Torque Application List

Due to the special grade bolts and nuts required for specific applications, observe the following torque values in the areas specified or refer to steering rod end orientation pages in this chapter for diagrams depicting location, orientation, and torque values of fasteners. Always use genuine Polaris parts and fasteners.

Bolt Size	Area Where Used	Torque Minimum-Maximum
3/8	Outer Radius Rod End to Trailing Arm (Top & Bottom)	28-30 ft. lbs. (3.86-4.14 kg-m)
7/16	Inner Radius Rod End To Bulkhead (Top)	35-40 ft. lbs. (4.83-5.52 kg-m)
1/2	Inner Radius Rod End To Bulkhead (Bottom)	40-50 ft. lbs. (5.52-6.9 kg-m)
—	Radius Rod, Drag Link, or Tie Rod End Jam Nuts	24-25 ft. lbs. (3.31-3.45 kg-m)
1/2	Bellcrank (Center Steering Arm) (Non-CRC)	55-60 ft. lbs. (7.59-8.28 kg-m)
	Pitman Arm Pivot	
	Idler Arm Pivot	
3/8	Drag Link to Steering Post Arm	28-30 ft. lbs. (3.86-4.14 kg-m)
3/8	Drag Link to Bellcrank or Pitman Arm	28-30 ft. lbs. (3.86-4.14 kg-m)
3/8	Steering Arm Pinch Bolt	28-30 ft. lbs. (3.86-4.14 kg-m)
3/8	Tie Rod to Steering Arm	28-30 ft. lbs. (3.86-4.14 kg-m)
3/8	Tie Rod to Bellcrank	28-30 ft. lbs. (3.86-4.14 kg-m)
7/16	Trailing Arm Rear Support	40-45 ft. lbs. (5.52-6.21 kg-m)
3/8	IFS Shock (Top & Bottom)	28-30 ft. lbs. (3.86-4.14 kg-m)
5/16	Steering Post to Bulkhead	15-17 ft. lbs. (2.07-2.35 kg-m)
1/4	Upper Steering Bracket to Hoop	8-10 ft. lbs. (1.10-1.38 kg-m)
1/4	Handlebar Block	8-10 ft. lbs. (1.10-1.38 kg-m)
1/4	Side Panel to Nosepan Brace, Rubber Washer	4-6 in. lbs. (.05-.07 kg-m)
1/4	Side Panel to Nosepan, Well Nut	4-6 in. lbs. (.05-.07 kg-m)
3/8	Throttle Block Set Screw	30-35 in. lbs (.35-.40 kg-m)
3/8	Ski Pivot Bushing Bolt	25-28 ft. lbs. (3.45-3.86 kg-m)
	Choke to Plastic Console	20-25 in. lbs. (.23-.29 kg-m)

1996 Steering Specifications

Model	Suspension Type	Reference Width*	Front Vertical Travel
Indy Lite/GT/Deluxe	Lite	37″	7″
Indy Sport Indy TranSport Indy Sport Touring	IFS-38x7	38″	7.25″
Indy Super Sport	Std. IFS	41″	7.25″
Indy 440 XCR	XTRA-10 CRC	Use Max Set Up Width See 1997 XTRA-10 CRC	8.4″
Indy 440 XCR SP	XTRA-10 CRC	Use Max Set Up Width See 1997 XTRA-10 CRC	9.15″
Indy WideTrak GT / LX	IFS-38	38″	7.25″
Indy Trail Indy 440 LC	Std. IFS	41″	7.25″
Indy Trail Touring	XTRA-10	41″	8.4″
Indy 500	Std. IFS	41″	7.25″
Indy 500 SKS Indy 500 RMK	XTRA-10	41″	8.4″
Indy 500 EFI	XTRA-12	42.5″	9.8″
Indy 500 EFI SKS/RMK	XTRA-10	41″	8.4″
Indy Classic Indy Classic Touring	XTRA-12	42.5″	9.8″
Indy XLT Indy XLT SP Indy XLT LTD/LTD SP	XTRA-12	42.5″	9.8″
Indy XLT SKS	XTRA-10	41″	8.4″
Indy XLT RMK	XTRA-10	38″	7.0
Indy XLT Touring	XTRA-12	42.5″	9.8″
Indy RXL	XTRA-12	42.5″	9.8″
Indy 600 XCR / XCR SP	Std. IFS	41″	7.25″
Indy Ultra SP Indy Ultra SKS	XTRA-10	41″	7.25″ 8.4″
Indy Ultra RMK	XTRA-10	38″	7.0″
Indy Storm Indy Storm SKS	Std. IFS	41″	7.25″
Indy Storm RMK	Std. IFS	38″	7.0″

CAUTION:

1996 Models: **Reference width** is measured from center of spindles near grease fitting on bottom of spindle, with the front suspension compressed to the point of maximum width. On Std. IFS (non XTRA models) the point of maximum width is when radius rods are parallel to the ground. On XTRA models, radius rods are non-parallel, and widest point is when lower radius rod is parallel to the ground. Always verify adequate tie rod and radius rod end thread engagement after installing or adjusting front suspension or steering components. Refer to page 7.11.

Caster: Fixed

Camber: Adjusted with suspension fully extended - front end elevated.

Toe-in/Toe-out: Adjusted at Normal Ride Height

NOTE: Precision camber and toe setup can be performed on Xtra-10 CRC and XC-10 models. Refer to page 7.18a.

1997 Steering Specifications

Model	Suspension Type	Reference Width	Maximum Set Up Width*(± 1/4")	Camber ± 5/16"(8mm)	Vertical Travel	◇
Indy Lite/GT/Deluxe	Lite	37"	36 1/2 (92.70 cm)	0	7"	
Indy Sport / Touring Indy TranSport	38x7	38"	37 3/8" (94.90 cm)	1/2" (13 mm)	7 1/4"	◇ ◇
Indy Super Sport	XTRA-10	41"	39 1/8" (99.40 cm)	0	9 1/2"	◇
Indy 440 XC	XTRA-10 CRC	41"	39 1/4" (99.70 cm)	3/4" (19 mm)	9 1/2"	
Indy 440 XCR	XC-10 CRC	41"	39" (99.00 cm)	1" (25.5 mm)		
Indy XCF	XTRA-10 CRC	41"	39 1/4" (99.70 cm)	3/4" (19 mm)	9 1/2"	
Indy WideTrak GT/LX	38x7	38"	37 3/8" (94.90 cm)	1/2" (13 mm)	7 1/4"	◇
Indy 440 L/C Indy Trail / Trail Touring	XTRA-10	41"	39 1/8" (99.40 cm)	0	9 1/2"	
Indy Trail RMK	38-RMK	38"	36 3/4" (93.35 cm)	0	8 1/4"	◇
Indy 500 / 500 SKS	XTRA-10	41"	39 1/8" (99.40 cm)	0	9 1/2"	
Indy 500 RMK	38-RMK	38"	36 3/4" (93.35 cm)	0	8 1/4"	◇
Indy 500 EFI	XTRA-12	42.5"	40 1/2" (102.90 cm)	0	10"	
Indy Classic / Touring	XTRA-12	42.5"	40 1/2" (102.90 cm)	0	10"	
Indy XLT / XLT SKS	XTRA-10	41"	39 1/8" (99.40 cm)	0	9 1/2"	
Indy XLT RMK	38-RMK	38"	36 3/4" (93.35 cm)	0	8 1/4"	◇
Indy XLT Touring Indy XLT SP Indy XLT LTD / LTD SP	XTRA-12	42.5"	40 1/2" (102.90 cm)	0	10"	
Indy RXL	XTRA-12	42.5"	40 1/2" (102.90 cm)	0	10"	
Indy 600 XCR Indy 600 XCR SE Indy 600 XC	XTRA-10 CRC	41"	39 1/4" (99.70 cm)	3/4" (19 mm)	9 1/2"	
Indy 700 XC	XC-10 CRC	41"	39" (99.00 cm)	1" (25.5 mm)		
Indy 700 SKS	XTRA-10 CRC	41"	39 1/4" (99.70 cm)	3/4" (19 mm)	9 1/2"	
Indy 700 RMK	38-RMK CRC	38"	37" (94.00 cm)	3/8" (9.5mm)	8 1/4"	
Indy Ultra SP Indy Ultra SPX/SPX SE	XTRA-10 CRC	41"	39 1/4" (99.70 cm)	3/4" (19 mm)	9 1/2"	
Indy Ultra/UltraTouring	XTRA-12	42.5"	40 1/2" (102.90 cm)	0	10"	
Indy Storm / Storm SE	XTRA-10	41"	39 1/8" (99.40 cm)	0	9 1/2"	
Indy Storm RMK	38-RMK	38"	36 3/4" (93.35 cm)	0	8 1/4"	◇

CAUTION:

***1997 - Current models** have torsion bar attached to inside of trailing arm – **Maximum set up width** is listed for these models to prevent possible disengagement of the torsion bar from the trailing arm, which could interfere with steering. This measurement must be taken from center of spindles near grease fitting on bottom of spindle with front of machine elevated and suspension fully extended. See pages 7.13 for measurement method and adjustment procedure.

◇ Indicates upper radius rod non-adjustable.

Caster: Fixed

Camber: Adjusted with suspension fully extended - front end elevated.

Toe-in/Toe-out: Adjusted at Normal Ride Height

NOTE: Precision camber and toe setup can be performed on models equipped with Xtra-10 CRC or XC-10 front suspension. Refer to page 7.18a.

SUSPENSION
1998 Steering Specifications

Model	Suspension Type	Reference Width	Maximum Set Up Width*(± 1/4")	Camber ± 5/16"(8mm)	Vertical Travel	◇
Indy Lite/Deluxe/Touring	Lite	37"	36 1/2" (92.70 cm)	0	7"	
Indy Sport / Touring Indy TranSport	38x7	38"	37 3/8" (94.93 cm)	1/2" (13 mm)	7.25"	◇ ◇
Indy Super Sport	XTRA-10	41"	39 1/8" (99.40 cm)	0	9.5"	◇
Indy XCF / Indy 500	XTRA-10 CRC	41"	39 1/4" (99.70 cm)	3/4" (19 mm)	9.5"	
Indy 440 XCR	XC-10 CRC	41"	39" (99.00 cm)	1" (25.5 mm)		
Indy WideTrak LX	38x7	38"	37 3/8" (94.93 cm)	1/2" (13 mm)	7.25"	◇
Indy 440 L/C Indy Trail Indy Trail Touring	XTRA-10	41"	39 1/8" (99.40 cm)	0	9.5"	◇ ◇ ◇
Indy Trail RMK/500 RMK	38-RMK	38"	36 3/4" (93.35 cm)	0	8.25"	◇
Indy Classic / Touring	XTRA-12	42.5"	40 1/2" (102.90 cm)	0	10"	◇
Indy XLT Classic Indy XLT Touring Indy XLT LTD	XTRA-12	42.5"	40 1/2" (102.90 cm)	0	10"	◇ ◇
Indy 600 XC Indy 700 XC	XC-10 CRC	41"	39" (99.00 cm)	1" (25.5 mm)	9.5"	
Indy 600 XCR Indy 700 XCR Indy XLT SP	XTRA-10 CRC	41"	39 1/4" (99.70 cm)	3/4" (19mm)	9.5"	
Indy 600 RMK Indy 700 RMK	38-RMK CRC	38"	37" (94.00 cm)	3/8" (9.5mm)	8.25"	
Indy Ultra	XTRA-12	42.5"	40 1/2" (102.90 cm)	0	10"	◇
Indy Ultra Touring	XTRA-12	42.5"	40 1/2" (102.90 cm)	0	10"	◇
Indy Storm	XTRA-10	41"	39 1/8" (99.40 cm)	0	9.5"	◇

CAUTION:

***1997 - Current models** have torsion bar attached to inside of trailing arm – **Maximum set up width** is listed for these models to prevent possible disengagement of the torsion bar from the trailing arm, which could interfere with steering. This measurement must be taken from center of spindles near grease fitting on bottom of spindle with front of machine elevated and suspension fully extended. See pages 7.13 for measurement method and adjustment procedure.

◇ Indicates upper radius rod non-adjustable.

Caster: Fixed

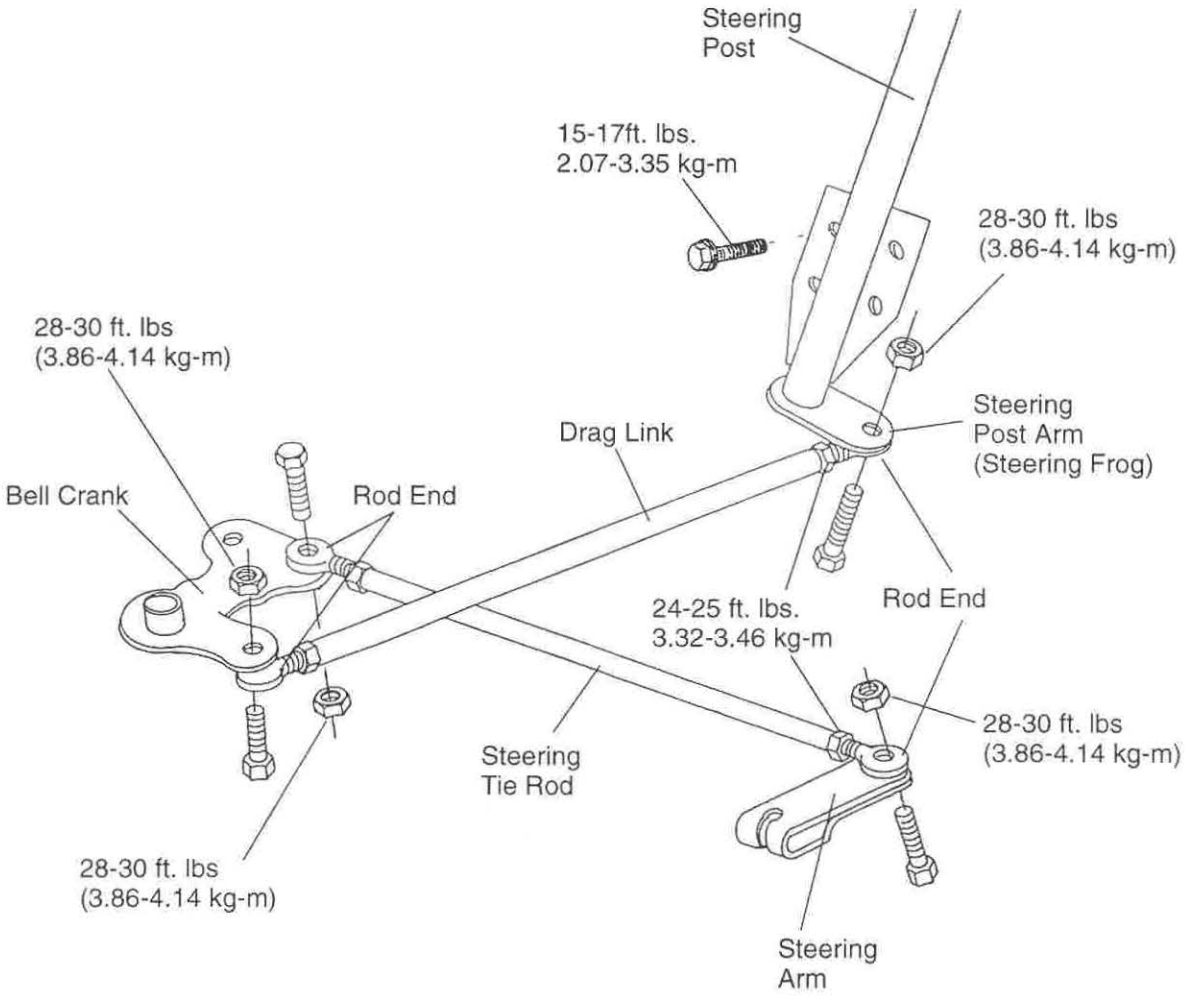
Camber: Adjusted with suspension fully extended - front end elevated.

Toe-in/Toe-out: Adjusted at Normal Ride Height

NOTE: Precision camber and toe setup can be performed on models equipped with Xtra-10 CRC or XC-10 front suspension. Refer to page 7.18a.

1996 to Current Indy Lite/GT/Deluxe

Illustration depicts proper orientation of rod ends and bolts on steering components.

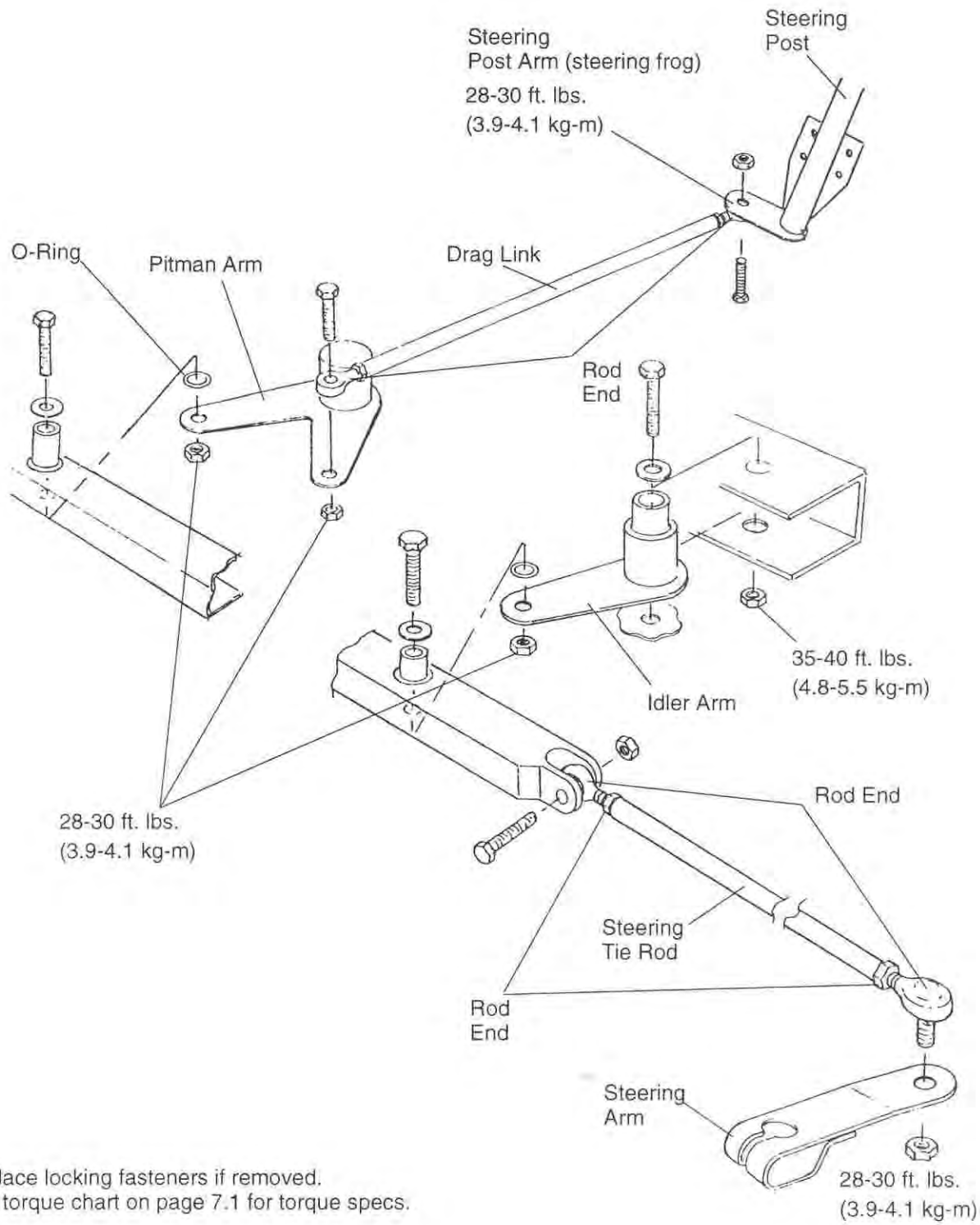


- Replace locking fasteners if removed.
- See torque chart on page 7.1 for torque specs.

1996 CRC Steering Assembly Exploded View

1996 440 XCR/440 XCR SP

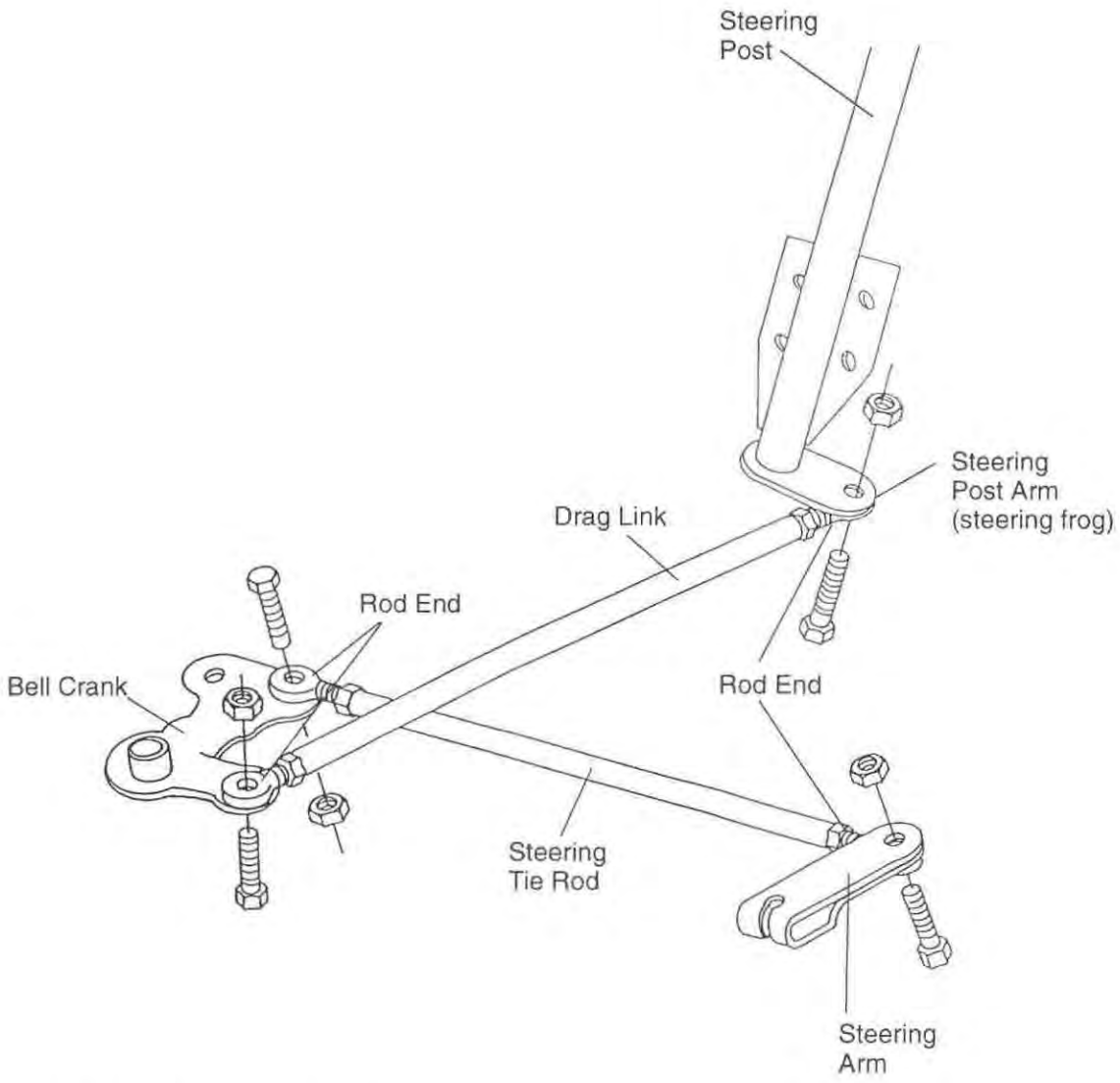
Illustration depicts proper orientation of rod ends and bolts on steering components.



- Replace locking fasteners if removed.
- See torque chart on page 7.1 for torque specs.

1996 WideTrak GT/LX

Illustration depicts proper orientation of rod ends and bolts on steering components.

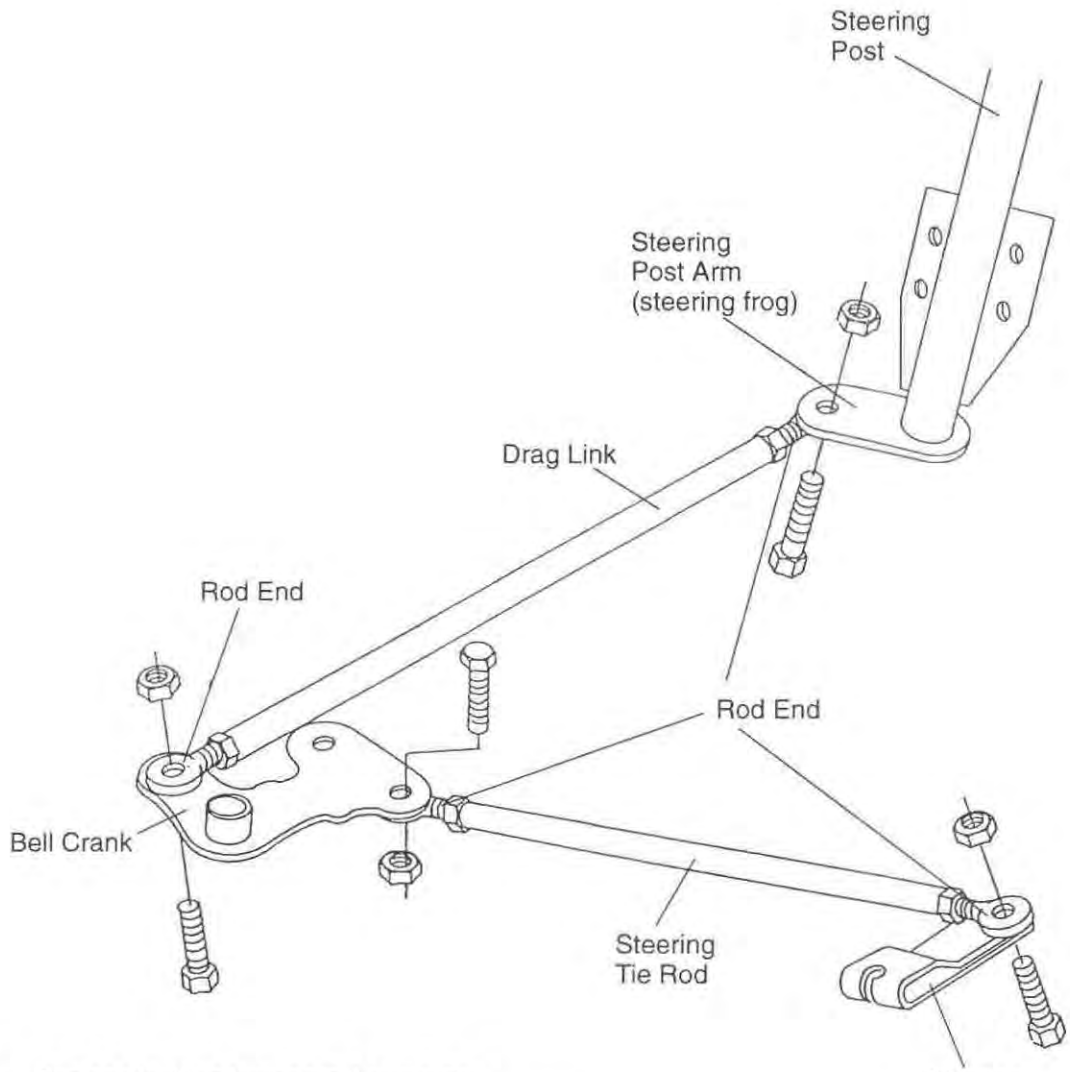


- Replace locking fasteners if removed.
- See torque chart on page 7.1 for torque specs.

Steering Assembly Exploded View

1996 Indy 440 LC/Super Sport/500/Trail

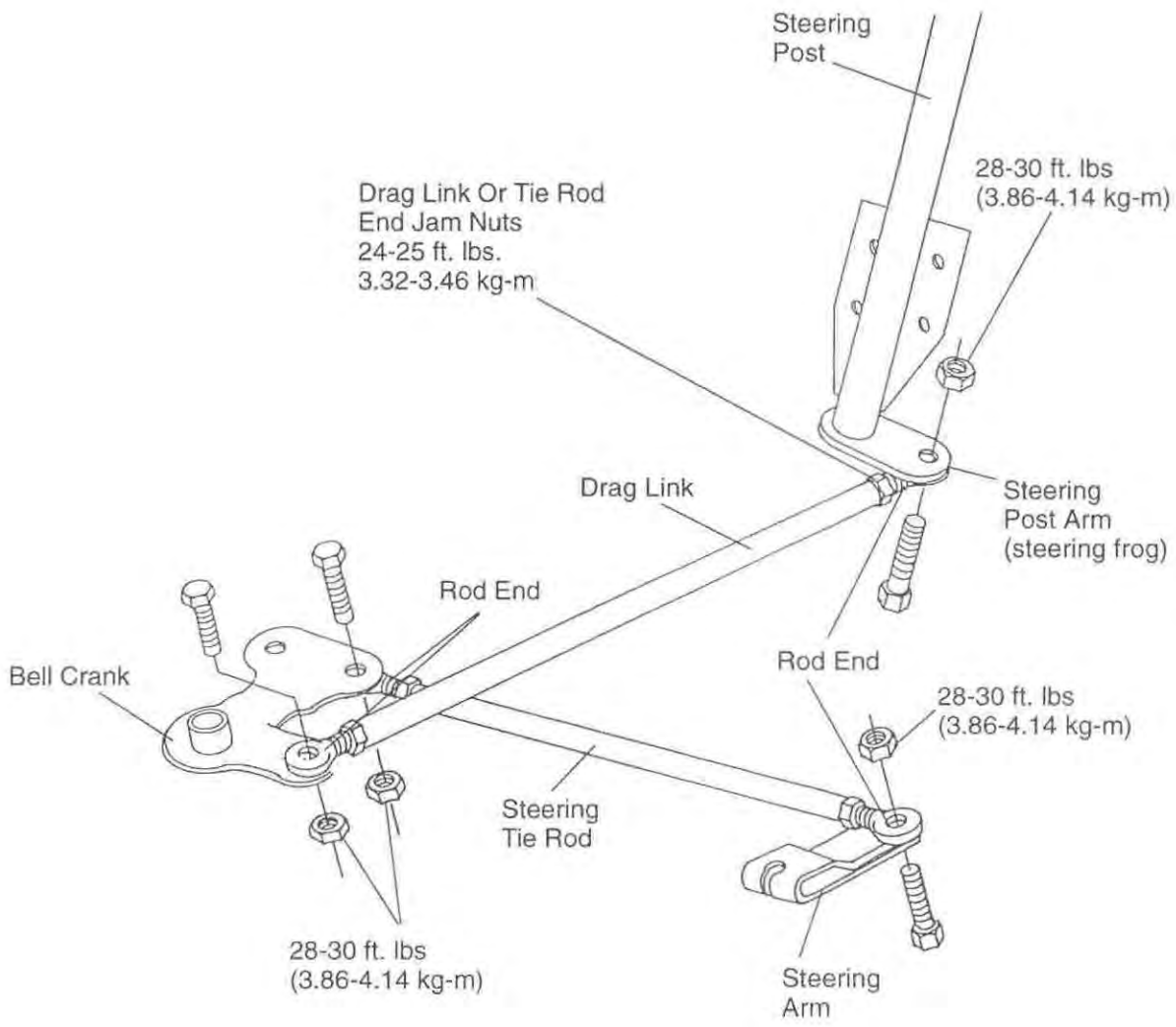
Illustration depicts proper orientation of rod ends and bolts on steering components.



- Replace locking fasteners if removed.
- See torque chart on page 7.1 for torque specs.

1996 Indy 600XCR/600 XCR SP/Ultra SP/Storm/Storm SKS

Illustration depicts proper orientation of rod ends and bolts on steering components on models listed above.



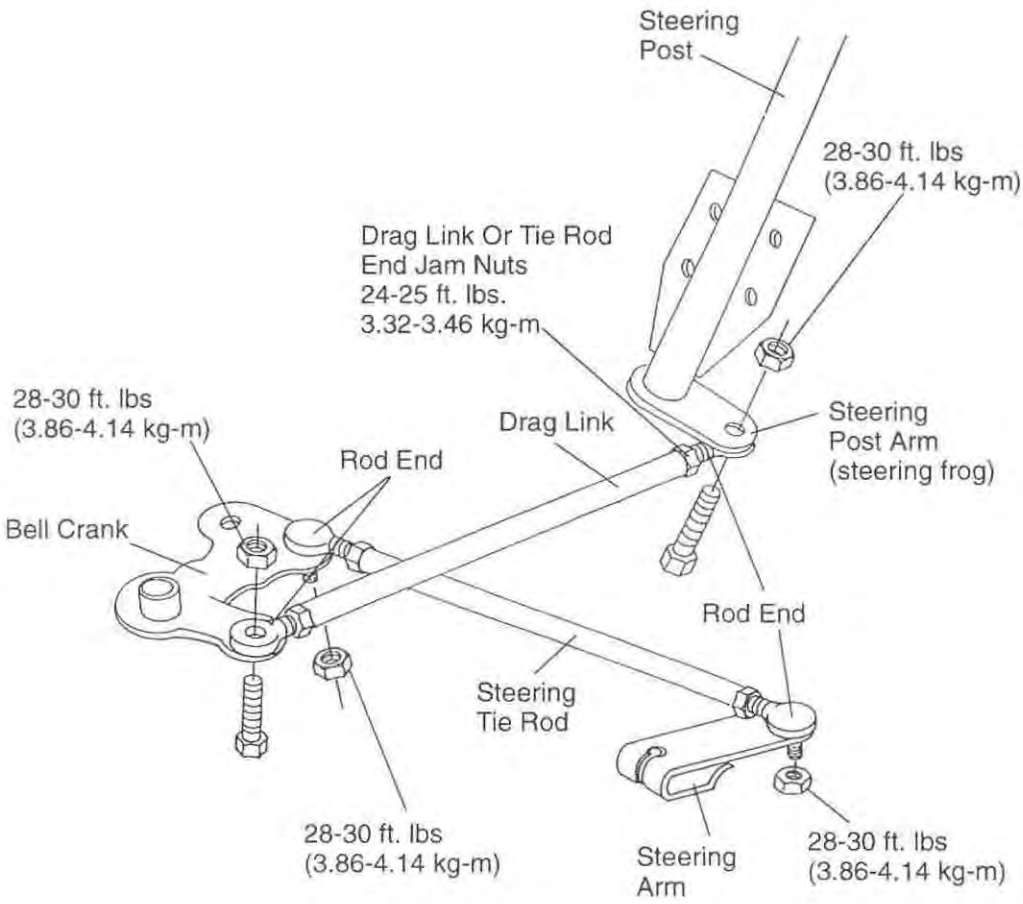
- Replace locking fasteners if removed.
- See torque chart on page 7.1 for torque specs.

Steering Assembly Exploded View

1996 XTRA-10
1996 - Current XTRA-12 Models

Illustration depicts proper orientation of rod ends and bolts on steering components on models listed above. Refer to chart on page 8.1 for suspension type.

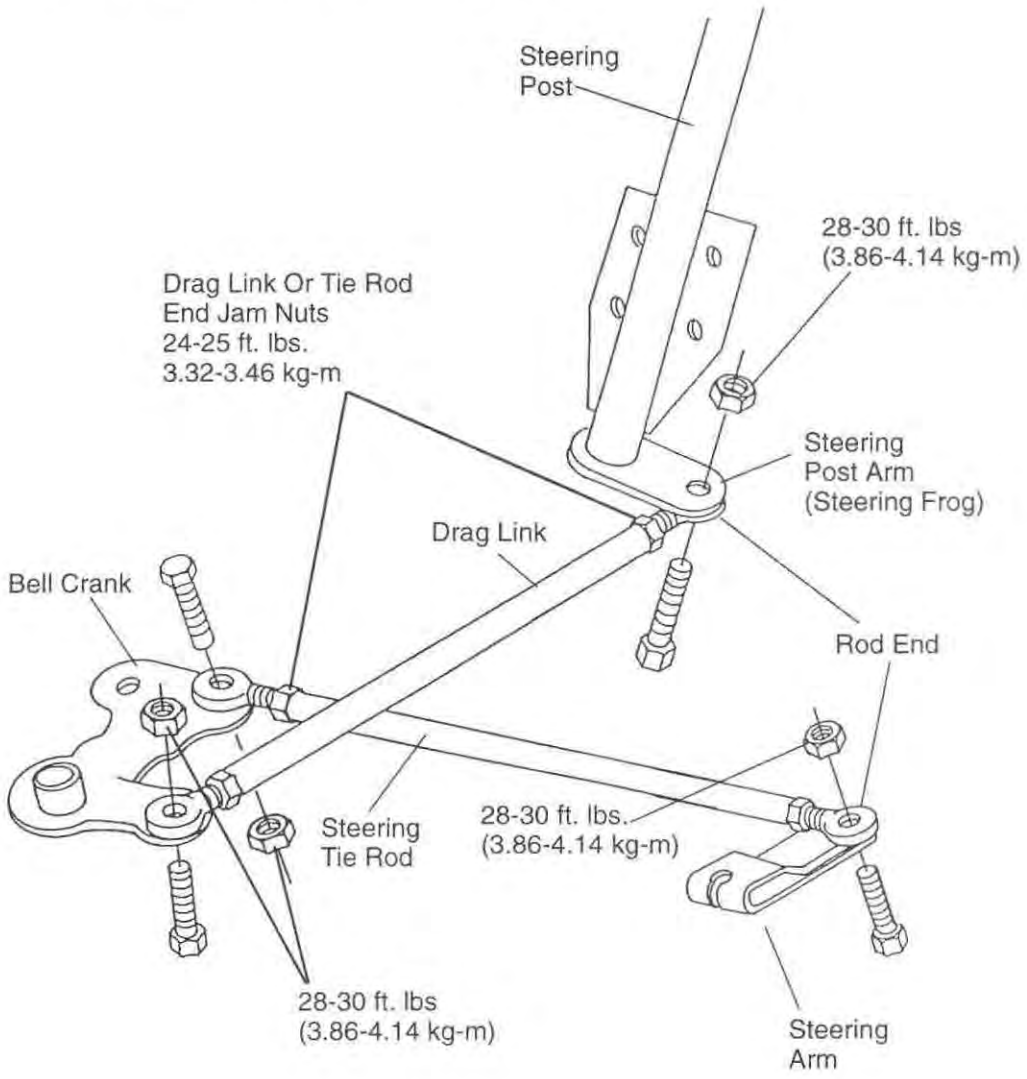
NOTE: On Xtra 10 and Xtra 12 three cylinder models the drag link is on the left side. On twin cylinder models the drag link is on the right side with the same rod end configuration. *Three cylinder configuration shown.*



- Replace locking fasteners if removed.
- See torque chart on page 7.1 for torque specs.

All 1997 to Current Models Except XTRA-12 Front Suspension or CRC

Illustration depicts proper orientation of rod ends and bolts on steering components.

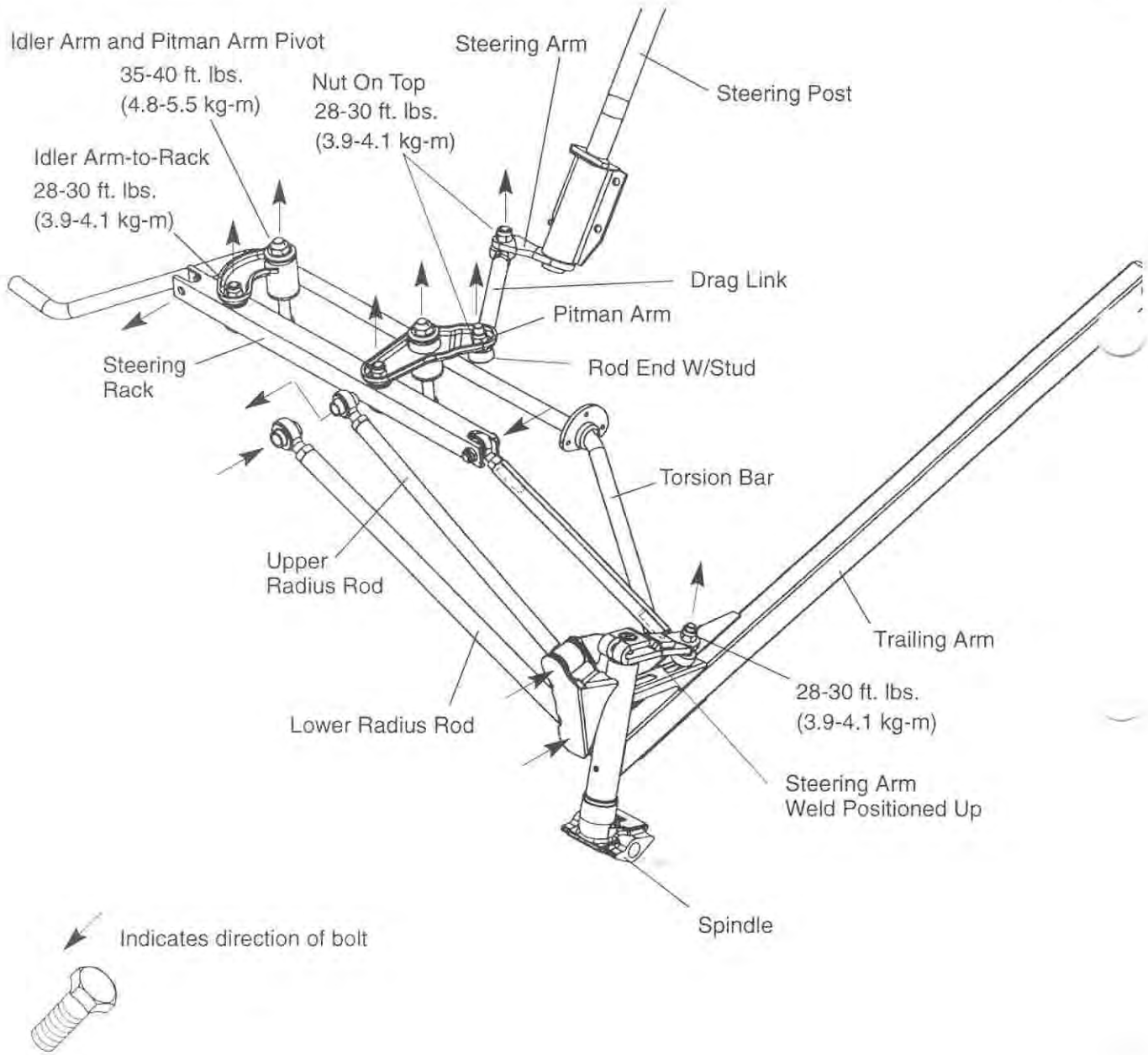


- Replace locking fasteners if removed.
- See torque chart on page 7.1 for torque specs.

Steering Assembly Exploded View

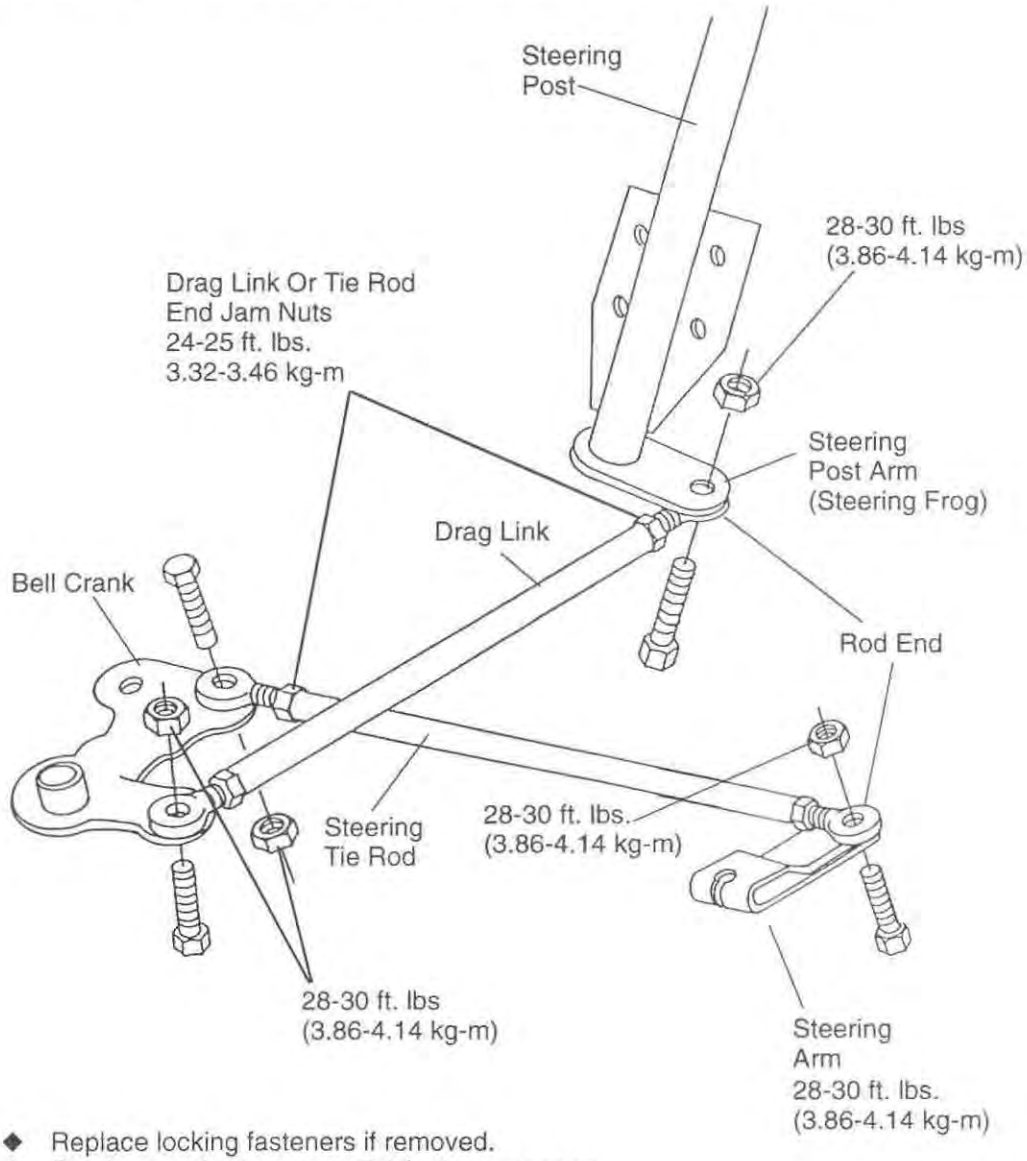
Models: 1997 XCF, 440 XC, 600 XC, 600 XCR, 700 SKS, 700 RMK, Ultra SPX, Ultra SP
1998 XCF, 500, XLT SP, 600 XCR, 600 RMK, 700 XCR, 700 RMK

Illustration depicts proper orientation of rod ends and bolts on steering components.



All 1997 to Current XTRA-10 and 38 Wide (Non-CRC) Models

Illustration depicts proper orientation of rod ends and bolts on steering components.

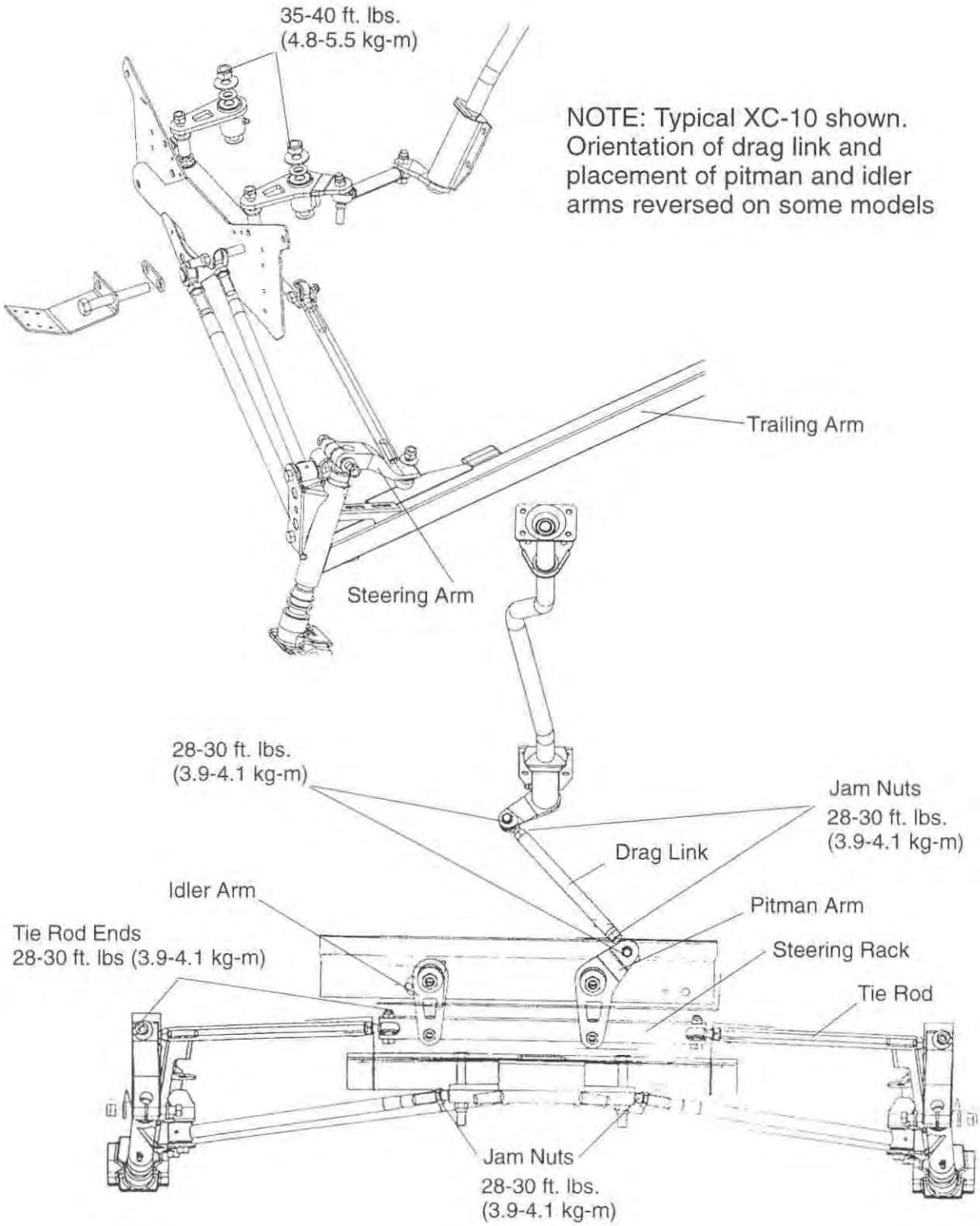


- Replace locking fasteners if removed.
- See torque chart on page 7.1 for torque specs.

XC-10 CRC Steering Assembly Exploded View

1997 440 XCR, 700 XC; 1998 440 XCR, 600 XC, 700 XC

Illustration depicts proper orientation of rod ends and bolts on steering components for most models.



Steering Inspection

Inspection

Prior to performing steering alignment, inspect all steering and suspension components for wear or damage and replace parts as necessary. Refer to steering assembly exploded views in this chapter for identification of components and torque values of fasteners. While disassembling, make notes of what direction a bolt goes through a part, what type of nut is used in an application, in which direction do the steering arms go on - weld up or weld down, etc.

Some of the fasteners used in the IFS are special and cannot be purchased at a hardware store. Always use genuine Polaris parts and hardware when replacing front end components.

The following components must be inspected at this time:

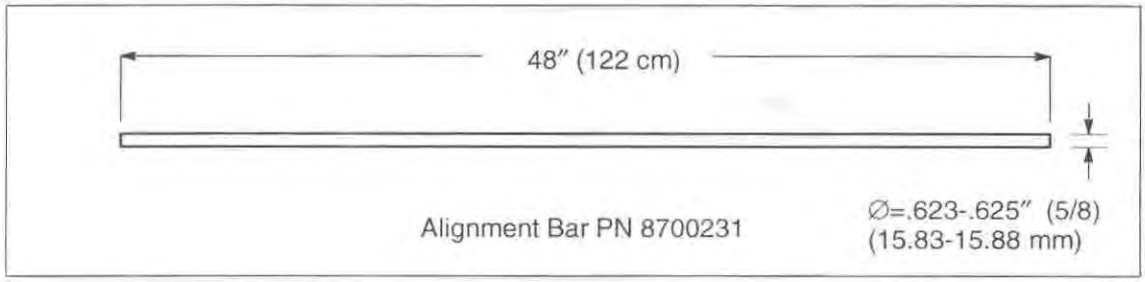
NOTE: Always follow rod end engagement guidelines found on page 7.11. Maximum setup width must be checked on 1997 to Current models whenever front suspension components are adjusted or replaced.

- ❑ Tie rods and tie rod ends
- ❑ Radius rods and radius rod ends
- ❑ Torsion bar and bushings / linkage (where applicable)
- ❑ Handlebars and steering post assembly
- ❑ Spindles and bushings
- ❑ Trailing arms and bushings
- ❑ Skis and skags
- ❑ Bell crank / Pitman Arm / Idler Arm
- ❑ Steering arms
- ❑ Shock absorbers, shock mounts, springs
- ❑ All related fasteners - check torque. Refer to steering exploded views at the end of this section.

Alignment Bar Specifications

Material:	**C-1018**
Diameter:	**.623″ - .625″ (5/8″)**
.....	**(15.82 - 15.87 mm)**
Length:	**48″ (122 cm)**

PN 8700231 See General Information Chapter or Service Tool Catalog for ordering information.

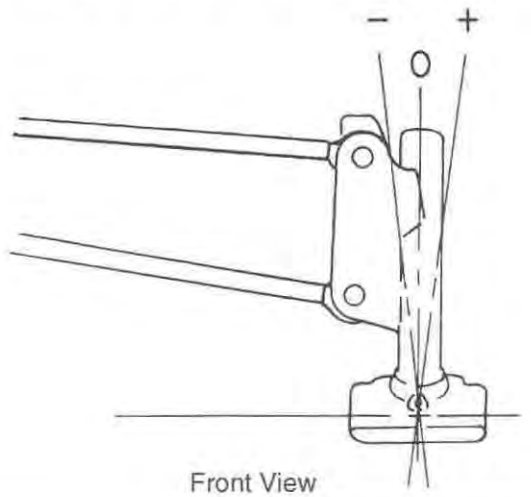


Camber Definition - All IFS

The following definitions of camber use automotive terminology to describe positive and negative positions. Refer to the illustration at right.

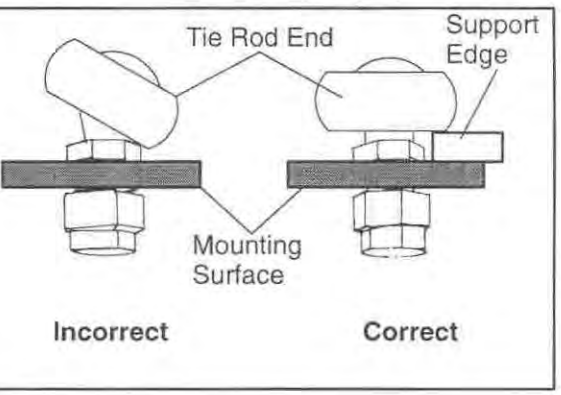
- *0 (Neutral) Camber* - Spindle is 90° (perpendicular) to ground
- *+ (Positive) Camber* - Spindle bottom is canted inward toward chassis
- *– (Negative) Camber* - Spindle bottom is canted outward from chassis

Positive, Negative, and Neutral (0°) Camber



Radius Rod and Tie Rod End Torque Procedure

Radius rod and tie rod ends must be parallel to their respective mounting surface after tightening jam nut as shown at right. Hold tie rod or radius rod and tighten jam nut. If possible, support the edge of the rod end as shown to keep it from rotating out of position until jam nut is tight. When tie rod ends are properly tightened, the tie rod should rotate freely approximately 1/8 turn.

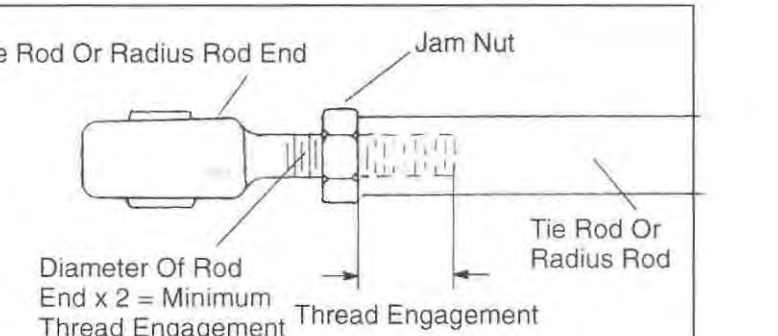


Rod End Engagement Guidelines - All IFS

Tie Rod Or Radius Rod End Must Engage Rod A Minimum Of 2x Thread Diameter When Adjustment Is Complete

EXAMPLE
7/16″ Rod End x 2 = 7/8″
Minimum Thread Engagement =7/8″

11mm x 2 = 22mm
Minimum Thread Engagement =22mm



Quick Reference Camber / Toe Chart - All IFS

Use the General Instructions and illustrations on following pages to adjust camber and toe. Refer to tables below for specifications.

Suspension Type	Adjustment	Specification*	Method	Maximum Setup Width ± 1/4" (6mm)	
Lite	Toe	1/8 - 1/4" Toe Out	Ride Height	36 1/2" (92.70 cm)	NON CRC MODELS
	Camber	0	Front Elevated		
Standard IFS	Toe	1/8 - 1/4" Toe Out	Ride Height	Refer to rod end engagement guidelines Page 7.11	
	Camber	0	Front Elevated		
XTRA-10	Toe	1/8 - 1/4" Toe Out	Ride Height	40 1/2" (102.90 cm)	
	Camber	0	Front Elevated		
XTRA-12	Toe	1/8 - 1/4" Toe Out	Ride Height	40 1/2" (102.90 cm)	
	Camber	0	Front Elevated		
IFS-38x7	Toe	1/8 - 1/4" Toe Out	Ride Height	37 3/8" (94.90 cm)	
	Camber	1/2" (12.7 mm)	Front Elevated		
38-RMK	Toe	1/8 - 1/4" Toe Out	Ride Height	36 3/4" (93.35 cm)	
	Camber	0	Front Elevated		

***NOTE:** All camber specifications are ± 5/16" (± 8mm)

Use the General Instructions and illustrations on following pages to adjust camber and toe. Refer to tables below for specifications.

Suspension Type	Adjustment	Specification*	Method	Maximum Setup Width ± 1/4" (6mm)	
38-RMK CRC	Toe	1/8 - 1/4" Toe Out	Ride Height	37" (94.00 cm)	CRC MODELS
	Camber	3/8" (9.5 mm)	Front Elevated		
XTRA-10 CRC (•)	Toe	1/8 - 1/4" Toe Out	Ride Height	39 1/4" (99.70 cm)	
	Camber	3/4" (19 mm)	Front Elevated		
XC-10 CRC (•)	Toe	1/8 - 1/4" Toe Out	Ride Height	39" (99.00 cm)	
	Camber	1" (25.4 mm)	Front Elevated		

***NOTE:** All camber specifications are ± 5/16" (± 8mm)

- An alternate method of alignment using the Camber and Toe Alignment Travel Bars (Kit PN 2871537) can be performed on snowmobiles equipped with XTRA-10 CRC or XC-10 CRC front suspension. The travel bars are not intended for use on 38 RMK CRC or non-CRC models. Refer to page 7.18a.

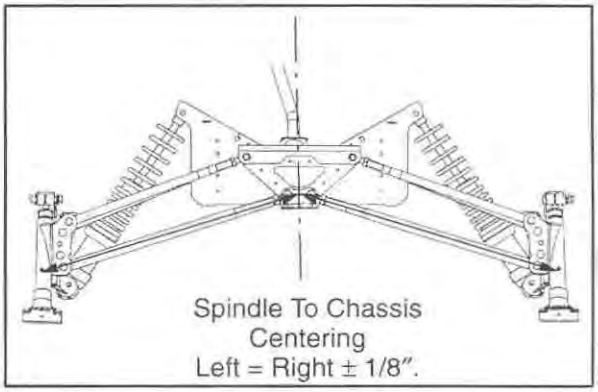
Prior to performing steering alignment, the suspension should be inspected for damage or wear and replacement parts installed as required. See inspection on page 7.10.

⚠ WARNING

A maximum set up width is listed for 1997 to Current models. Maximum set up width is the maximum allowable distance between ski spindle centers with front end of vehicle off the ground and suspension fully extended. The Maximum Set Up Width specifications listed on page 7.2a and 7.2b are maximum width measurements, and are critical to ensure adequate torsion bar engagement with the trailing arm. If the suspension is set too wide on 1997-current models, **the torsion bar can come loose and interfere with steering**. Do not attempt to set the suspension wider than the specified Maximum Set Up Width. On 1996 and earlier models, be sure to follow thread engagement guidelines for steering tie rod and radius rod ends as shown on page 7.11.

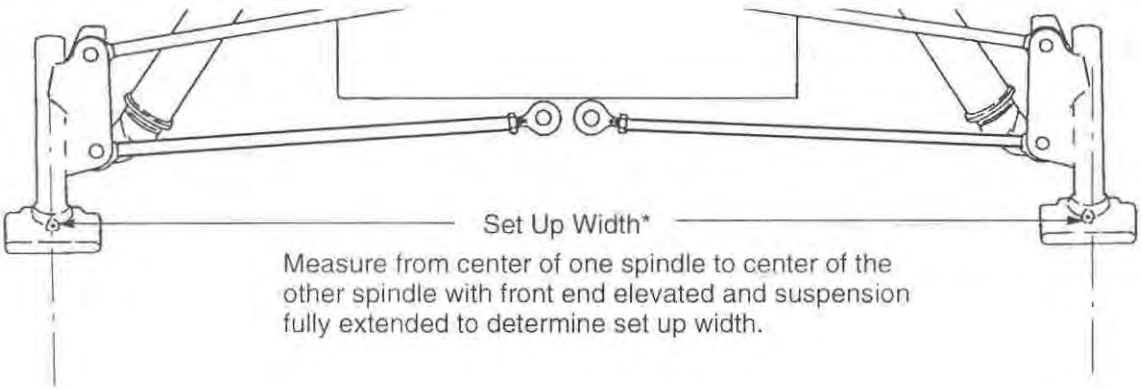
Spindle Centering / Set Up Width

1. Make sure the track is properly aligned. Refer to Maintenance Chapter for procedure. This will be used as a reference point for final toe out measurement.
2. Support the front of the machine 1-2″ (2.5-5.1 cm) off the floor.
3. Remove skis and ski pivot bushings.
4. Disconnect adjustable torsion bar linkage where applicable.
5. Measure spindle to chassis centering as shown and record measurement. Both spindles should be an equal distance +/- 1/8″ (3 mm) from the center of the chassis after adjusting camber, width, and toe alignment. This measurement is controlled by adjusting radius rod length.



Spindle To Chassis Centering
Left = Right ± 1/8″.

6. On 1996 models - adjust camber first and then verify adequate thread engagement of rod ends as shown on page 7.11. On 1997 to current models, measure set up width and record. This measurement is controlled by adjusting radius rod length, and must not exceed the Maximum Setup Width listed in the appropriate table (at the front of this section) after all steering adjustments are complete. See illustration below for procedure.



Set Up Width*

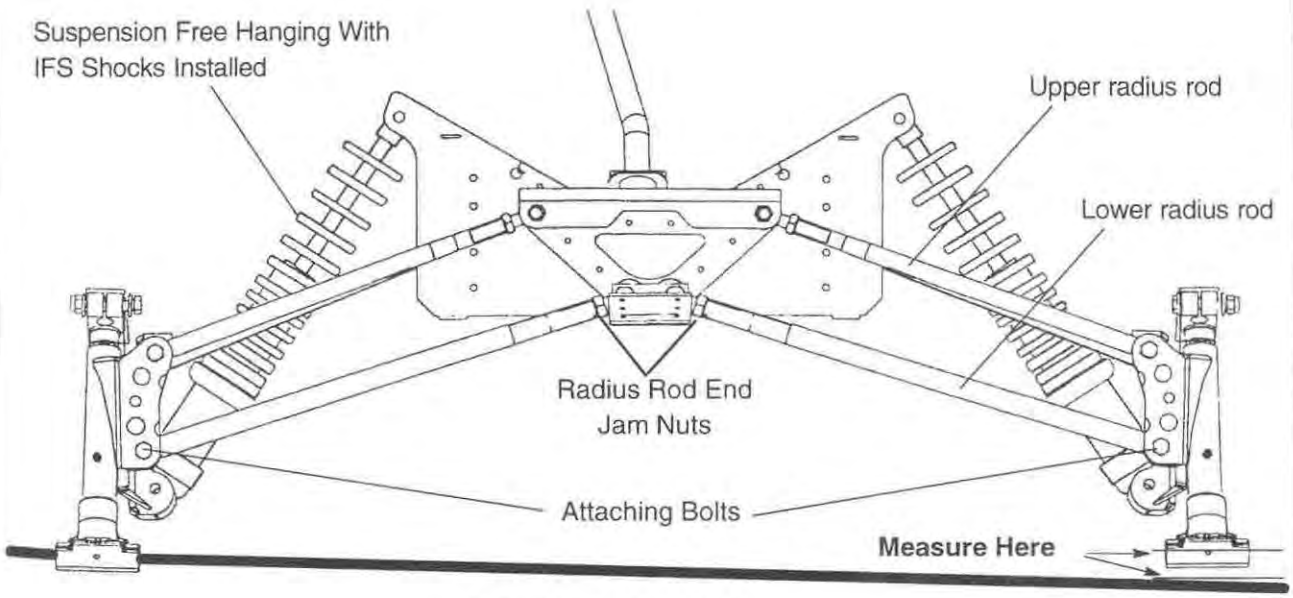
Measure from center of one spindle to center of the other spindle with front end elevated and suspension fully extended to determine set up width.

***Do not exceed maximum**

CAMBER INSPECTION

All Models - Elevate Front End - Shocks Installed

Typical CRC Shown - Style varies by model

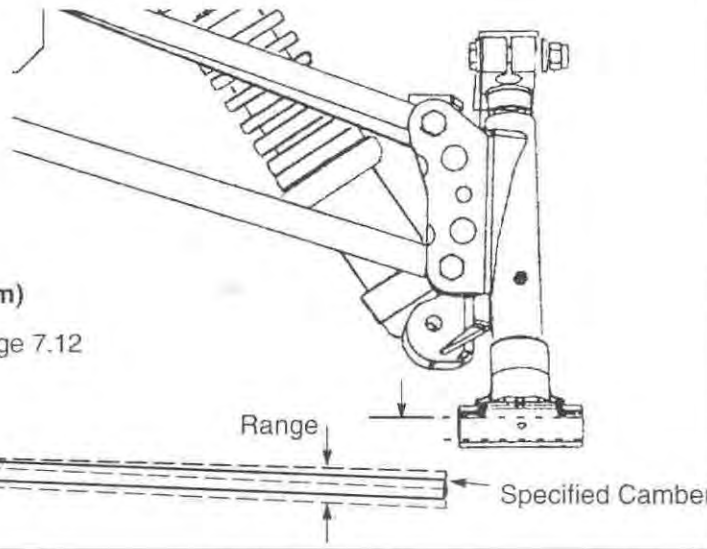


Refer to specifications for:
- IFS type
- Specified amount of camber

See page 7.2 - 7.2b or page 7.12

❑ To adjust, lengthen or shorten appropriate lower radius rod until top of bar is within specified camber distance. Measurement should be taken from top of alignment bar to top of ski pivot bushing hole in spindle (bushing removed). Radius rod must be re-attached to trailing arm before measuring.

CAMBER - ACCEPTABLE RANGE

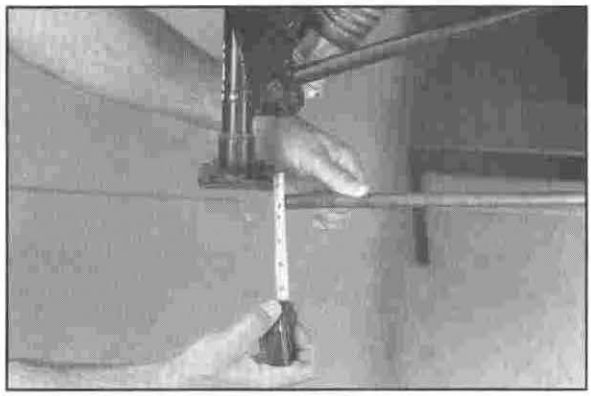


EXAMPLE:
Specified Camber = 3/4″ (19mm)
Specified Tolerance = ± 5/16″ (8mm)
Acceptable Range = 7/16 - 1 1/16″ (11-27mm)

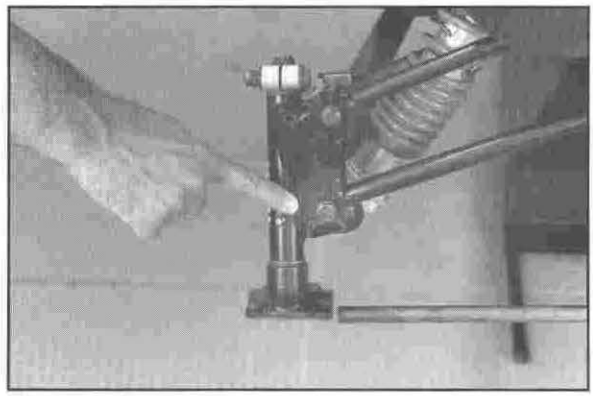
Refer to specifications on page 7.2 - 7.2b or page 7.12

Camber Adjustment

1. Determine which spindle requires the greatest amount of correction by installing the alignment bar through one side to the opposite spindle. Remove the bar and install it through the other side to the opposite spindle.

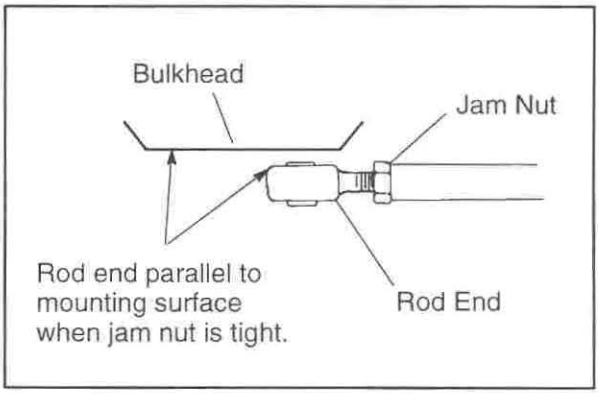


2. Using a 3/8″ (1 cm) drive 11/16″ (1.7 cm) crow foot wrench and 20″ (51 cm) long 3/8″ (1 cm) drive extension, loosen the radius rod end jam nut and remove the lower radius rod bolt from the spindle requiring the most camber correction. Adjust the opposite side next.
3. To adjust camber, change lower radius rod length until alignment bar measurement is within specified range for each spindle. Refer to charts on page 7.12 for camber specifications. On models with neutral camber (0) the bar should slide freely through both spindles (± 5/16″).



CAUTION:

Radius rod ends must remain parallel to the bulkhead after rod end jam nuts are tightened to specified torque. See illustration at right.



4. Tighten all jam nuts. Torque radius rod attaching bolts to specification. Reinstall adjustable torsion bar linkage (where applicable). On 1996 models - verify adequate thread engagement of rod ends as shown on page 7.11.

⚠ WARNING

After camber adjustment is complete, be sure to measure set up width on 1997 models as outlined on page 7.13 and compare to specifications listed on page 7.2a - 7.2b. Do not attempt to set suspension wider than the specified maximum set up width. If set up width exceeds maximum, adjust upper and lower radius rods equally to maintain camber adjustment.

Radius Rod End Jam Nut Torque -

25 ft. lbs. (3.45 kgm)

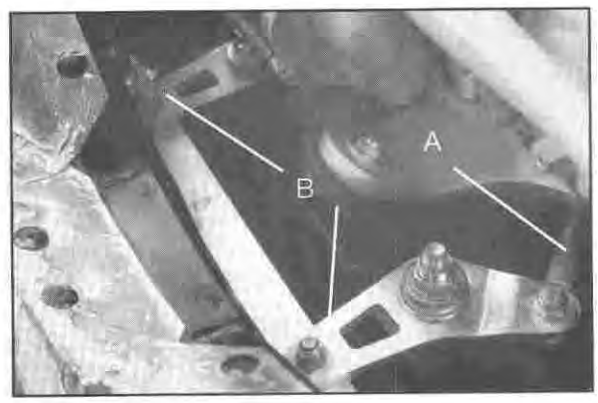
Adjustable Torsion Bar Attaching Bolt Torque -

15 ft. lbs. 2.07 kgm)

Radius Rod Attaching Bolt Torque -

3/8″(outer) 28-30 ft. lbs. (3.86-4.14 kg-m)
7/16″ (inner top) 35-40 ft. lbs. (4.83-5.52 kg-m)
1/2″ (inner bottom) 40-50 ft. lbs. (5.52-6.9 kg-m)

Handlebar Centering



5. With alignment bar installed through spindles (on 0 camber models), center handlebars by adjusting drag link length (A). On models with negative camber, the alignment bar cannot be installed through spindles. On these models, the pitman and idler arm (B) (or bellcrank on non-CRC models) should be pointed straight forward.
6. Lubricate ski pivot bushings with Polaris Premium All Season Grease and install in spindle. Follow procedure in Illustration A for steel or B for composite skis. Torque ski bolts to specification. Install new cotter pin in castle nut.
7. Perform Toe Adjustment on page 7.17.

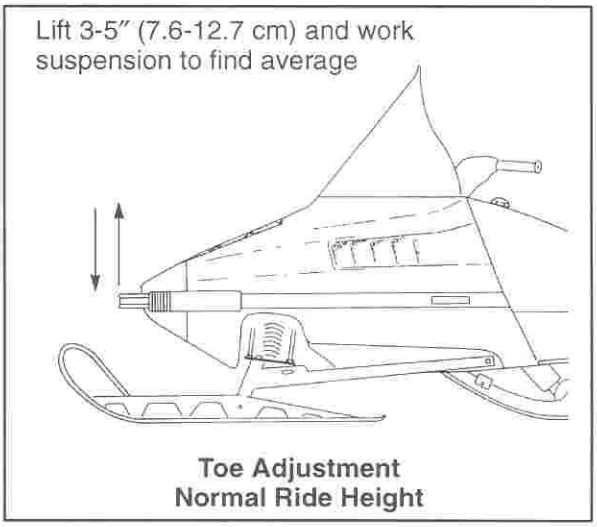
Toe Adjustment, All Models

Toe adjustment on all models must be performed with the vehicle weight on the suspension (no rider), at Normal Ride Height. An alternate method of toe alignment (using the travel bars) can be used set toe on models equipped with XTRA-10 CRC and XC-10 CRC front suspension. Refer to page 7.18d.

1. Make sure the track is properly aligned. This will be used as a reference point for toe out measurement.

2. To obtain normal ride height of the front suspension, lift the front end 3-5″ (7.6-12.7 cm) with the front bumper. Lift the machine several times, working the suspension and front skis until an average is obtained.

NOTE: To prevent carbide skags from grabbing, make sure the surface under the skis will allow full side-to-side movement. Avoid rough concrete, asphalt, or carpet which may cause carbide skags to grab or catch and restrict movement.

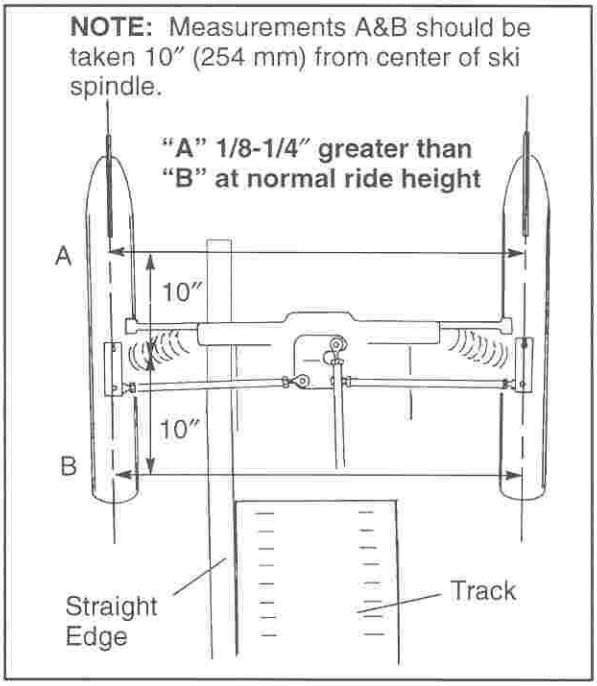


**Toe Adjustment
Normal Ride Height**

SERVICE HINT: Before final measurement is taken, skis should be pushed together lightly at the tips to remove play in the steering components. This will help achieve accurate measurement. If a strap is used be sure it is not *too tight* or it will alter measurement (this is most important on models with composite skis).

Toe Alignment: All Models

Measurement "A" should be 1/8″ - 1/4″ (3.17 - 6.35 mm) greater than measurement "B" at normal ride height.

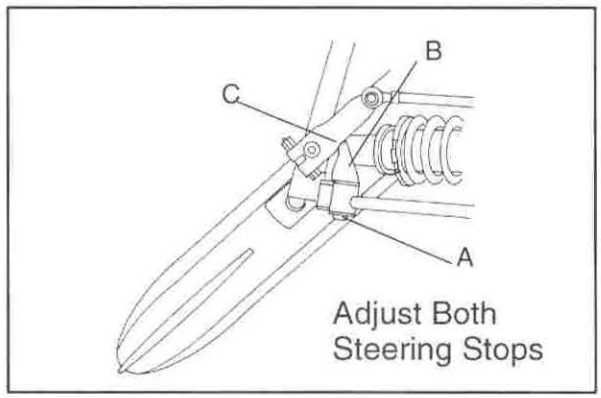


Steering Stop Adjustment

1996 Models

1. Remove alignment bar and turn handlebars fully to the right. Loosen upper radius rod bolt (A) and adjust steering stop (B) so it contacts steering arm squarely at (C). Torque bolt (A) to specification. Verify stop is correctly adjusted after bolt is tight. Repeat procedure for left side, turning bars fully left.

Upper Radius Rod Bolt to Spindle Torque
28 ft. lbs. (3.86 kgm)



1997 Models

Steering stops are not adjustable on 1997-current models.

XTRA-10 CRC and XC-10 CRC Steering Alignment

The following steering alignment procedure can be performed on XTRA-10 CRC or XC-10 CRC front suspensions *only*, and should not be used for 38-RMK CRC or non-CRC front suspensions. Note: Use 1996 adjustment procedure for 1995 XCR 440 SP.

General Set Up Tips

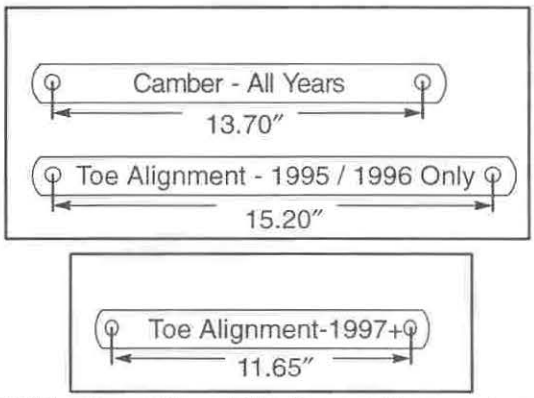
Before adjustments are performed on CRC steering, inspect all front suspension and steering components. See page 7.10. While disassembling, make notes of what direction a bolt goes through a part, what type of nut is used in an application, in which direction do the steering arms go on - weld up or weld down, etc.

Some of the bolts used in the IFS are special, and cannot be purchased at a hardware store. Always use genuine Polaris parts and hardware when replacing front end components.

Tools

Tools required:

- 5/8″ alignment bar – PN 5333508
- 6' tape measure
- Travel location bars -13.70″ long (PN 5211714)
- Travel location bars -15.20″ long (PN 5211713)
- Travel location bars -11.65″ long (PN 5211822)
- Chassis stand or blocking



NOTE: The CRC Travel Location Bars are included in kit PN 2871537, along with a 46″ alignment bar, and assorted hardware. Kit components are also available separately. See Chapter 1 for tool ordering information.

Refer to the chart below for travel bar application for width, camber, and toe adjustments on XTRA-10 CRC and XC-10 CRC models. See text on following pages for specific procedures.

1995 - 1996 CRC Models			
	When Measuring Set Up Width*	**To Inspect / Adjust Camber**	**To Inspect / Adjust Toe**
Travel Location Bar Length	Suspension Fully Extended - Shocks Installed	Install 13.70 Bars	Install 15.20 Bars
1997 - Current XTRA-10 CRC and XC-10 CRC Models			
	When Measuring Set Up Width*	**To Inspect / Adjust Camber**	**To Inspect / Adjust Toe**
Travel Location Bar Length	Suspension Fully Extended - Shocks Installed	Install 13.70 Bars	Install 11.65 Bars

⚠ WARNING

A maximum set up width is listed for 1997 to Current models. Maximum set up width is the maximum allowable distance between ski spindle centers with front end of vehicle off the ground and suspension fully extended. The Maximum Set Up Width specifications listed on page 7.2a and 7.2b are maximum width measurements, and are critical to ensure adequate torsion bar engagement with the trailing arm. If the suspension is set too wide on 1997-current models, **the torsion bar can come loose and interfere with steering**. Do not attempt to set the suspension wider than the specified Maximum Set Up Width. On 1996 and earlier models, be sure to follow thread engagement guidelines for steering tie rod and radius rod ends as shown on page 7.11.

CRC Steering Adjustment

To ensure accurate adjustment of the CRC steering mechanism, all steps listed below must be performed in sequential order.

- Spindle to Chassis Centering (must also be checked after adjustment)
- Set-Up Width adjustment(must also be checked after adjustment)
- Camber Adjustment
- Handlebar Centering
- Toe Adjustment
- Verify Spindle to Chassis Centering and Set-up width are within limits

1. Securely support the front of the machine high enough to remove the skis. Make sure machine is level.
2. Remove skis.

Spindle to Chassis Centering

3. Follow procedure on page 7.13.

Set Up Width Measurement

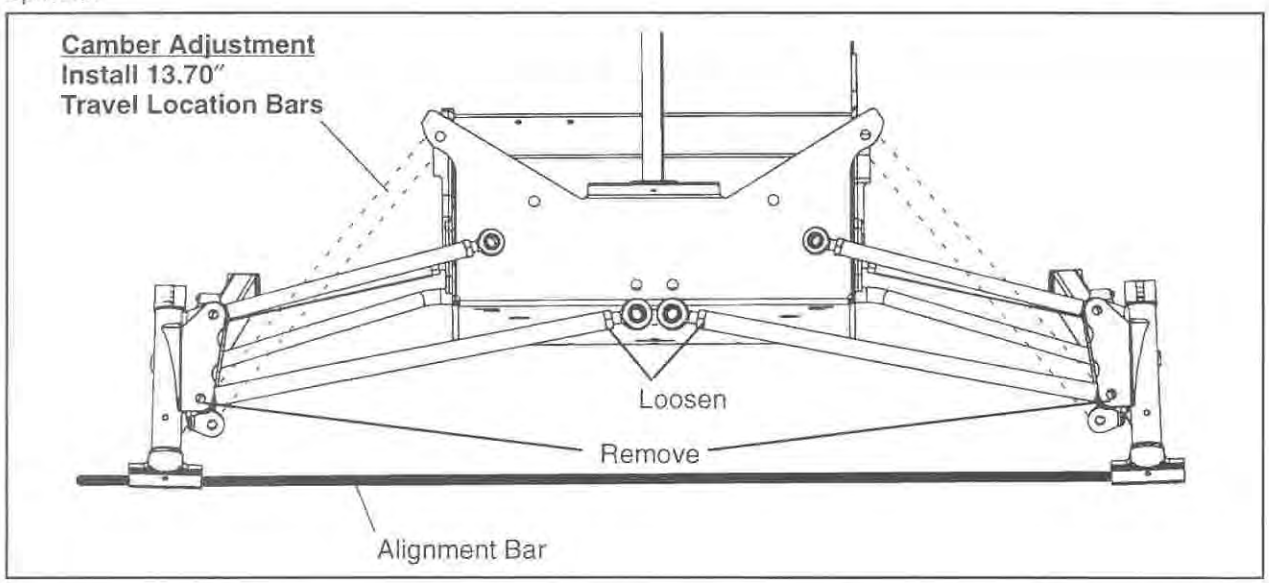
4. Follow procedure on page 7.13.

⚠ WARNING

*A maximum set up width is listed for 1997 - Current models. This is the maximum allowable distance between ski spindle centers with front end of vehicle off the ground and suspension fully extended. The maximum set up width specifications listed on page 7.2a-7.2b are maximum width measurements, and are critical to ensure adequate thread engagement of steering tie rod and radius rod ends. If the suspension is set too wide on 1997-current models, the torsion bar can come loose and interfere with steering. Do not attempt to set the suspension wider than the specified Maximum Set Up Width. For 1995-1996 models, use rod end thread engagement guidelines as shown on page 7.11.

Camber Adjustment - XTRA-10 CRC and XC-10 CRC

5. Remove IFS shocks and install 13.70" travel location bars. The travel location bars will locate the IFS at a given point of travel where the camber should be neutral (0°).
6. Disconnect tie rods from steering arms. **NOTE:** If toe adjustment is correct, the spindles will *not* be horizontally aligned with the 13.70" travel location bars installed. Disconnecting the tie rods will eliminate bind on the alignment bar and allow for more precise camber adjustment. It may also be helpful to secure the tie rods so they don't interfere with inspection or adjustment.
7. Determine which spindle requires the greatest amount of correction by installing the alignment bar through one side to the opposite spindle, then remove the bar and install it through the other side to the opposite spindle.

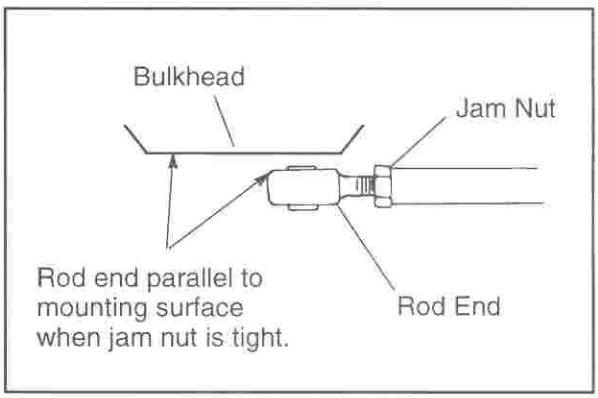


Camber Adjustment - XTRA-10 CRC and XC-10 CRC, (Cont.)

8. Using a 3/8″ drive 11/16″ (1.7 cm) crow foot wrench and 20″ (51 cm) long 3/8″ (1 cm) drive extension, loosen the radius rod end jam nut and remove the lower radius rod bolt from the spindle requiring the most camber correction. Adjust the opposite side next. Change radius rod length until alignment bar slides freely through both spindles.
9. When adjustment is correct, tighten jam nuts to 24-25 ft. lbs. (3.31-3.45 kg-m). Torque radius rod attaching bolts to 28-30 ft. lbs. (3.86-4.14 kg-m).

CAUTION:

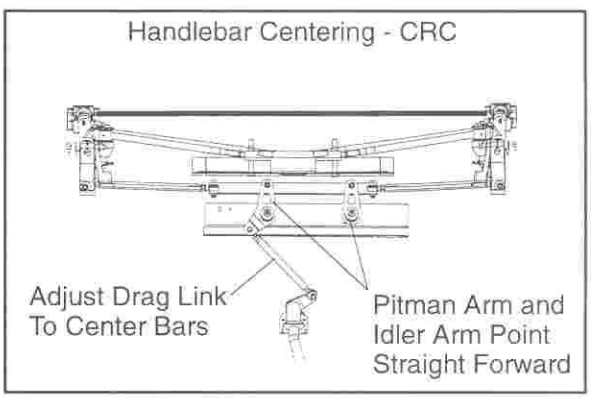
Radius rod ends must remain parallel to the mounting brackets after the rod end jam nuts are tightened to the specified torque. See illustration at right.



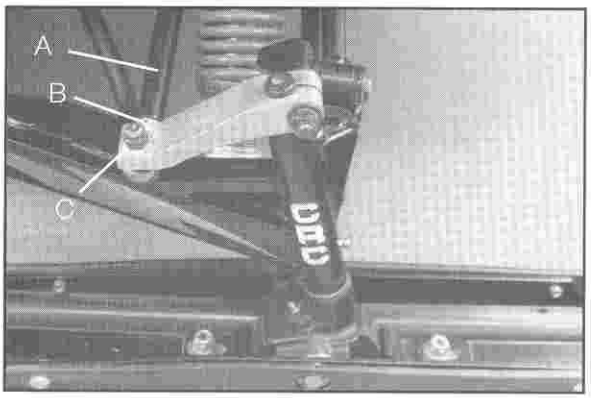
10. Tighten all jam nuts. Torque radius rod attaching bolts to specification.
11. Re-check set up width and compare to specifications.

Handlebar Centering-CRC

12. With alignment bar in spindles and tie rod ends disconnected, center the steering rack by pointing the pitman arm and idler arm straight forward.
13. Center the handlebars by adjusting drag link length. Tighten jam nuts to 24-25 ft. lbs. (3.31-3.45 kg-m).
14. The steering arms should be parallel to the ski centerline or slightly inward. Refer to steering arm orientation on page 7.18g.



15. Re-attach steering tie rod ends (C) to steering arms. It may be necessary to loosen the tie rod adjustment jam nuts (B) and adjust tie rod length (A) as required until rod end studs can be installed in steering arm. Torque tie rod end attaching nuts to 28-30 ft. lbs. (3.86-4.14 kg-m). If tie rod adjustment was necessary, do not tighten them until toe adjustment is complete.
16. Perform toe adjustment on following page.



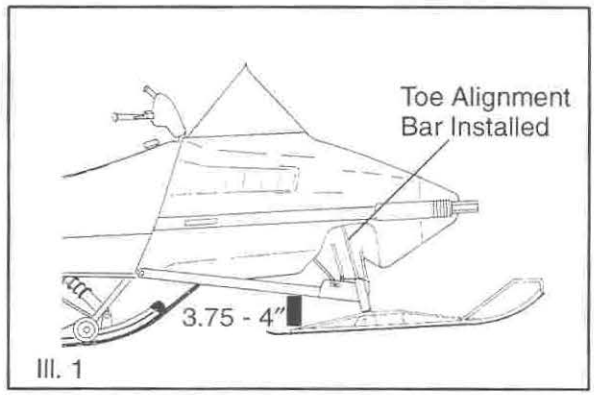
Toe Adjustment- XTRA-10 CRC / XC-10 CRC

17. Remove alignment bar from spindles.
18. Remove 13.70″ travel location bars and install correct toe alignment bar.

1996 Models - Install 15.20″ Toe Alignment travel bars.

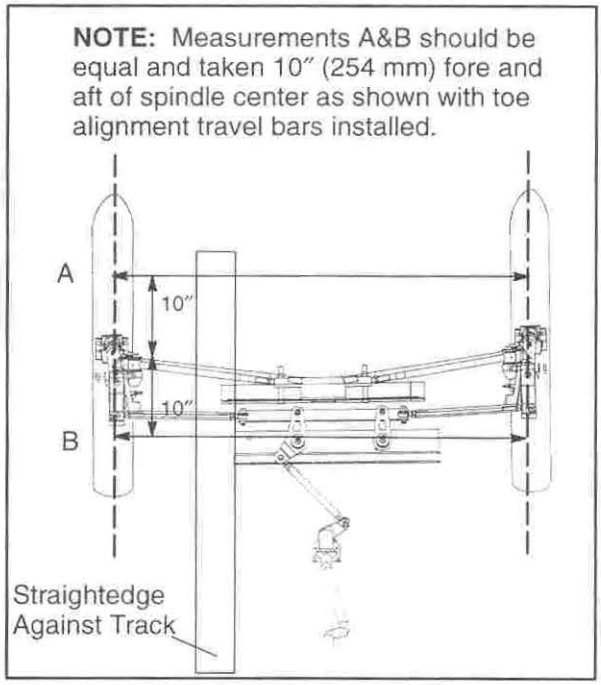
1997 to Current Models - Install 11.65″ Toe alignment travel bars.

19. Install skis.
20. With the front of the machine still securely supported off the ground, install a block or spacer between the rear of the ski frame and the bottom of the trailing arm. The block should be 3.75″ - 4.0″ long. The blocks will keep ski-to-ground surface orientation correct for more accurate toe adjustment.



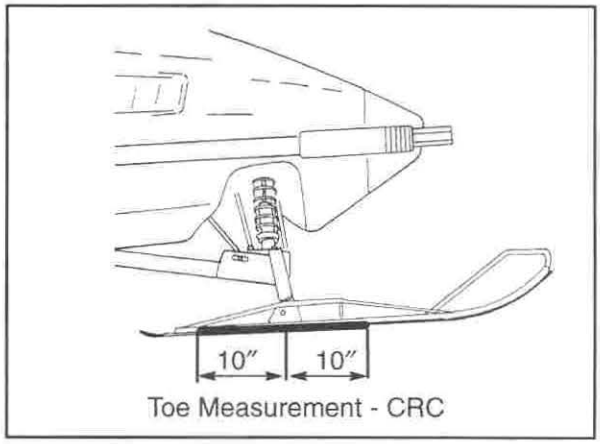
Ill. 1

21. Adjust toe so skis / carbides are parallel - zero toe out or toe in with toe alignment travel bar installed. Measure from equal point on ski to straightedge to determine the amount of adjustment required per ski.



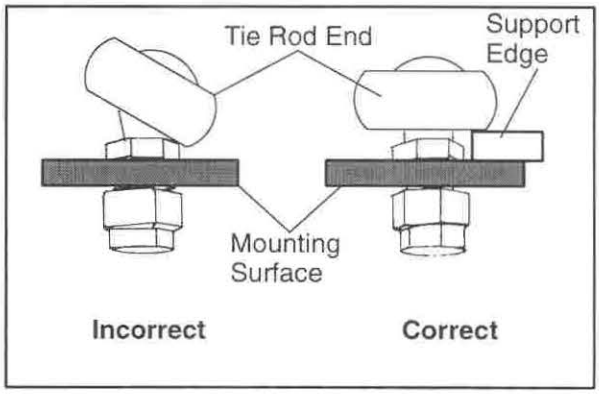
Toe Adjustment - XTRA-10 CRC and XC-10 CRC, cont.

22. To adjust toe, hold tie rod flats or support edge of tie rod end with a wrench or flat stock to keep it from rotating. Loosen jam nuts on each end of both tie rods. Turn tie rod as required to adjust toe.



Toe Measurement - CRC

23. Hold tie rod and tighten jam nuts. Be sure to position inner and outer tie rod ends parallel to their respective mounting surface as shown. When tie rod ends are properly tightened, the tie rod should rotate freely approximately 1/8 turn.



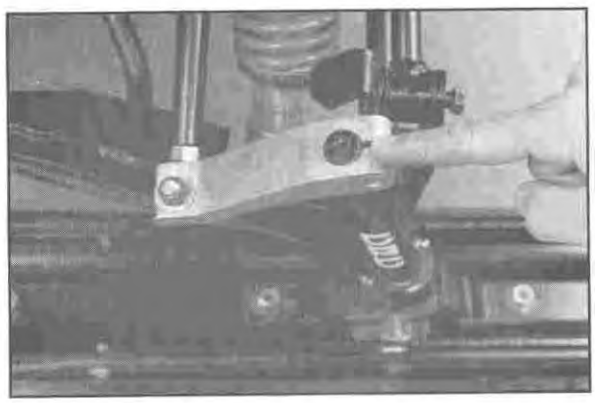
Tie Rod Jam Nut Torque -

28-30 ft. lbs. (3.86 - 4.14 kg-m)

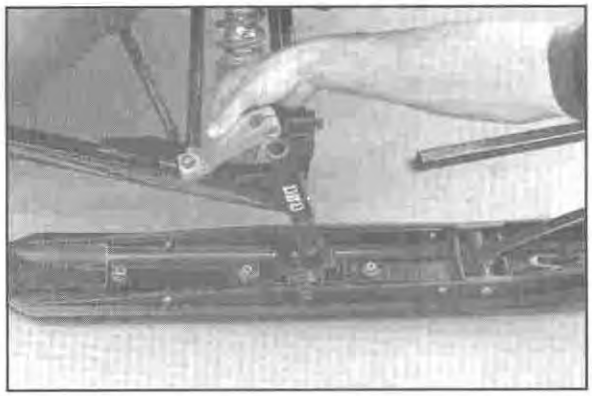
Ski Spindle Bushing Replacement

Ski Spindle Bushing Removal

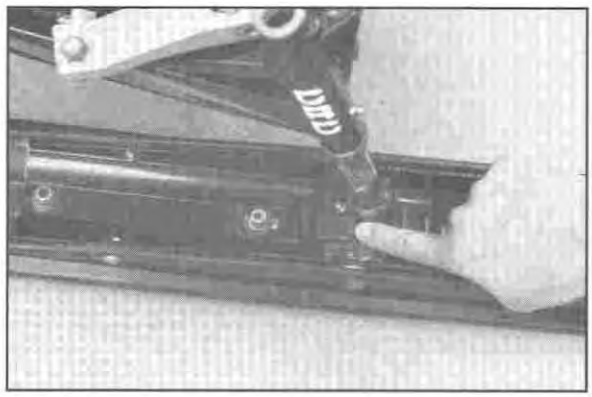
1. Using a a scribe, center punch, or paint, mark the spindle and steering arm for reference during reassembly. Note direction of steering arm bolt and remove. Also note orientation of grease fitting for ski pivot bushing. The fitting faces forward on models with leading spindle, and rearward on trailing spindles.



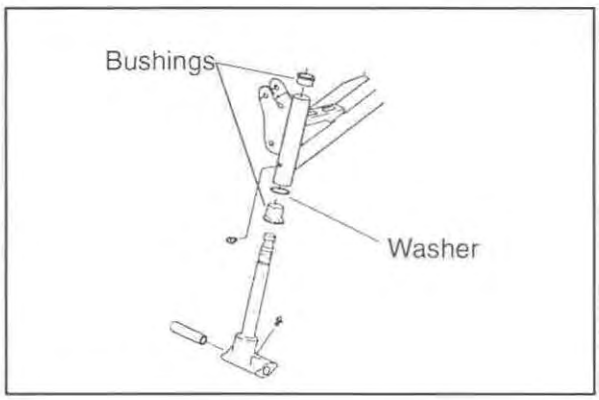
2. Remove steering arm.



3. Slide spindle and ski assembly out bottom of trailing arm. Inspect spindle for wear or damage.



4. Remove old bushings and washer from bottom of spindle tube with a drift punch. Inspect condition of washer and replace if worn. Install new bushings, tapered end first.

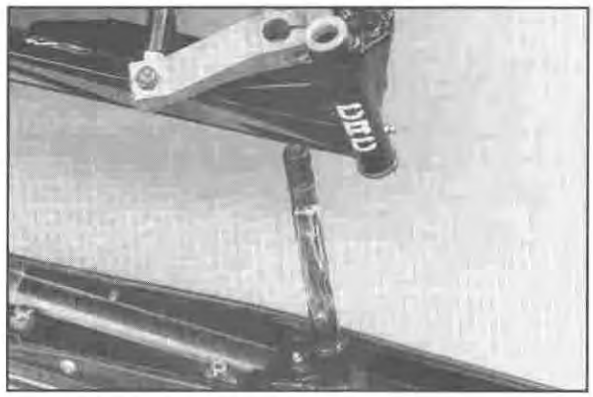


Ski Spindle Bushing Installation

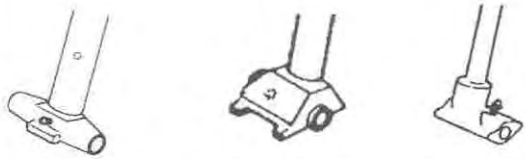
5. Grease spindle shaft and new bushings with Polaris All Season Grease.

All Season Grease

PN 2871322 (3 oz.)
PN 2871423 (14 oz.)



6. Install spindle into trailing arm with grease fitting facing forward (standard and leading spindles) or rearward (trailing spindles).



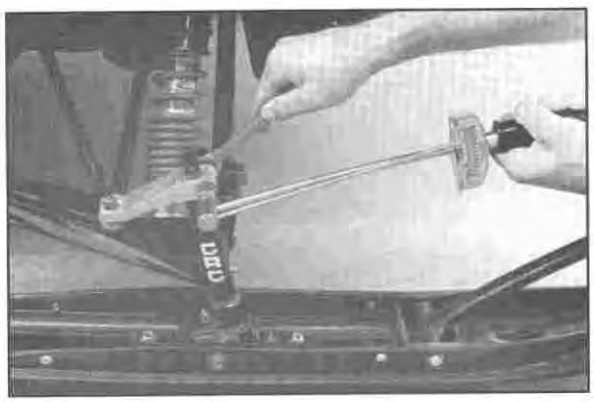
Standard Leading Type Trailing '97+

7. With ski facing straight forward, attach steering arm. Align with marks made in step 1, or refer to page 7.18h.

8. Install steering arm bolt and torque to specification.

Spindle Bolt Torque

28-30 ft. lbs. (3.86-4.14 kg-m)



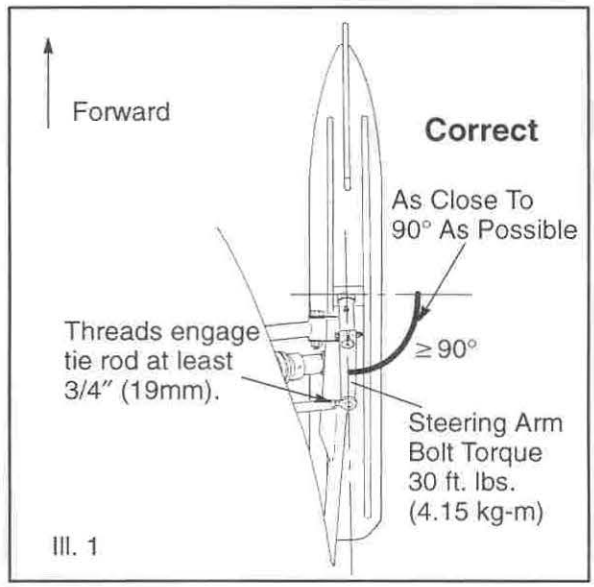
Steering Arm Installation

Steering Arm Orientation

⚠ WARNING

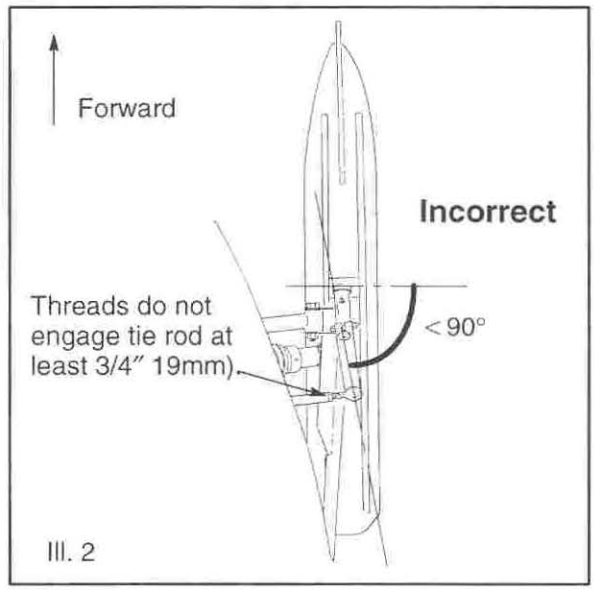
Steering arm orientation is important to ensure proper steering tie rod end thread engagement and steering performance. Always mark steering arms and spindles before removal for reference upon reassembly. When installing new parts or after steering arm installation, refer to the illustrations and text below. Always verify proper steering operation after completing adjustments or repairs.

1. The steering arms on each spindle should be parallel to slightly inward in relation to each ski. When correctly installed (Ill. 1) the centerline of the ski and centerline of the ski bolt hole in the spindle will form (approximately) a 90° angle or slightly greater.



Ill. 1

2. If the steering arm is installed incorrectly the threads of the steering tie rod end will not engage the tie rod sufficiently, and the angle formed between ski and ski bolt centerlines is considerably less than 90° as shown at right.



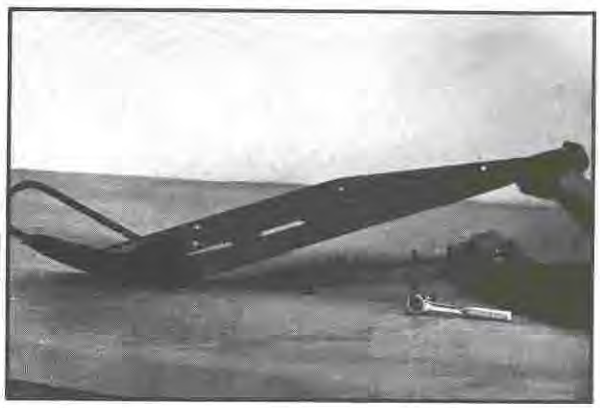
Ill. 2

3. Reinstall torsion bar linkage (where applicable). Torque attaching bolts to specification.

When performing normal maintenance or tune-up, check the ski skags for wear. To prevent damage to the skis, and for greater steering control, replace all skags which are half worn or greater.

Ski Skag Removal

1. Remove retaining nuts as shown.
2. Push bolt down through ski.
3. Pull rear of skag from ski as shown. This frees the skag for removal from the ski.



Ski Skag Installation

1. Push skag forward, then up into position.
2. Reinstall nuts and torque to specification.

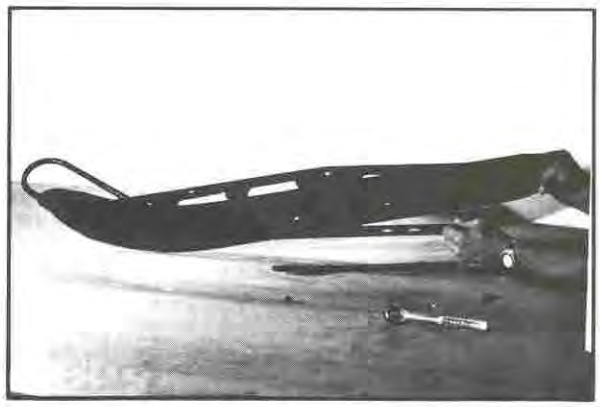
Ski Skag Retaining Nut Torque -

Steel Ski, Steel w/skins, Aluminum - 15 ft. lbs. (2.1 kg-m)

Plastic Ski - 20-25 ft. lbs. (2.76-3.45 kg-m)

Ski Skag Removal - EZ Steer

1. Remove the three nuts from the skag.
2. Pull down and rearward to remove the skag.



Ski Skag Installation - EZ Steer

1. Install flat bar as shown.
2. Install IFS carbide skag.
3. Reinstall nuts and torque to specification.

Ski Skag Retaining Nut Torque -

15 ft. lbs. (2.1 kgm)

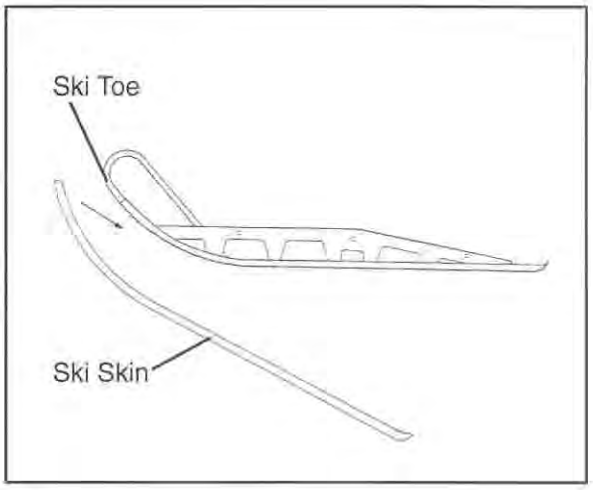
Ski Skin Installation

1. Lift and support front end of machine for easier access to skis.

⚠ WARNING

Be sure the machine is stable and solidly supported before proceeding. Serious injury may result if machine tips or falls.

2. Remove cotter pin from ski bolt.
3. Remove ski bolt and take off ski. Note direction of rubber ski stop.
4. Remove the bolts from the skag. Pry the back of the skag downward from the ski and remove from the front slot.
5. Place heel of ski on a solid surface and slide plastic ski skin onto toe of ski as shown.
6. Tap ski skin toe with plastic mallet to be sure it has snapped completely onto the toe. Check to see that the skag holes line up.
7. Working from the toe of the ski, continue snapping ski skin onto ski. **NOTE:** Clamps may be used if the skin is difficult to install.
8. Replace skag removed in step 4.
9. Replace ski removed in steps 2 and 3. Refer to Page 7.19b.
10. Repeat procedure for second ski.



Ski Installation

SKI INSTALLATION - STEEL SKIS

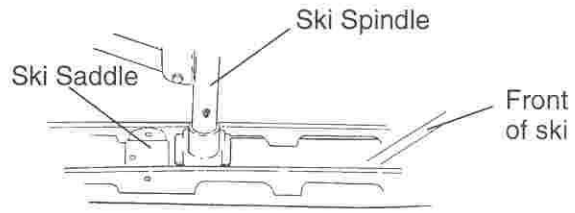
❑ Install ski over spindle, slightly in front of ski saddle with ski pointing outside.

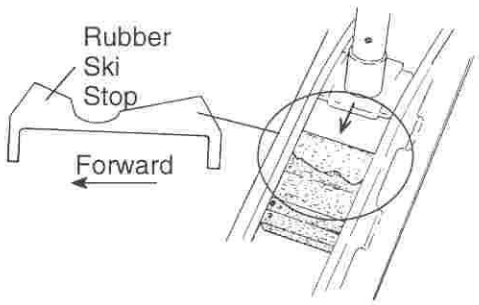
❑ Slide ski forward until spindle is just behind ski saddle and turn to the forward position.

❑ Slide ski forward so spindle is behind ski saddle.

❑ Apply soapy water solution to the rear portion of the rubber ski stop. Install ski stop on top of ski saddle with large portion forward.

❑ Push ski back to slide spindle into place. From outside of ski, install bolt and castle nut. Torque to 36 ft. lbs. Install cotter pin and bend both legs

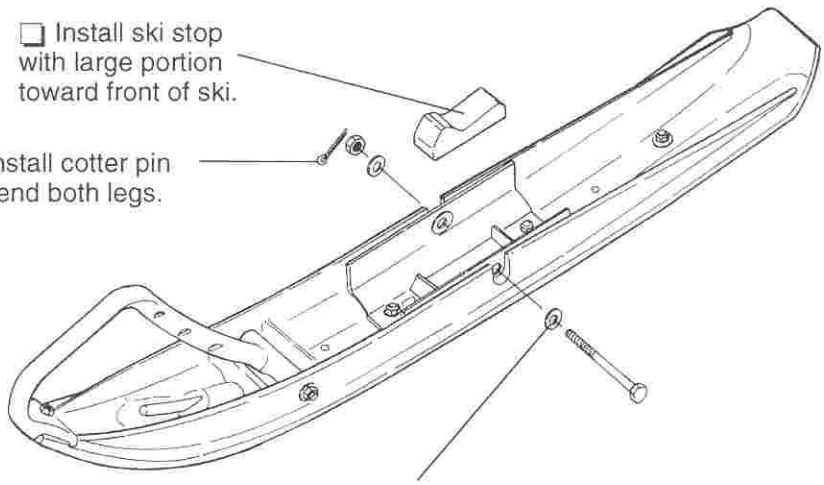




SKI INSTALLATION - COMPOSITE

❑ Install ski stop with large portion toward front of ski.

❑ Install cotter pin and bend both legs.



❑ Install ski to spindle. From outside of ski, install bolt, washers and castle nut. Torque to 36 ft. lbs. (4.97 kg-m).

❑ Carefully lower machine

Handlebar Torque and Sequence - Indy Style

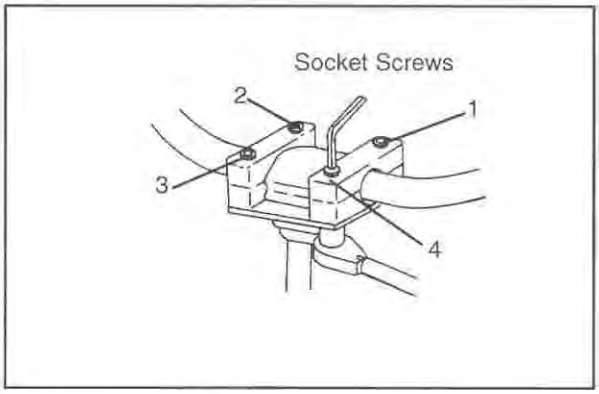
1. Remove handlebar cover and foam.
2. Using a 7/16" (11 mm) wrench, loosen four nuts on bottom of adjuster block. **NOTE:** Turn handlebar to left or right for access to back nuts.
3. Adjust handlebar to the desired height. Be sure that handlebars, brake lever and throttle lever operate smoothly and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

IMPORTANT: When adjusting the handlebar, be sure the serrations in handlebar and adjuster block match before torquing.

4. Torque the handlebar adjuster block bolts to specification following sequence shown. The gap should be equal at front and rear.
5. Replace handlebar cover and foam.

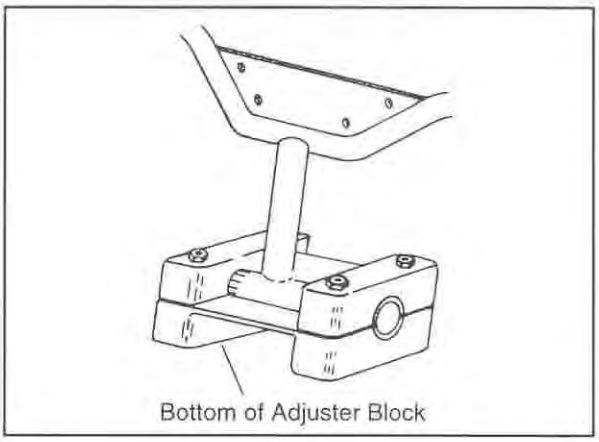
Handlebar Adjuster Block Bolt Torque -

11-13 ft. lbs. (1.5 - 1.8 kgm)



Handlebar Torque and Sequence - Evolved and Aggressive Style

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 evenly to specification. The gap should be equal at the front and rear.
5. Replace console cover.



Handlebar Adjuster Block Bolt Torque -

11-13 ft. lbs. (1.5 - 1.8 kgm)

⚠ WARNING

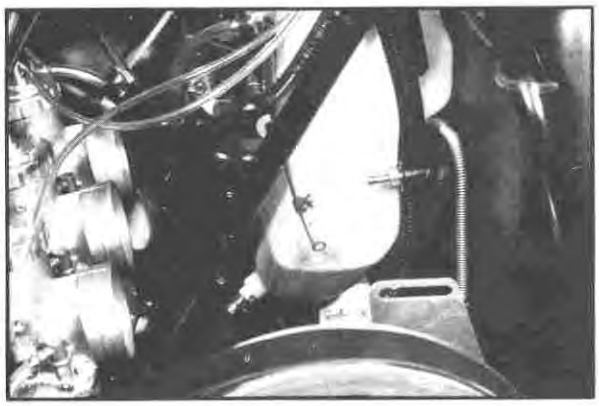
Improper adjustment of the handlebars, or incorrect torquing of the adjuster block tightening bolts can cause limited steering or loosening of the handlebars which could result in loss of control.

⚠ WARNING

Gasoline is extremely flammable and explosive under certain conditions. Do not smoke or allow open flames or sparks in or near the area where work is being performed. If you should get gasoline in your eyes or if you should swallow gasoline, see your doctor immediately. If you should spill gasoline on your skin or clothing, immediately wash if off with soap and water and change clothing. Prolonged exposure to petroleum based products may cause paint failures. Always protect finished surfaces and wipe up any spills immediately.

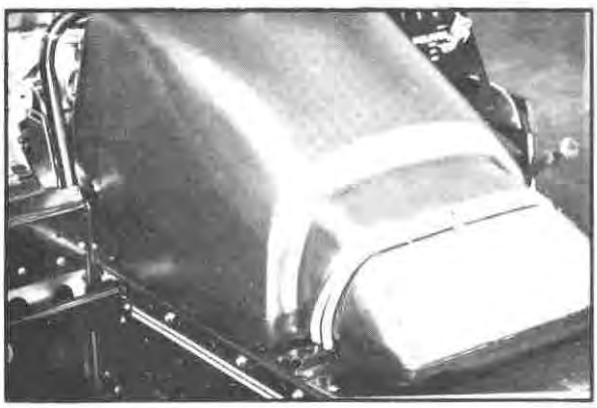
Two Piece Fuel Tank/Seat Removal

1. Remove tank cover by disconnecting snaps.
2. Remove vent line at front LH side of tank.
3. Remove gas cap and rubber grommet.
4. Remove air silencer box.
5. Disconnect fuel line from fuel pump and plug line to prevent fuel spillage from tank. See photo one at right.
6. Roll front tank hold-down spring forward off tank saddle.
7. If machine is equipped with a fuel gauge connector, this should be unplugged.
8. Remove two bolts holding rear of seat to tunnel.



9. Slide seat rearward enough to gain access to taillight connector at RH side of fuel tank. Unplug connector. Slide seat off machine and set aside.

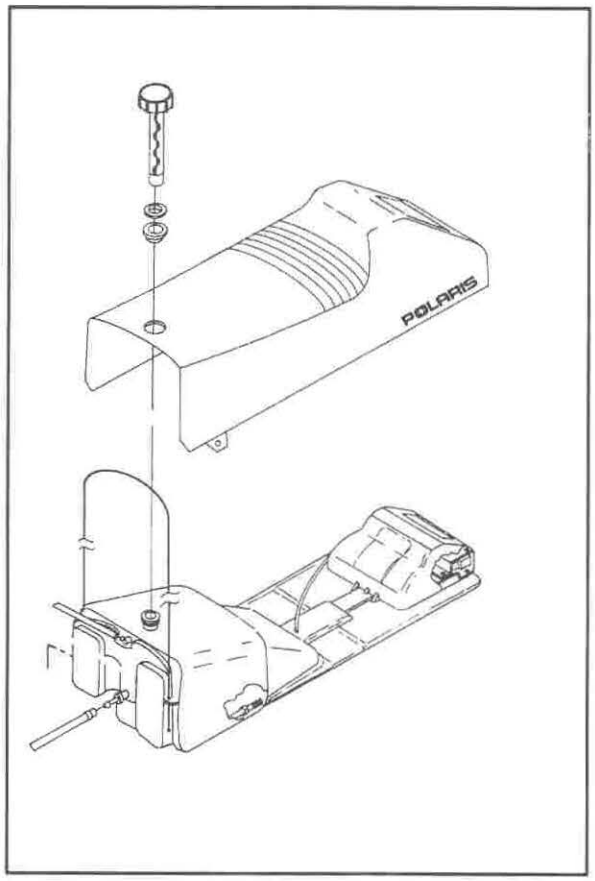
10. Fuel tank can now be removed from chassis by disconnecting two springs at center of fuel tank.



Fuel Tank and Seat Removal

One Piece Fuel Tank/Seat Removal

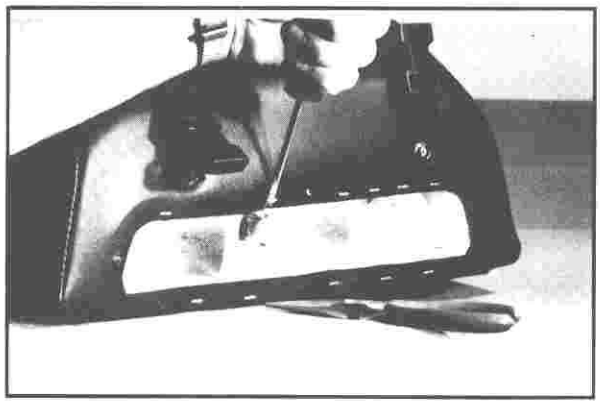
1. Remove front tank retaining spring located behind driven clutch area.
2. Remove fuel cap and grommet.
3. Remove fuel lines.
4. If machine is equipped with gauges, unplug gauge wires.
5. Remove two bolts in tool box.
6. Disconnect taillight wiring.
7. Remove two console bolts attaching console to tunnel.
8. Remove two console bolts located under hood.
9. Remove fuel cap and lift console up. Replace fuel cap.
10. Lift up at rear of seat and slide out.



Seat Cover Replacement

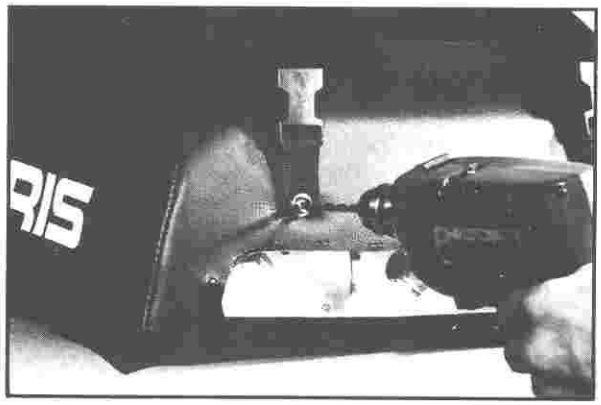
1. Remove seat cushion assembly as outlined on page 7.22.

2. Remove seat and seat covering to be replaced. Carefully remove staples by loosening with a small flat blade screwdriver. Pull each staple straight out with a pliers.



3. On some models, it will be necessary to drill out the rivets holding the strap buckles. Reach inside the tool box and rotate the "D" ring buckle which secures the center hold down strap. Push the "D" ring through the slot in the tool box and carefully pull it through the foam cushion.

Reassembly Note: For ease of assembly, hook a wire to the center strap. This will allow you to pull the center strap back through the foam and into the storage box.

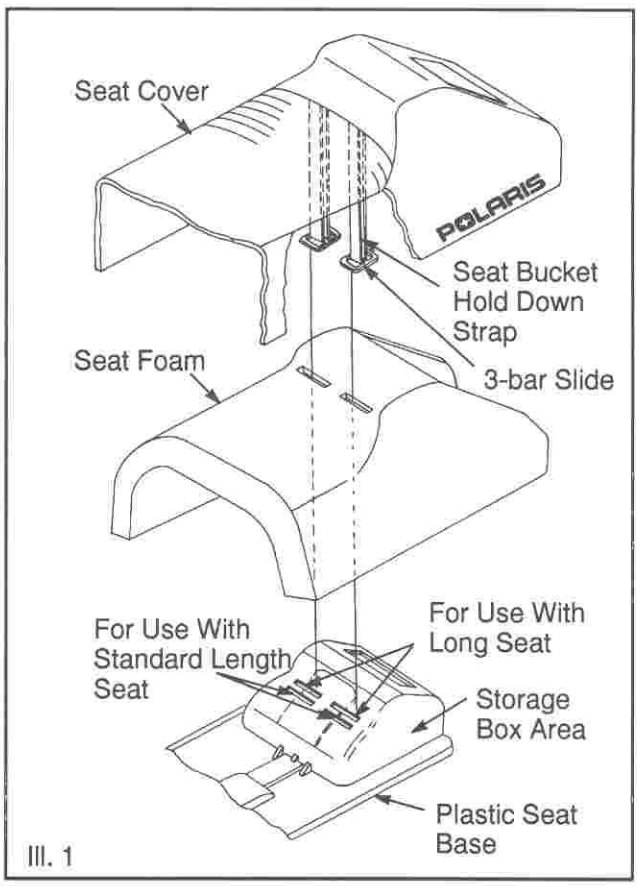


4. Place the seat foam on the seat base assembly as shown in Ill. 1.

5. Drape the seat cover over the seat foam.

6. Insert and pull the two seat bucket hold down straps, attached to the seat cover, through the two holes in the seat foam and the routed-out holes located in the storage box area on the plastic seat base. **HINT:** A stiff wire attached to the 3 bar slide on the hold down strap will aid in this process.

NOTE: Use the rear two holes for a longer length seat and the forward two holes for the standard length seat.



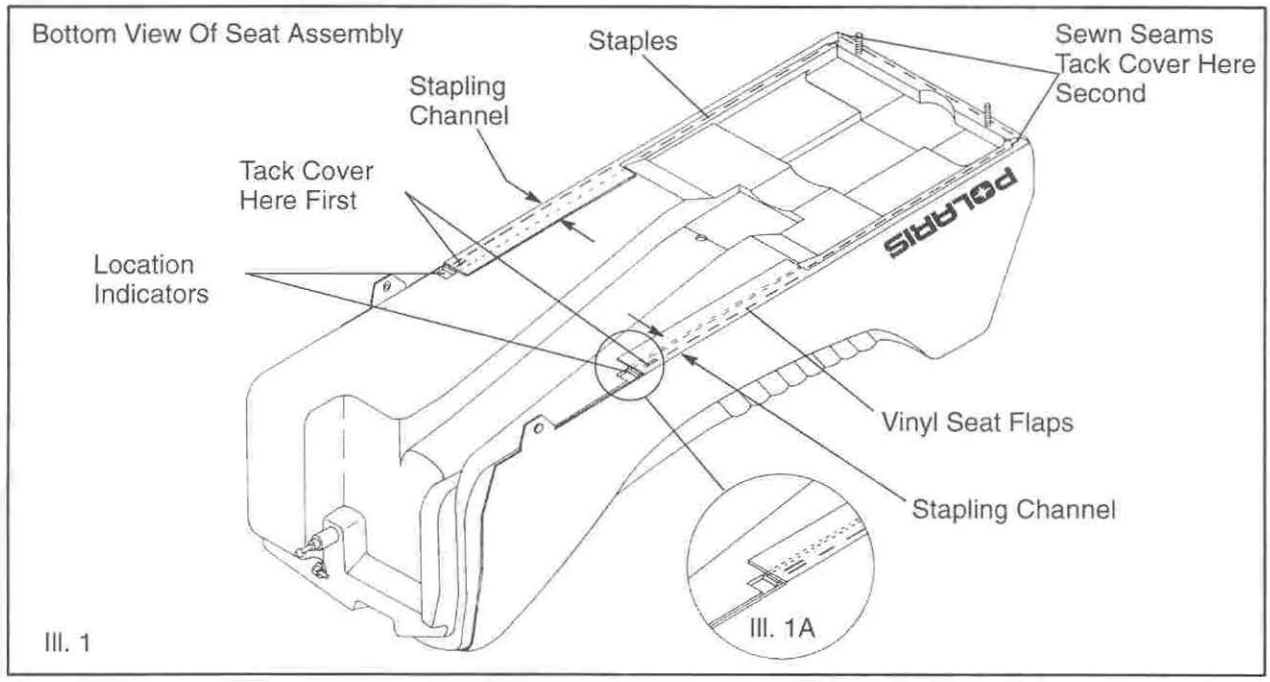
Ill. 1

4. Turn the assembly over and begin upholstering by lining up the seat cover vinyl side flaps with the indented square location indicators located on the plastic seat base as shown in Ill. 1A.

CAUTION:

Apply staples in the stapling channel only. See Ill 1. If you apply staples outside the channel, you will damage the fuel tank reservoir in the seat base. If this happens you must replace the entire seat base assembly.

5. Using a staple gun, tack each side of the vinyl cover in place using two staples. If cover has a Polaris emblem carefully align emblem with bottom edge of seat. This will help ensure that the cover is positioned properly.
6. Align the two sewn seams located at the rear of the seat cover with the two back corners of the seat base. See Ill. 1. Pull the vinyl tight and tack the seat cover to the plastic seat base in each corner. Use two or three staples per corner.
7. Now that the seat cover is correctly positioned, and tacked to the plastic seat base in four places, turn the assembly over and inspect it. If the seat cover seems to fit correctly and everything looks straight, including the tool compartment flap, continue with step 11.

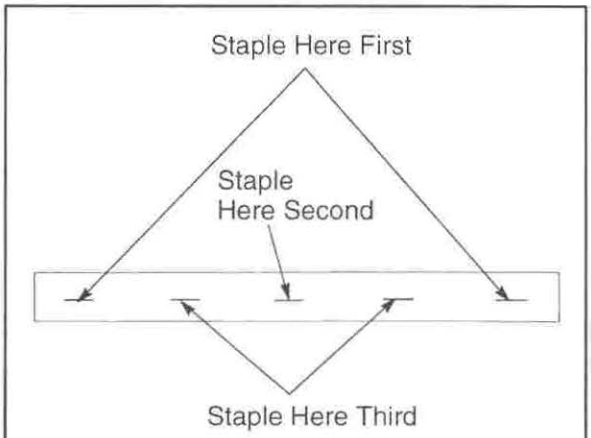


Ill. 1

8. Staple the remainder of the unattached seat cover to the plastic seat base as shown in Ill. 1. **HINT:** Always staple between two existing staples and follow this procedure until the seat cover is completely stapled to the seat base. See Ill. 2.
9. Turn the seat cushion assembly over and inspect for wrinkles or imperfections. If imperfections are visible, remove the staples in the affected area and staple correctly.

Staple PN 9810341

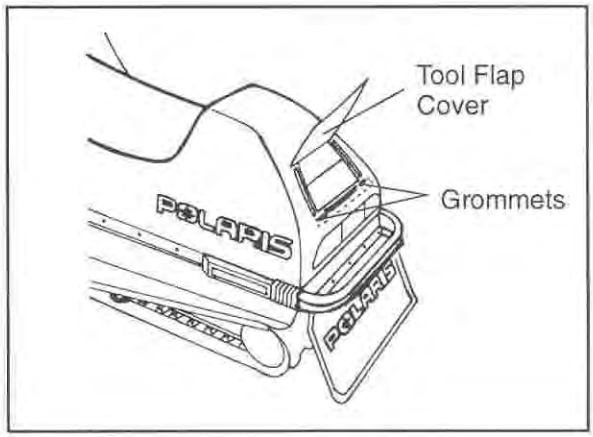
Stainless Steel



Staple Sequence Ill. 2

Models With Twist-Lock Fasteners In Tool Flap

10. Close tool flap cover, making sure it is aligned properly, and mark grommet holes.
11. Align twist lock with mark from step 10. Verify alignment with grommet in tool flap.
12. Using twist lock as a template, drill two .160″ to .164″ holes through vinyl and seat base.
13. Rivet twist lock to seat base using rivets provided.



All Models

14. Trim excess vinyl from the bottom around the back of the seat area only after a satisfactory fit is obtained. See Ill. 1, page 7.24.
15. Reinstall seat by reversing disassembly steps as they apply to your particular model.

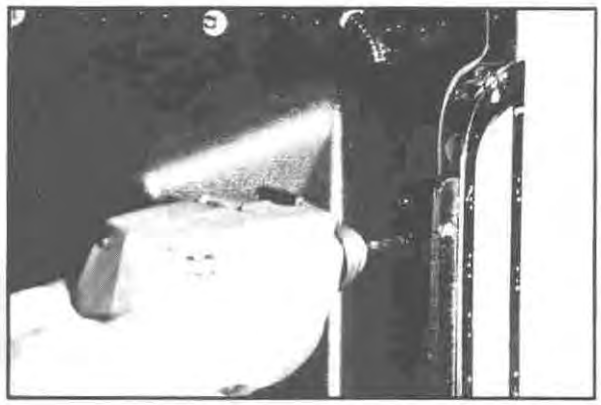
Seat Cover Installation Instructions

One/Two Piece Seat and Tank Covering Instructions PN 9912521

440 & 600 XCR Seat Covering Instructions PN 9912842

Taillight Assembly Replacement - Standard Indy

1. After removal of seat cover, drill out three rivets from top of taillight.
2. Remove taillight assembly and wire harness.
3. Install new taillight assembly and rivet into place.
4. Connect taillight wire harness. **NOTE:** Taillight harness wires must be routed away from any possible contact with seat cover staples to prevent electrical shorts.



5. Pull seat cover tightly and evenly into position and re-staple to seat pan.
6. Inspect cover for a wrinkle-free finish before reinstalling on the snowmobile.

Seat Length Matrix, 1996

The following chart lists seat interchangeability for 1996 models. Arrows indicate interchangeability. For production seats only.

1 Up Lite	Standard Length	Mid Length	Long Length	2 Up Lite	XCR Performance	Deluxe 2 Up Touring	Standard 2 Up Touring	2 Up WideTrak
Lite	Sport	Storm	Trail		440 XCR	Classic Trg.	Sport Trg.	WideTrak GT
Lite Deluxe	Super Sport	Storm SKS/ RMK		Lite GT	600 XCR	XLT Trg.	TranSport	WideTrak LX
	Indy 440	600 XCR SP						
	Indy 500 ◄►		500 SKS/RMK					
	500 EFI SKS/ RMK ◄►		500 EFI					
			Classic					
	XLT ►		XLT SP					
	XLT ►		XLT SKS/RMK					
			RXL					
	Ultra SP ◄►		Ultra SKS					
	Ultra SP ◄►		Ultra RMK					

Seat Length Matrix, 1997

The following chart lists seat interchangeability for 1997 models. Arrows indicate interchangeability. For production seats only.

1 Up Lite	Standard Length	Mid Length	Long Length	2 Up Lite	XC Performance	Deluxe 2 Up Touring	Standard 2 Up Touring	2 Up WideTrak
Lite	Sport	Storm/SE	500 EFI	Lite GT	440 XC	Classic Trg.	Sport Trg.	WideTrak GT
Lite Deluxe	Super Sport	Storm RMK	700 SKS/RMK		600 XC	XLT Trg.	TranSport	WideTrak LX
	Ultra SP	600 XCR/SE	XLT LTD		XCF (no side pads)	Ultra Trg.	Trail Trg.	
		Ultra SPX/SE	Ultra					
			RXL					
	Trail RMK ◄►		Trail					
	440 ◄►		Classic					
	500 ◄►		500 SKS/RMK					
	XLT ◄►		XLT Special					
			XLT SKS/RMK					

Seat Length Matrix, 1998

The following chart lists seat interchangeability for 1998 models. Arrows indicate interchangeability. For production seats only.

1 Up Lite	Standard Length	Mid Length	Long Length	2 Up Lite	XC Performance	Deluxe 2 Up Touring	Standard 2 Up Touring	2 Up WideTrak
Lite	Sport	XLT Special	500 (Option 2)	Lite Trg	XCF (w/o pads)	Trail Trg.	Sport Trg.	WideTrak LX
Lite Deluxe	Super Sport	600 XC	Classic		440 XCR	Classic Trg.	TranSport	
	XLT LTD	700 XC	XLT Classic			XLT Trg.		
		600/700 XCR				Ultra Trg.		
		Storm						
	Trail ◄		► Trail RMK					
	440 ◄		► 500 (Option 3)					
	500 (Option 3) ◄		► 500 RMK					
	Ultra ◄		► 600/700 RMK					

Nosepan Replacement Procedure - Standard Indy/Aggressive Body Styles

When installing a replacement ABS nosepan, the following procedures must be closely observed to ensure correct fit to the frame and maximum strength. ABS material is not rigid. Consequently, it must be installed in such a manner that it can expand or contract with temperature changes.

1. Remove damaged nosepan by drilling out rivet heads. Engine mountings and other mountings attached to the forward part of the machine should be removed for ease of installation.

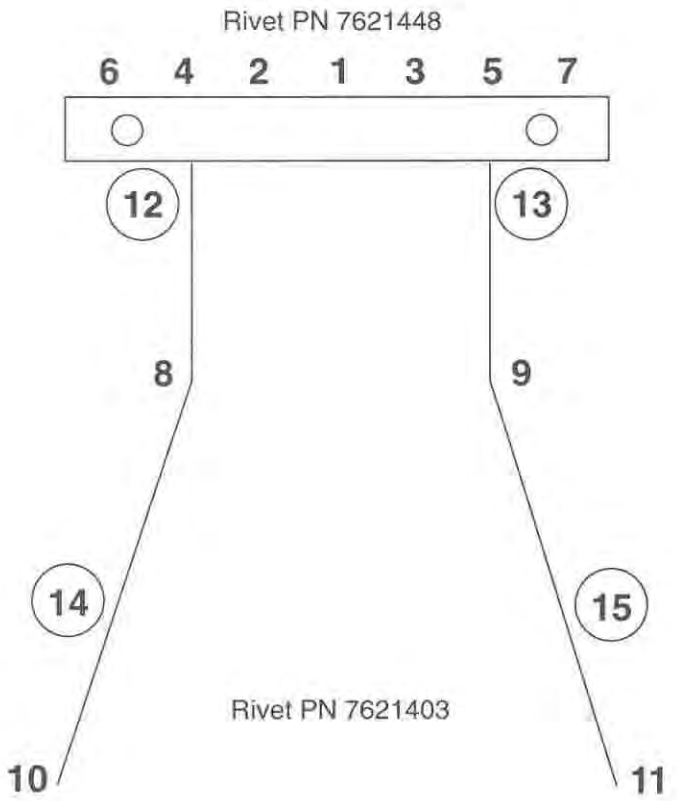
2. The following aluminum rivets must be used to attach nosepan:
   - PN 7621448, 3/16 x .652, Quantity required - 7
   - PN 7621403, 3/16 x .527, Quantity required - 39

All holes are to be drilled into the nosepan using a 7/32″ drill bit (.218″). **NOTE:** This will be larger than the diameter of the 3/16″ rivet.

3. Position new nosepan in place and attach to bulkhead at the top using (7) 3/16 x .652″ rivets (PN 7621448). See illustration below. All remaining holes require 3/16 x .527″ rivets (PN 7621403).

4. Make sure there is 1/4″ (.6 cm) clearance around the exhaust outlet.

5. Install foil (PN 5810108) in the same location as the original part.

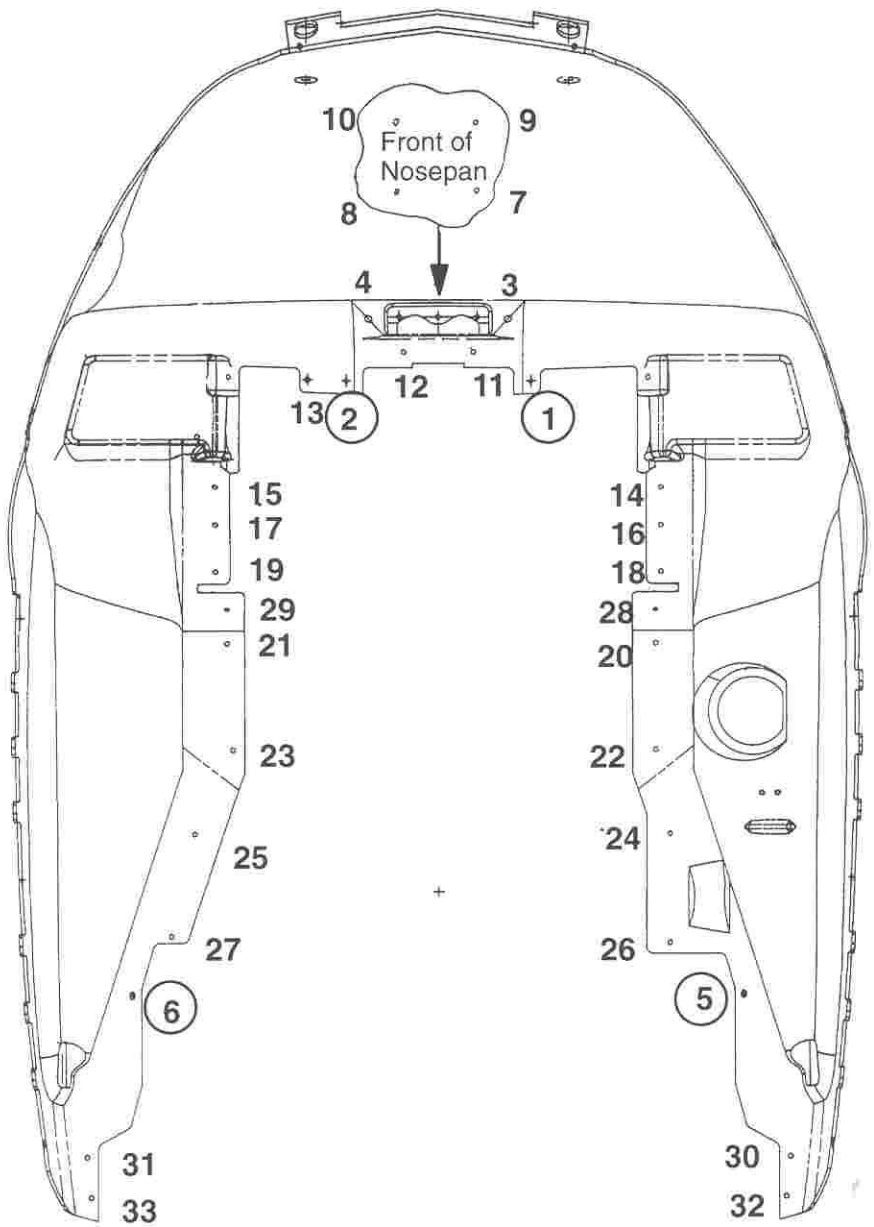


Nosepan Replacement Procedure - Evolved Style

IMPORTANT: When installing a replacement nosepan, this rivet sequence must be followed correctly in order to ensure proper nosepan and body panel fit.

NOTE: The rivet for polyethylene nosepans is PN 7621467.

NOTE: Rivet holes 14 through 19 may require drilling into the bulkhead. Circled rivet numbers 1, 2, 5 and 6 are locating holes used for proper alignment.



NOTE:

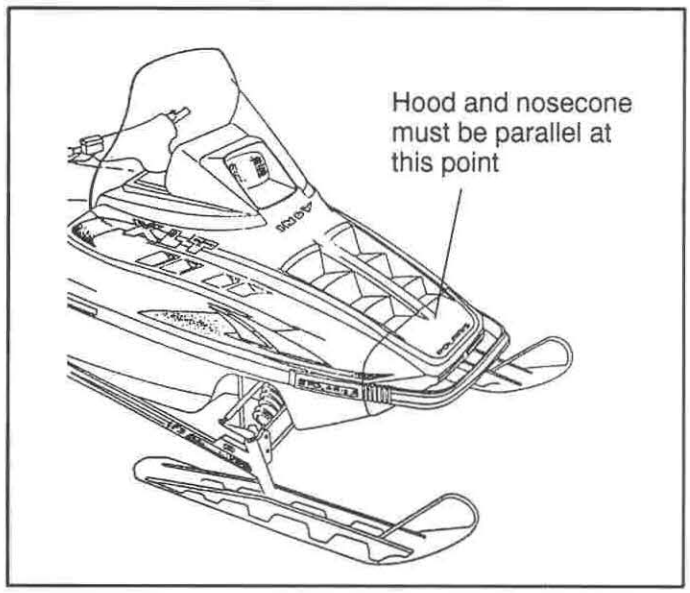
1. When transfer drilling holes do not force pan into a position which is not uniform with the other side. (Use the same method to drill both sides)

2. Rivet holes across from one another in unison.

Nosecone Alignment - Indy Style

To check nosecone alignment, place the nosecone in its mounting position. Look at the center extruded portion of the hood and nosecone to see if they are parallel. If adjustment is necessary, use the following procedure.

1. Remove nosecone and close hood.
2. Loosen six hood mounting bracket nuts located on bulkhead.
3. Slide hood to right or left depending on centering of nosecone.
4. Position nosecone on front of machine.

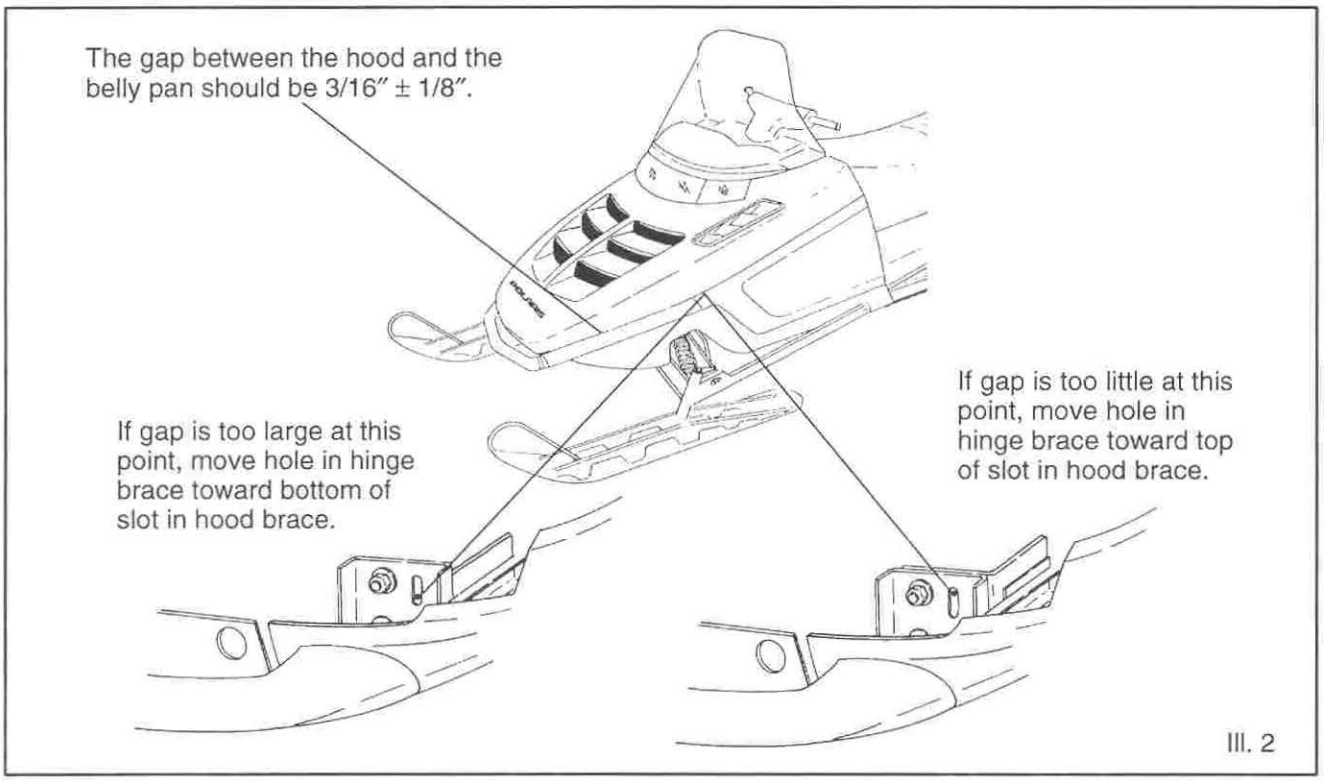


5. If proper alignment has been achieved, remove nosecone, tighten nuts loosened in step 2.
6. Install nosecone and secure with five mounting bolts and locknuts.
7. If proper alignment was not achieved, repeat step 3.

Hood to Belly Pan Alignment - Evolved Style

The gap between the hood and belly pan should always be 3/16″ ± 1/8″(4.8 mm ± 3 mm). Refer to Ill. 2 for adjustment procedures.

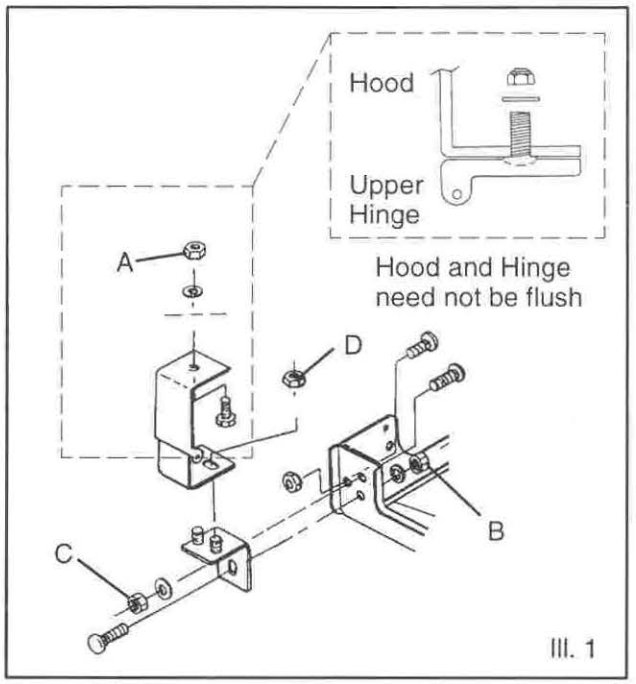
NOTE: Hood may have to be removed to make this adjustment.



Ill. 2

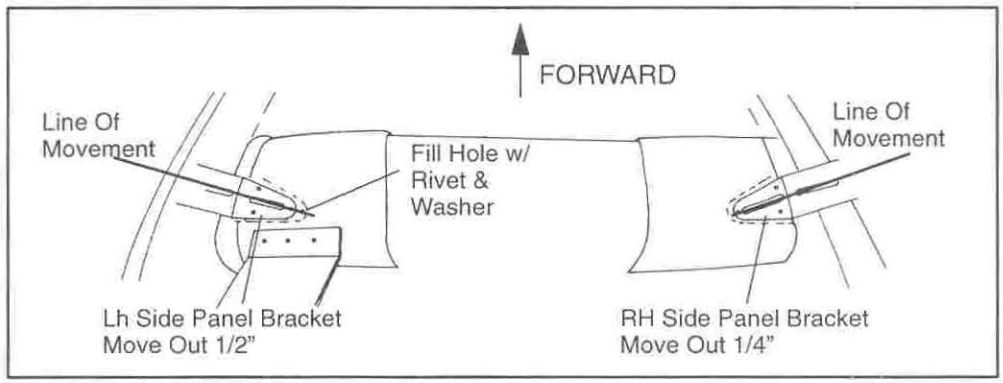
Hood Adjustment - Evolved Style

1. Check to see that hood and upper hood hinge are properly aligned. To adjust, loosen nuts (A) and align properly. Tighten nuts. See Ill. 1.
2. With hood open, loosen nut (B). See Ill. 1.
3. Close hood and remove both rubber plugs. Then, using a 7/16" (.4 cm) socket with an 8" (20 cm) extension, loosen nut (C). Adjust hood to pan gap. Tighten nuts.
4. Check outer perimeter alignment and front and rear alignment of hood, side bumpers and side panels. There should be 3/16"(.5cm) + 1/8"(.3cm) -0 clearance between hood to side panels and side bumpers. If adjustment is required, open hood and loosen nuts (D). Adjust and re-tighten one nut per hinge. Close hood and recheck alignment.
5. After correct alignment is achieved, tighten all nuts.



Ill. 1

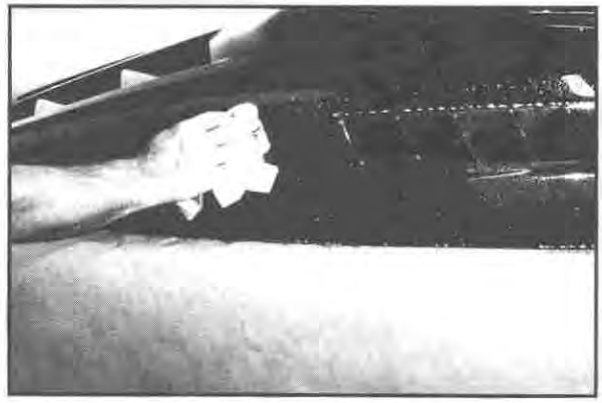
Nosepan, Front Bumper and Side Bumper Adjustment - Evolved Style



1. Open hood and remove side panels.
2. Remove foil tape covering right side nose pan bracket.
3. Drill out rivets (3) and slide bracket outward 1/4″ (6.35 mm) as shown in the illustration below. Be sure to mount the bracket at the same angle as before, so the side panel fits squarely against the mounting bracket.
4. Transfer drill holes in bracket to 3.16″ (.1875″ or 4.75 mm) and rivet in new location using rivet PN 7621485.
5. Apply a new section of foil tape (PN 5810908) over the bracket.
6. Repeat this procedure for the left side with the following exceptions: move the bracket outward **1/2″ (12.7 mm)**. Fill the open hole at the tip of the bracket with a rivet and washer.

Decal Removal and Installation

Decal Removal



1. Before removing old decal, it is important to note its position by marking it in several locations.
2. Remove old decal completely. **NOTE:** A small amount of solvent will aid in removing the old decal.
3. The decals are UV based. If heat will not remove decal, gently buff area with a mild abrasive. Use 3M Scotch Brite™ Graphics Removal Discs with a No. 1 Roloc and holder, or an equivalent low RPM buffing disc.

CAUTION:

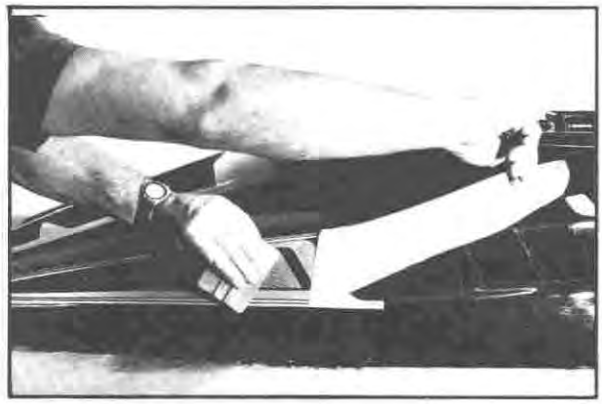
Maintain 2500-3500 RPM to prevent damage to hood caused by excessive heat.

4. Remove any remaining decal adhesive with a citrus based cleaner or equivalent non-solvent based cleaner.
5. *Thoroughly clean* area where the new decal will be installed using a solution of mild soap (such as dishwashing liquid) and clean water. **NOTE:** Use approximately four ounces soap to one gallon water.

3M Scotchbrite™ Graphics Removal Disc
3M PN 048011-16855

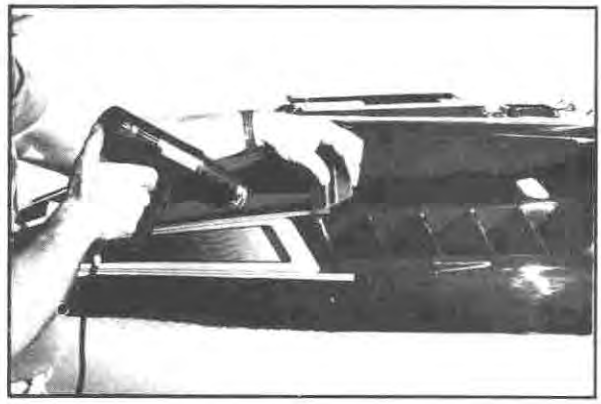
No. 1 Roloc and holder
3M PN 048011-15408

Decal Installation



1. Apply a solution of mild soap mixed with clean water to the area where the new decal is to be applied. Do not wipe off.
2. Carefully remove decal backing and apply new decal.
3. If decal does not have a pre-mask, apply additional soapy water solution to top of decal after it is in position.
4. Holding decal in position, remove all trapped air and soapy water solution from under decal using a clean, soft rubber squeegee to prevent scratching of decal surface.
5. If decal has a pre-mask, carefully remove.

NOTE: If the decal being applied needs to be stretched around a radius, follow these recommendations:



6. Fasten a straight edge to tail end of decal.
7. Pull or stretch remaining portion of decal around radius and into position. **NOTE:** A small amount of heat applied to the decal will aid in forming it to the radius. The mass of the decal which was secured in previous steps will hold it in position while pulling.
8. Again, apply soapy water solution to top of decal and remove trapped air using a clean, soft rubber squeegee. Use care to prevent scratching the decal surface.
9. Apply a small amount of heat to the decal to fasten it securely.
10. Carefully remove excess decal material.

Troubleshooting

Problem	Possible Cause	Solution
*Machine darts from side to side	-Incorrect ski toe alignment	-Adjust to correct toe alignment
	-Incorrect camber	-Adjust to correct camber
	-Loose or worn steering components or fasteners	-Tighten or replace
	-Cracked or broken skis, skags, or carbides	-Replace if necessary
Tie rod hits trailing arm	-Steering arm installed incorrectly	-Index correctly in relation to -spindle
	-Tie rod ends worn	-Replace if necessary
Steering has excessive freeplay	-Steering bellcrank bushing worn or loose	-Tighten or replace if necessary
	-Drag link worn or loose	-Tighten or replace if necessary
	-Steering post loose	-Tighten as needed
	-Steering post bushings worn	-Replace if necessary
	-Tie rod ends worn	-Tighten as needed
	-Spindle bushings worn	-Replace if necessary
Front end bounces or sags	-IFS shock spring preload too soft	-Adjust spring tension on shocks
	-Improper shock charge or valving (if so equipped)	-Recharge, service, or replace -shocks
Nosecone is not centered	-Hood misaligned	-Remove nosecone and center -hood

*Some machines with a wide front end may experience darting while following narrower machines on a trail. This is caused by the skis moving in and out of the narrower track left by the previous machine.