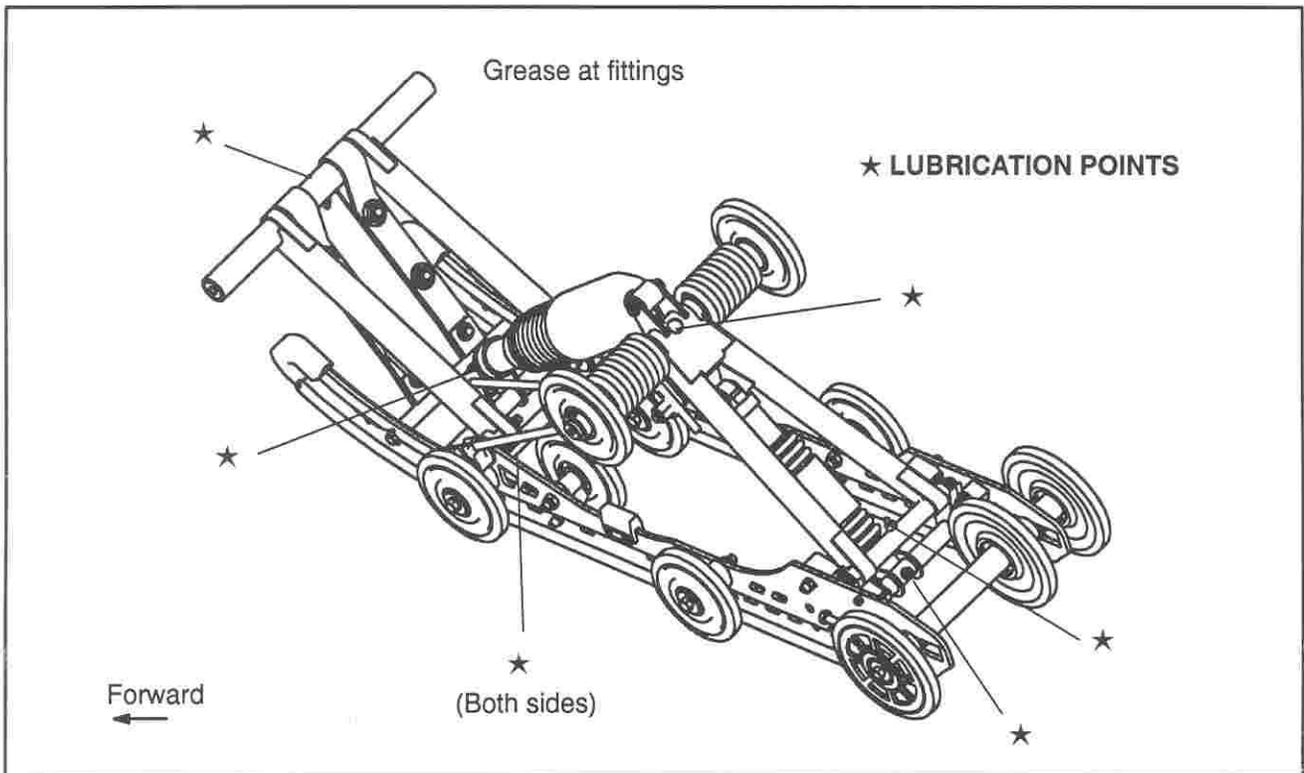
**MAINTENANCE/TUNE UP**  
**Suspension Lubrication**

**Suspension Lubrication**

**XTRA 10 Style**



**XTRA 12 Style**



**⚠ WARNING**

Never remove the pressure cap when the engine is warm or hot. If the pressure cap is to be removed, the engine must be cool. Severe personal injury could result from steam or hot liquid.

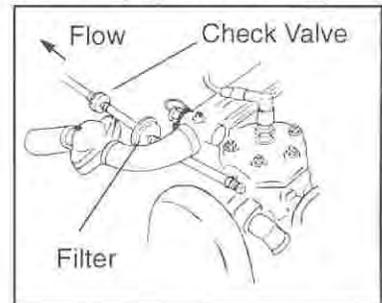
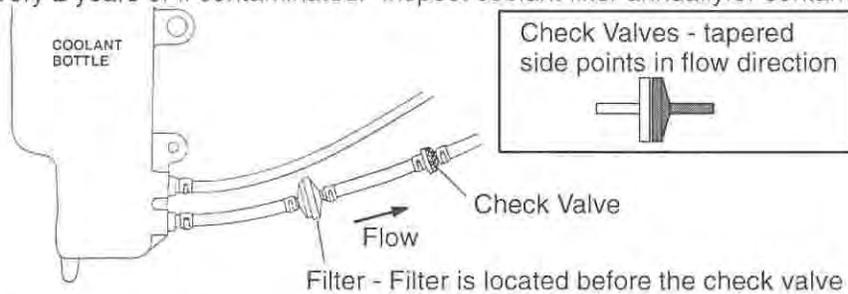
Use of a non-standard pressure cap will not allow the recovery system to function properly. If the cap should need replacement, install the correct Polaris cap with the same pressure rating. Refer to the appropriate parts manual.

**Coolant Level**

Coolant level in the reservoir or surge tank must be maintained between the minimum and maximum levels to prevent overheating and serious engine damage.

**Recommended Coolant**

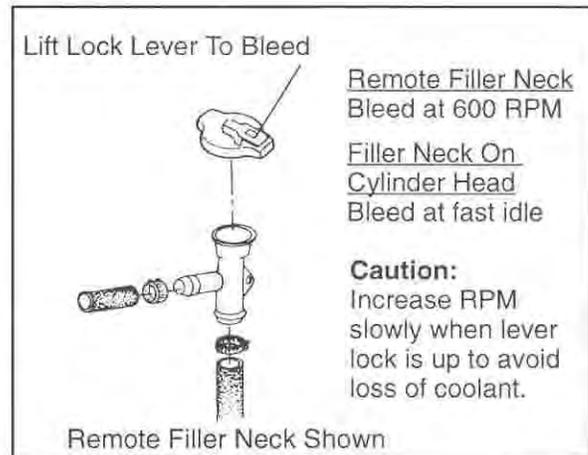
Use a 50/50 or 60/40 mixture of antifreeze and distilled water depending on the freeze protection required for your area. Do not use tap water in the system or reduced cooling or filter contamination may result. Replace coolant every 2 years or if contaminated. Inspect coolant filter annually for contamination and replace if necessary.



**Bleeding the Cooling System - Pressure Caps**

If the cooling system should become low in the tank and/or filler neck, the system should be bled of any trapped air using the following procedure:

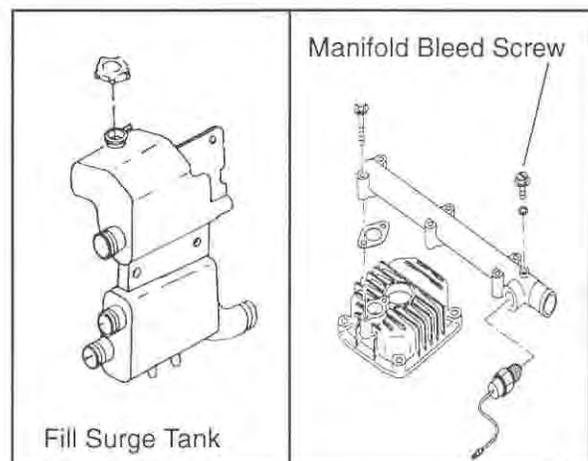
1. Allow the system to cool completely. Fill the reservoir with coolant to the maximum indicated mark.
2. With pressure cap removed, add coolant and fill to the top of the filler neck.
3. Install the pressure cap with the lever lock up in its release position and run the engine at fast idle for two to three minutes. This will purge the system of trapped air. Close the lever lock and check recovery tank fluid level. **CAUTION:** On models equipped with remote filler neck, *low idle RPM must be used* for bleeding (600 RPM  $\pm$  100) to allow all air to purge and prevent trapped air which can lead to overheating. Reset idle to specified RPM after bleeding.



**Bleeding the Cooling System - Surge Tanks**

If the cooling system should become low in the surge tank, the system must be bled of any trapped air using the following procedure:

1. Allow the system to cool completely. Fill the surge tank with coolant to the maximum indicated mark.
2. Start the engine and loosen the bleed screw on the top of the water pump until trapped air has been purged. Tighten the bleed screw.
3. Loosen the bleed screw at the end and top of the water outlet manifold until trapped air has been purged. Tighten the bleed screw.
4. Recheck the surge tank coolant level and add coolant again if necessary.



## MAINTENANCE/TUNE UP

### Track Maintenance/Alignment

#### ⚠ WARNING

When performing the following checks and adjustments, stay clear of all moving parts to avoid serious personal injury.

#### Track Maintenance

#### ⚠ WARNING

Never make this maintenance check with the engine running as serious personal injury can result.

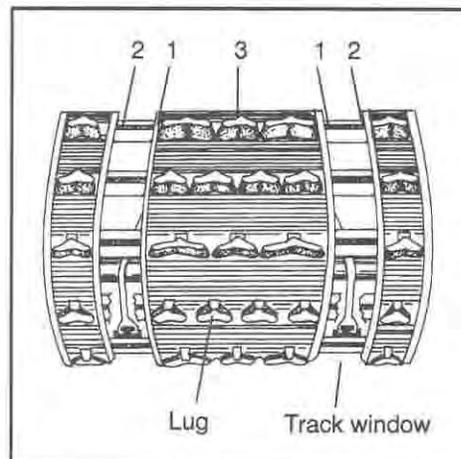
Using a hoist, safely lift and support the rear of the snowmobile off the ground. Rotate the track by hand to check for any possible damage.

To inspect track rods, carefully examine the track along the entire length of each rod, bending the track and inspecting for breakage. The three most common places where breakage occurs are shown in the illustration.

If any rod damage is found, the track should be replaced.

#### ⚠ WARNING

Broken track rods are a serious hazard, since they can cause a rotating track to come off the machine. Never operate or rotate a torn or damaged track under power. Serious personal injury or death may occur.

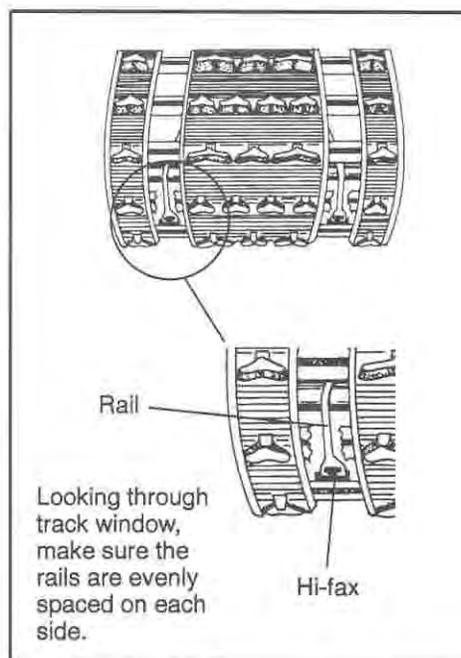


#### Track Alignment

Track alignment affects track tension. Misalignment will cause excessive wear to the track and slide rail.

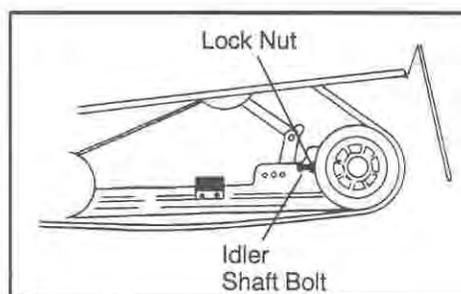
A periodic check should be made to see that the track is centered and running evenly on the slide rails. Misalignment will cause excessive wear to the track and slide rail. **NOTE:** If excessive hi-fax wear occurs due to poor snow conditions, additional wheel kits are available.

1. Safely support the rear of the machine with the track off the ground.
2. Start the engine and apply a small amount of throttle until the track turns *slowly* at least five complete revolutions. Stop the engine.
3. Inspect track alignment by looking through the track window to make sure the rails are evenly spaced on each side. If the track runs to the left, loosen left locknut and tighten the left adjusting bolt. If the track runs to the right, loosen right locknut and tighten the right adjusting bolt.
4. After adjustments are complete, be sure to tighten locknuts and idler shaft bolts. Torque to specification.



#### Idler Shaft Bolt Torque -

35 - 40 ft. lbs. (4.8 - 5.5 kgm)



**Track Tension Data**

Suspension (Refer to Suspension Chapter for type)	Weight	Measurement Location	Measurement
XTRA 12 121"	none	2" behind rail bumper	1/2" (1.27 cm) free hanging
XTRA 12 133"	none	16" ahead of rear idler shaft	1-1 1/8" (2.54 - 2.86 cm) free hanging
XTRA 10 121", 133", 136"	10 lbs. (4.54 kg)	16" ahead of rear idler shaft	3/8 - 1/2" (1 - 1.3 cm)
Standard 121" (Sport & Lite)	10 lbs. (4.54 kg)	16" ahead of rear idler shaft	3/8 - 1/2" (1 - 1.3 cm)
Lite GT	10 lbs. (4.54 kg)	16" ahead of rear idler shaft	1 1/4 - 1 1/2" (3.2 - 3.8 cm)
WideTrak GT / LX and Transport	10 lbs. (4.54 kg)	16" ahead of rear idler shaft	3/4 - 1" (1.9 - 2.5 cm)
XTRA Lite	10 lbs. (4.54 kg)	16" ahead of rear idler shaft	3/8 - 1/2" (1 - 1.3 cm)

**⚠ WARNING**

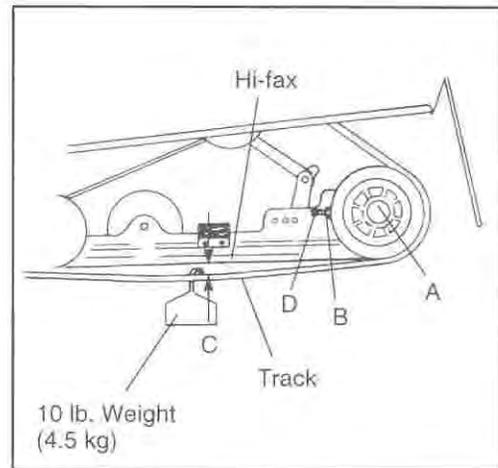
When performing the following checks and adjustments, stay clear of all moving parts to avoid serious personal injury.

**Track Tension - Sport and XTRA Lite Style**

1. Turn the machine off.
2. Lift the rear of the machine and safely support it off the ground.
3. Place a 10 lb. (4.5 kg) downward pressure on the track at a point approximately 16" (40.6 cm) ahead of the center of the rear idler wheel.

**All Models Except Lite GT**

4. Check for 3/8-1/2" (1-1.3 cm) slack between the inside of the track clip and the hi-fax (C). **NOTE:** Measure at the point where the weight is hanging.



**Sport & XTRA Lite Style Track Tension -**  
**3/8 - 1/2" slack (1 - 1.3 cm)**  
**w/10 lb. (4.54 kg) weight**

**Indy Lite GT**

5. Check for 1 1/4-1 1/2" (3.2-3.8 cm) slack between the inside of the track clip and the hi-fax (C). **NOTE:** Measure at the point where the weight is hanging.

**Indy Lite GT Track Tension -**  
**1 1/4 - 1 1/2" slack (3.2 - 3.8 cm)**  
**w/10 lb. (4.54 kg) weight**

If the track needs adjustment:

6. Loosen rear idler shaft bolts (A) on both sides of the machine.
7. Loosen track adjusting bolt locknuts (B).
8. Tighten or loosen the track adjusting bolts (D) evenly as necessary to obtain proper track tension.
9. Tighten idler shaft bolts and adjuster bolt locknuts.

**NOTE:** 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 page 2.12 for alignment procedure.

## MAINTENANCE/TUNE UP

### Track Maintenance/Adjustment

#### **⚠ WARNING**

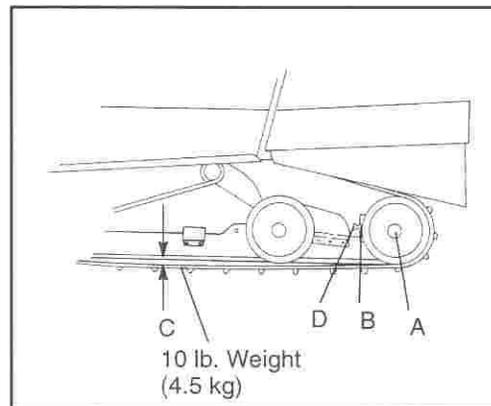
When performing the following checks and adjustments, stay clear of all moving parts to avoid serious personal injury.

#### **Track Tension - WideTrak LX & GT Style**

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. (4.5 kg) downward pressure on the track at a point approximately 16" (40.6 cm) ahead of the center of the rear idler wheel.
4. Check for 3/4-1" (1.9-2.5 cm) slack between the inside of the track clip and the plastic hi-fax (C).

**NOTE:** Measure at the point where the weight is hanging.



#### **WideTrak LX & GT Style Track Tension -**

**3/4 - 1" slack (1.9 - 2.5 cm)  
w/10 lb. (4.54 kg) weight**

If the track needs adjustment:

5. Loosen rear idler shaft bolt (A).
6. Loosen locknuts (B).
7. Tighten or loosen the track adjusting screws (D) as necessary to provide equal adjustment on both sides of the track.

**NOTE:** 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 page 2.12 for alignment procedure.

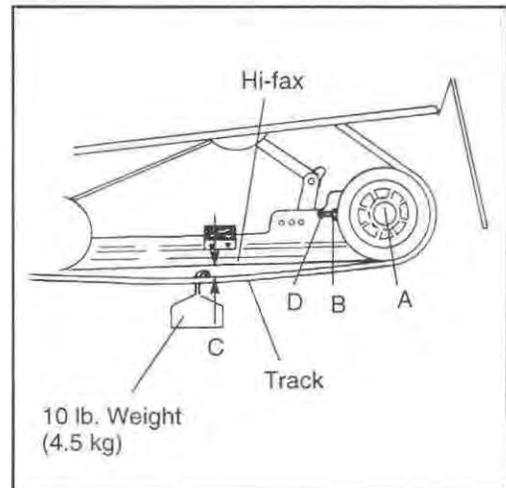
**⚠ WARNING**

When performing the following checks and adjustments, stay clear of all moving parts to avoid serious personal injury.

**Track Tension - XTRA 10 Style**

1. Turn the machine off.
2. Lift the rear of the machine and safely support it off the ground.
3. Place a 10 lb. (4.5 kg) downward pressure on the track at a point approximately 16" (40.6 cm) ahead of the center of the rear idler wheel (D).
4. Check for 3/8-1/2" (1-1.3 cm) slack between the inside of the track clip and the hi-fax (C). **NOTE:** Measure at the point where the weight is hanging.

**XTRA 10 121" & 133/136" Style Track  
Tension -  
3/8 - 1/2" slack (1 - 1.3 cm)  
w/10 lb. (4.54 kg) weight**



If the track needs adjustment:

5. Loosen rear idler shaft bolts (A) on both sides of the machine.
6. Loosen track adjusting bolt locknuts (B).
7. Tighten or loosen the track adjusting bolts (D) evenly as necessary to obtain proper track tension.
8. Tighten idler shaft bolts and adjuster bolt locknuts.

Always inspect track alignment after track tension adjustment.

**NOTE:** 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 page 2.12 for alignment procedure.

## MAINTENANCE/TUNE UP Track Maintenance/Adjustment

### **⚠ WARNING**

When performing the following checks and adjustments, stay clear of all moving parts to avoid serious personal injury.

### Track Tension - XTRA 12 Style

1. Turn the machine off.
2. Lift the rear of the machine and safely support it off the ground.
3. Take measurement with track free hanging at a point 2" behind rail bumper or 16" ahead of rear idler on 133" tracks. The distance between the inside top of the track clip and the Hi-Fax should be as shown below and in the illustration at right. Repeat measurement on the other side of the track. **NOTE:** Check more frequently when machine is new.

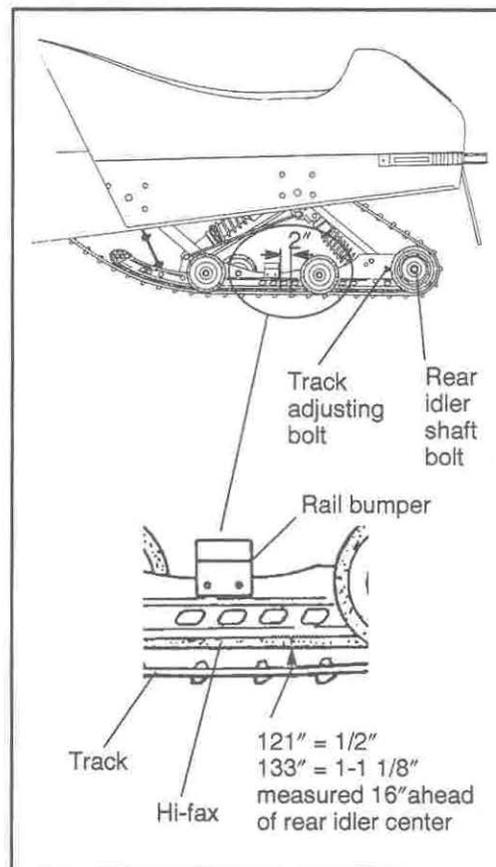
XTRA 12 Style Track Tension -	
121"	1/2" (1.3 cm) free hanging
133"	1 - 1 1/8" (2.54 - 2.86 cm) free hanging

If the track needs adjustment:

4. Loosen rear idler shaft bolts on both sides of the machine.
5. Loosen track adjusting bolt locknuts.
6. Tighten or loosen the track adjusting bolts evenly as necessary to obtain proper track tension.
7. Tighten idler shaft bolts and adjuster bolt locknuts.

Always inspect track alignment after track tension adjustment.

**NOTE:** 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.



## Spark Plug Selection

Original equipment parts or their equivalent should always be used. However, the heat range of spark plugs is of utmost importance. A spark plug with a heat range which is too high will cause engine damage. A spark plug with a heat range which is too low will cause excessive fouling and malfunction.

In selecting a spark plug heat range for production, a manufacturer is forced to assume that the engine is going to be operated under extreme heavy duty conditions. This protects the engine from internal damage in the event that the purchaser actually does operate the engine in this manner. This selection however, could cause the customer who normally operates the engine under medium or light duty to have spark plug failure.

### CAUTION:

A plug with a heat range which is too high will *always* cause engine damage if the engine is operated in conditions more severe than that for which the spark plug was intended.

A new engine can cause temporary spark plug fouling even though the heat range is correct, due to the preservative which has been added during assembly of the engine to combat rust and corrosion. Avoid prolonged idle speeds, as plug fouling and carbonization will result. Always use resistor type plugs.

**NOTE:** Incorrect fuel mixture can often cause a spark plug to appear to be too dark or too light in color. Before changing spark plug heat ranges, be sure the correct main jet is installed in the carburetor(s).

The spark plug and its condition is generally indicative of engine operation. The spark plug firing end condition should be read after the engine is warmed up and the vehicle is driven under load. Immediately check the spark plug for correct color.

### Normal

The insulator tip is gray, tan, or light brown. There will be a few combustion deposits. The electrodes are not burned or eroded. This indicates the proper type and heat range for the engine and the service.

**NOTE:** The tip should not be white. A white insulator tip indicates overheating, caused by use of an improper spark plug or incorrect carburetion adjustments.

### Wet Fouled

The insulator tip is black. A damp oily film covers the firing end. There may be a carbon layer over the entire nose. Generally, the electrodes are not worn. General causes are excessive oil, use of non-recommended injection oil, excessive idling, idle too low or air screws adjusted too rich, or weak ignition output.

1. Inspect electrodes for wear and carbon buildup. Look for a sharp outer edge with no rounding or erosion of the electrodes.
2. Clean with electrical contact cleaner or a glass bead spark plug cleaner only.

### CAUTION:

A wire brush or coated abrasive should not be used.

3. Measure gap with a wire gauge and adjust to specifications by bending side electrode carefully. Refer to page 2.18 for plug type and gap specification.
4. Coat spark plug threads with a small amount of anti-seize compound.
5. Install spark plug and torque to specification.

### Spark Plug Torque:

11 Ft. Lbs

# MAINTENANCE/TUNE UP Spark Plug Application Chart

## 1996 Models

Machine Model	Engine Model	Spark Plug		Plug Gap MM/Inches
		NGK	Champion	
Indy Lite Models	EC34-2PM02/E02	<b>BR8ES</b>	RN-3C	0.7/.028
Indy Sport Models	EC44-3PM01/02	<b>BR8ES</b>	RN-3C	0.7/.028
Indy Trail Models	EC50PM04/E04	<b>BR8ES</b>	RN-3C	0.7/.028
Indy 440 LC	EC45PL06	BR8ES	<b>RN-3C</b>	0.7/.028
Indy 440 XCR	EC45PL07	BR9ES	<b>RN-2C</b>	0.7/.028
Indy 440 XCR SP	EC45PL08	BR9ES	<b>RN-2C</b>	0.7/.028
Indy 500/SKS/RMK/Classic	EC50PLE11/11/14/15	BR8ES	<b>RN-3C</b>	0.7/.028
Indy WideTrak GT	EC50PM03	<b>BR8ES</b>	RN-3C	0.7/.028
Indy WideTrak LX	EC50PLE12	BR8ES	<b>RN-3C</b>	0.7/.028
Indy 500 EFI	EC50PL13	BR8ES	<b>RN-3C</b>	0.7/.028
Indy XLT / XLT SKS	EC58PL03	BR8ES	<b>RN-3C</b>	0.7/.028
Indy XLT RMK	EC58PL07	BR8ES	<b>RN-3C</b>	0.7/.028
Indy XLT Touring	EC58PLE05	BR8ES	<b>RN-3C</b>	0.7/.028
Indy XCR 600 / XLT SP	EC5802	BR9ES	<b>RN-2C</b>	0.7/.028
Indy 600 XCR SP	EC59PL01	BR9ES	<b>RN-2C</b>	0.7/.028
Indy RXL	EC65PL05	BR9ES	<b>RN-2C</b>	0.7/.028
Indy Ultra SP/SKS/ (RMK)	EC68PL01 / (04)	BR9ES	<b>RN-2C</b>	0.7/.028
Indy Storm/SKS/ (RMK)	EC80PL05 / (04)	BR9ES	<b>RN-2C</b>	0.7/.028

## 1997 Models

Machine Model	Engine Model	Spark Plug		Plug Gap MM/Inches
		NGK	Champion	
Indy Lite Models	EC34-2PM02	<b>BR8ES</b>	RN-3C	0.7/.028
Indy Sport/TranSport/Sport Touring	EC44-3PM02	<b>BR8ES</b>	RN-3C	0.7/.028
Indy XCF	EC44-3PM02	<b>BR8ES</b>	RN-3C	0.7/.028
Indy Trail/Trail Touring	EC50PM04	<b>BR8ES</b>	RN-3C	0.7/.028
Indy Trail RMK	EC50PM05	<b>BR8ES</b>	RN-3C	0.7/.028
Indy Super Sport	EC50PM06	<b>BR8ES</b>	RN-3C	0.7/.028
Indy WideTrak GT	EC50PM03	<b>BR8ES</b>	RN-3C	0.7/.028
Indy WideTrak LX	EC50PL20	BR8ES	<b>RN-3C</b>	0.7/.028
Indy 440 LC	EC45PL09	BR8ES	<b>RN-3C</b>	0.7/.028
Indy 440 XC	EC45PL08	BR9ES	<b>RN-2C</b>	0.7/.028
Indy 440 XCR	SN44LCDCSP-01	BR9ES	<b>RN-2C</b>	0.7/.028
Indy 500 RMK	EC50PL16	BR8ES	<b>RN-3C</b>	0.7/.028
Indy 500/SKS	EC50PLE17	BR8ES	<b>RN-3C</b>	0.7/.028
Indy Classic	EC50PL11	BR8ES	<b>RN-3C</b>	0.7/.028
Indy 500 EFI	EC50PL18	BR8ES	<b>RN-3C</b>	0.7/.028
Indy Classic Touring	EC50PL19	BR8ES	<b>RN-3C</b>	0.7/.028
Indy XLT/SKS	EC58PL03	BR8ES	<b>RN-3C</b>	0.7/.028
Indy XLT RMK	EC58PL07	BR8ES	<b>RN-3C</b>	0.7/.028
Indy 600 XC	EC58PL08	BR9ES	<b>RN-2C</b>	0.7/.028

**Bold indicates production spark plug.**

**MAINTENANCE/TUNE UP  
Spark Plugs**

**1997 Models (continued)**

Machine Model	Engine Model	Spark Plug		Plug Gap MM/Inches
		NGK	Champion	
Indy XLT Touring/ XLT LTD	EC58PL09	BR8ES	<b>RN-3C</b>	0.7/.028
Indy XLT SP / XLT LTD SP	EC58PL12	BR9ES	<b>RN-2C</b>	0.7/.028
Indy 600 XCR/SE	EC59PL01	BR9ES	<b>RN-2C</b>	0.7/.028
Indy RXL	EC65PL05	BR9ES	<b>RN-2C</b>	0.7/.028
Indy Ultra/SP/Touring	EC68PL01	BR9ES	<b>RN-2C</b>	0.7/.028
Indy Ultra SPX/SPX SE	EC68PL03	BR9ES	<b>RN-2C</b>	0.7/.028
Indy 700 XC	SN70LCDCSP-01	BR9ES	<b>RN-2C</b>	0.7/.028
Indy 700 SKS	SN70LCDCSP-01	BR9ES	<b>RN-2C</b>	0.7/.028
Indy 700 RMK	SN70LCDCSP-02	BR9ES	<b>RN-2C</b>	0.7/.028
Indy Storm/SE	EC80PL05	BR9ES	<b>RN-2C</b>	0.7/.028
Indy Storm RMK	EC80PL04	BR9ES	<b>RN-2C</b>	0.7/.028

**1998 Models**

Machine Model	Engine Model	Spark Plug		Plug Gap MM/Inches
		NGK	Champion	
Lite Models	EC34-2PM02A	<b>BR8ES</b>	RN-3C	0.7/.028
Sport/TranSport/Sport Touring/XCF	EC44-3PM024	<b>BR8ES</b>	RN-3C	0.7/.028
Super Sport	EC50PM061	<b>BR8ES</b>	RN-3C	0.7/.028
Trail/Trail Touring	EC50PM043	<b>BR8ES</b>	RN-3C	0.7/.028
Trail RMK	EC50PM051	<b>BR8ES</b>	RN-3C	0.7/.028
440 XCR	SN44-44LCDCSP-01	BR9ES	<b>RN-2C</b>	0.7/.028
440 LC	EC45PL091	BR8ES	<b>RN-3C</b>	0.7/.028
500 RMK	EC50PL161	BR8ES	<b>RN-3C</b>	0.7/.028
500	EC50PL171	BR8ES	<b>RN-3C</b>	0.7/.028
Classic	EC50PL171	BR8ES	<b>RN-3C</b>	0.7/.028
Classic Touring	EC50PL191	BR8ES	<b>RN-3C</b>	0.7/.028
WideTrak LX	EC50PL201	BR8ES	<b>RN-3C</b>	0.7/.028
XLT SP	EC58PL140	BR8ES	<b>RN-3C</b>	0.7/.028
XLT LTD	EC58PL130	BR8ES	<b>RN-3C</b>	0.7/.028
XLT Touring	EC58PL130	BR8ES	<b>RN-3C</b>	0.7/.028
XLT Classic	EC58PL150	BR8ES	<b>RN-3C</b>	0.7/.028
600 XC	SN60-70LCDCSP-01	BR9ES	<b>RN-2C</b>	0.7/.028
600 XCR	EC59PL020	BR9ES	<b>RN-2C</b>	0.7/.028
600 RMK	SN60-70LCDCSP-02	BR9ES	<b>RN-2C</b>	0.7/.028
Ultra/Touring	EC68PL050	BR9ES	<b>RN-2C</b>	0.7/.028
700 XC	SN70-70LCDCSP-02	BR9ES	<b>RN-2C</b>	0.7/.028
700 XCR	EC68PL060	BR9ES	<b>RN-2C</b>	0.7/.028
700 RMK	SN70-70LCDCSP-01	BR9ES	<b>RN-2C</b>	0.7/.028
Storm	EC80PL052	BR9ES	<b>RN-2C</b>	0.7/.028

**Bold indicates production spark plug.**

## MAINTENANCE/TUNE UP

### Drive Belt Removal/Installation

#### Drive Belt

#### **⚠ WARNING**

Inspect the condition of the drive belt. Inspect clutch sheaves for damage, wear, or belt residue. Clean with non-oil base cleaner such as isopropyl alcohol.

To ensure satisfactory belt life, install belts so they operate in the same direction of rotation. Position the identification numbers so that you can read them. This will keep the belt rotating in the same direction.

#### Belt Removal

1. Be sure key switch is off and engine has come to a complete stop. Remove the retaining knob or pin and open the clutch guard.
2. Apply brake (or lock parking brake if so equipped).
3. Grasp belt firmly midway between clutches and pull upward and rearward to open the driven clutch sheaves. Remove the belt from the driven clutch and then from the drive clutch.

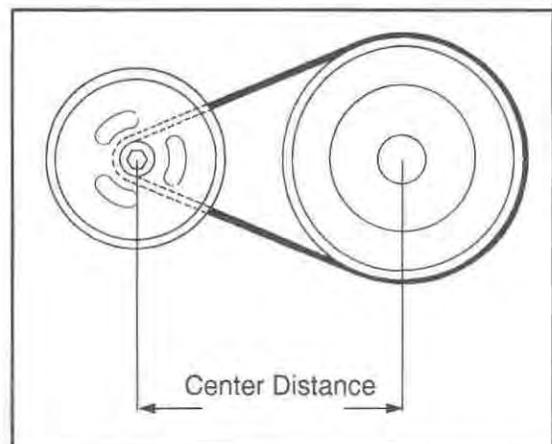
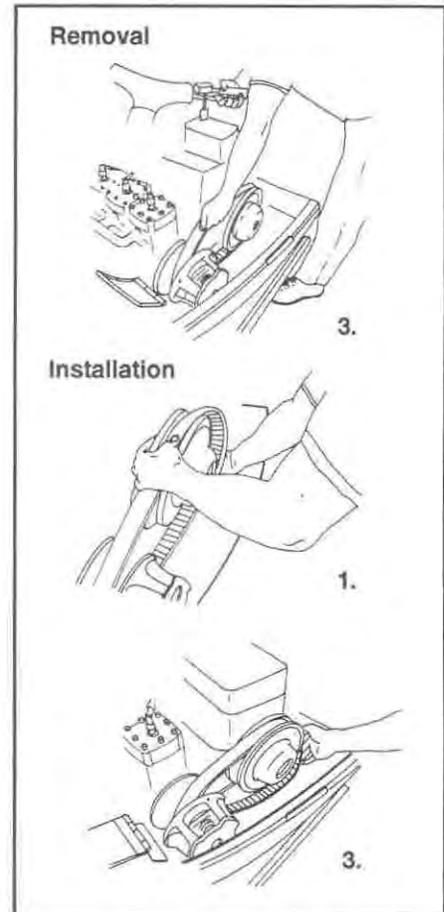
#### Belt Installation

1. Drop the drive belt over the drive clutch and pull back the slack.
2. Turn the driven clutch moveable sheave clockwise while at the same time pushing inward and forcing the belt down between the sheaves.
3. Hold the belt down between the sheaves and roll the bottom portion over the outer clutch sheave. Once installed, be sure to work the belt to the outer edge of the sheave. Be sure to release parking brake if applied.
4. Close the clutch guard and reinstall the retaining knob or pin.

#### Belt Inspection

5. Refer to PVT Section for belt inspection and width measurement.
6. Measure belt length with a tape measure around the outer circumference of the belt. Belts which measure shorter or longer than a nominal length may require driven clutch or engine adjustment to obtain proper belt deflection.
7. Replace belt if worn past the service limit. Belts with thin spots, burn marks, etc., should be replaced to eliminate noise, vibration, or erratic operation. See Troubleshooting Chart at the back of this chapter for possible causes. **NOTE:** If a new belt is installed, check belt deflection. Install so part numbers are easily read.

Refer to pages 6.40 and 6.41 for belt specifications and measurement procedures.



### Backrest Adjustment

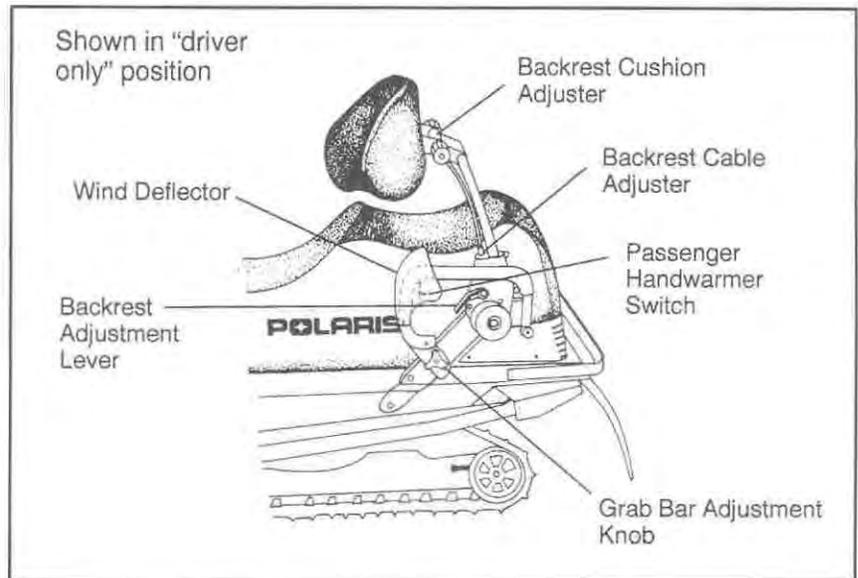
The passenger backrest on the Classic Touring and XLT Touring Models is adjustable. To move the backrest forward or backward, lift the adjustment lever on the left side.

To lengthen or shorten the backrest cable, lift the cable until spring tension is felt and lock the jamb nut.

When adjusting the backrest from a passenger position to a single rider position, rotate the backrest cushion adjustment knobs until the proper angle is reached.

The grab bars have five height adjustments. To raise or lower the grab bar, remove the grab bar adjuster knob, position the grab bar at the desired height, and reinstall the knob.

The Classic Touring and XLT Touring models are also equipped with passenger handwarmers. The handwarmer switch, located under the left hand wind deflector, has three settings: high, off, and low.



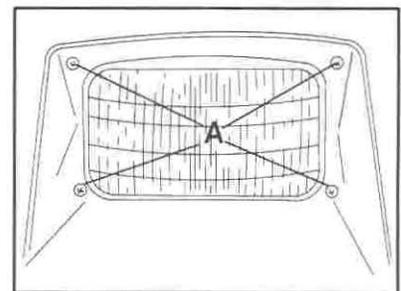
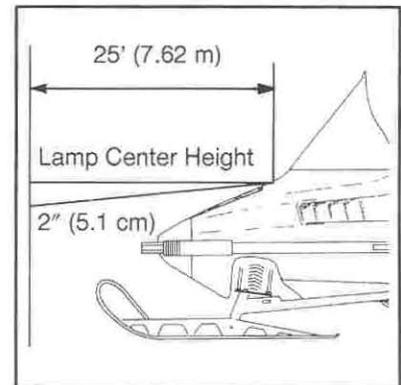
## MAINTENANCE/TUNE UP

### Headlight Adjustment - Standard Indy Models

#### Headlight Adjustment

The headlight can be adjusted for vertical aim using the following procedure:

1. Place snowmobile on a level surface with headlight approximately 25' (7.6m) from a wall.
2. Measure distance from floor to center of headlight and make a mark on the wall.
3. Start engine and turn headlight switch to high beam.
4. Observe headlight aim. The most intense part of the headlight beam should be aimed 2" (5.1 cm) below the mark placed on the wall in Step 2. **NOTE:** Rider weight must be included on the seat.
5. If necessary, the headlight aim can be adjusted by turning the four adjusting screws located on the front of the lens (A). Turn in or out as needed for proper aim.



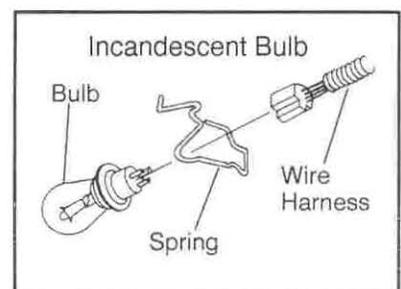
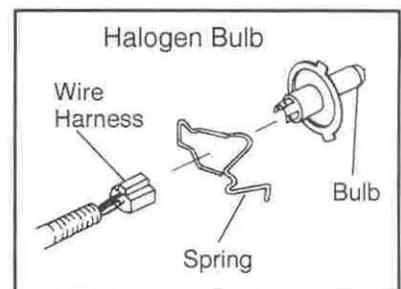
#### Removing the Bulb

**NOTE:** Do not touch a halogen bulb with bare fingers. Oil from skin leaves a residue, causing a hot spot which will shorten the life of the lamp.

1. Push down on left side of spring until it releases from spring retainer.
2. Lift spring carefully around wire harness and flip to outside of housing.
3. With the wire harness attached to the bulb, withdraw bulb from housing.
4. Grasp bulb by metal base and carefully separate bulb from harness.

#### Installing the Bulb

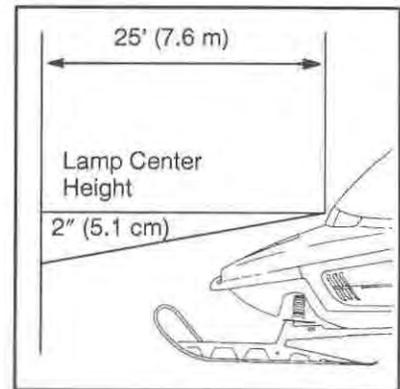
1. Hold bulb by metal base and install into wire harness.
2. Insert bulb into housing.
3. Carefully flip spring back into housing placing it around wire harness.
4. Push spring down until it is secured by spring retainer.
5. Verify headlight aim.



## Headlight Adjustment

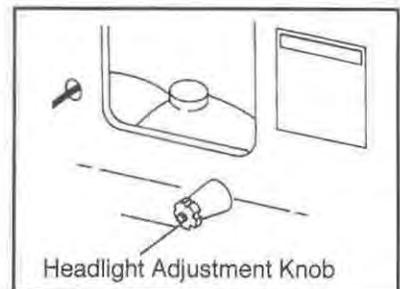
The headlight can be adjusted for vertical aim using the following procedure:

1. Place the snowmobile on a level surface with the headlight approximately 25' (7.6 m) from a wall.
2. Measure the distance from the floor to the center of the headlight and make a mark on the wall.
3. Start the engine and turn the headlight switch to high beam.
4. Observe the headlight aim. The most intense part of the headlight beam should be aimed 2" (5.1 cm) below the mark placed on the wall in Step 2. **NOTE:** Rider weight must be included on the seat.
5. If necessary, the headlight aim can be adjusted by turning the adjustment knob located inside the hood just below the headlamp opening. Turn knob in or out as needed for proper aim.



## Removing the Center Bulb

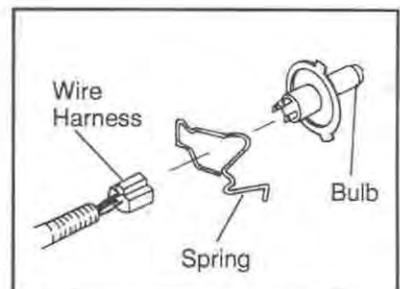
1. Push down on spring until it releases from spring retainer.
2. With wire harness attached to bulb, withdraw bulb from housing.
3. Grasp bulb by metal base and carefully separate bulb from harness.



## Installing the Center Bulb

**NOTE:** Do not touch a halogen bulb with bare fingers. Oil from skin leaves a residue, causing a hot spot which will shorten the life of the lamp.

1. Hold bulb by metal base *only* and install into wire harness.
2. Insert bulb into housing.
3. Push spring down until it is secured by spring retainer.
4. Verify headlight aim.



## Removing the Side Bulbs

1. Disconnect terminal from back of bulb.
2. Turn bulb assembly 1/4 turn to right and withdraw from housing.

## Installing the Side Bulbs

**NOTE:** Do not touch a halogen bulb with bare fingers. Oil from skin leaves a residue, causing a hot spot which will shorten the life of the lamp.

1. Hold bulb assembly by plastic base and plug into wire terminal.
2. Insert bulb assembly into housing.
3. Turn bulb assembly 1/4 turn to left to secure in housing.
4. Verify headlight operation.

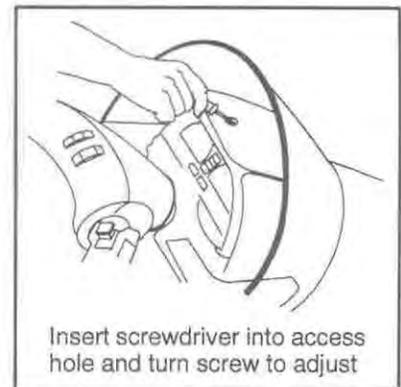
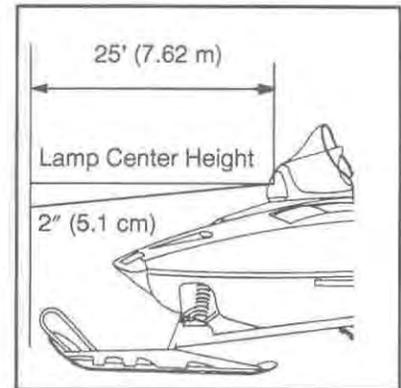
## MAINTENANCE/TUNE UP

### Headlight Adjustment - Aggressive Style Models

#### Headlight Adjustment

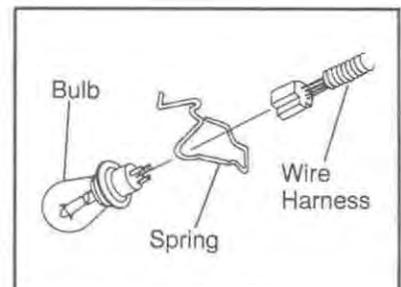
The headlight can be adjusted for vertical aim using the following procedure:

1. Place snowmobile on a level surface with headlight approximately 25' (7.6m) from a wall.
2. Measure distance from floor to center of headlight and make a mark on the wall.
3. Start engine and turn headlight switch to high beam.
4. Observe headlight aim. The most intense part of the headlight beam should be aimed 2" (5.1 cm) below the mark placed on the wall in Step 2. **NOTE:** Rider weight must be included on the seat.
5. If necessary, headlight aim can be adjusted by inserting a Phillips screwdriver into the boss in the top of the console and turning the screw until correct adjustment is achieved.



#### Removing the Bulb

1. Push down on left side of spring until it releases from spring retainer.
2. Lift spring carefully around wire harness and flip to outside of housing.
3. With the wire harness attached to the bulb, withdraw bulb from housing.
4. Grasp bulb by metal base and carefully separate bulb from harness.

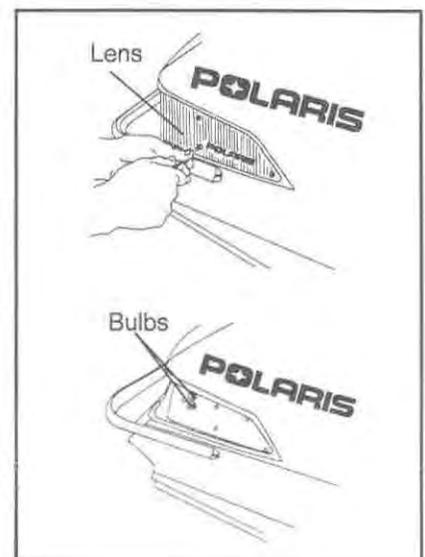


#### Installing the Bulb

1. Hold bulb by metal base and install into wire harness.
2. Insert bulb into housing.
3. Carefully flip spring back into housing placing it around wire harness.
4. Push spring down until it is secured by spring retainer.
5. Verify headlight aim.

#### Taillight Bulb Replacement

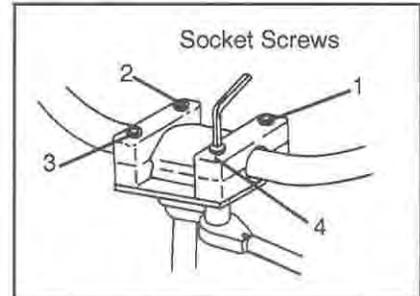
1. Remove (5) Phillips screws from taillight lens.
2. Working from front to back, carefully pry lens away from seal and remove lens.
3. Pull bulb straight out from socket and insert new bulb.
4. Reinstall lens.



### Handlebar Adjustment - Standard Indy Models

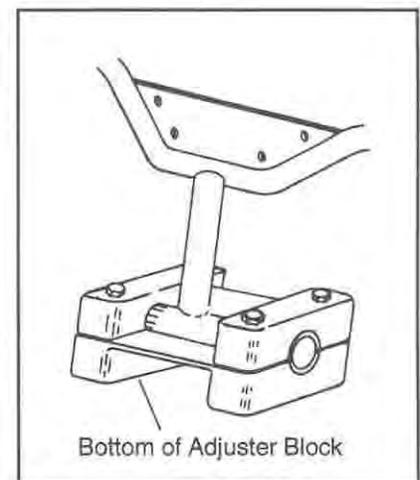
Handlebar Adjuster Block Bolt Torque -  
11 - 13 ft. lbs. (1.5 - 1.8 kgm)

1. Remove handlebar cover and foam.
2. Using a 7/16" (11 mm) wrench, loosen four nuts on bottom of adjuster block. **NOTE:** Turn handlebar to left or right for access to back nuts.
3. Adjust handlebar to the desired height. Be sure that handlebars, brake lever and throttle lever operate smoothly and do not hit the gas tank, windshield or any other part of the machine when turned fully to the left or right.
4. Torque the handlebar adjuster block bolts to specification. Maintain an equal gap on front and back of block.
5. Replace handlebar cover and foam.



### Handlebar Adjustment - Evolved and Aggressive Style Models

1. Remove two plastic fasteners holding console cover located below handlebar cover on hood side of steering post.
2. Using a 7/16" (11 mm) wrench, loosen four nuts on bottom of adjuster block. **NOTE:** Turn handlebar to left or right for access to rear nuts.
3. Adjust handlebar to the desired height. Be sure that handlebars, brake lever and throttle lever operate smoothly and do not hit the gas tank, windshield or any other part of the machine when turned fully to the left or right.
4. Torque the handlebar adjuster block bolts to specification. Maintain an equal gap on front and back of block.
5. Replace console cover.

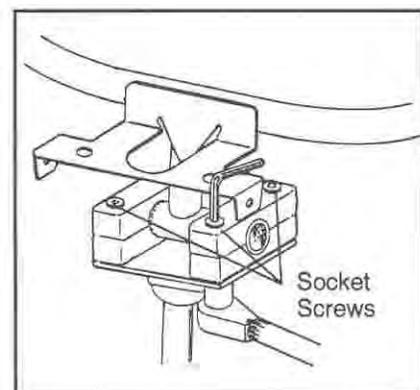


### Handlebar Adjustment - Indy Lite Style Models

1. Remove metal clips at front of plastic housing by prying out with screwdriver. Loosen four retainer bolts.
2. Adjust handlebar to the desired height. Be sure that handlebars, brake lever and throttle lever operate smoothly and do not hit the gas tank, windshield or any other part of the machine when turned fully to the left or right.
3. Torque handlebar adjuster block to specification. Maintain an equal gap on front and back of block.

**⚠ WARNING**

Improper adjustment of the handlebars, or incorrect torquing of the adjuster block tightening bolts can cause limited steering or loosening of the handlebars, resulting in loss of control.



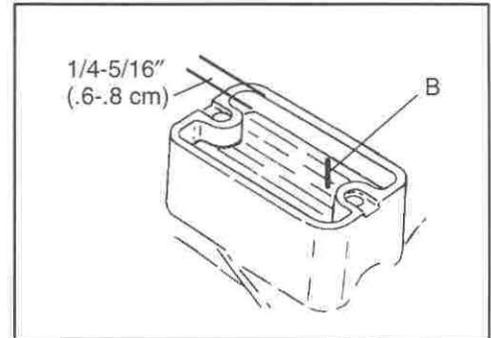
## MAINTENANCE/TUNE UP

### Brakes

#### Replenishing Brake Fluid

Remove brake fluid master cylinder reservoir cover. Add Polaris brake fluid as required to bring the level up to the top of the fluid level mark on the inside of the reservoir (B). The proper fluid level is 1/4-5/16" (.6-.8 cm) below the lip of the reservoir opening. Inspect the reservoir to be sure it contains the correct amount of fluid.

Use only Polaris DOT 3 high temperature brake fluid. Change brake fluid every 2 years. Change fluid every 2 years or whenever the fluid is dark or if contamination is suspected.



**Polaris DOT 3 High Temp Brake Fluid**  
PN 2870990

**Master Cylinder Fluid Level**  
1/4 - 5/16" (.6 - .8 cm) below lip of  
reservoir opening

**Brake Fluid Should Changed Every  
2 Years or when fluid is dark or if  
contamination is suspected.**

#### **⚠ WARNING**

Do not over fill the master cylinder. Fluid expansion could cause brakes to lock, resulting in serious injury or death. Once a bottle of brake fluid is opened, use what is necessary and discard the rest. Do not store or use a partial bottle of brake fluid. Brake fluid is hygroscopic, meaning it rapidly absorbs moisture from the air. This causes the boiling temperature of the brake fluid to drop, leading to early brake fade and the possibility of serious injury.

#### Bleeding the Hydraulic Brake System

Air in the hydraulic brake system will cause a springy or spongy brake lever action. Bleeding is necessary to remove air from the system.

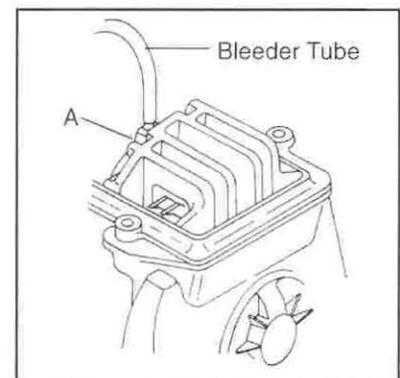
1. Remove brake fluid master cylinder reservoir cover and gasket.
2. Fill the master cylinder reservoir (B) and replace gasket and cover. Keep the fluid level 1/4-5/16" (.6-.8 cm) below lip of reservoir opening.
3. Slip a rubber tube over the ball of the bleeder valve and direct the flow of fluid into a container.

#### **⚠ WARNING**

Never re-use brake fluid. Brake fluid is hygroscopic, meaning it rapidly absorbs moisture from the air. This causes the boiling temperature of the brake fluid to drop, leading to early brake fade and the possibility of serious injury.

4. Squeeze brake lever a full stroke. Then unscrew bleeder valve (A) 3/4 of a turn to release air.
  5. Close bleeder valve first and then release brake lever.
- Repeat steps 4 and 5 until fluid flows from bleeder valve in a solid stream free of air bubbles. Do not allow reservoir to run dry or air will be drawn into system.
6. Re-fill reservoir to proper level after bleeding operation. *Do not overfill the master cylinder.*
  7. Replace gasket and cover.

During the bleeding procedure make sure to keep the reservoir as level as possible to minimize the possibility of air entering the system.



### Brake Adjustment - Mechanical Disc Brakes

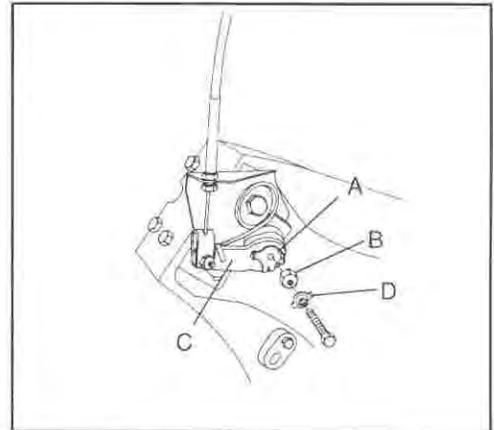
If excessive brake lever to brake block clearance is evident, the caliper adjuster should be adjusted using the following method.

**⚠ WARNING**

Adjust brake with caliper adjuster bolt only. *Do not* adjust cable or cable sleeve length. Improper brake adjustment could result in brake failure which could result in severe injury or death.

#### Caliper Adjustment

1. Bend locking tab (A) away from lock nut (B) and loosen lock nut.
2. Push down on actuating lever (C) and insert a .015" feeler gauge between the brake disc and outer brake pad.
3. Turn adjusting bolt (D) in until a slight pressure is felt against the feeler gauge.
4. While holding adjusting bolt (D), tighten locknut (B).
5. Bend locking tab (A) against locknut.

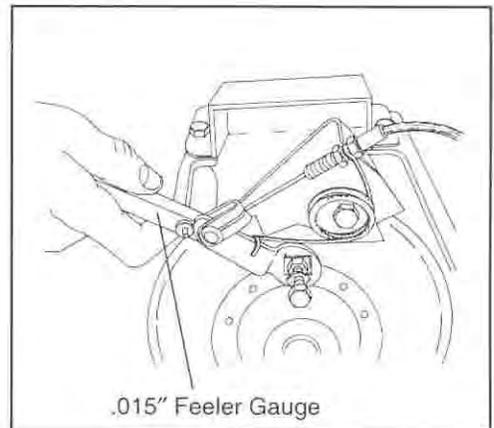


**⚠ WARNING**

Be certain locking tab is correctly positioned in actuating lever. After locknut is tightened, check pad to disc clearance to be certain there is .015" clearance.

Be certain brake pads are not dragging on disc and brake lever travel is not excessive.

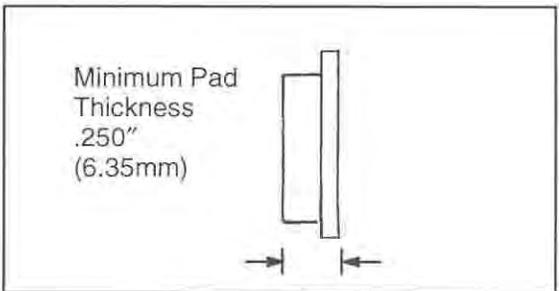
Improper brake adjustment could result in brake failure which could result in severe injury or death.



**Brake Pad to Disc Clearance -**  
**.015" (.38 mm)**

**NOTE:** Replace pads when worn beyond service limit.

**Brake Pad Thickness - Type M3 shown.**  
**Service Limit .250" (6.35mm)**  
**(All brake pads)**



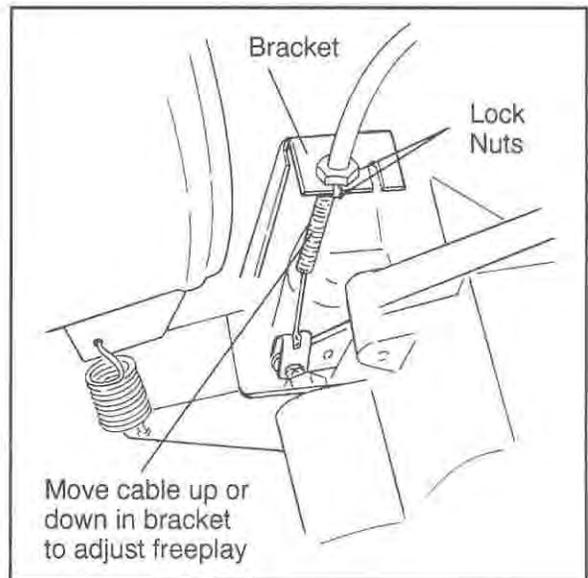
### Exhaust System

Inspect the exhaust system 1500 miles (2400 km). To inspect, allow engine and exhaust system to cool completely. Open the hood and inspect the muffler and pipes for cracks or damage. Check for weak or missing retaining springs. Be sure the resonator outlet pipe exits the belly pan.

## MAINTENANCE/TUNE UP Brakes

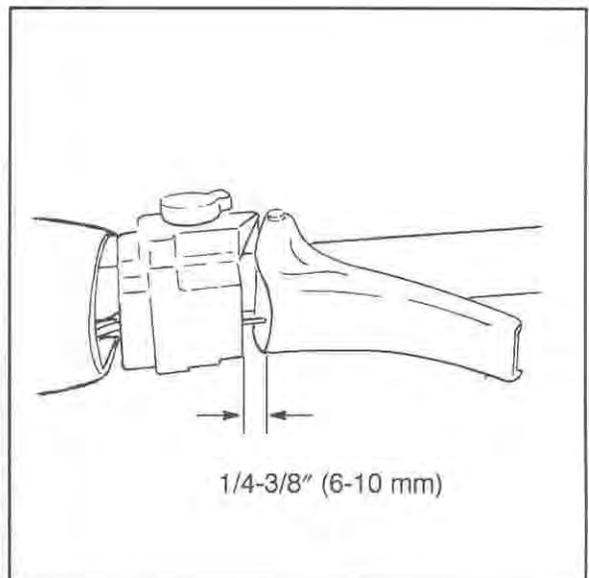
### WT-2 Brake Adjustment

1. Check to ensure floating parts move freely and that all other parts are mounted securely. Tighten hardware as required.
2. Check actuator linkage to ensure there is adequate freedom of movement for positive brake operation. Periodic adjustment of pad gap can be performed using actuating cable.
3. Loosen lock nuts.

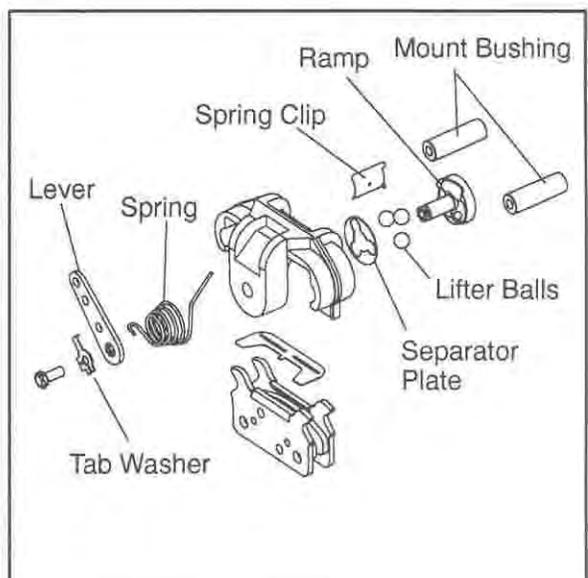


4. To increase brake lever free play turn nuts counterclockwise to move cable down in bracket. To decrease lever free play move cable up in bracket. Tighten lock nuts.

**Brake Lever Free Play**  
1/4-3/8 in. (6-10mm)



5. If cable adjuster has reached maximum (used up), the lever arm can be re-indexed. Loosen lock nuts and turn counterclockwise (as viewed from top) to obtain the maximum amount of cable freeplay. Straighten tab on tab washer and loosen bolt enough to disengage actuator lever spline.
6. Slip long leg of lever spring off caliper and rotate to the side.
7. Rotate the lever one tooth in the direction opposite the actuation direction, and tighten bolt making sure spline teeth are properly engaged.
8. Bend up a tab aligning with one of the bolt head flats to prevent bolt rotation.
9. Return the spring to its original position on the caliper. Both lever and linkage must be free to return to original position.
10. Perform steps 3. and 4. to adjust lever freeplay.
11. Verify proper brake operation. Disc should rotate freely without drag.
12. Check disc surface condition. Refer to Brake/Final Drive section to inspect disc and pad condition and thickness.



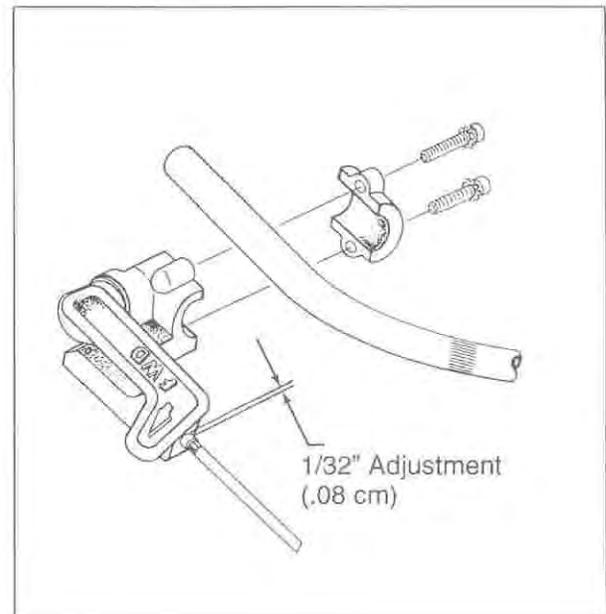
### Adjustment

Due to break-in or replacement of components, the reverse shift mechanism may require adjustment. Adjust with the shifter in the forward position.

#### Standard Indy Style

1. Loosen jam nuts on lower end of cable.
2. Adjust cable until endplay movement of cable housing at the handlebar bracket is  $1/32''$  (.08 cm). Do not adjust beyond this point.
3. Tighten jam nuts and re-check adjustment.

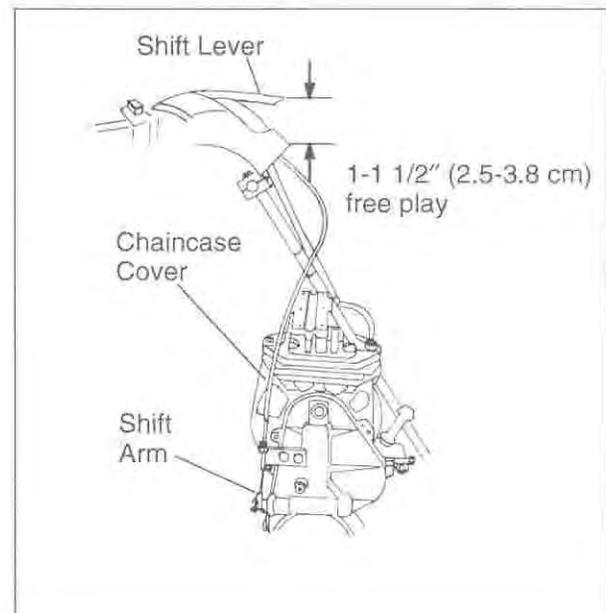
**Reverse Cable End Play -**  
 **$1/32''$  (.08 cm)**



#### Evolved and Aggressive Style

1. Lift shift lever slowly while observing shift arm on transmission.
2. If adjustment is correct, shift will move 1 - 1 1/2" before the shift arm begins to move. If adjustment is required, proceed with step 3.
3. Loosen jam nuts on lower end of cable.
4. Adjust cable end at transmission until the end of the shift lever has 1 - 1 1/2" (2.5 - 3.8 cm) of freeplay before the cable starts to move the shift arm. Do not adjust beyond this point.
5. Tighten jam nuts and re-check adjustment.

**Reverse Shift Lever Freeplay -**  
**1 - 1 1/2" (2.5 - 3.8 cm) measured at**  
**end of shift lever**



## **MAINTENANCE/TUNE UP**

### **Off Season Storage**

#### **Cleaning And Preservation Of Hood, Chassis And Trim**

Proper storage starts by cleaning, washing and waxing the hood, chassis, upholstery and plastic parts. Clean and touch up with paint any rusted or bare metal surfaces. Ensure that all corrosive salt and acids are removed from surfaces before beginning preservation with waxes and rust inhibitors (grease, oil, or paint).

If the machine is equipped with a battery, disconnect the battery cables and clean the cables and battery posts. Fill battery to proper level with distilled water and charge to full capacity. Remove and store the battery in a cool dry place.

The machine should be stored in a dry garage or shed out of the sunlight and covered with a fabric snowmobile cover. *Do not use plastic to cover the machine;* moisture will be trapped inside causing rust and corrosion problems.

#### **Controls And Linkage**

All bushings, spindle shafts and tie rod ends should be coated with a light coat of oil or grease. Throttle controls and cables should be lubricated with Polaris Cable Lubricant. Force a small amount of lubricant down cables.

**Polaris Cable Lubricant**

**PN 2870510**

#### **Electrical Connections**

Separate electrical connector blocks and clean corrosive build-up from connectors. Lubricate or pack connector blocks with dielectric grease and reconnect. Replace worn or frayed electrical wire and connectors.

**Dielectric Grease PN 2871027**

#### **Clutch And Drive System**

Remove drive belt and store in a cool dry location. Lubricate sheave faces, shaft and ramps of drive and driven clutches with light oil or rust inhibitor. A generous amount of lubrication, such as Polaris cable lubricant should be applied onto the rollers and weight pins. All lubrication applied as a rust preventative measure must be cleaned off before installing belt for service and operating machine.

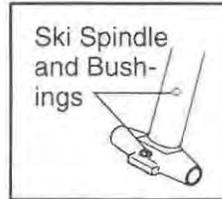
#### **Chaincase Lubricant**

Change chaincase lubricant as outlined in this section. Remove the outer cover and clean the chaincase thoroughly.

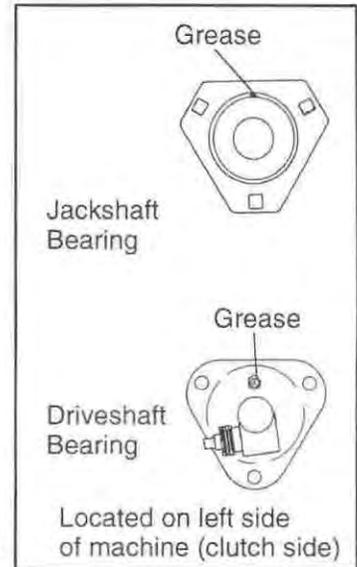
**Lubrication**

Refer to page 2.5-2.10 for complete lubrication information.

To prevent corrosion which will destroy the bearings, always grease jackshaft and drive shaft (clutch side) bearings with a high quality bearing grease. Loosen driven clutch retaining bolt and pull clutch outward to expose bearing. Use a point type grease gun fitting to inject grease through hole in flange into bearing until grease purges out inside or outside bearing seal. Push clutch back on shaft and replace clutch retaining bolt. Inject grease into fitting on speedometer drive adaptor until grease purges out inside or outside bearing seal. Lubricate both front ski pivots at bushings and spindles. See III.1 and 2.



III. 1



III. 2

**Polaris Premium All Season Grease**  
**PN 2871423 14 1/2 oz.**

**Grease Gun Adapter: 2871174**  
**Point Type**

Use T-9 Metal Protectant on shock absorber shafts to help prevent corrosion.

**T-9 Metal Protectant**  
**PN 2871064**

Under normal conditions moderate track tension should be maintained during summer storage. Rubber track tension should be maintained at the prescribed normal operating tension specified in this manual. The rear of the machine should be supported off the ground to allow free hanging of track.

## MAINTENANCE/TUNE UP

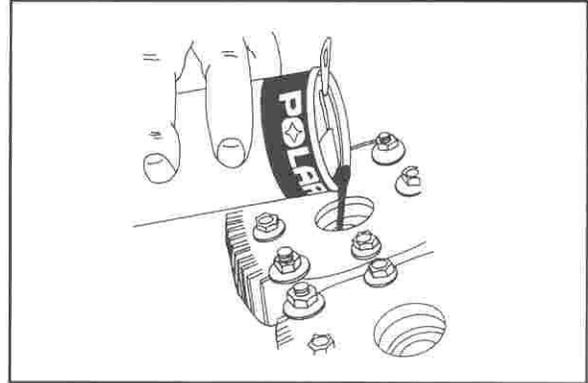
### Off Season Storage

#### Engine and Carburetor

Fog engine with Polaris Fogging Oil (aerosol type) according to directions on can. On models with carburetor vacuum fittings the fogging oil can be sprayed through the fitting.

If you choose not to use Polaris Fogging Oil perform the following procedure: Support front of snowmobile so engine is level or tilted slightly rearward. Remove spark plug(s). Rotate piston to BDC and pour approximately two ounces (16 ml) Polaris 2-Cycle Injector oil into the cylinder.

**NOTE:** Allow ample time for oil to flow from top of piston down transfer ports and onto crankshaft bearings before proceeding to next cylinder. Turn engine over several times to insure coverage of piston rings, cylinder walls and crankshaft bearings. See photo at right.



**Polaris Fogging Oil PN 2870791**

Treat the fuel system with Polaris fuel system additive

**Carbon Clean PN 2871326**

If Polaris fuel system additive is not used, fuel tank, fuel lines, and carburetor should be completely drained of gasoline. To eliminate any fuel remaining in the carburetor, run the engine until it stops.

#### Battery

Disconnect and remove battery. Fill with distilled water. Clean terminals and cables. Apply dielectric grease. Charge until specific gravity is at least 1.270 (each cell). If machine is to be stored for one month or longer, fill and charge battery monthly using Polaris Battery Tender, or a 1 amp trickle charger to maintain at 1.270 specific gravity.

**Polaris Battery Tender**

**PN 2871076**

#### EFI Storage Considerations

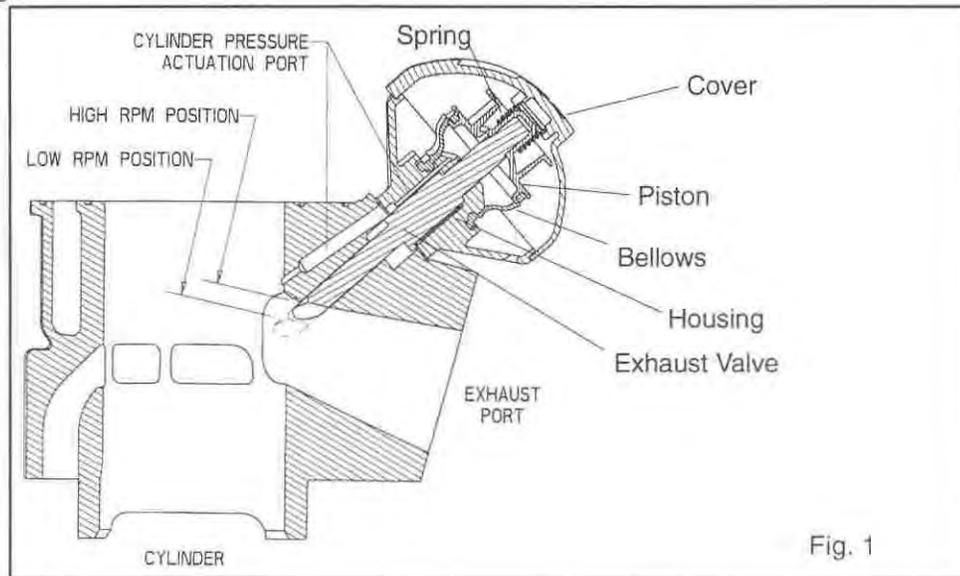
Add fuel conditioner/stabilizer and fill tank as described above. Fog engine. Disconnect battery ground cable if machine will be stored for 30 days or less. If storage period will exceed 30 days, remove battery from machine and maintain as described above. Cover and store machine out of direct sunlight. If machine is to be stored more than four months, start and run engine for at least 15 minutes and re-fog with fuel stabilizer added to the fuel.

Fill fuel tank and add the recommended amount of Polaris Fuel System Additive.

## Variable Exhaust System (V.E.S.)

Some snowmobiles are equipped with the Polaris (patent pending) *Variable Exhaust System (V.E.S.)*

This unique exhaust valve management system changes the effective exhaust port height in the cylinder to provide maximum horsepower at high RPM without sacrificing fuel economy and engine torque at low to midrange throttle settings.



In order to understand the operation and function of the V.E.S. we must first consider the characteristics of a two stroke engine. The height of the exhaust port in a two stroke engine cylinder has an affect on the total power output of an engine, as well as the RPM at which the power occurs.

Exhaust systems are "tuned" by design to match engine exhaust port configuration and desired power delivery characteristics. Engines with relatively "high" exhaust ports (and exhaust pipe to match) produce more horsepower at high RPM, but only at the expense of low to midrange fuel economy and torque. On the other hand, "low" port engines provide good fuel economy in the midrange and make their power at relatively lower RPM, but will not produce as much peak horsepower for a given displacement range. In general, an engine designed for a racing or high performance snowmobile will have a relatively high exhaust port compared to an engine of the same displacement range designed for touring.

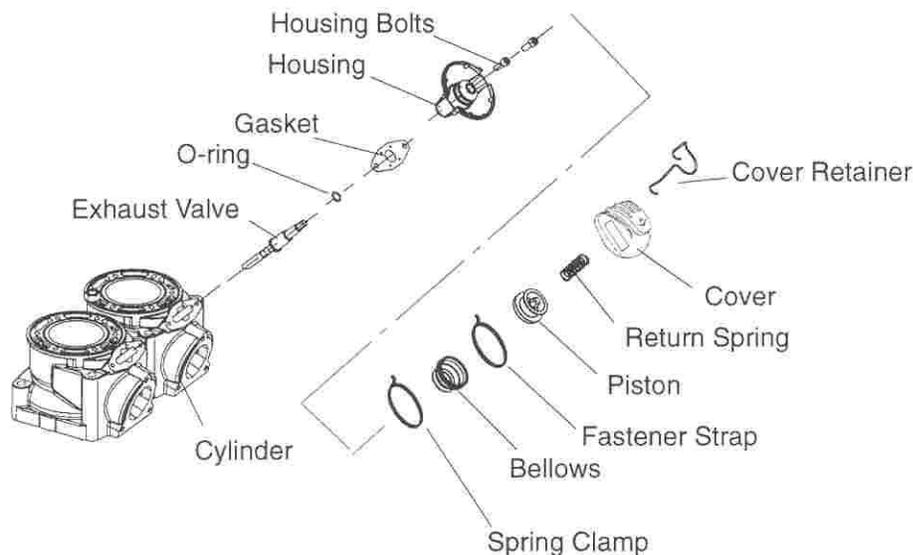
Although the V.E.S. does not in itself increase horsepower, it does allow an engine to be designed for maximum horsepower without the inherent disadvantages of a high exhaust port.

The main components of the V.E.S. are the exhaust valve, valve housing, bellows, piston, return spring, and cover.

A guillotine style exhaust valve is connected to a moveable piston. This piston is attached to a flexible bellows, forming two chambers. The lower chamber is connected to the cylinder by a drilled passageway located just above the exhaust port. The upper chamber is vented to atmospheric pressure. A valve return spring is located in the upper chamber between the piston and cover.

At idle and low speeds, the exhaust valve is held in the "low port" position by the return spring. When throttle is applied (and RPM begins to increase) rising cylinder pressure is applied to the under side of the bellows via the actuation port. This forces the exhaust valve upward against spring pressure. The valve continues to move upward toward the "High Port" position as cylinder pressure, horsepower, and RPM increase.

## ENGINE Variable Exhaust System



### V.E.S. Maintenance

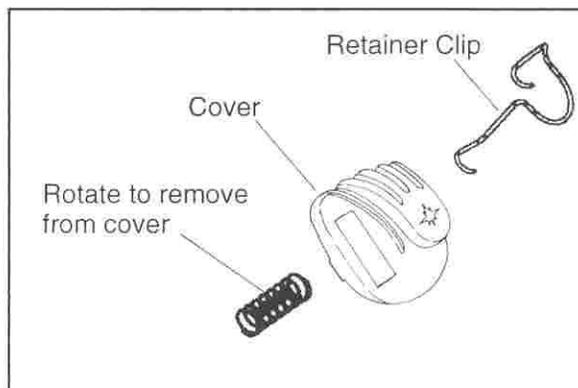
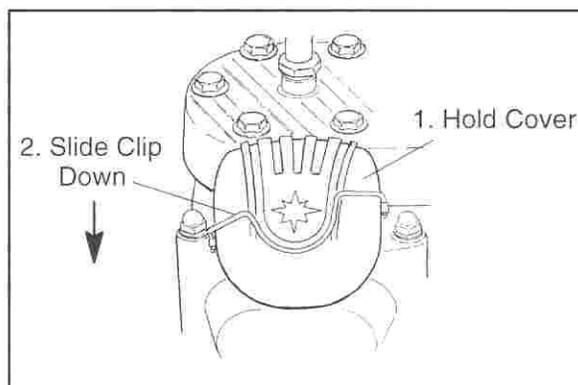
Due to the simplicity of V.E.S. design, maintenance is limited to a periodic inspection and cleaning of system components. The V.E.S. should be disassembled, inspected, and cleaned (remove carbon deposits) every 1000 to 2000 miles, depending on operating conditions. **NOTE:** To ensure maximum performance and minimize required maintenance, Polaris recommends the use of Premium Gold Synthetic 2 Cycle lubricant (PN 2871721) only. The use of other lubricants may cause improper function of the valve mechanism, and increase the frequency of required cleaning due to excessive buildup of carbon deposits. **NOTE:** Polaris Premium 2-Cycle TC-W3 Engine Lubricant (blue) is recommended for use during the break-in period.

### V.E.S. Removal

1. Pull back cover retainer clip while holding the cover in place.
2. Remove cover and return spring.
3. If the spring stays in the cover, hold the cover with spring facing toward you. Rotate spring in a counterclockwise direction while pulling outward on the spring. Do not distort the spring upon removal.

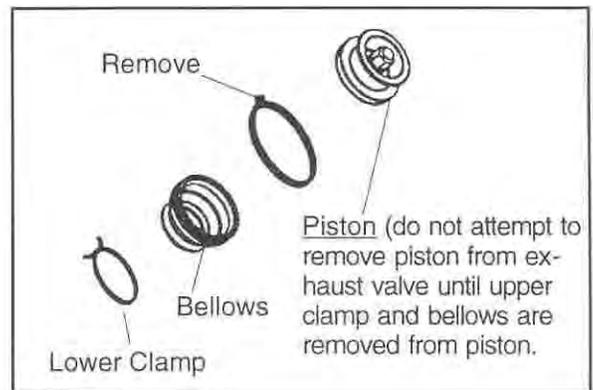
**CAUTION:** Do not attempt to remove the plastic valve piston at this time. The bellows must first be removed from the piston or damage may occur to the bellows or piston.

4. Remove two (5mm) hex screws from valve housing.
5. Lift entire valve assembly from cylinder along with gasket.

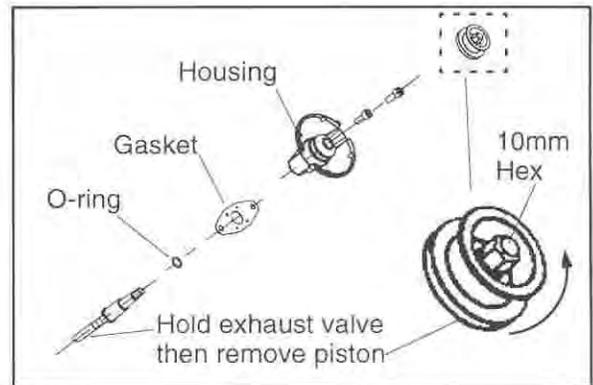


### Disassembly, Cleaning, Inspection

1. Carefully remove the fastener strap in the area shown. Use care to avoid cutting the bellows.
2. Fold back upper edge of bellows to expose lower edge of piston.



3. Hold exhaust valve securely and remove piston by turning the 10mm hex counterclockwise.
4. Slide exhaust valve out of housing.
5. Remove O-ring from exhaust valve shaft.
6. Compress lower spring clamp and remove bellows and clamp.
7. Clean O-ring and bellows in warm water and mild detergent. Inspect bellows for holes, distortion or damage. Replace if necessary. Inspect O-ring for damage.
8. Clean all other parts with solvent. Be sure all parts are thoroughly clean.
9. Inspect the actuator port in cylinder and valve housing. Be sure it is clear and not obstructed by debris or carbon.
10. Carbon deposits can be removed from valve with a Scotch Brite™ pad or similar soft abrasive brush.
11. Lubricate exhaust valve with Polaris Premium Gold 2-cycle engine lubricant. Install valve in cylinder and move it through the entire travel range to check for free movement without binding. If the valve sticks anywhere in the travel range, check the valve and valve bore in the cylinder for carbon deposits and clean if necessary.

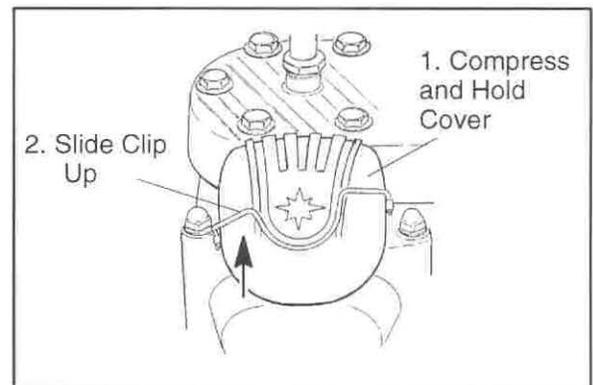
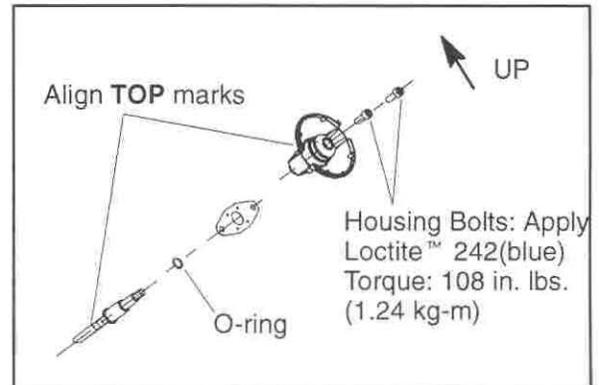


## ENGINE

### Variable Exhaust System

#### V.E.S. Assembly

1. Install lower clamp over small end of bellows.
2. Assemble dry. Install bellows on housing. Be sure bellows is completely seated in groove, and install clamp.
3. Place a new o-ring and gasket on exhaust valve.
4. Insert exhaust valve in housing with TOP marks aligned. Both the valve housing and valve are marked with "TOP".
5. Apply Loctite™ 242 to threads of exhaust valve and install the piston. Hold exhaust valve and torque piston to 25 in. lbs. (.28 kg-m).
6. Install valve assembly in cylinder with TOP marks on valve and housing facing up. Apply Loctite 242 (blue) to housing bolt threads. Install and torque bolts to 108 in. lbs. (1.24 kg-m).
7. Fit upper sealing edge of bellows into groove on piston.
8. Secure the bellows by installing the fastener strap. **NOTE:** Move the valve up and down in the full travel range and check for smooth operation. If the valve binds in any spot, check the bellows to be sure it is not twisted on the piston.
9. Install spring and cover. Be sure spring is properly positioned on the piston and in the cover.



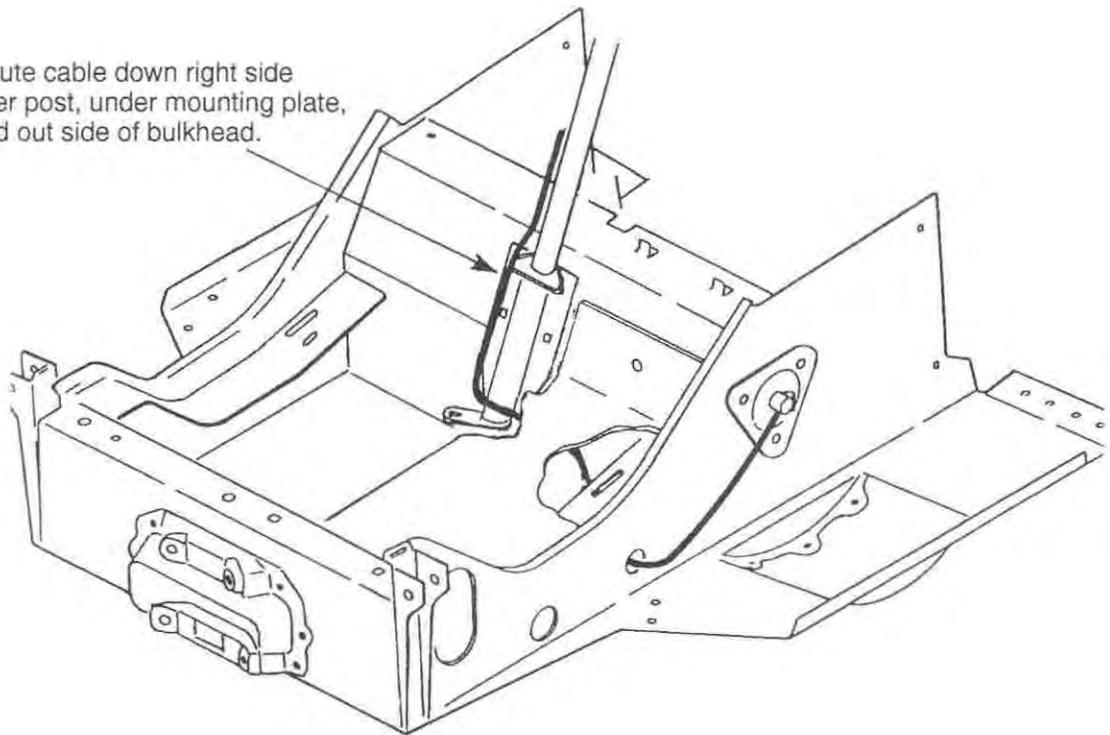
**V.E.S. Troubleshooting**

Symptom	Possible Cause	Remedy
Engine will not reach designed operating RPM	Valve not opening or not opening completely: 1. Exhaust valve sticking 2. Cylinder pressure feed port restricted 3. Bellows damaged or not sealing correctly 4. Incorrect spring 5. Problem in clutch setup, drive line, engine, etc.	1. Remove carbon deposits, burrs etc. 2. Clean port 3. Inspect bellows, fastener straps, and gasket and repair as required 4. Inspect 5. Inspect
Poor acceleration; hesitation; High RPM performance is normal or near normal	Valve opening too early: 1. Valve sticking open or partially open 2. Broken, damaged, or incorrect, spring	1. Clean, Inspect 2. Inspect, Replace

**MAINTENANCE/TUNE UP**  
**Routing Diagram - Speedometer Cable**

1996 to Current Indy Lite Models

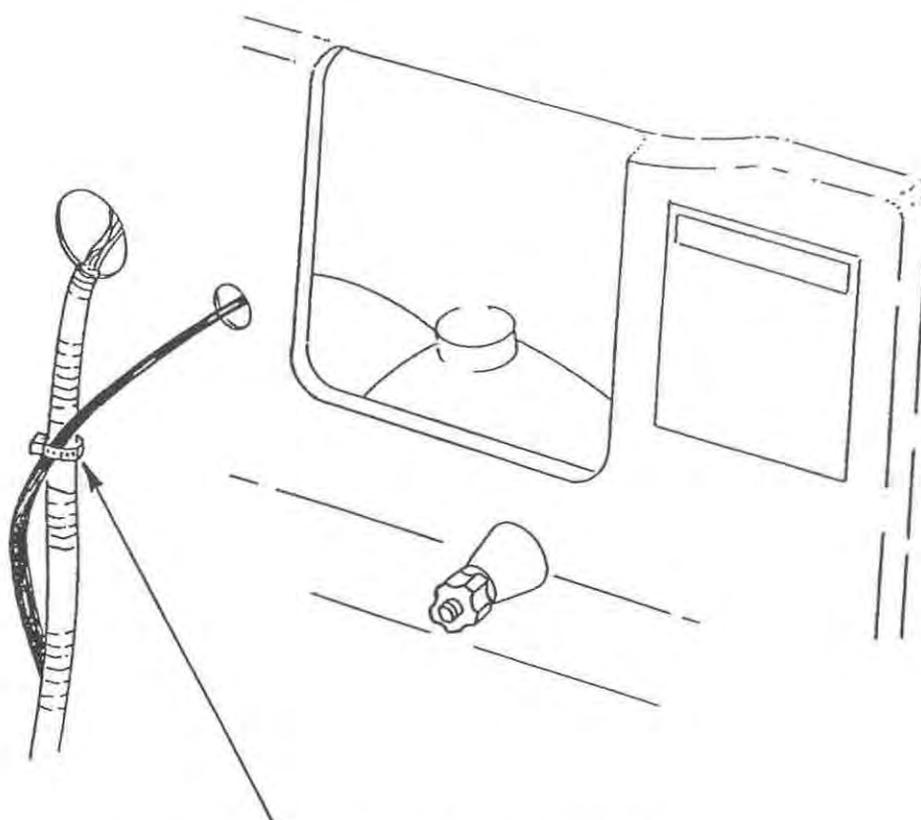
Route cable down right side  
over post, under mounting plate,  
and out side of bulkhead.



## MAINTENANCE/TUNE UP Routing Diagram - Speedometer Cable

1996 Indy 440 LC/Classic/Classic Touring/Trail/Trail Touring/500/500 SKS/500 RMK/XLT  
Touring Models

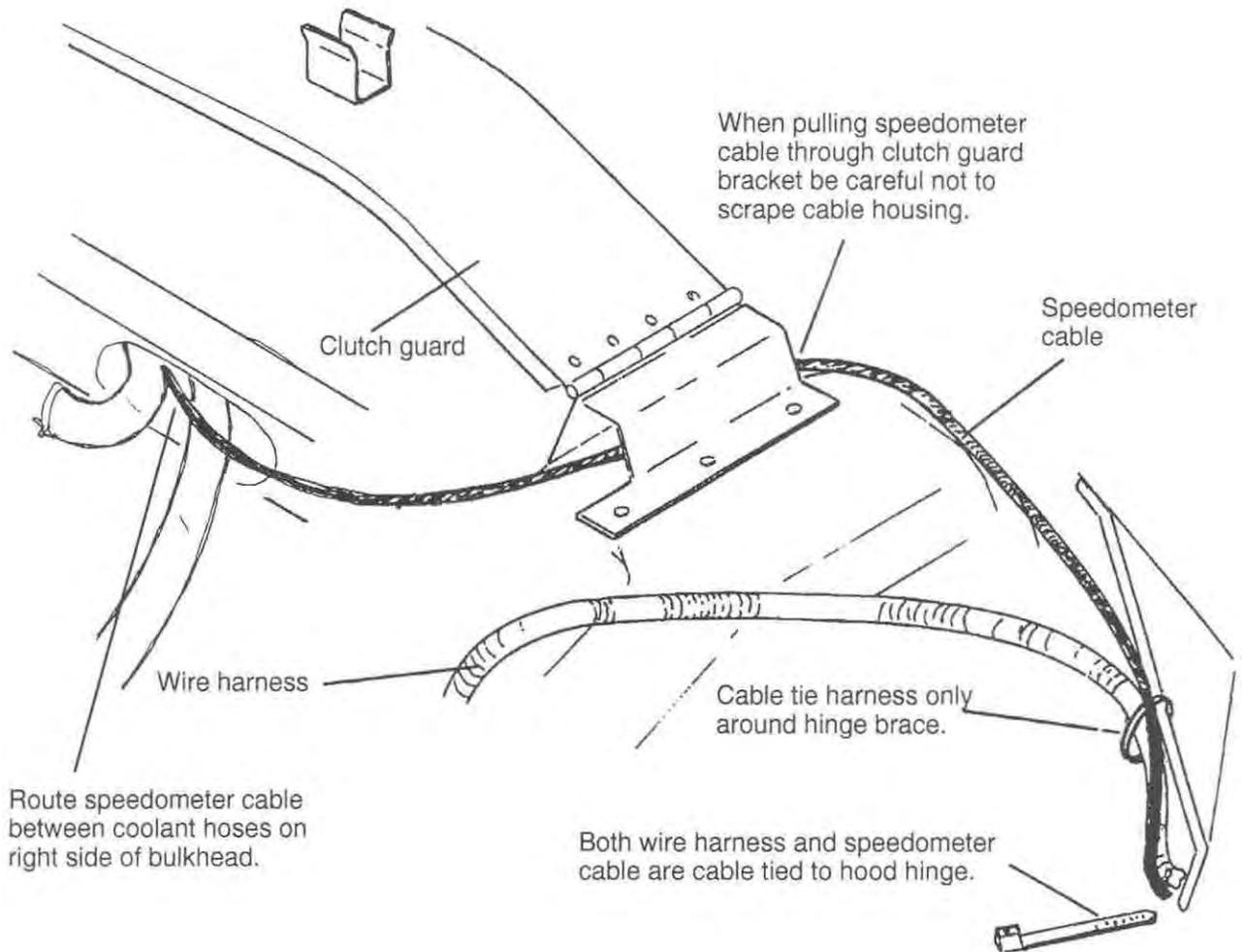
1997 Indy Trail/Trail Touring/500/500 SKS/ 500 RMK/440 LC/500 EFI/XLT LTD/XLT Touring/  
Classic/Classic Touring Models



Speedometer cable should be tie strapped to wire  
harness at approximately this location inside hood.

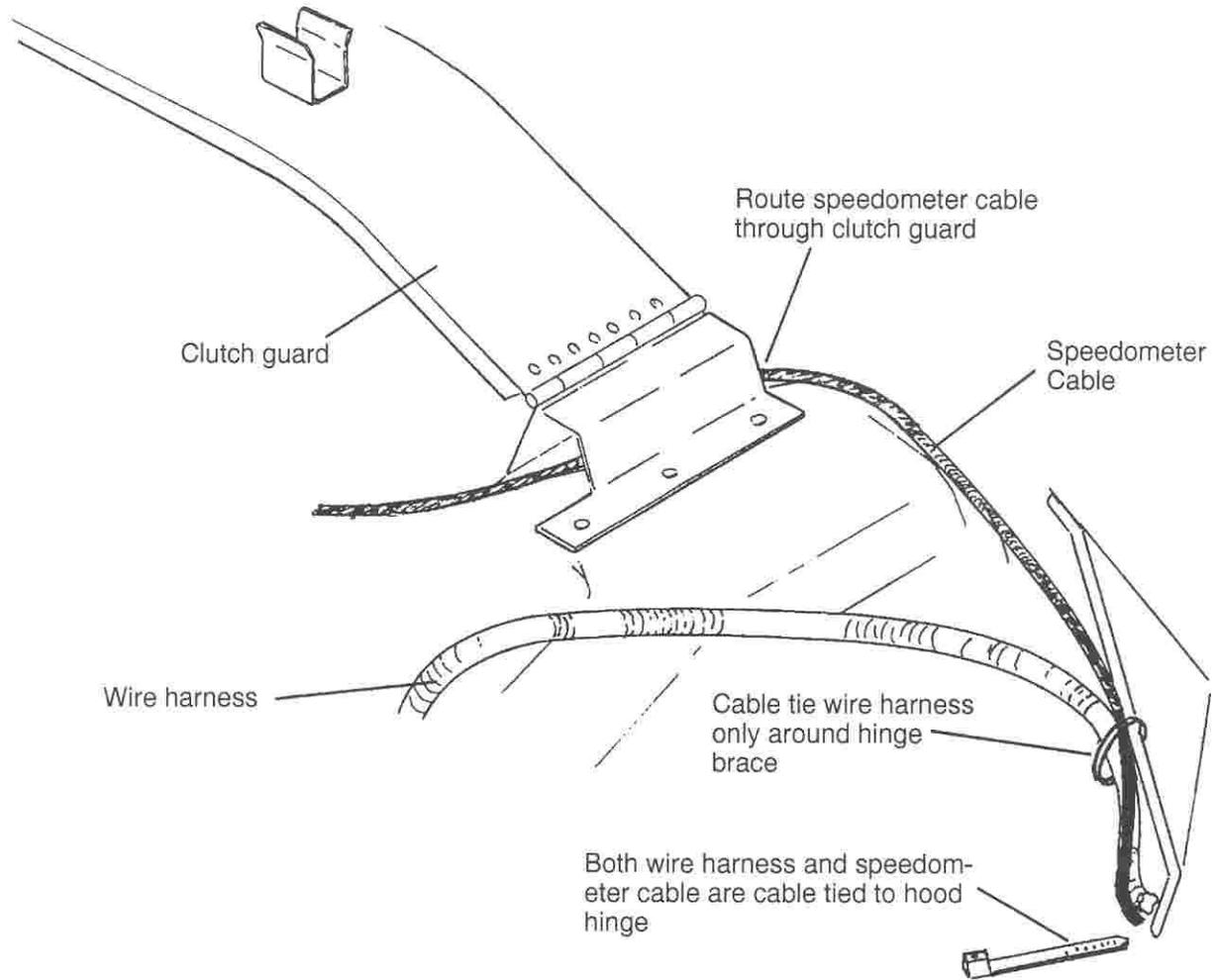
# MAINTENANCE/TUNE UP Routing Diagram - Wire Harness/Speedometer Cable

1996 Indy RXL/440 XCR/XLT SKS/XLT RMK Models  
1997 Indy XLT/XLT SKS/XLT RMK/Ultra SP Models



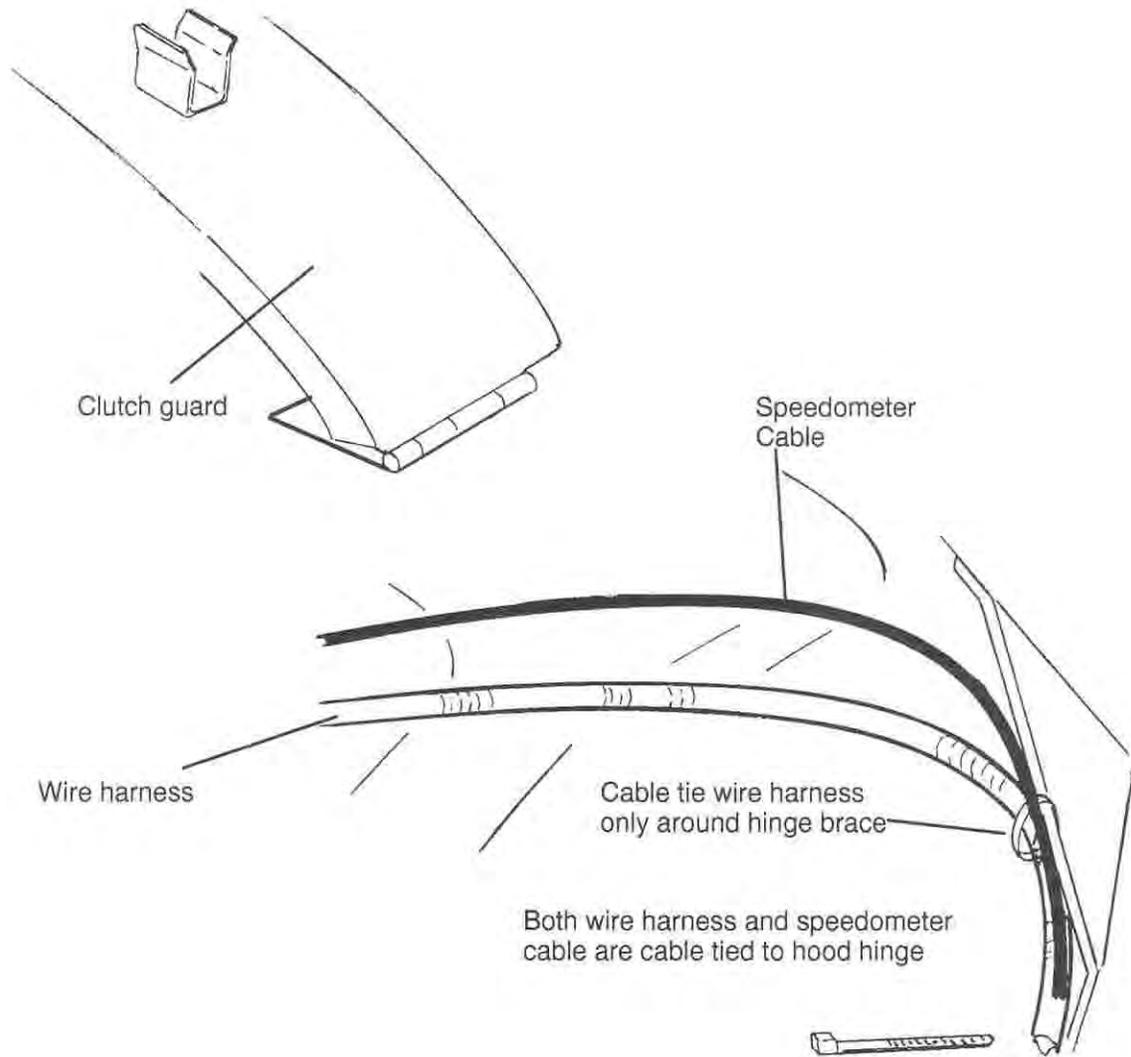
**MAINTENANCE/TUNE UP**  
**Routing Diagram - Wire Harness/Speedometer Cable**

1997 Indy 440 XC Models



MAINTENANCE/TUNE UP  
Routing Diagram - Wire Harness/Speedometer Cable

1997 Indy XLT SP Models



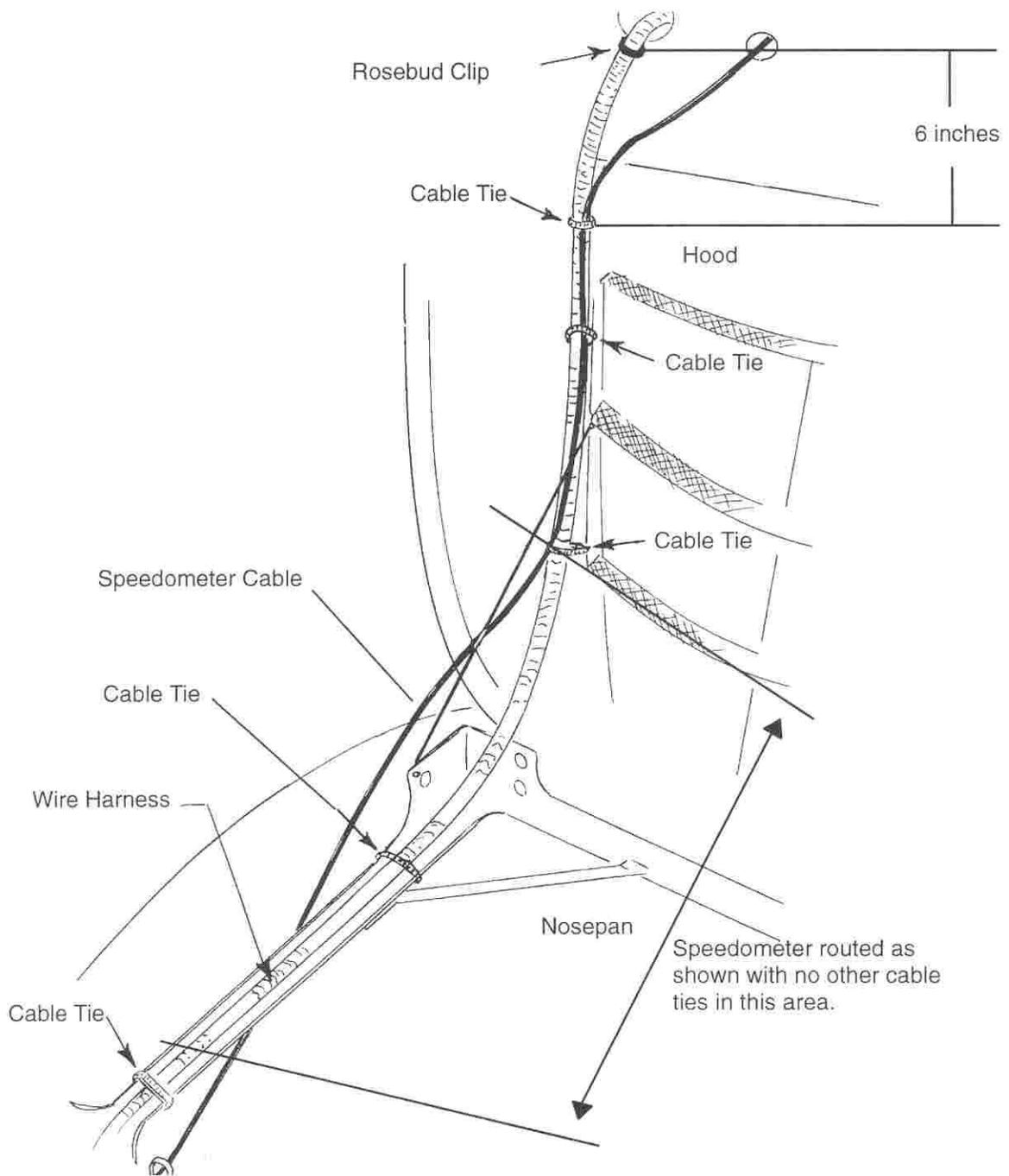
# MAINTENANCE/TUNE UP

## Routing Diagram - Wire Harness/Speedometer Cable

1996 Indy 440 LC/Classic/Classic Touring/XLT Touring/500/500 SKS/500 RMK/Trail/Trail Touring Models

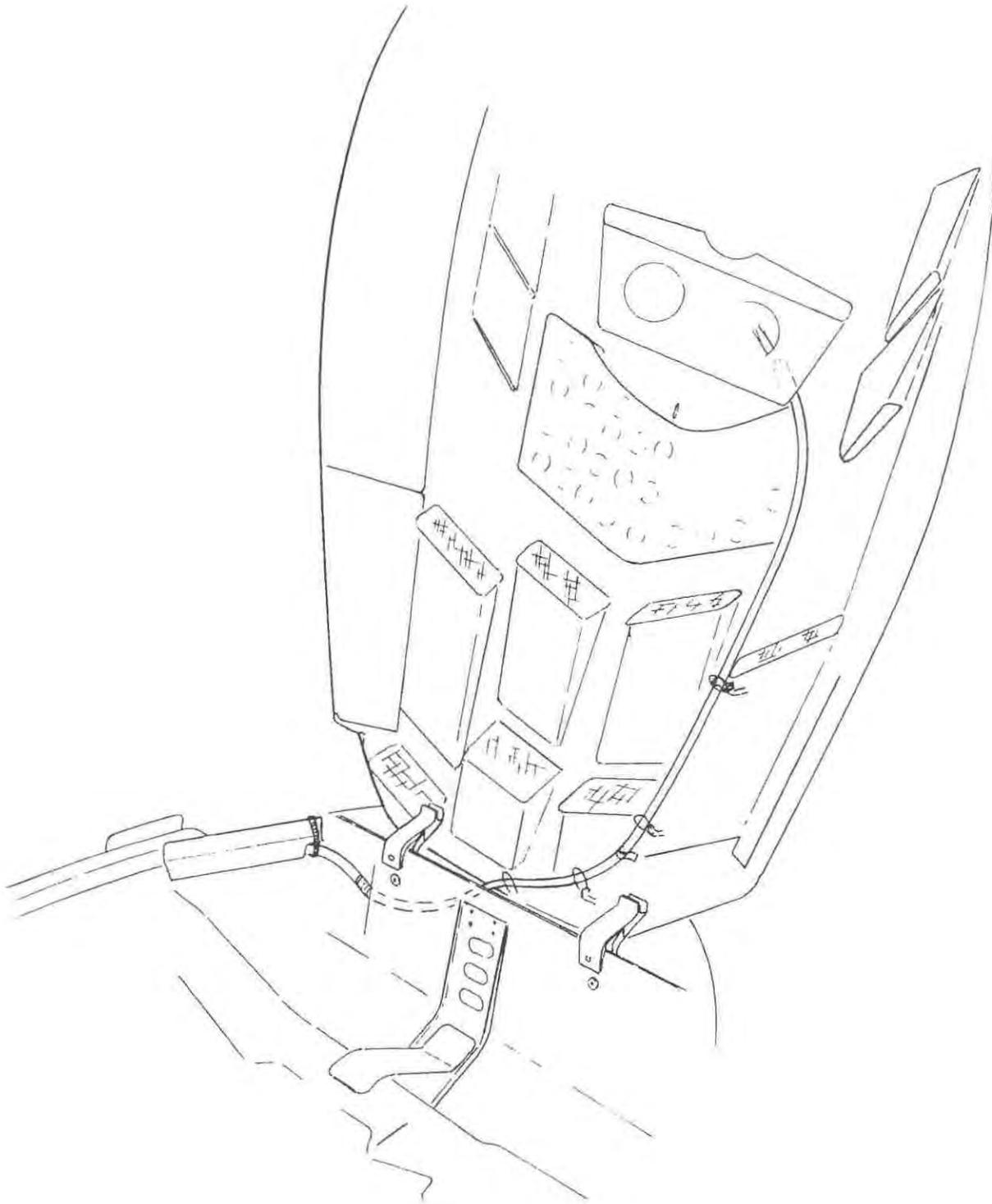
1997 Indy Trail/Trail Touring/500/500 SKS/500 RMK/440 LC/500 EFI/XLT Touring/classic/Classic Touring/XLT LTD Models

1998 Trail / 440 Indy / 500 Indy / 500 Classic / XLT Touring



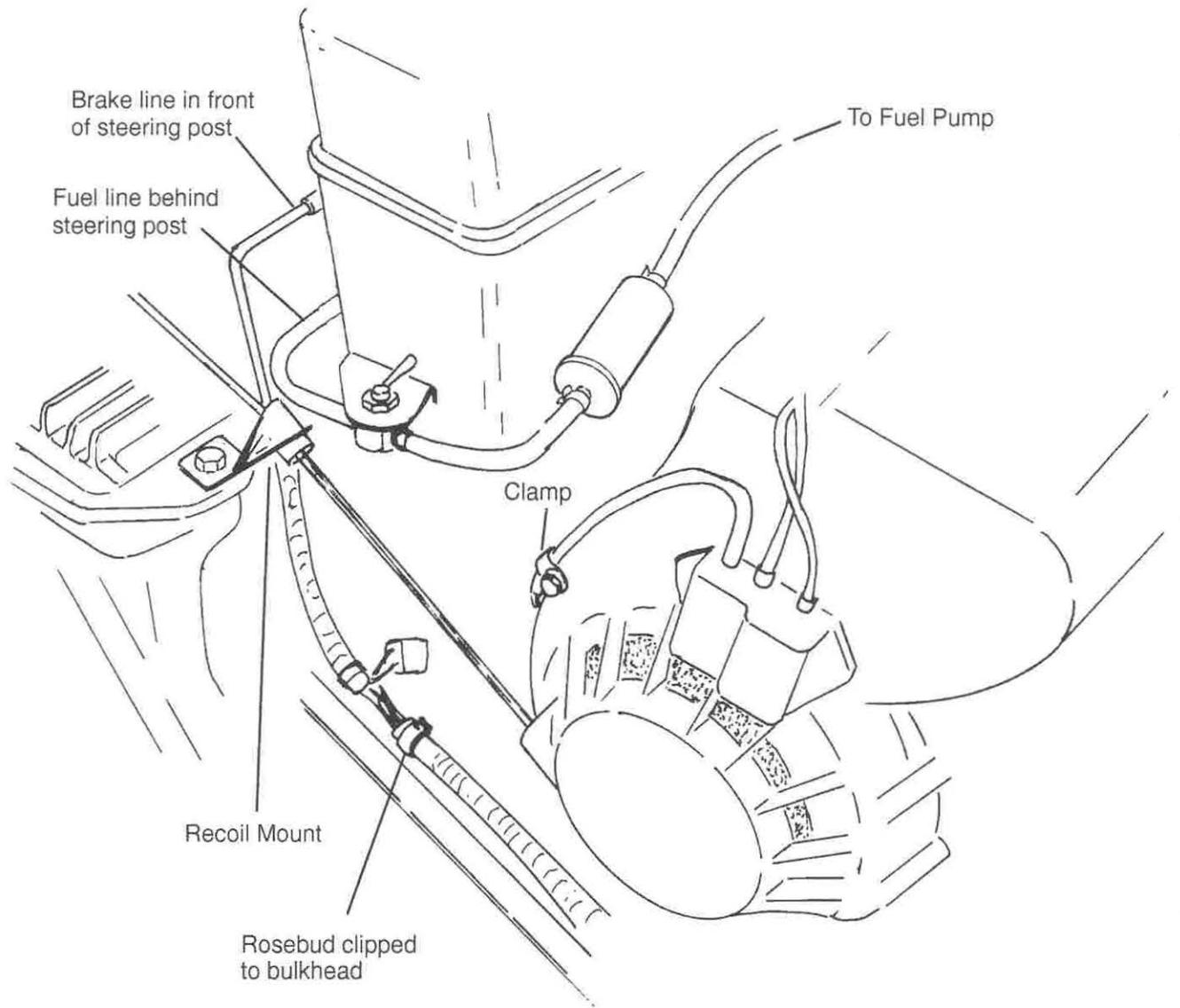
**MAINTENANCE/TUNE UP  
Routing Diagram - Wire Harness/Speedometer Cable**

1997 Indy Ultra Touring Models



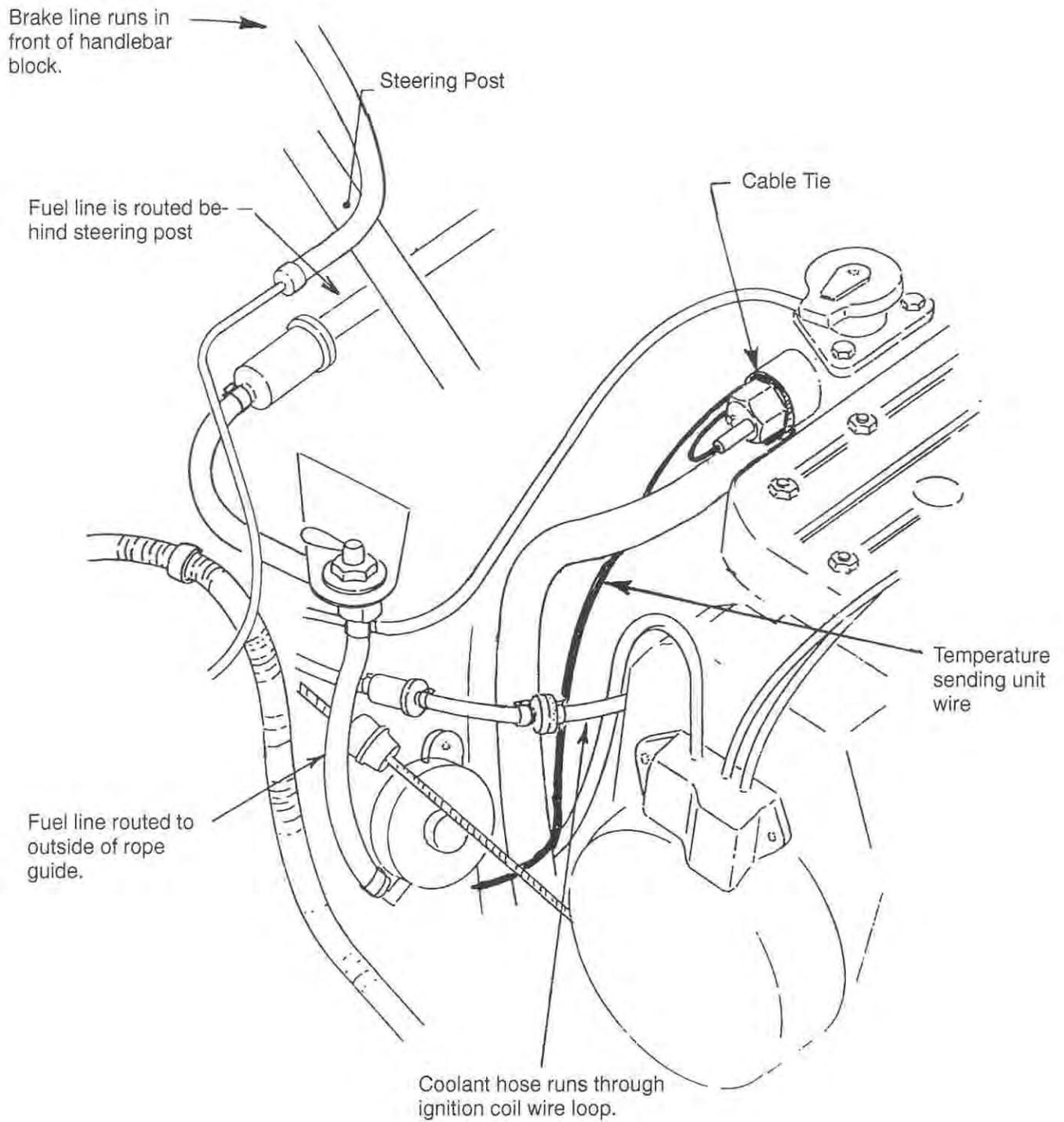
**MAINTENANCE/TUNE UP**  
**Routing Diagram - Wire Harness/Fuel Line**

1996 Indy WideTrak LX/Sport/Sport Touring/TranSport/Super Sport/Trail/Trail Touring Models



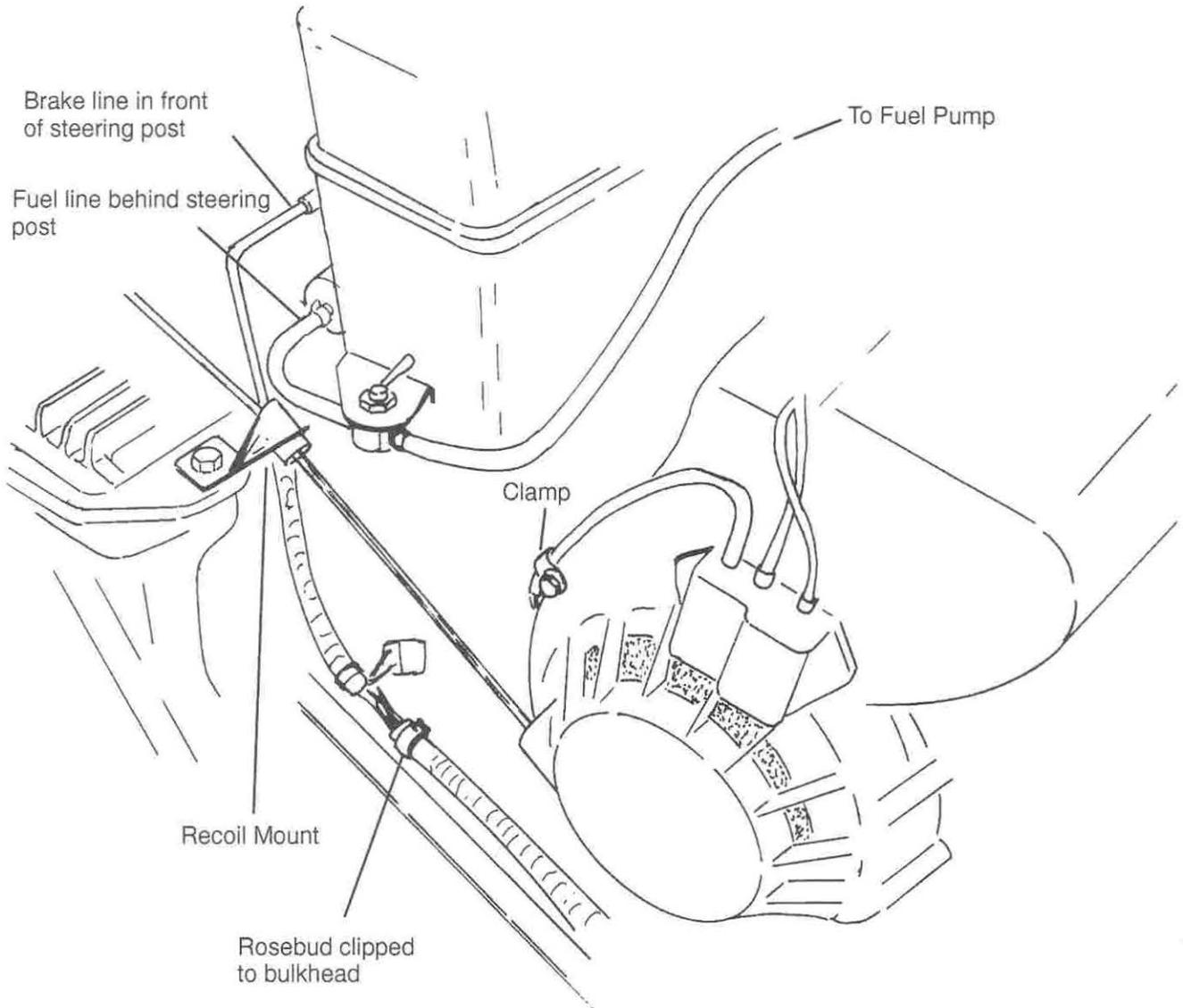
**MAINTENANCE/TUNE UP**  
**Routing Diagram - Wire Harness/Fuel Line**

1996 Indy 440 LC/Classic/Classic Touring/500/500 SKS/500 RMK Models



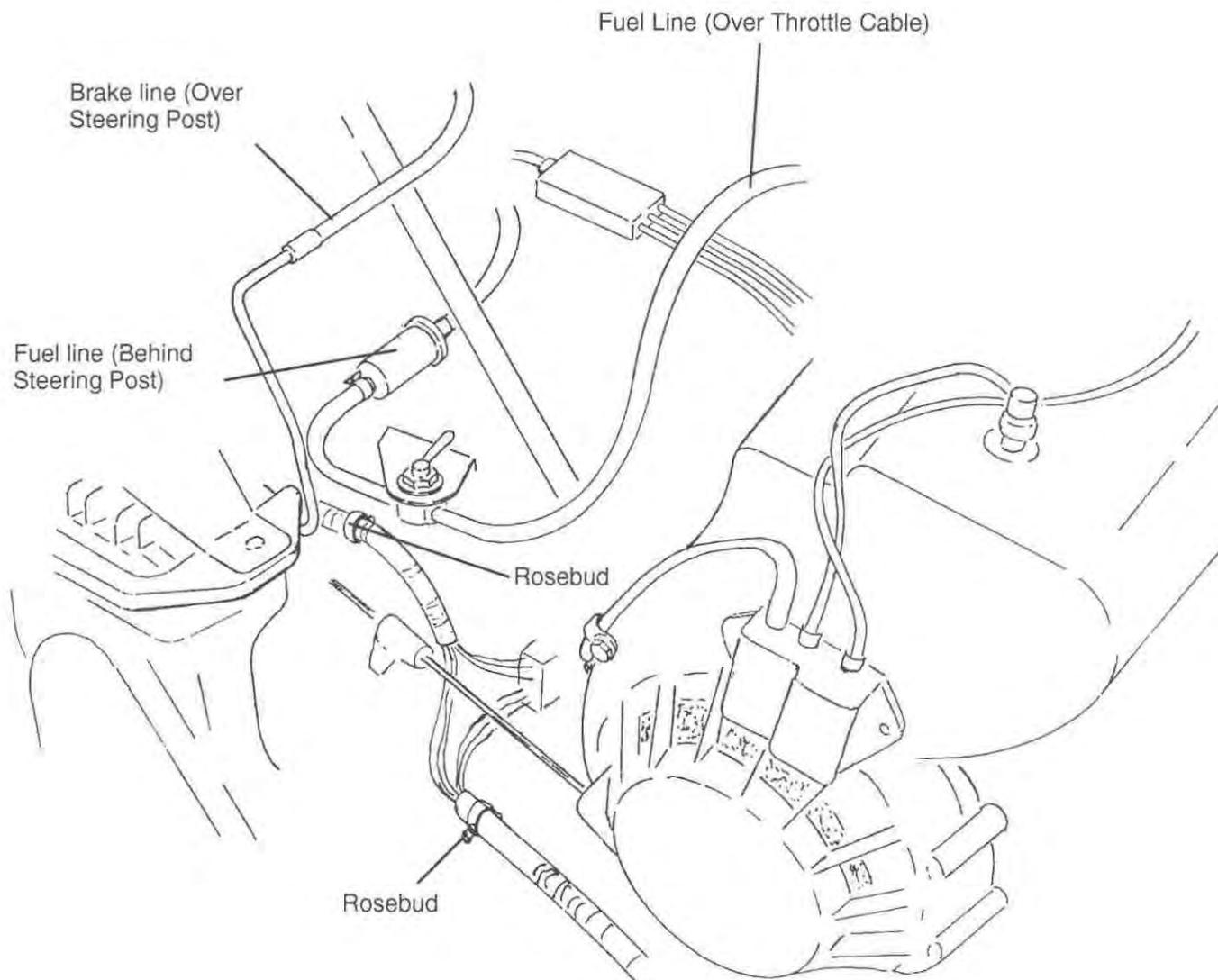
**MAINTENANCE/TUNE UP**  
**Routing Diagram - Wire Harness/Fuel Line**

**1997 Indy TranSport/Super Sport/Sport/Sport Touring Models**



**MAINTENANCE/TUNE UP  
Routing Diagram - Wire Harness/Fuel Line**

**1997 Indy Trail/Trail Touring Models**



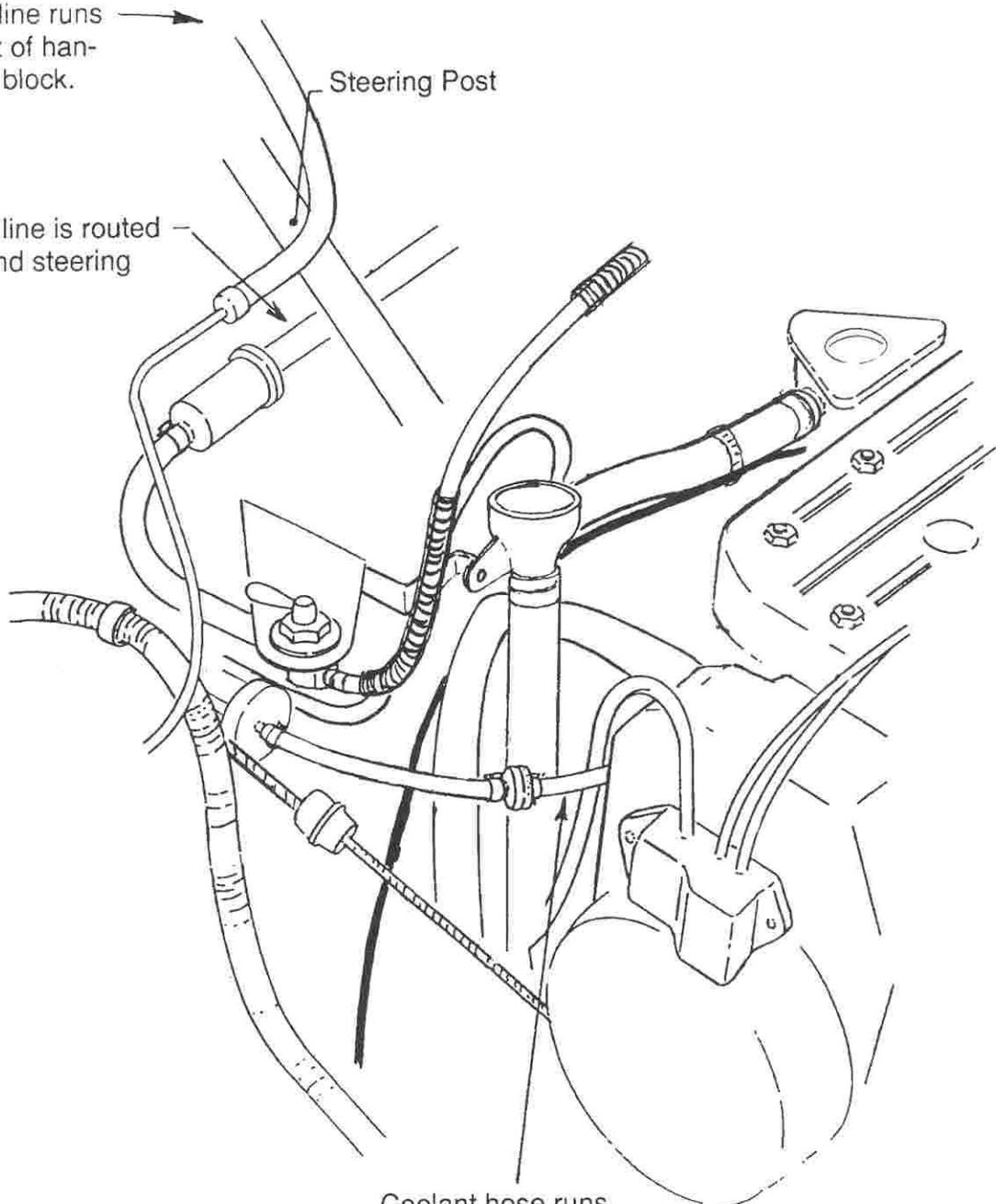
**MAINTENANCE/TUNE UP**  
**Routing Diagram - Wire Harness/Fuel Line**

1997 Indy Trail/Trail Touring/500/500 SKS/500 RMK/440 LC/Classic Touring Models

Brake line runs  
in front of han-  
dlebar block.

Steering Post

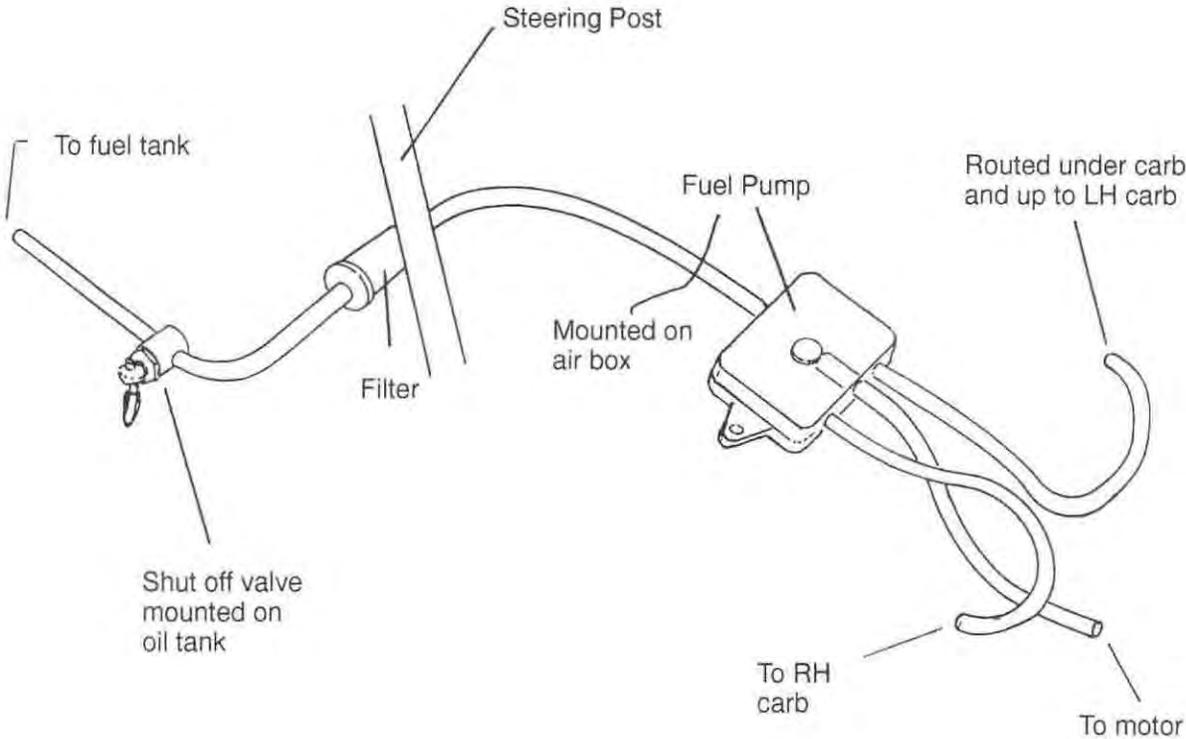
Fuel line is routed  
behind steering  
post



Coolant hose runs  
through ignition coil  
wire loop.

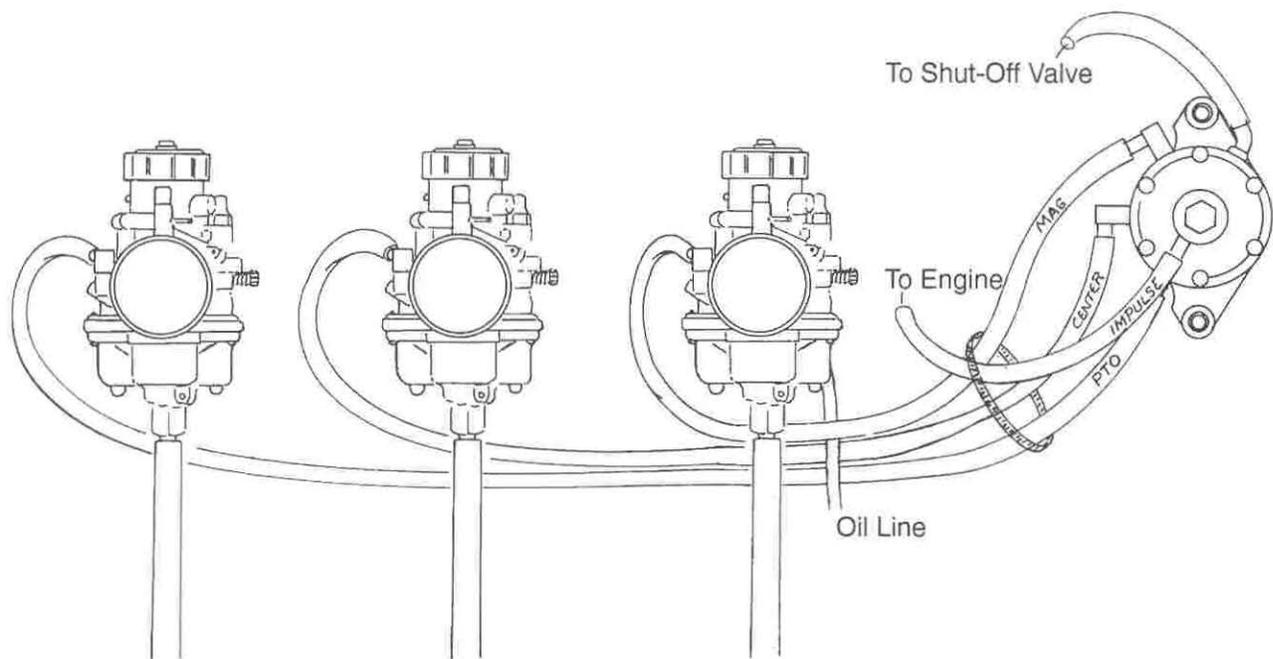
**MAINTENANCE/TUNE UP  
Routing Diagram - Fuel Line**

1996 to Current Indy Lite Models



**MAINTENANCE/TUNE UP**  
**Routing Diagram - Fuel Line**

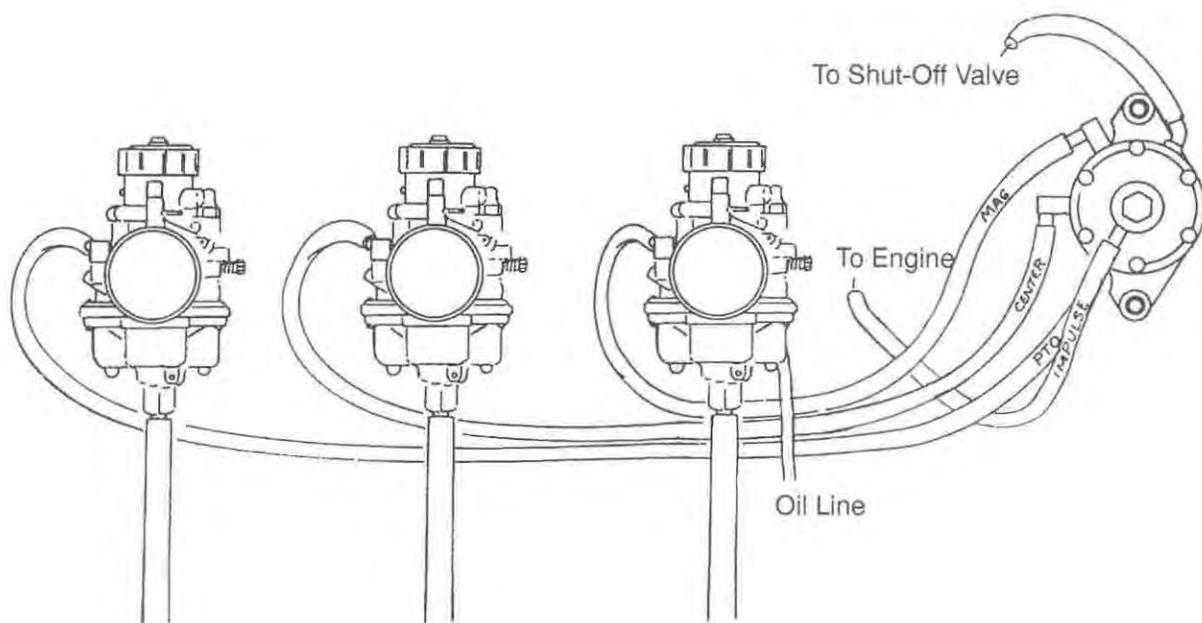
1996 Indy 600 XCR Models  
1997 Indy 600 XC Models



# MAINTENANCE/TUNE UP Routing Diagram - Fuel Line

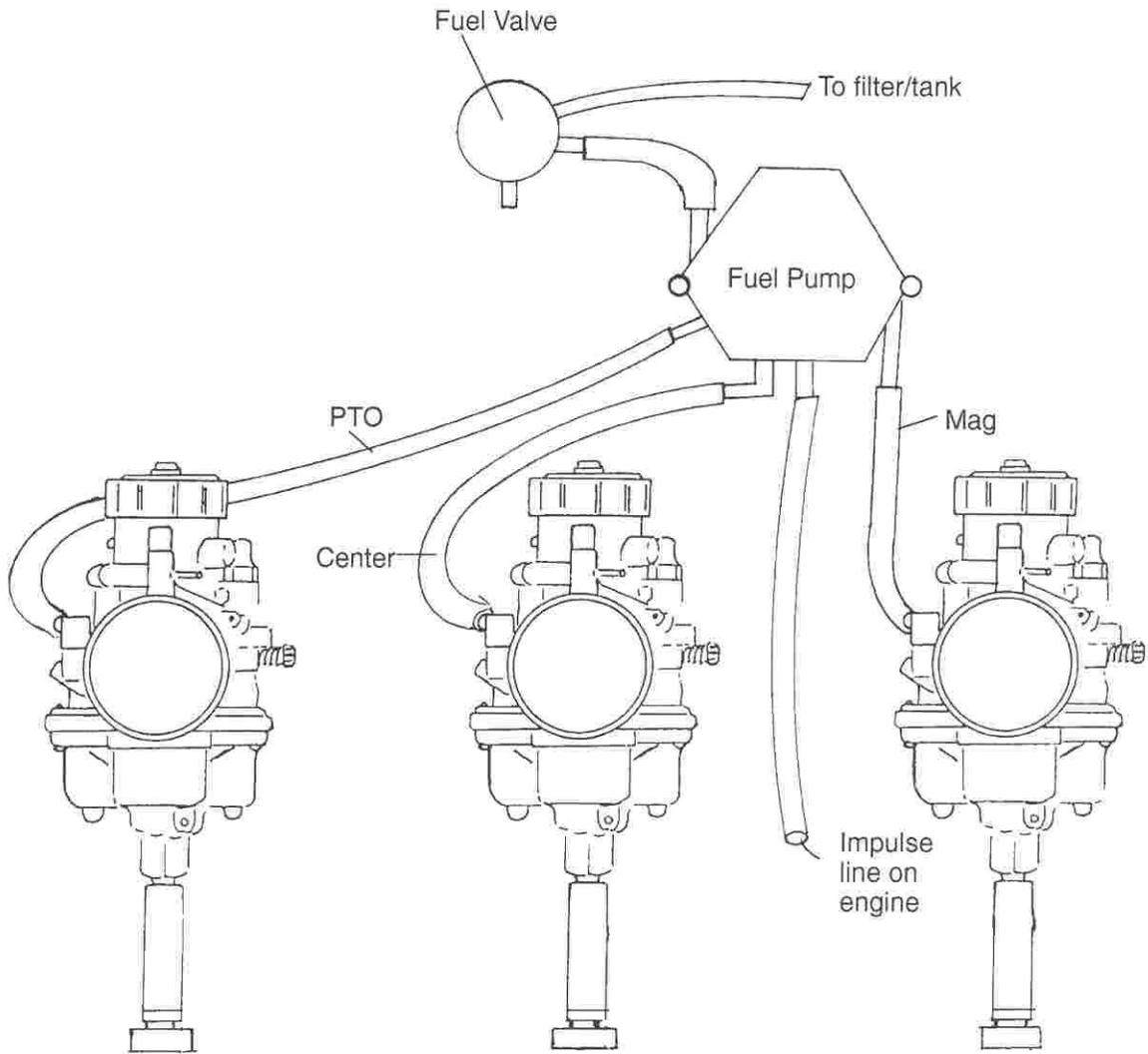
1996 Indy XLT SKS/XLT RMK/XLT Touring Models

1997 Indy XLT SP/XLT/XLT SKS/XLT RMK/XLT Touring/XLT LTD Models



**MAINTENANCE/TUNE UP**  
**Routing Diagram - Fuel Line**

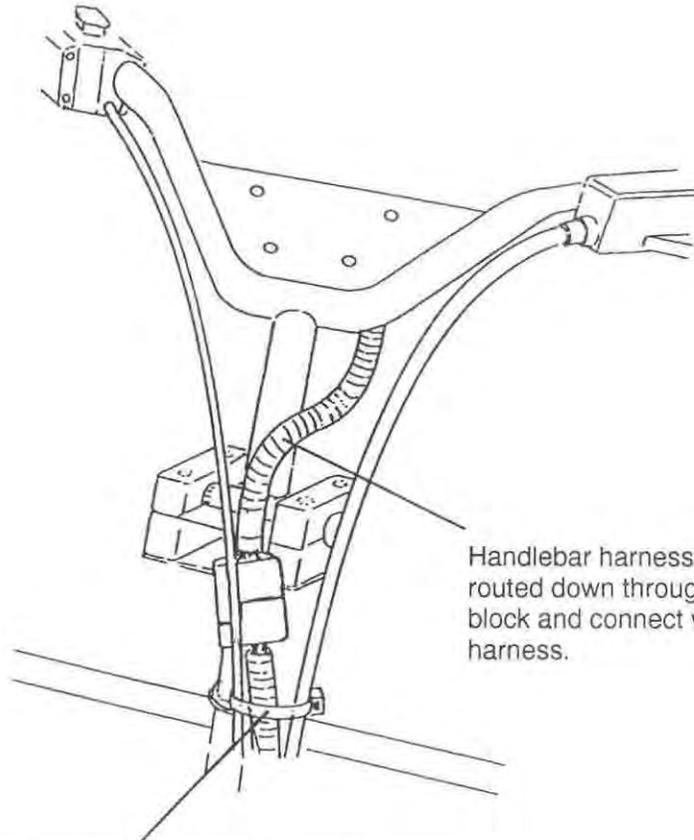
**1997 Indy Ultra/Ultra SP Models**



**MAINTENANCE/TUNE UP**  
**Routing Diagram - Handlebar Harness**

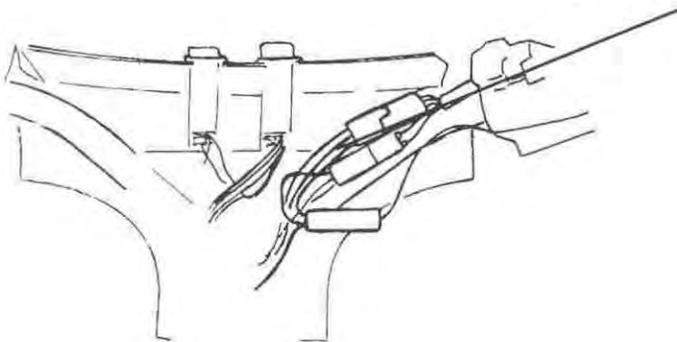
1996 Indy 440 LC/Classic/Classic Touring/XLT Touring/500/500 SKS/500 RMK/Tail/Trail Touring Models

1997 Indy XLT LTD/Classic Touring/XLT Touring/Ultra Touring/440 LC Models



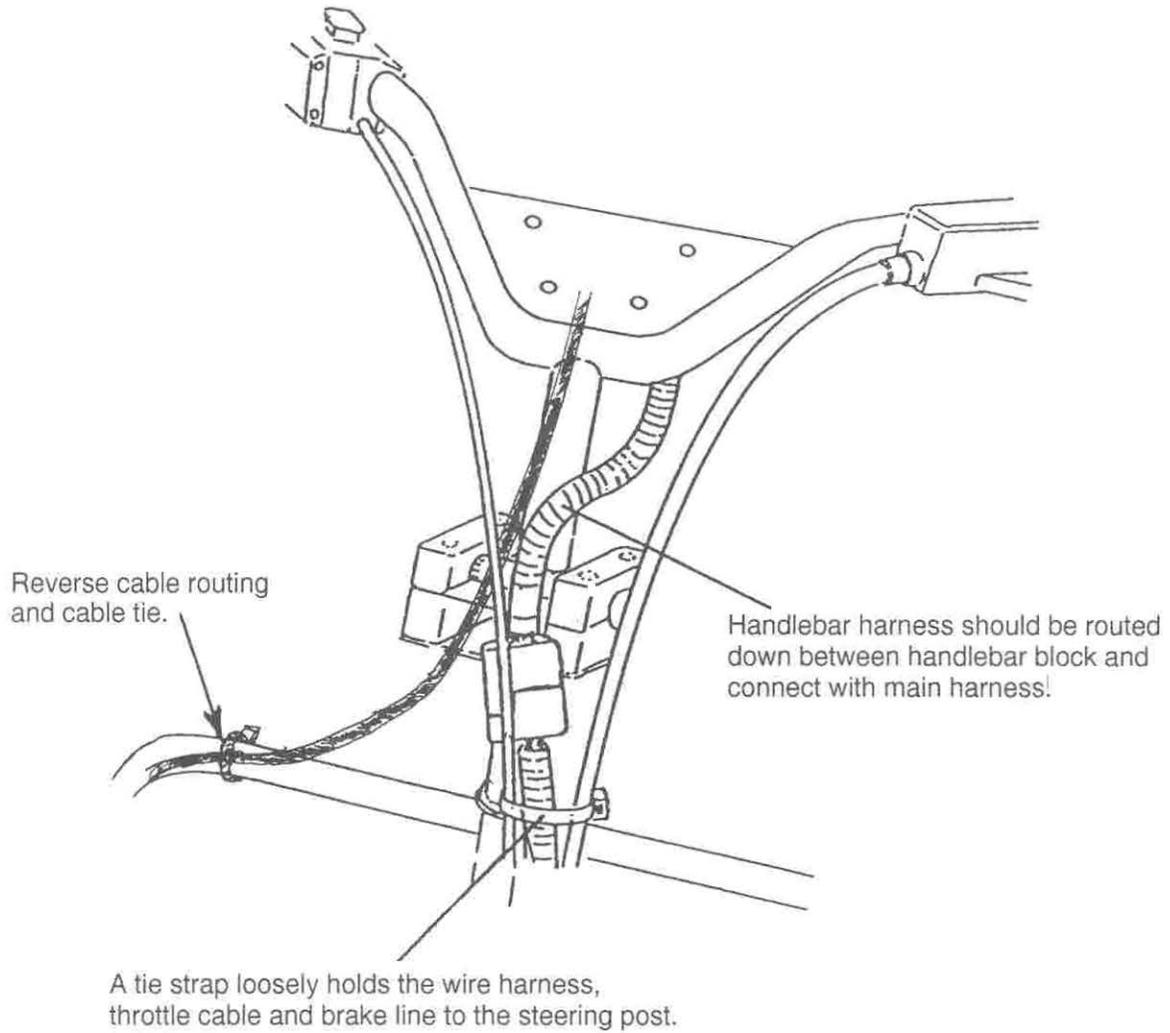
A tie strap loosely holds the wire harness, throttle cable and brake line to the steering post.

4 wire connector plugs into throttle side.



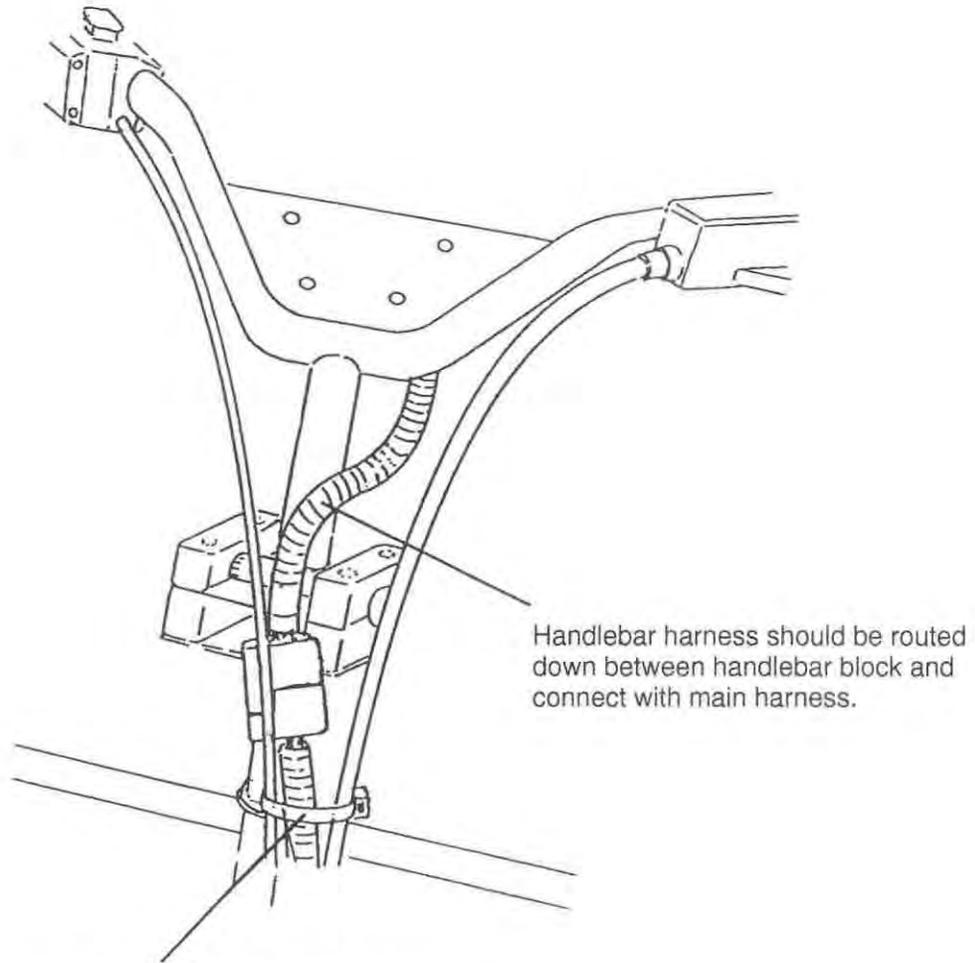
**MAINTENANCE/TUNE UP**  
**Routing Diagram - Handlebar Harness**

1997 Indy Trail/Trail Touring/500/500 SKS/500 RMK Models



**MAINTENANCE/TUNE UP**  
**Routing Diagram - Handlebar Harness**

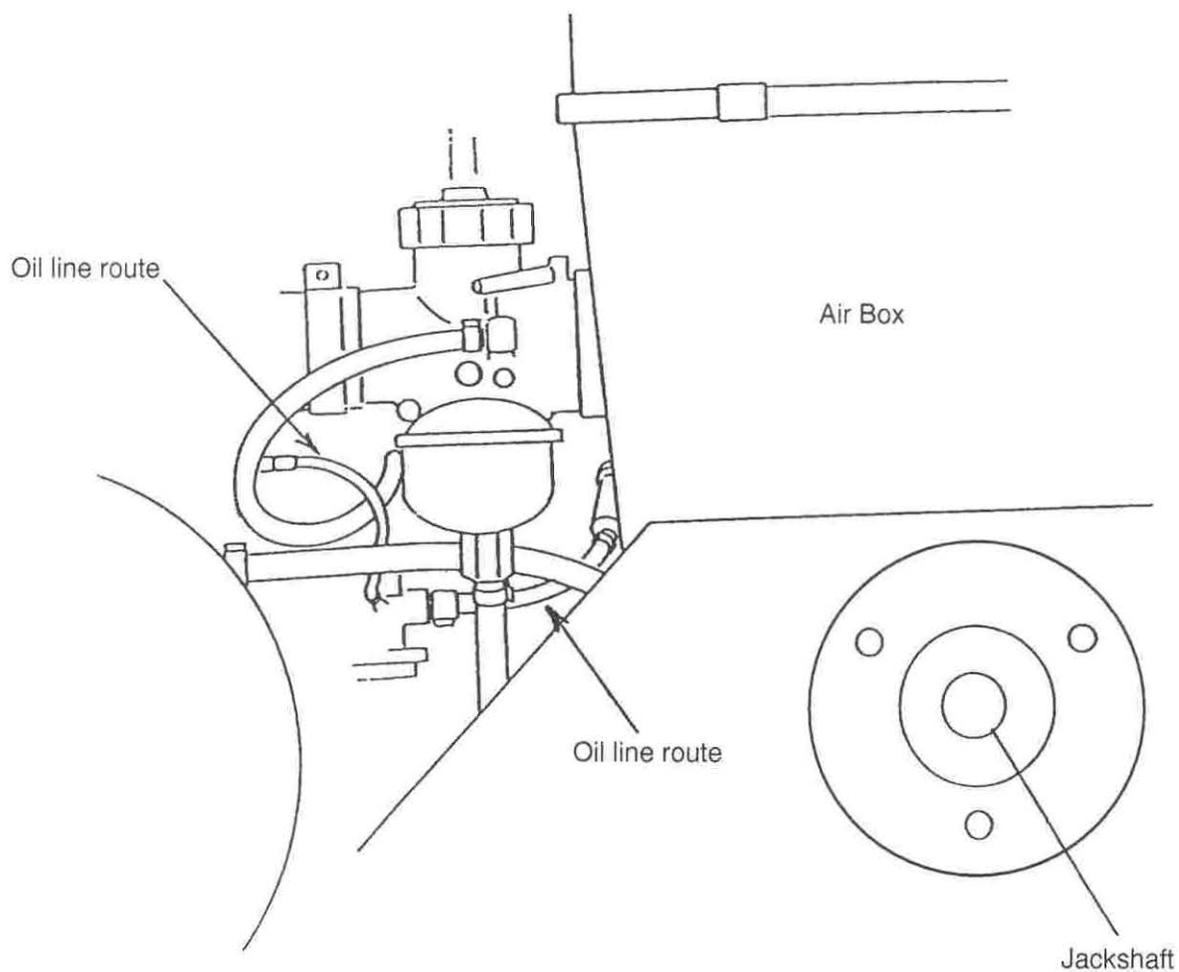
1997 Indy 500 EFI Models



A cable tie loosely holds the wire harness, throttle cable and brake line to the steering post.

**MAINTENANCE/TUNE UP**  
**Routing Diagram - Oil Line**

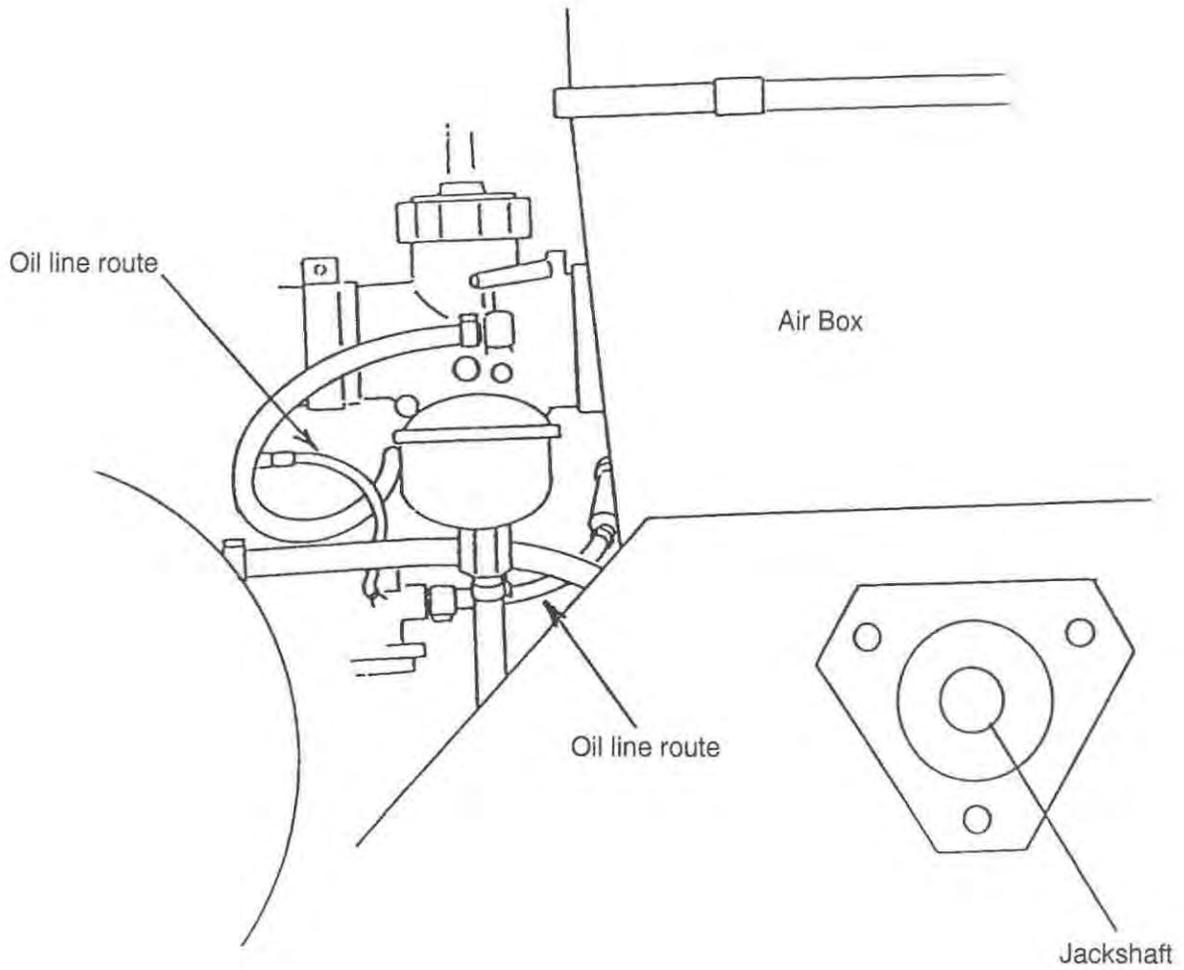
1996 440 XCR/XLT SKS/XLT RMK Models  
1997 440 XC/XLT/XLT SKS/XLT RMK/XLT SP Models



**MAINTENANCE/TUNE UP  
Routing Diagram - Oil Line**

1996 Indy WideTrak LX/WideTrak GT/Classic/Classic Touring/XLT Touring/500/500 SKS/500 RMK/Trail/Trail Touring/Sport/Sport Touring/Super Sport/TranSport/Lite/Lite GT/Lite Deluxe/600 XCR/440 LC Models

1997 Lite/Lite Deluxe/Lite GT/Sport/Sport Touring/TranSport/Super Sport/440 LC/Trail/Trail Touring/Classic Touring/500/500 SKS/500 RMK/600 XC/XLT Touring/XLT LTD Models

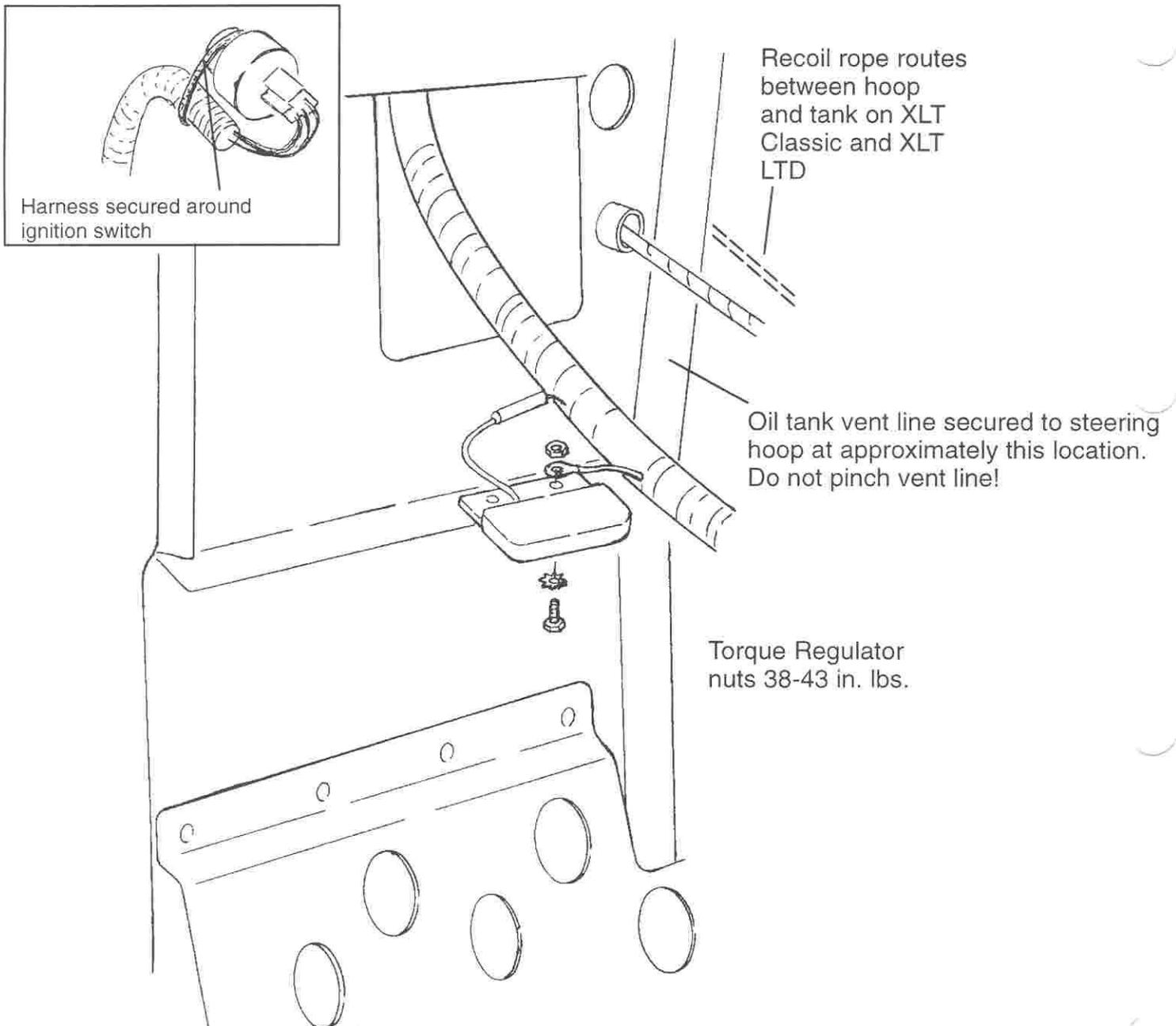


**MAINTENANCE/TUNE UP**  
**Routing Diagram - Miscellaneous**

**1996 Indy 440 LC/Classic Touring/XLT Touring/500/500 SKS/500 RMK/Trail/  
Trail Touring Models**

**1997 Indy 440 LC/Trail/Trail Touring/Classic/500/500 SKS/500 RMK/Classic Touring/  
XLT Touring/XLT LTD/500 EFI Models**

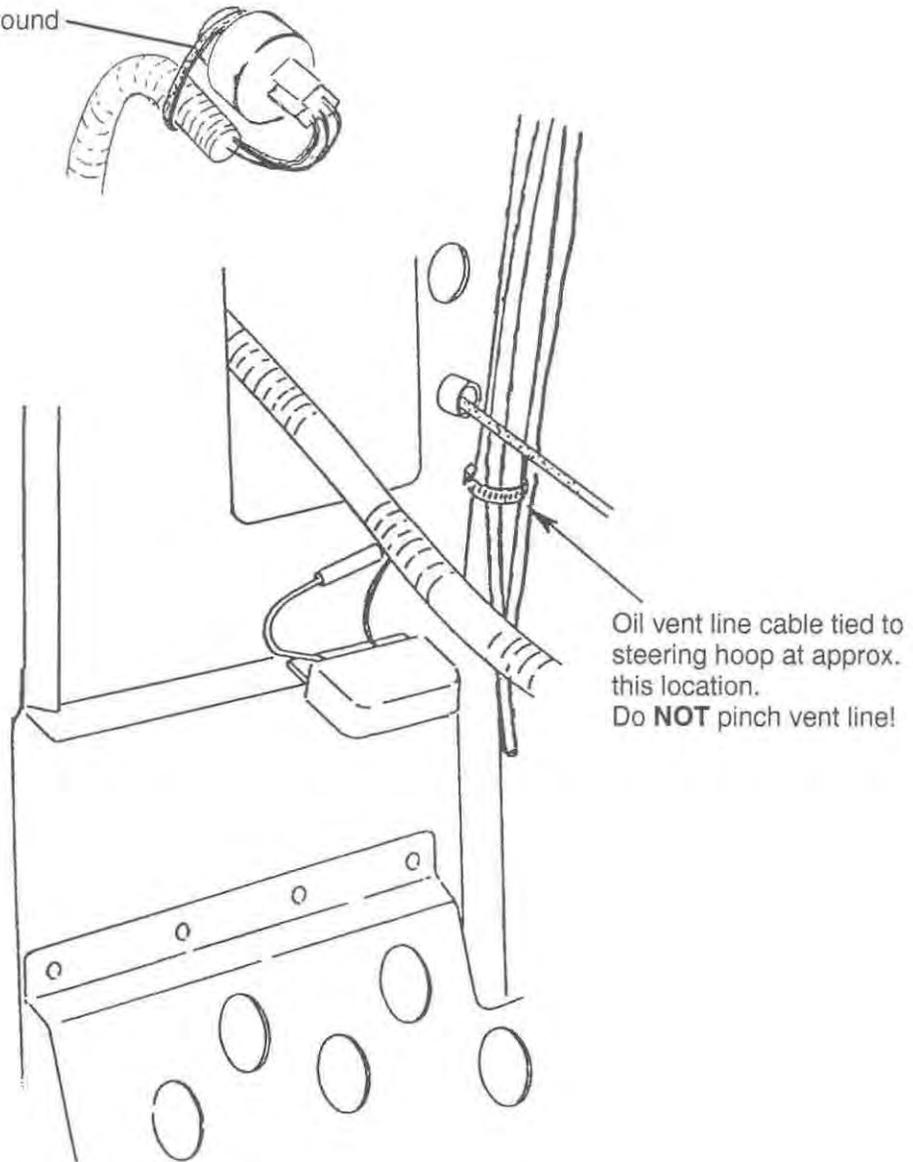
**1998 Trail / 440 Indy / 500 Indy / 500 Classic / 500 RMK / XLT LTD / XLT Touring  
Trail Touring / XLT Classic**



**MAINTENANCE/TUNE UP**  
**Routing Diagram - Oil Vent Line**

1996 to Current Indy Classic Models

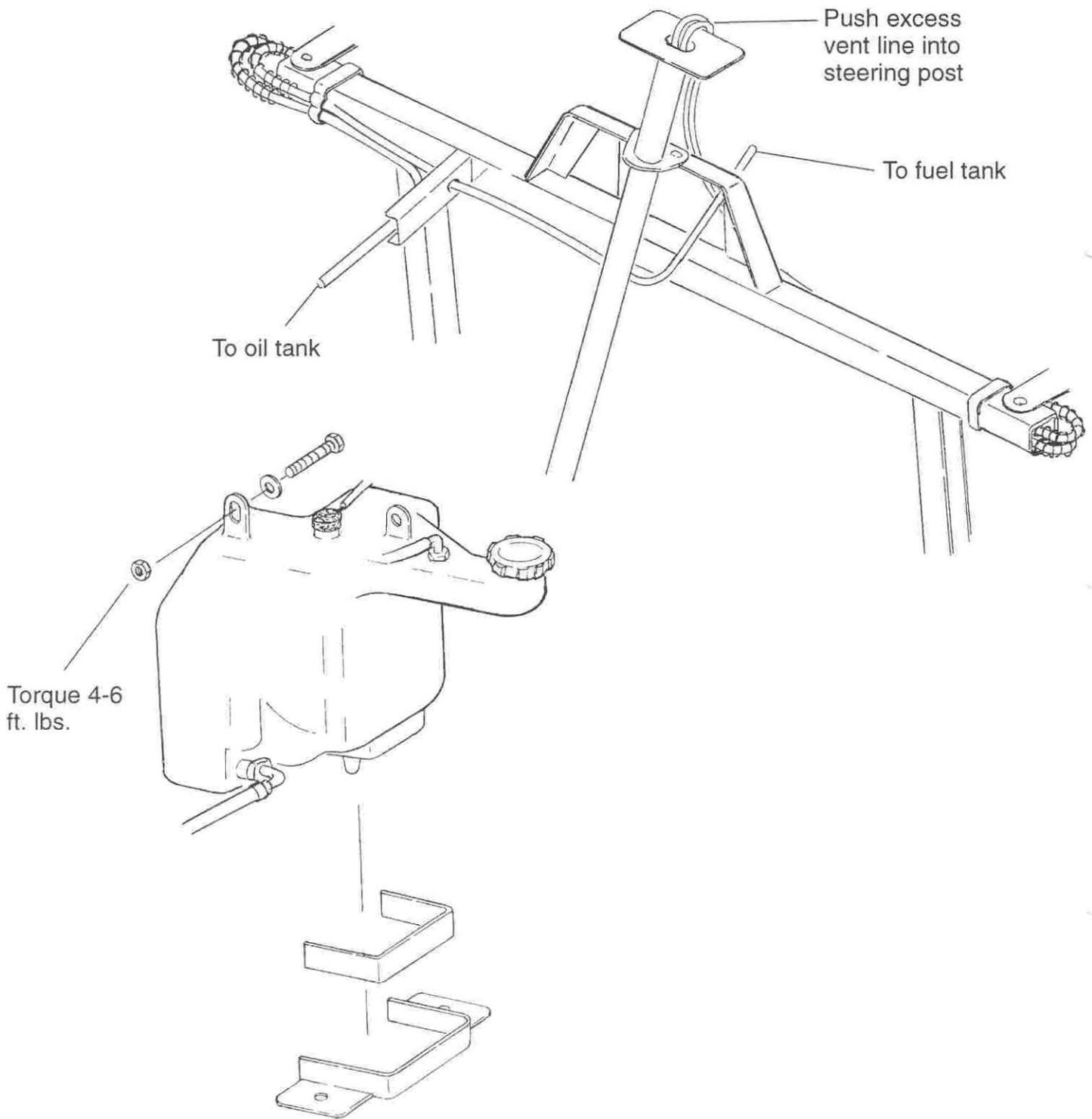
Harness secured around  
ignition switch



Oil vent line cable tied to  
steering hoop at approx.  
this location.  
Do **NOT** pinch vent line!

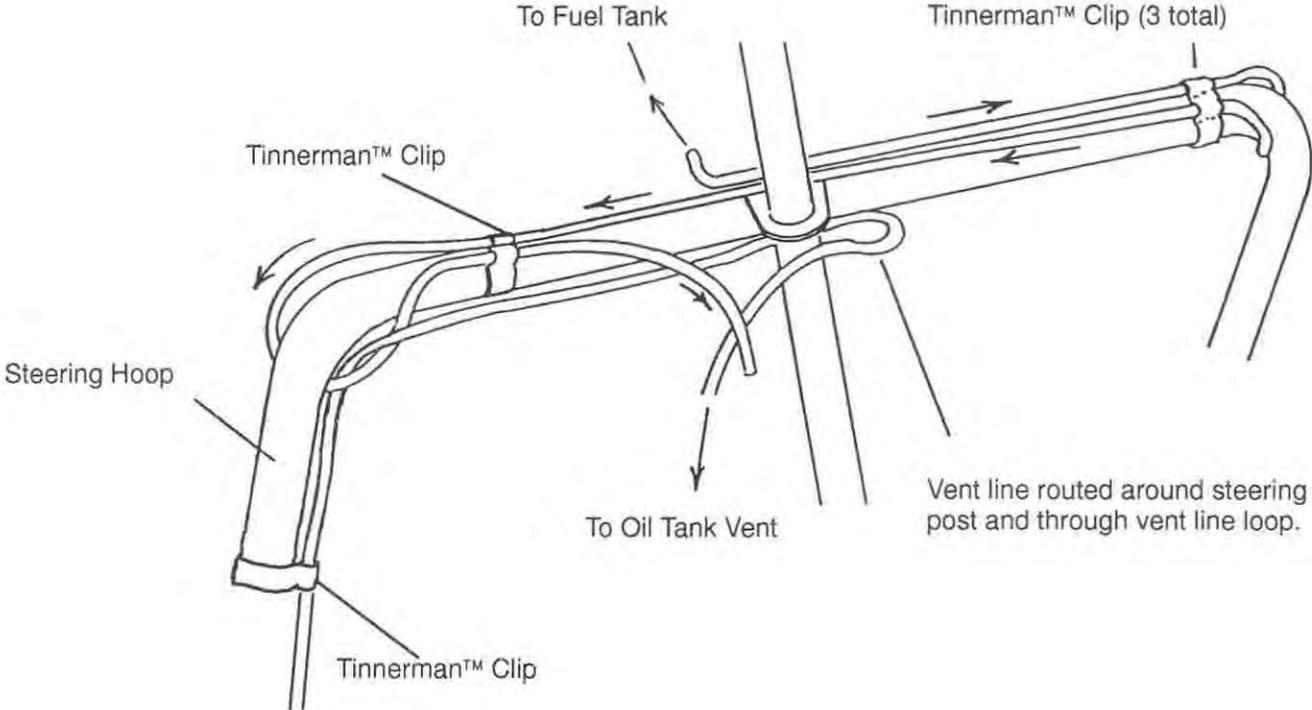
**MAINTENANCE/TUNE UP**  
**Routing Diagram - Vent Lines**

**1996 To Current Indy Lite Models**



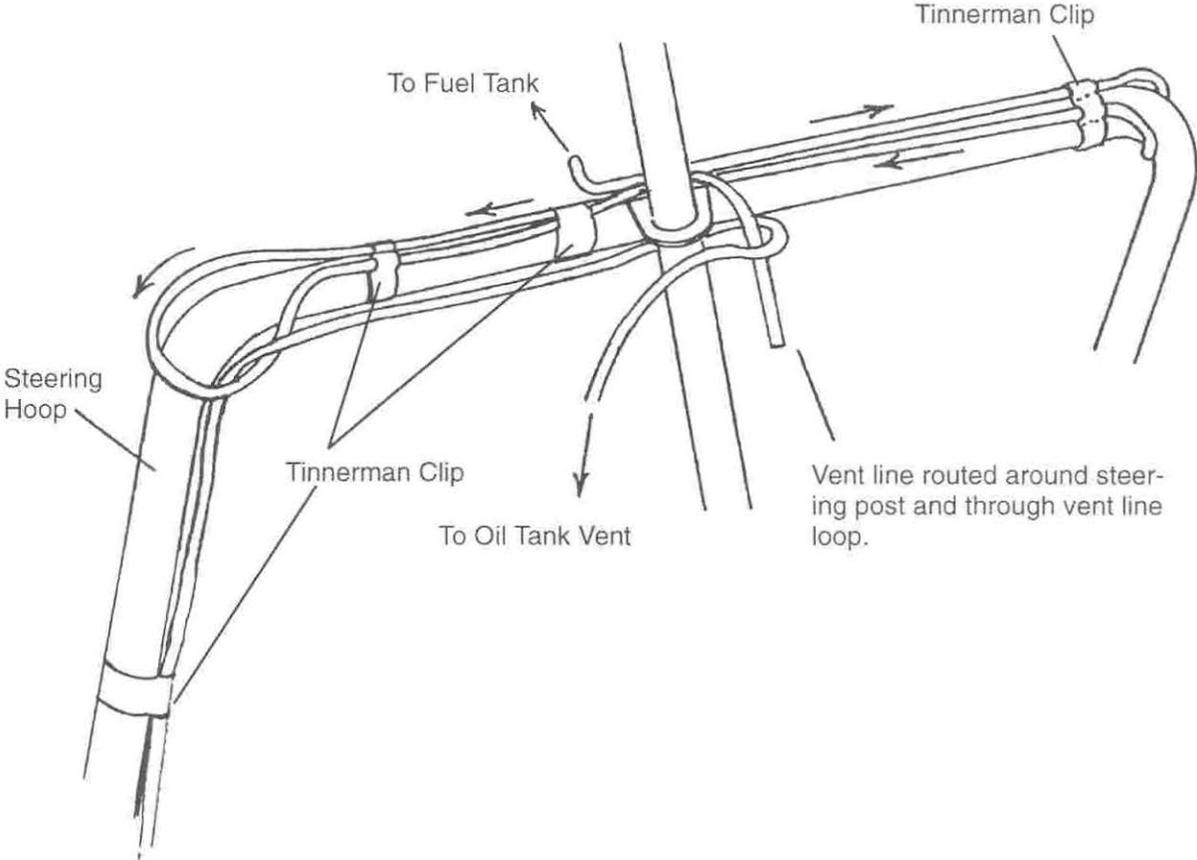
**MAINTENANCE/TUNE UP  
Routing Diagram - Vent Lines**

1996 All Models Except Indy Lites



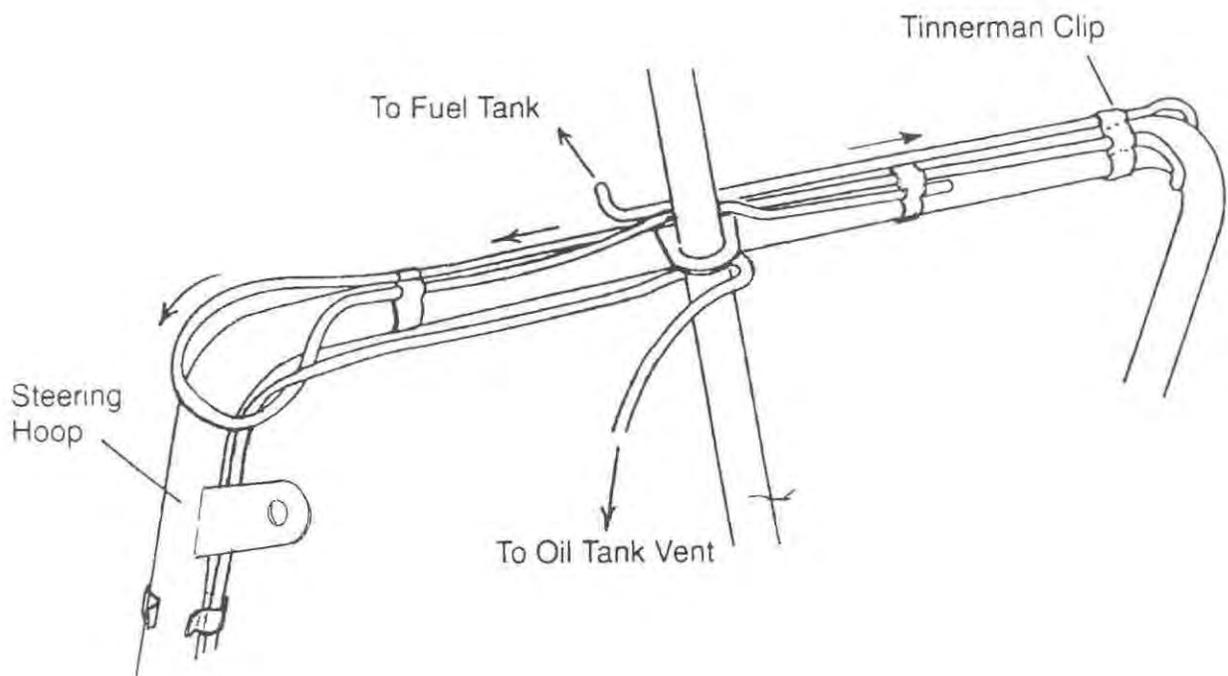
**MAINTENANCE/TUNE UP**  
**Routing Diagram - Vent Lines**

1997 To Current Indy XLT/XLT SKS/XLT RMK/600 XC/440 XC Models



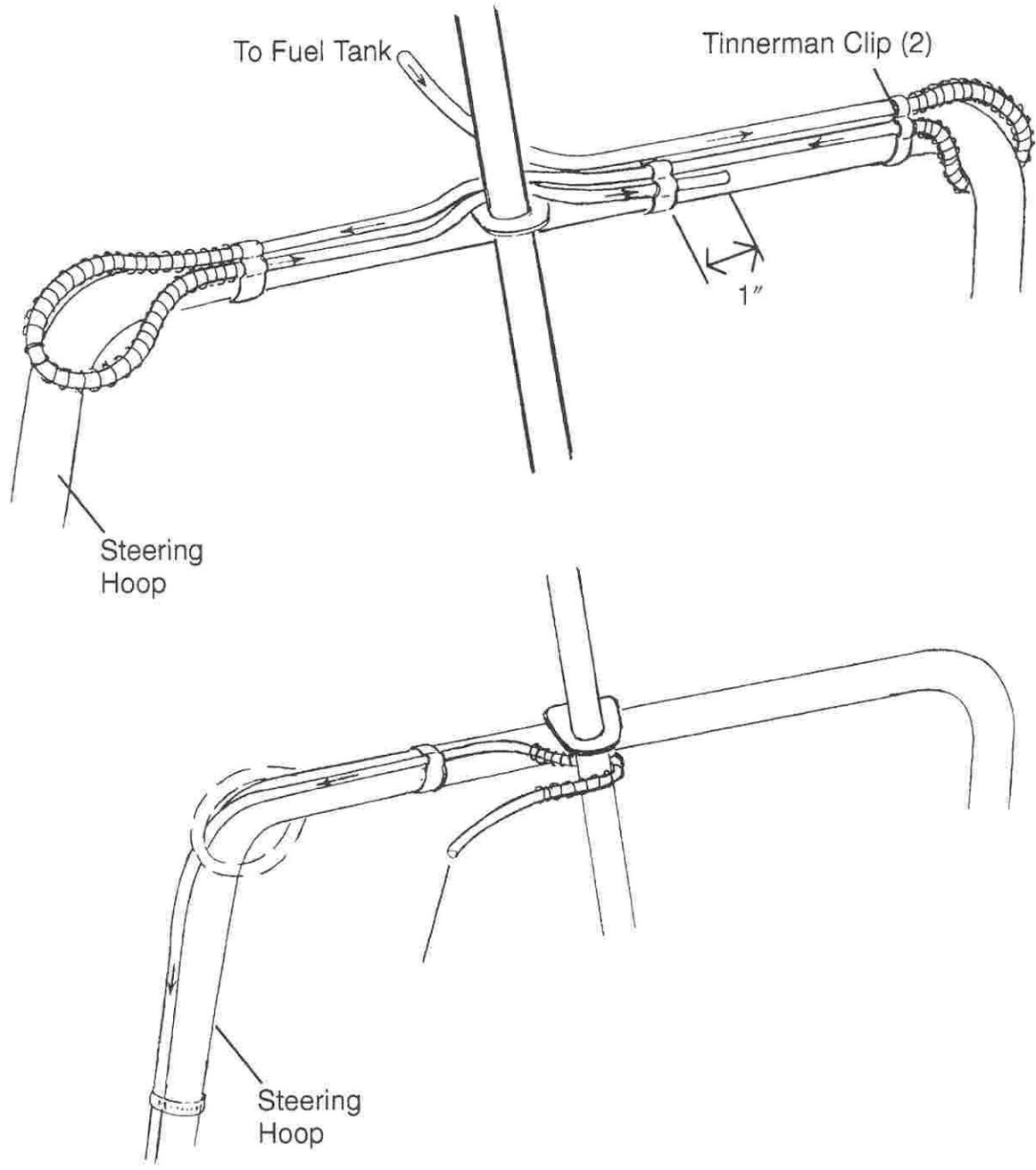
**MAINTENANCE/TUNE UP  
Routing Diagram - Vent Lines**

1997 Indy Ultra Touring Models



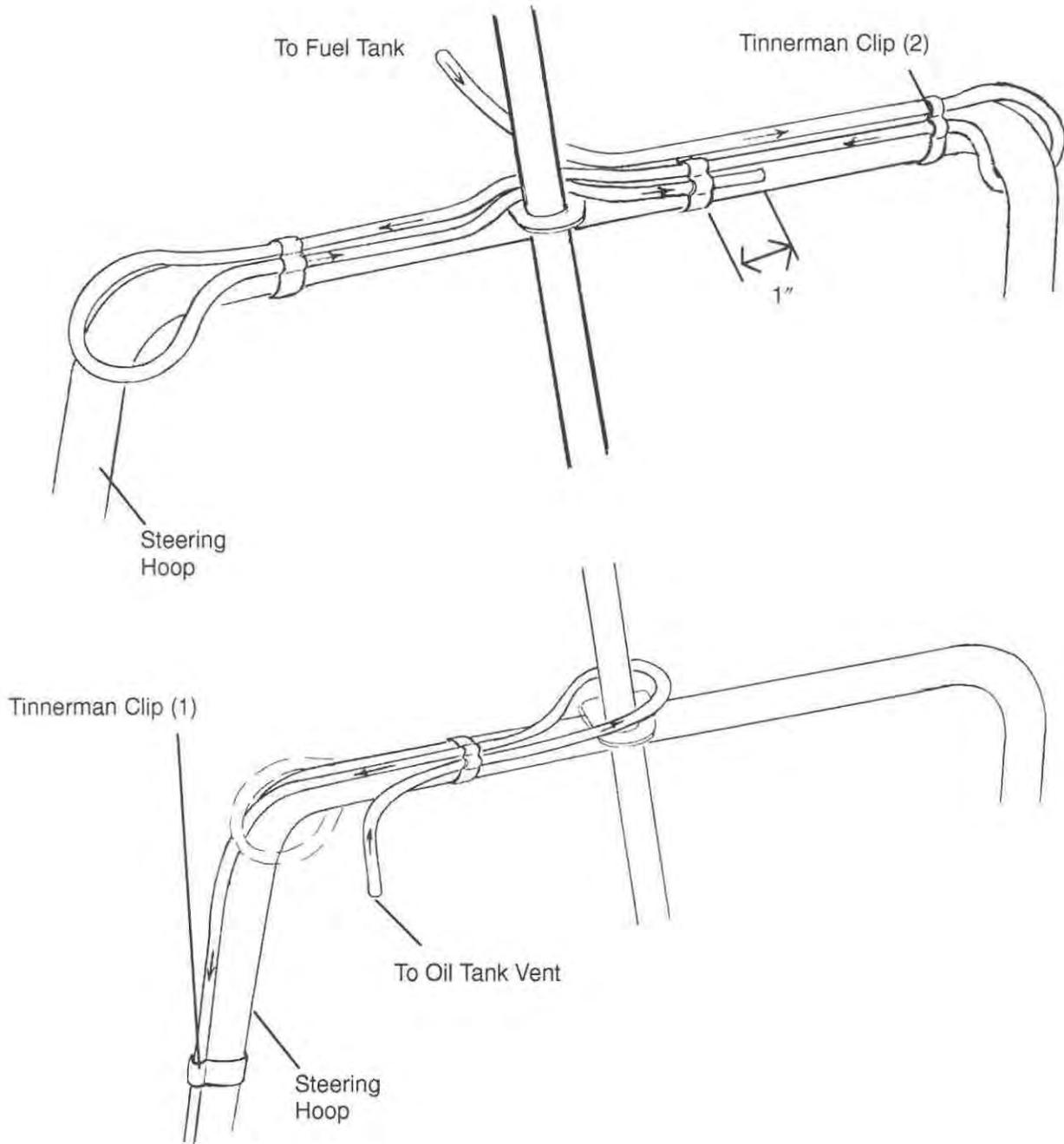
**MAINTENANCE/TUNE UP**  
**Routing Diagram - Vent Lines**

**1997 Indy Sport/Sport Touring/TranSport/Super Sport/440 LC/500/500 SKS/500 RMK/500 EFI/  
Classic/Classic Touring/XLT Touring/XLT LTD Models**



**MAINTENANCE/TUNE UP  
Routing Diagram - Vent Lines**

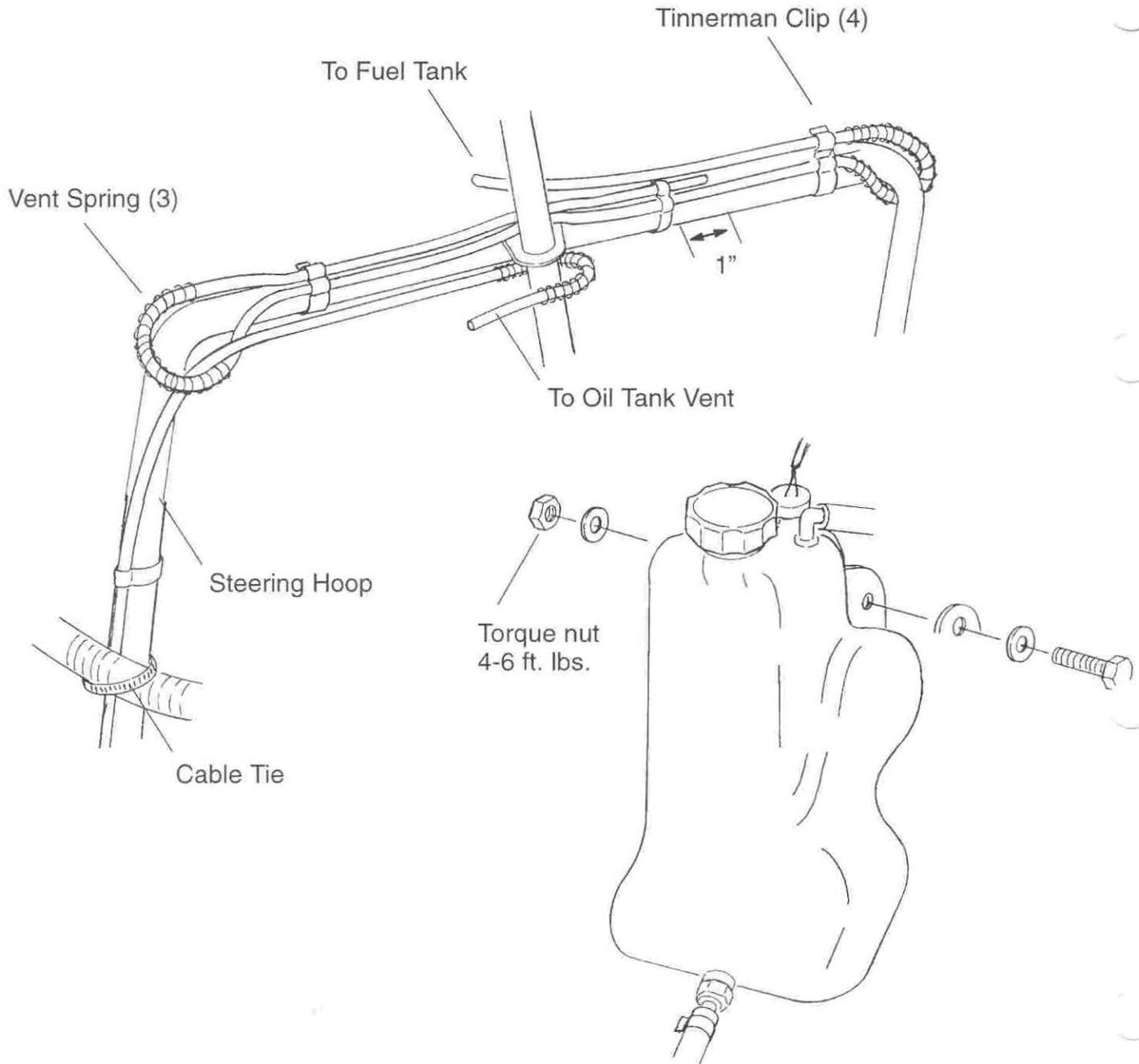
**1997 Indy Trail/Trail Touring/XLT SP Models**



**MAINTENANCE/TUNE UP**  
**Routing Diagram - Vent Lines**

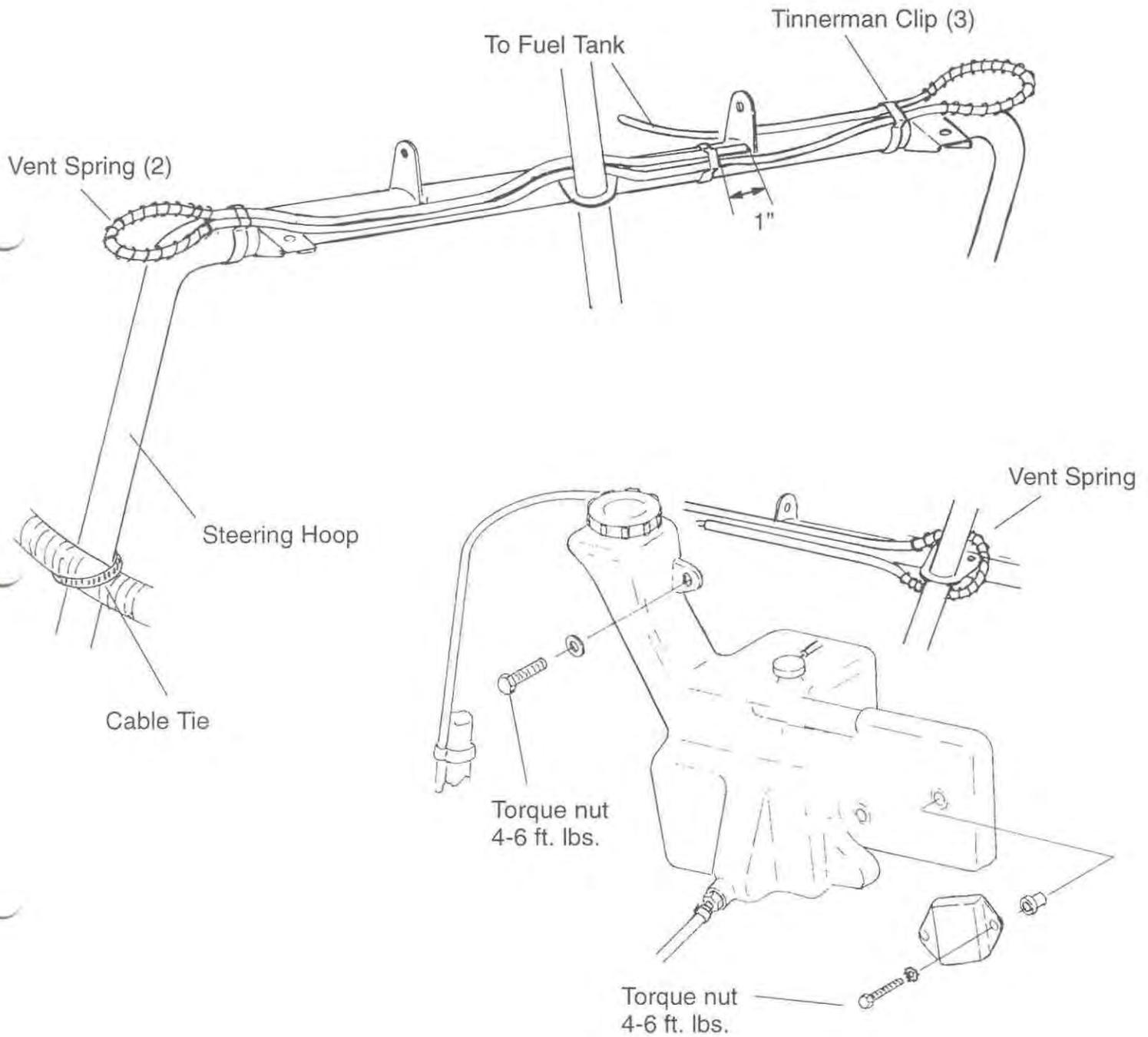
1997 Indy Sport/Sport Touring/TranSport/Super Sport/440 LC/500/500 SKS/500 RMK/500 EFI/  
Classic/Classic Touring/XLT Touring/XLT LTD Models

1998 Sport / Sport Touring / TranSport / XCF / Trail / Super Sport / Trail RMK / Trail Touring



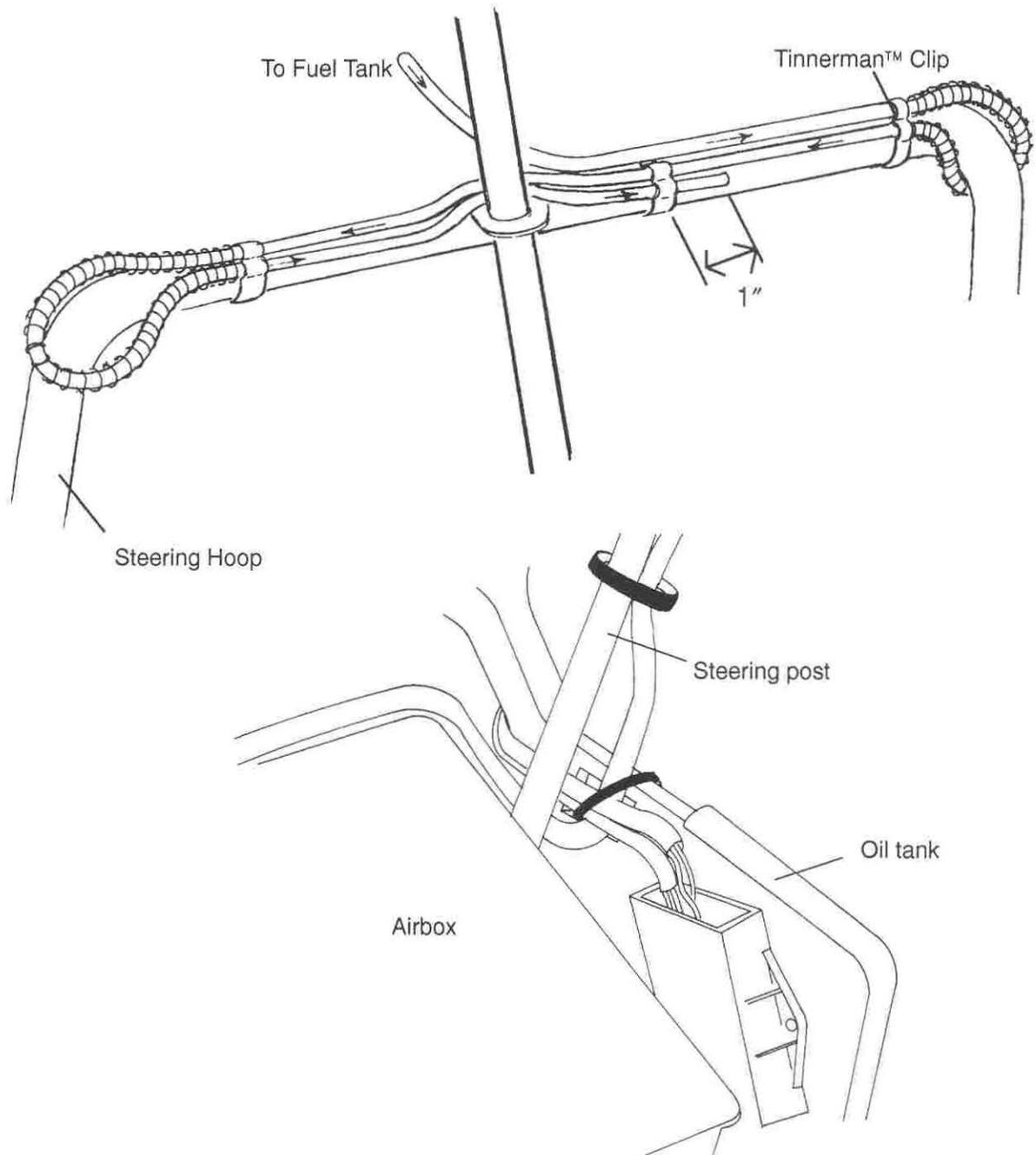
**MAINTENANCE/TUNE UP**  
**Routing Diagram - Vent Lines**

1998 Ultra/Ultra Touring/600 XCR/700 XCR /Storm



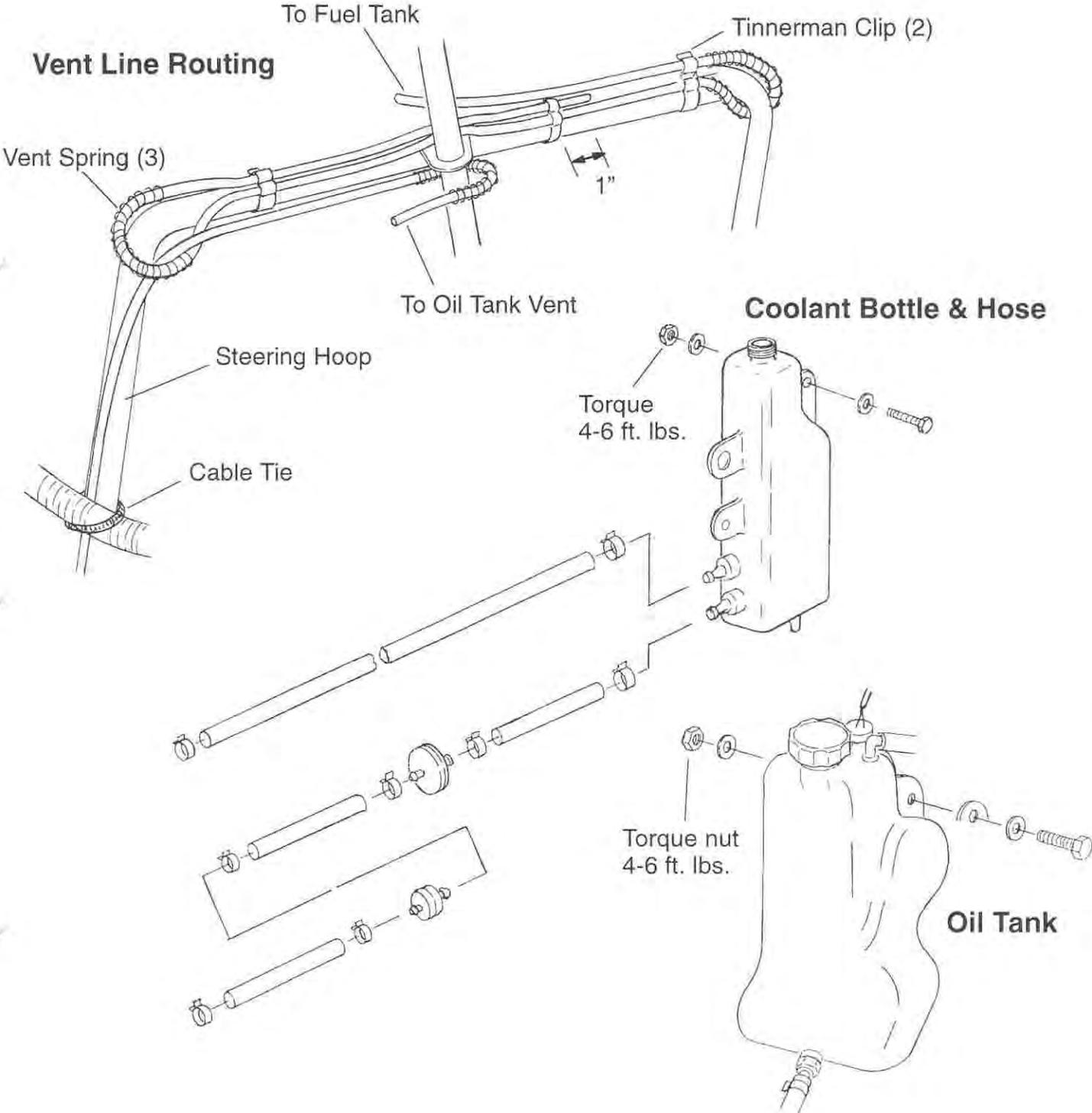
**MAINTENANCE/TUNE UP**  
**Routing Diagram - Vent Lines**

**1997 Indy Ultra/Ultra SP Models**



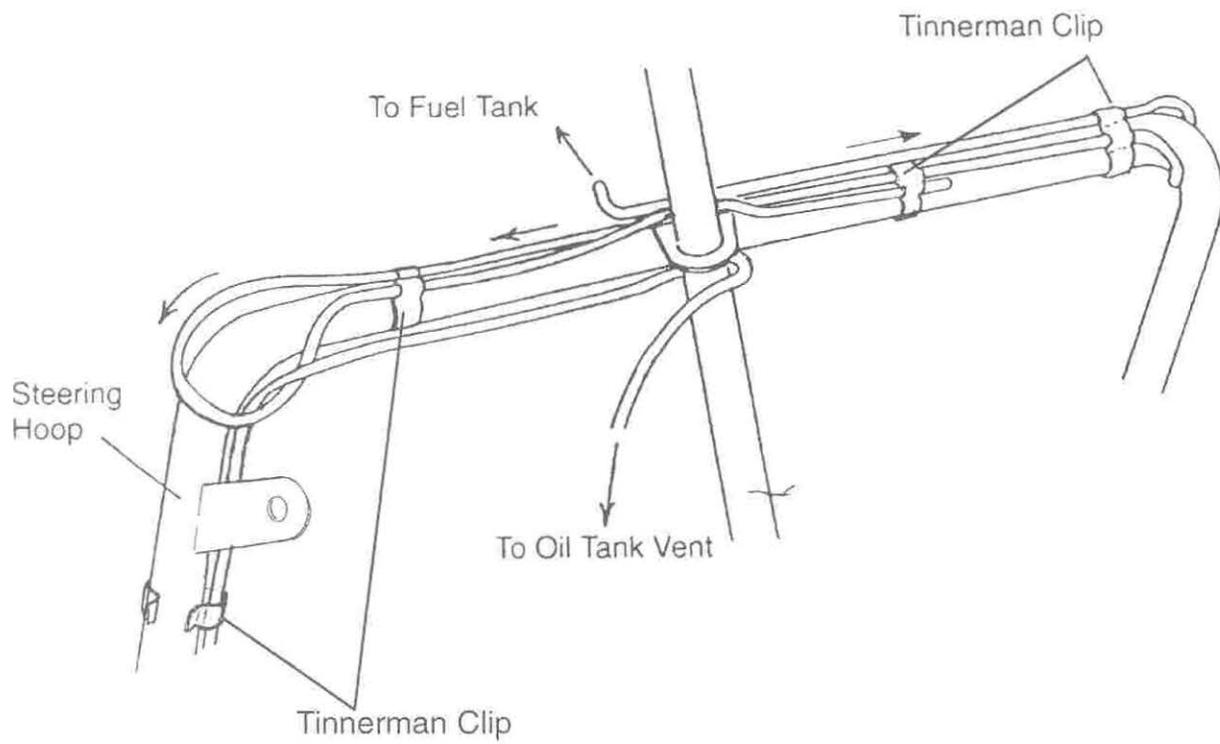
**MAINTENANCE/TUNE UP  
Routing Diagram - Vent Lines**

1998 440 Indy / 500 Classic / 500 RMK / Classic Touring / 500 Indy



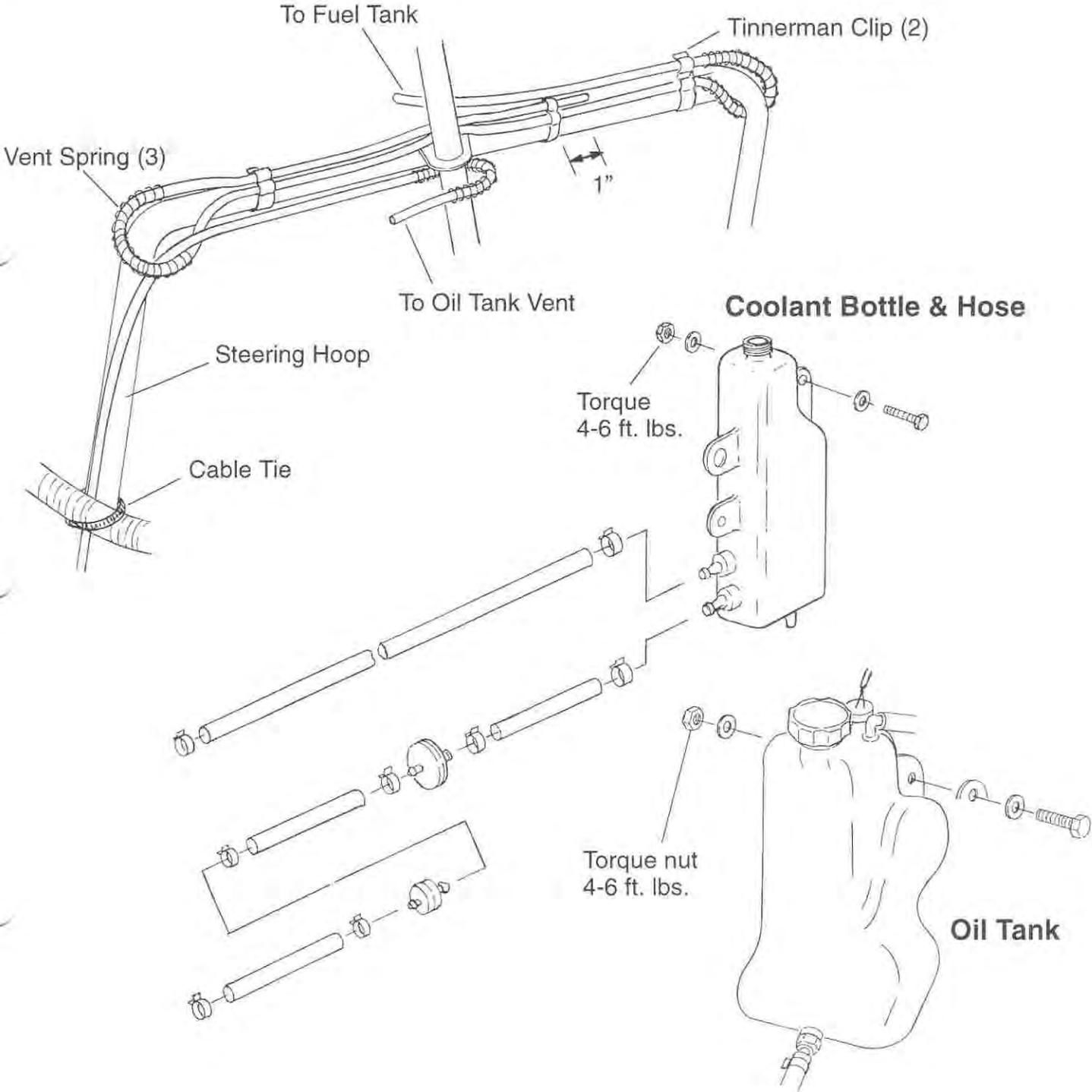
**MAINTENANCE/TUNE UP**  
**Routing Diagram - Vent Lines**

1997 Indy Ultra Touring Models



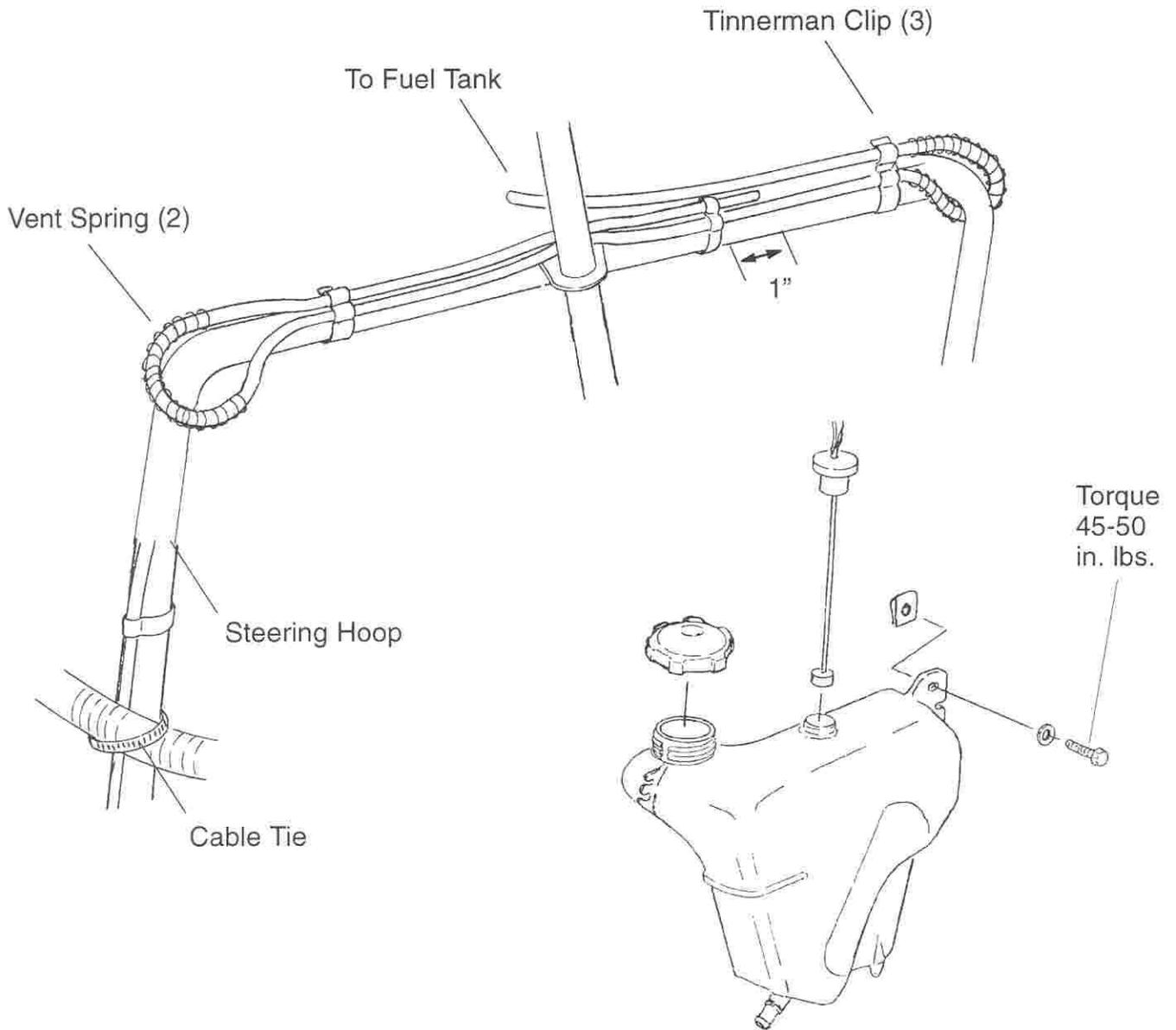
**MAINTENANCE/TUNE UP**  
**Routing Diagram - Vent Lines**

**1998 XLT LTD / XLT SP / XLT Touring / XLT Classic**



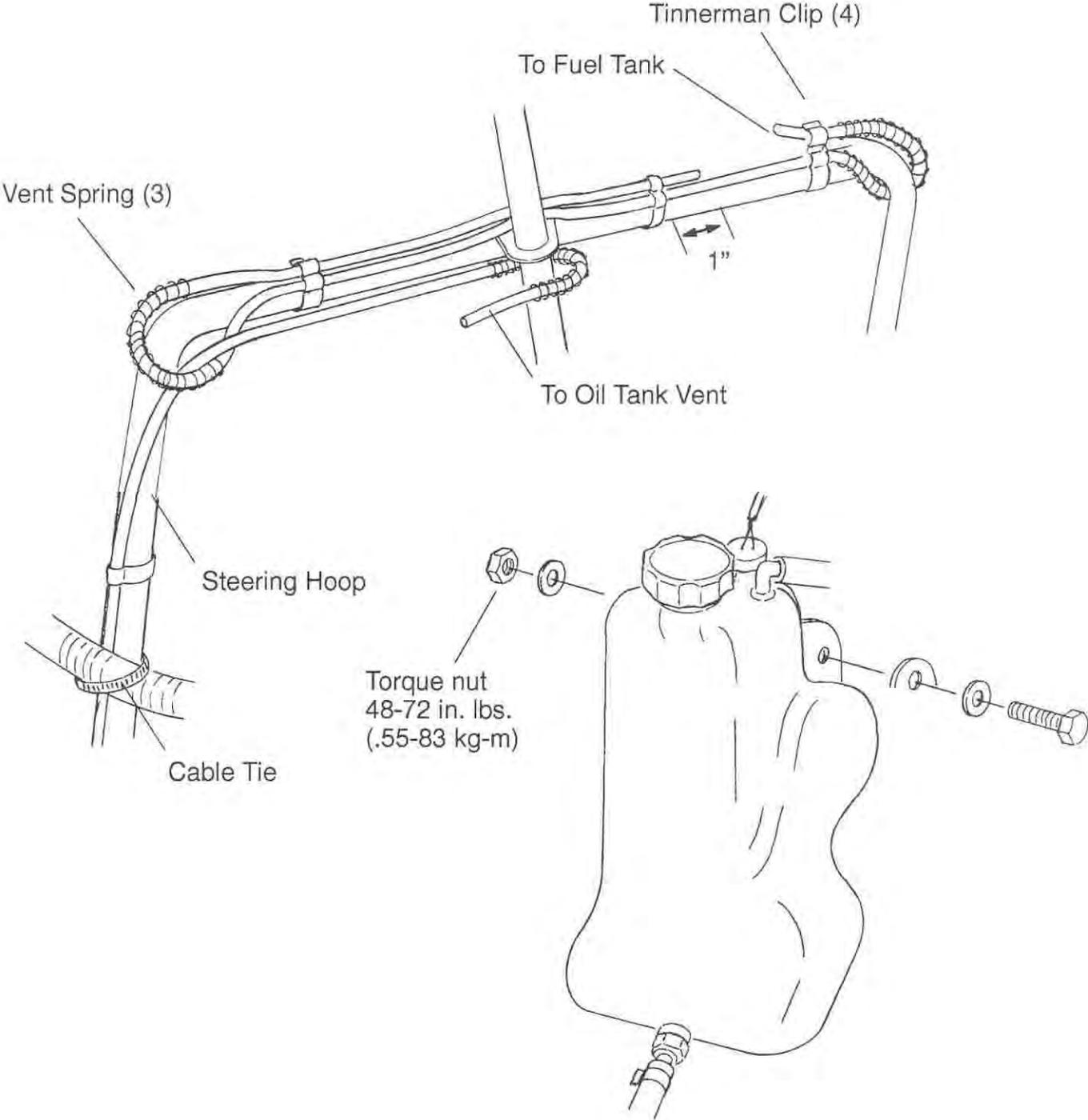
**MAINTENANCE/TUNE UP**  
**Routing Diagram - Vent Lines**

**1998 700 RMK / 700 XC / 600 XC / 600 RMK**



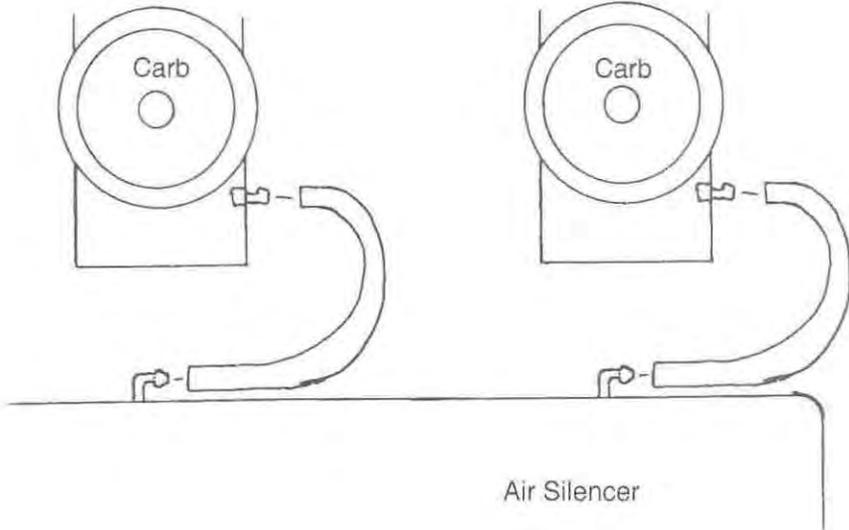
**MAINTENANCE/TUNE UP**  
**Routing Diagram - Vent Lines**

1998 WideTrak LX



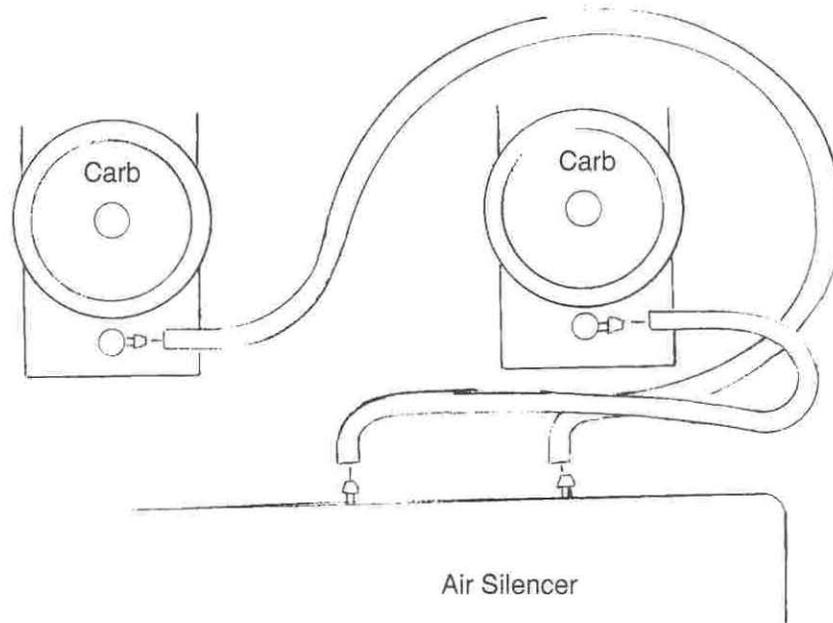
MAINTENANCE/TUNE UP  
Routing Diagram - Carburetor Vent Line

1996 Indy 440 LC



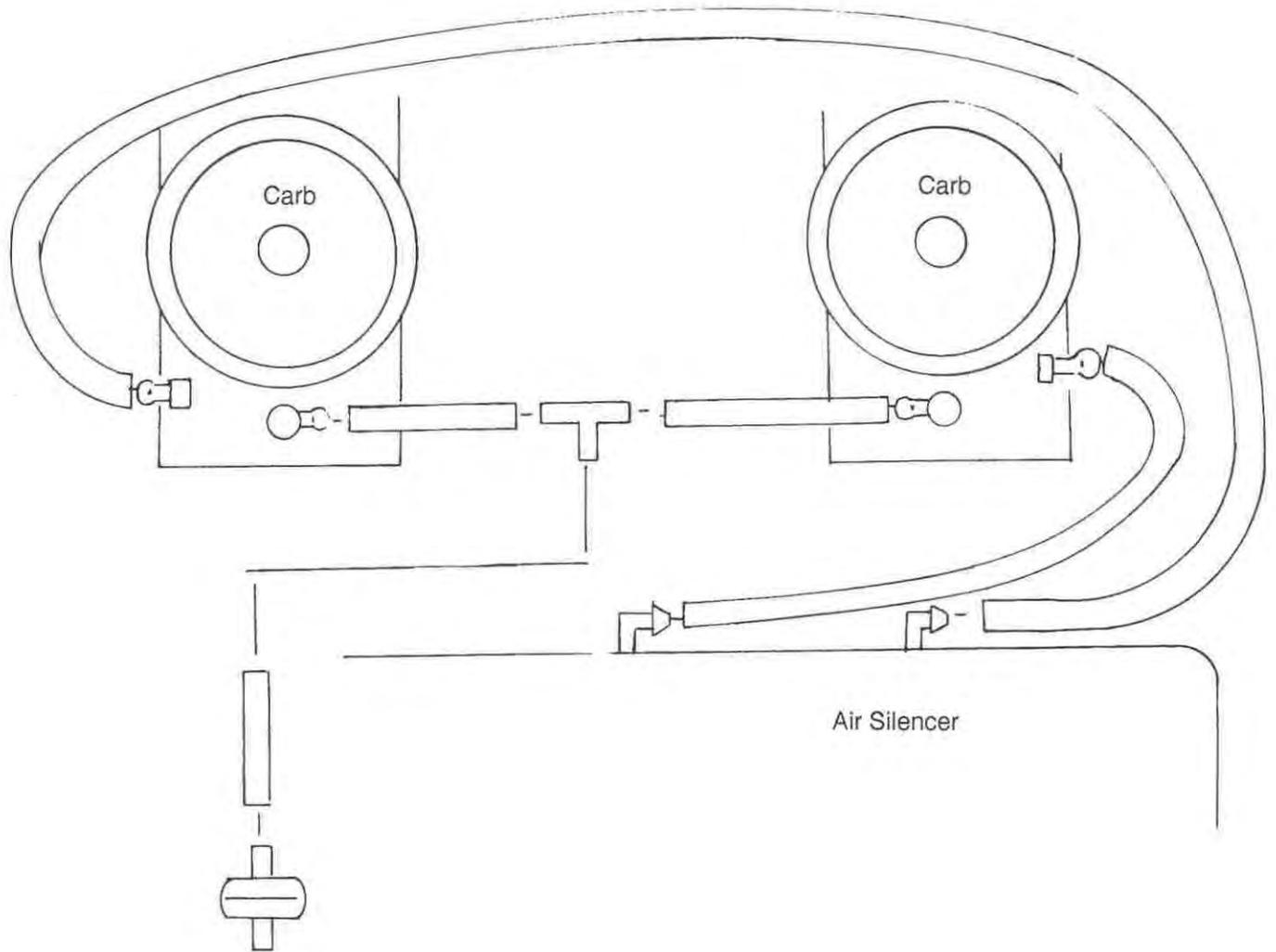
**MAINTENANCE/TUNE UP**  
**Routing Diagram - Carburetor Vent Line**

1996 Indy Trail/Trail Touring



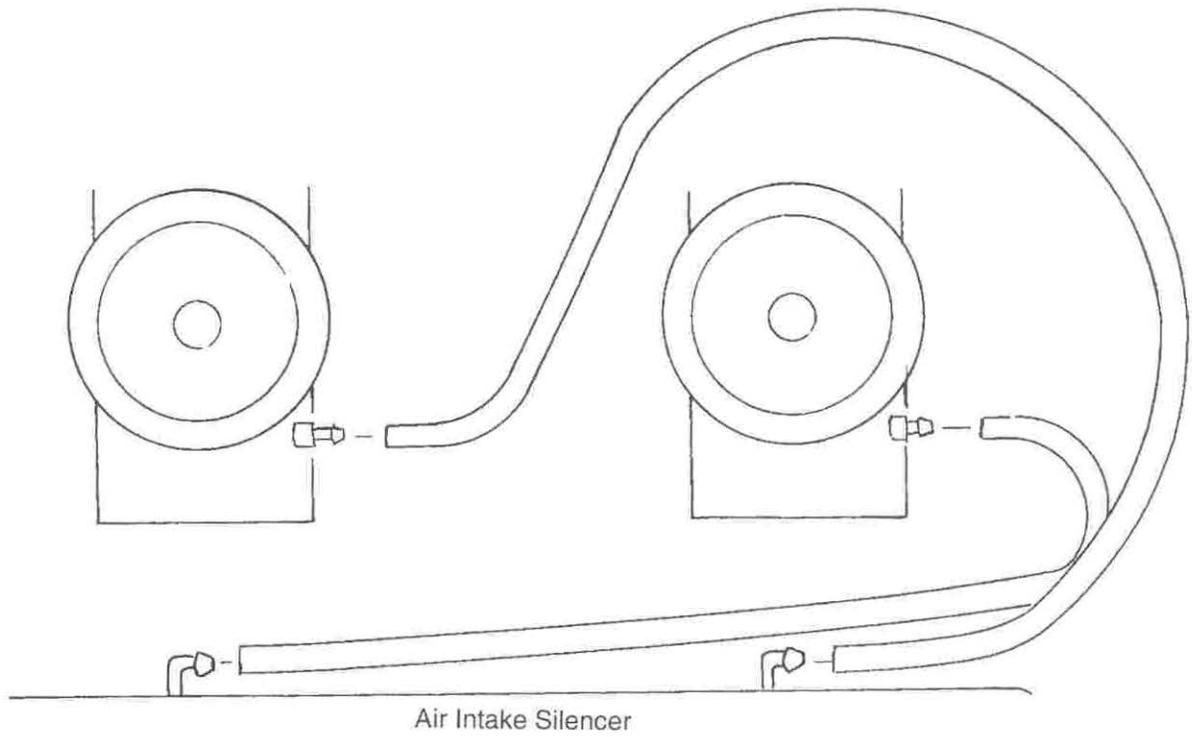
**MAINTENANCE/TUNE UP  
Routing Diagram - Carburetor Vent Line**

1996 Indy 500/500 SKS/500 RMK/Classic/Classic Touring

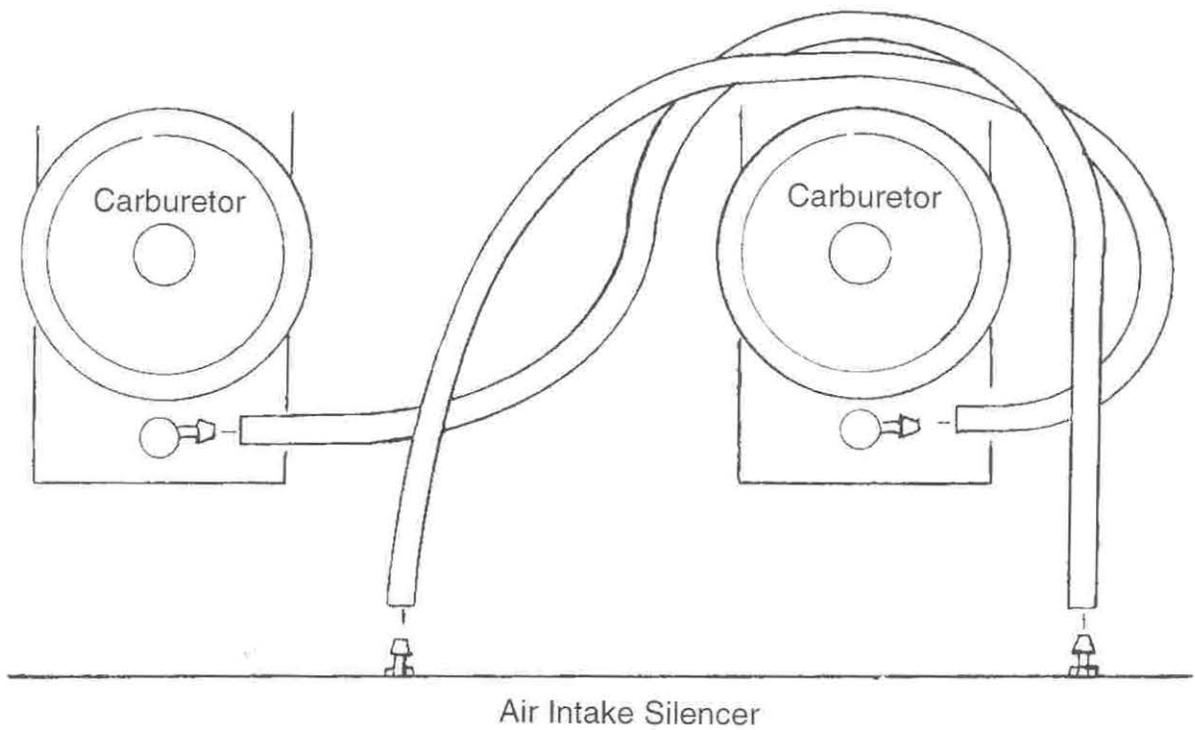


**MAINTENANCE/TUNE UP**  
**Routing Diagram - Carburetor Vent Line**

1997 Indy 440 LC Models

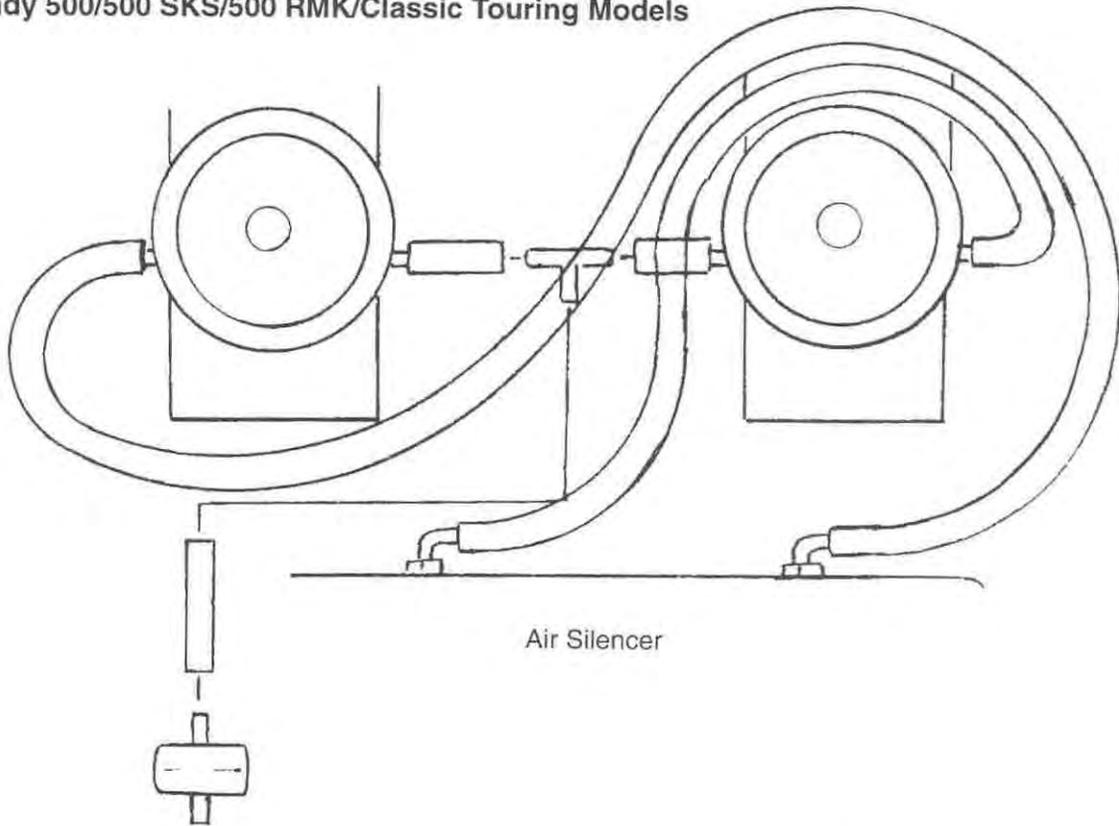


1998 Trail / Super Sport / 440 / Classic Touring / Trail Touring

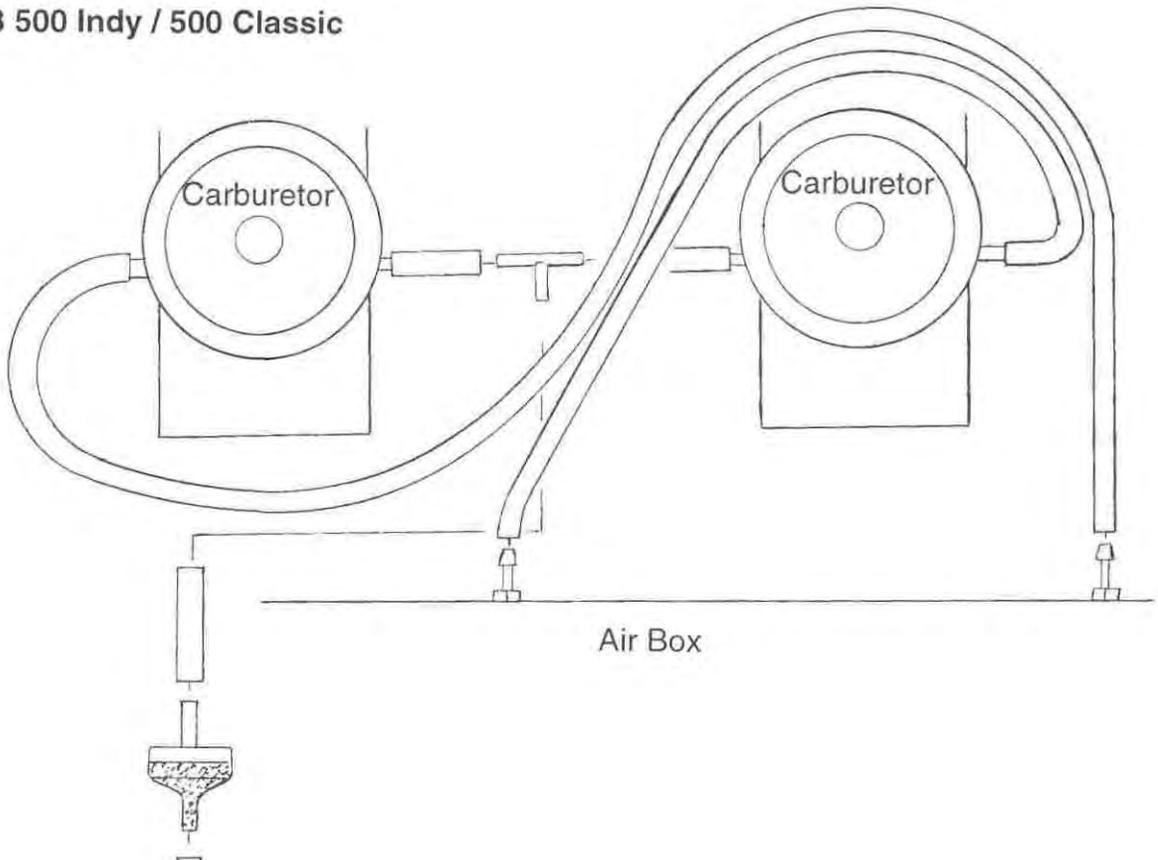


**MAINTENANCE/TUNE UP  
Routing Diagram - Carburetor Vent Line**

**1997 Indy 500/500 SKS/500 RMK/Classic Touring Models**

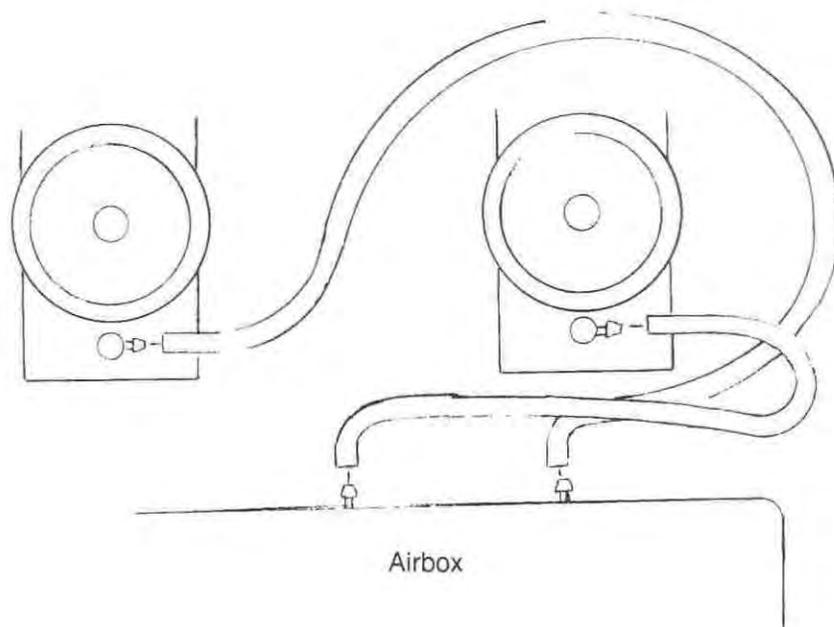


**1998 500 Indy / 500 Classic**



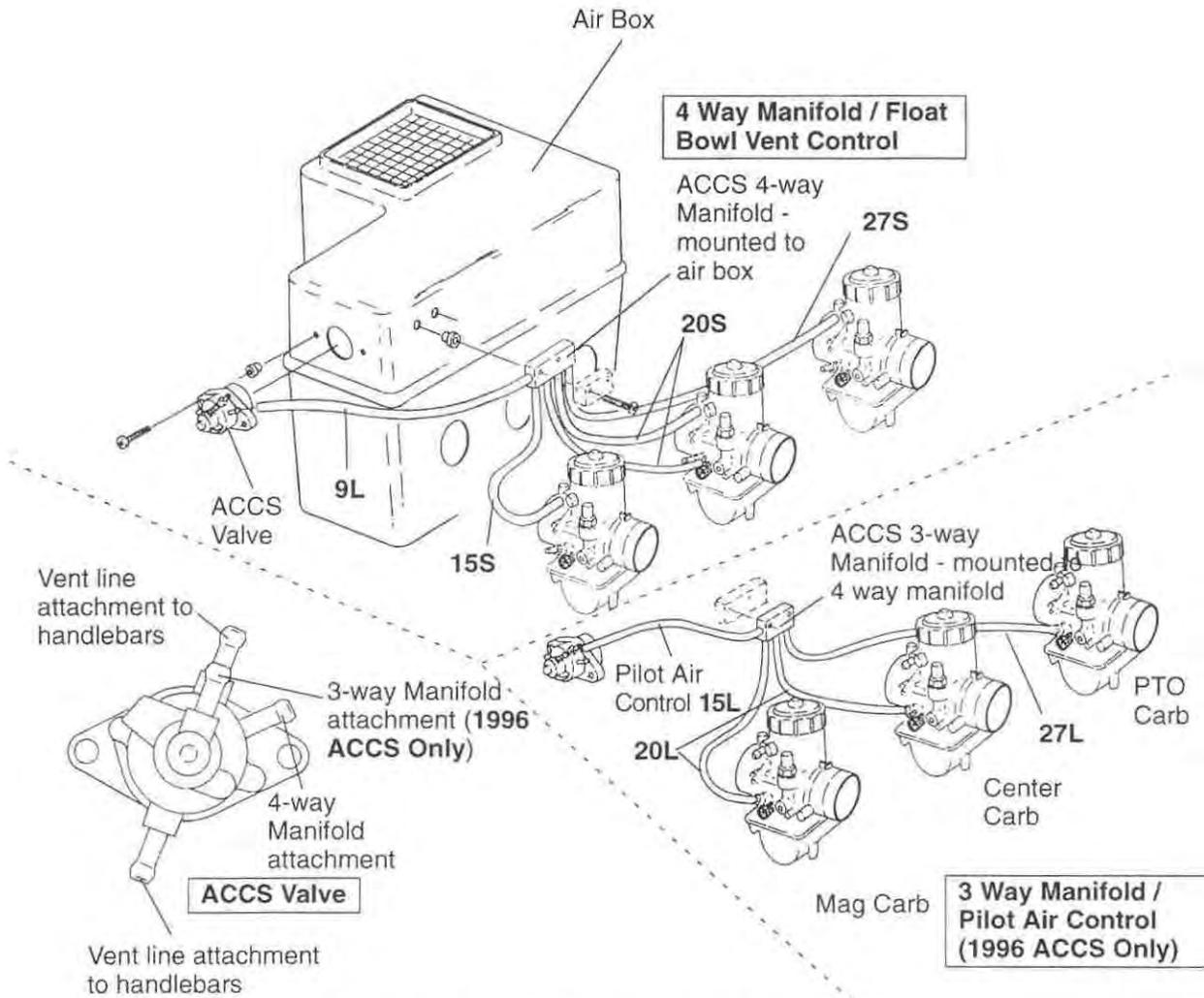
**MAINTENANCE/TUNE UP**  
**Routing Diagram - Carburetor Vent Line**

1997 Indy Trail/trail Touring Models



# MAINTENANCE/TUNE UP Routing Diagram - Carburetor Vent Line

## 1996-Current ACCS Systems

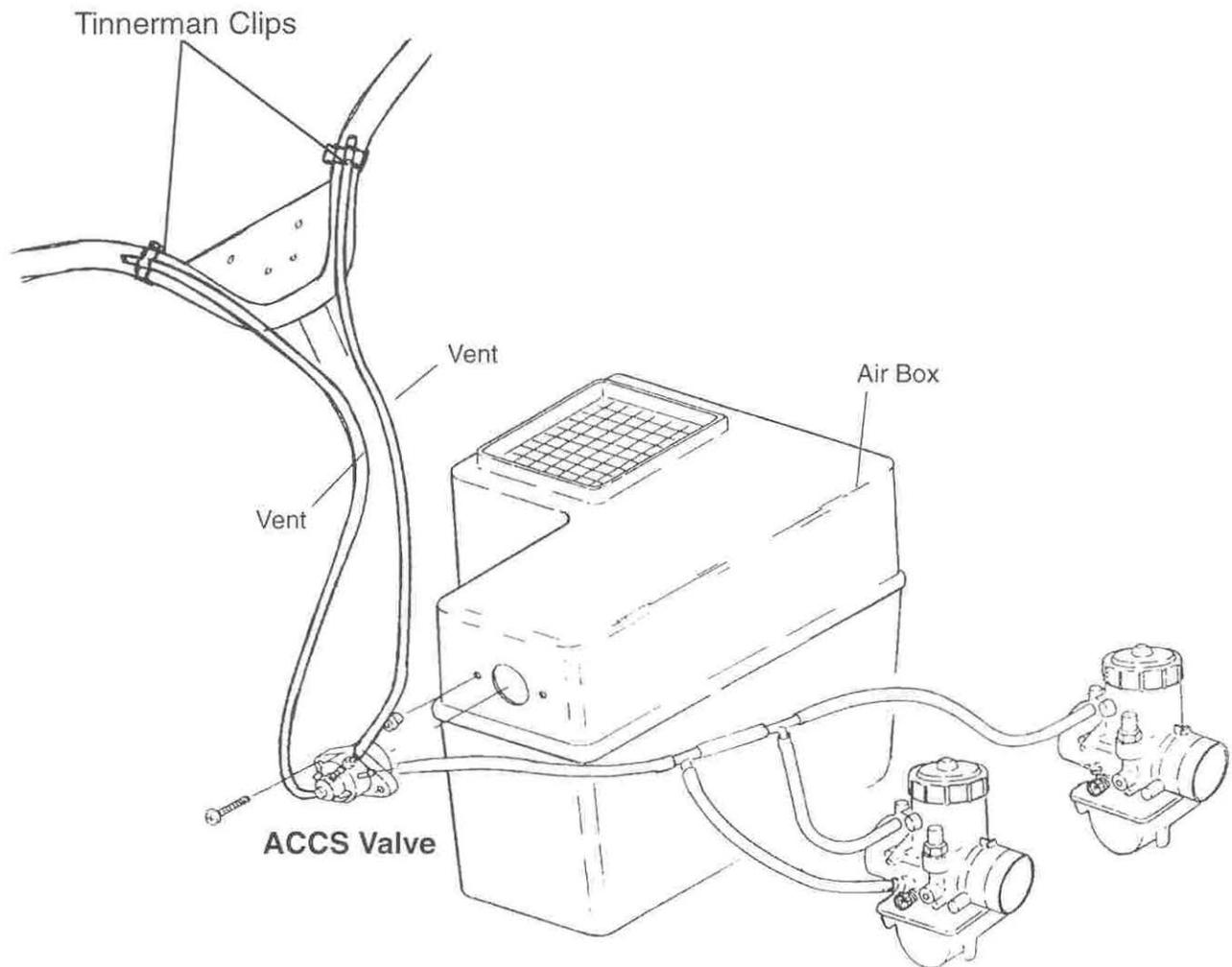


**EXAMPLE: 27L = 27cm Length, Large Diameter**  
**27 = 27cm Length**  
**S = Small Diameter**  
**L = Large Diameter**

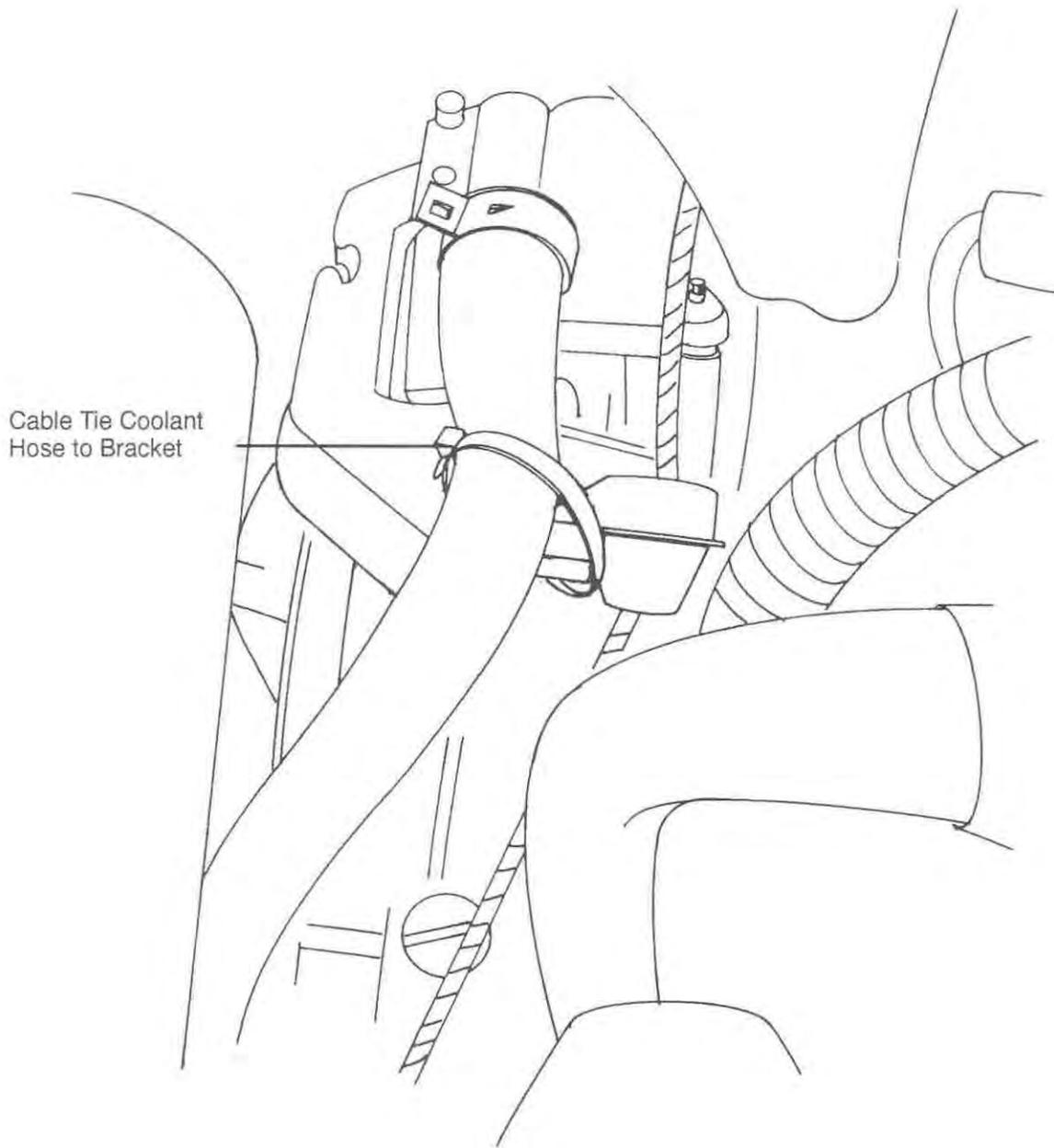
**NOTE:** There is only one ACCS valve. The illustration above has been divided to show the separation of systems. See page 5.7a for line connections.

**MAINTENANCE/TUNE UP**  
**Routing Diagram - Carburetor Vent Line**

1997 - Current Indy Trail RMK and 500 RMK Models

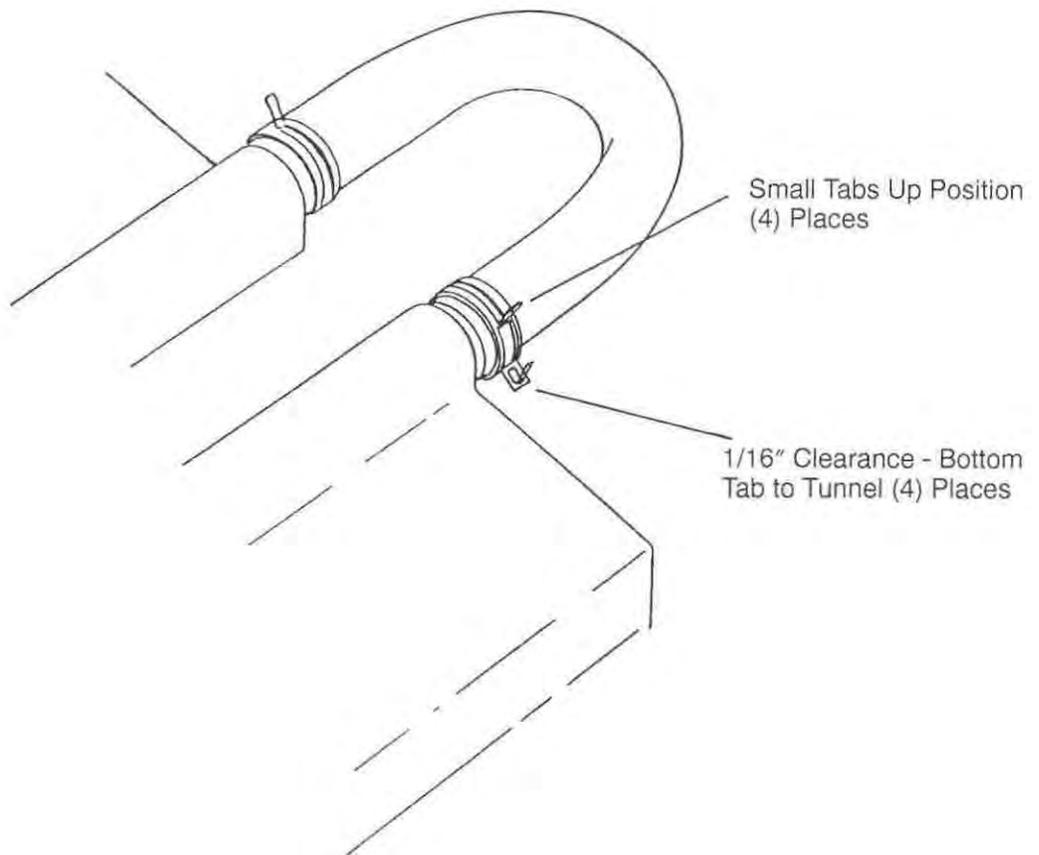


1996 Indy RXL Models



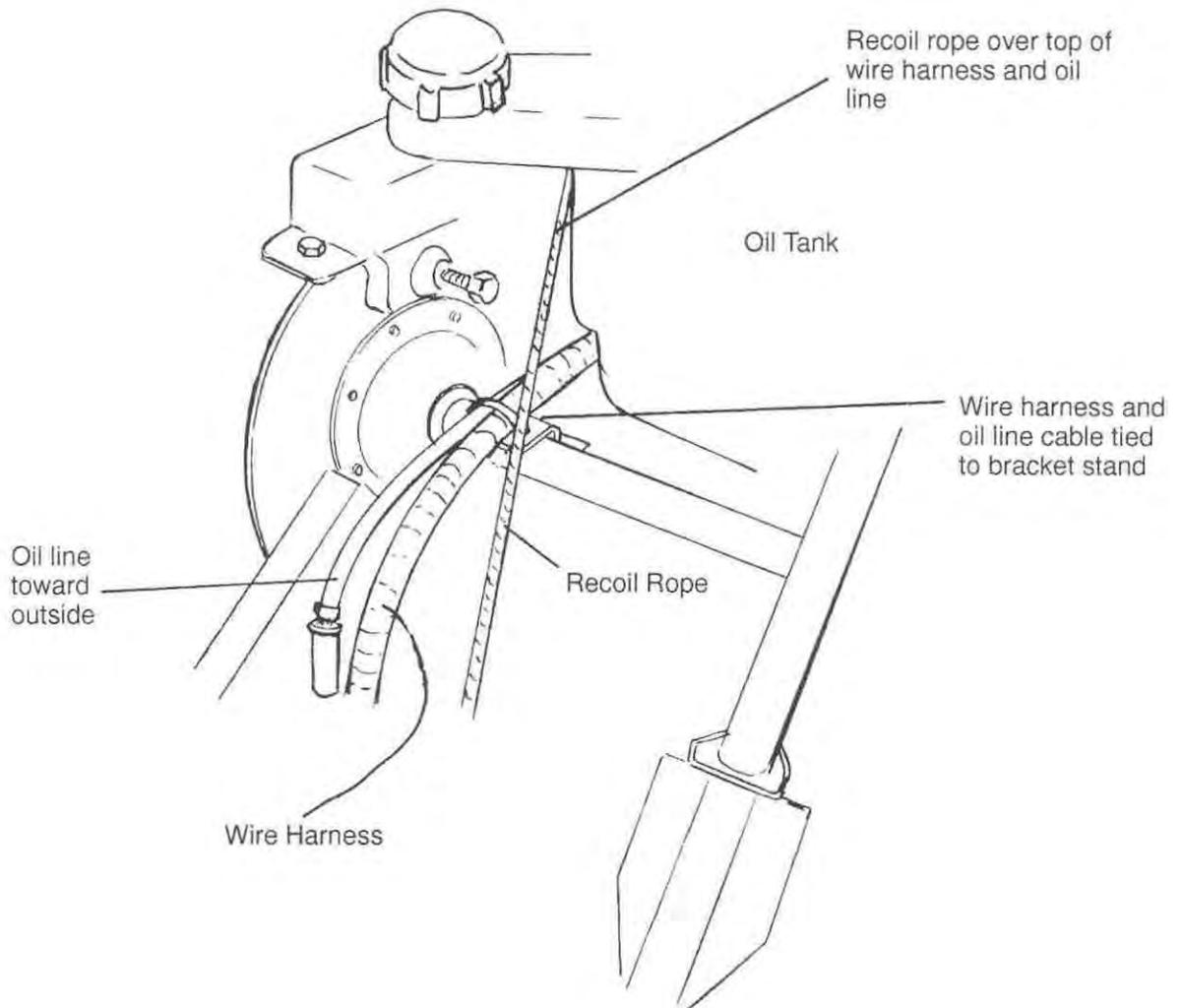
**MAINTENANCE/TUNE UP**  
**Routing Diagram - Miscellaneous**

1996 Indy RXL Models  
1997 Indy XLT Touring/Ultra Touring Models



**MAINTENANCE/TUNE UP  
Routing Diagram - Miscellaneous**

1996 Indy Lite GT Models



**MAINTENANCE/TUNE UP**  
**Routing Diagram - Miscellaneous**

1996 Indy XLT Touring Models  
1997 Indy Class Touring/XLT Touring/Ultra Touring Models

