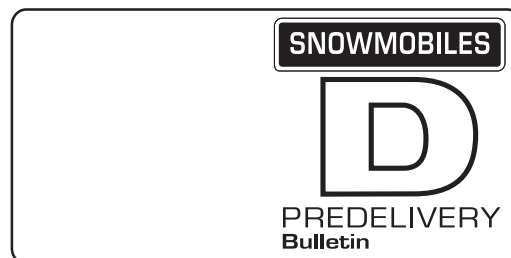


Please route to :

☐ Service	☐ Init.
☐ Sales	☐
☐ Parts	☐



No. **97-1**

Date : March 18, 1996

SUBJECT : Predelivery Procedures

YEAR	MODEL NAME	MODEL NUMBER	SERIAL NUMBER
1997	Tundra II LT (Canada and United States)	3266	All
1997	Tundra II LT (Europe)	3267	All

This bulletin must be used in conjunction with the check list enclosed in Operator's Guide bag. Make sure that predelivery check list is completed and signed.

◆ **WARNING :** To obtain warranty coverage, predelivery procedures must be performed by an authorized Bombardier snowmobile dealer. Apply all necessary torques as indicated.

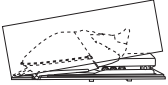
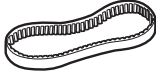
○ **NOTE :** The Information and components / system descriptions contained in this document are correct at the time of publication. Bombardier Inc. however, maintains a policy of continuous improvement of its products without imposing upon itself any obligation to install them on products previously manufactured. Due to late changes, it may have some differences between the manufactured product and the descriptions and / or specifications in this document. Bombardier Inc. reserves the right at any time to discontinue or change specifications, designs, features, models or equipment without incurring obligation.

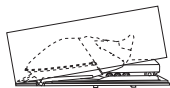
The illustrations in this document show the typical construction of the different assemblies and may not reproduce the full detail or exact shape of the parts. However, they represent parts that have the same or similar function.

The content of this bulletin is designed as a guideline only. All mechanics performing predelivery procedures should have attended the current model year service training. Further information or inquiries should be directed to your distributor service representative and / or specific *Shop Manual* sections.

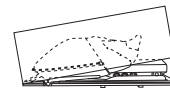
Please complete the Predelivery Check List for each snowmobile and return a customer signed copy. Make sure the customer receives the *Operator's Guide*, *Safety Handbook* and video.

CONTENTS

SUBJECT	PAGE	SUBJECT	PAGE
	UNCRATING 3		PARTS INSTALLATION 8 WINDSHIELD
	PARTS INSTALLATION 5 STEERING COVER		PARTS INSTALLATION 8 DRIVE BELT
	PARTS INSTALLATION 6 FRONT BUMPER		LIQUIDS 9 OIL INJECTION PUMP BLEEDING
	PARTS INSTALLATION 7 SKI		TECHNICAL DATA 10



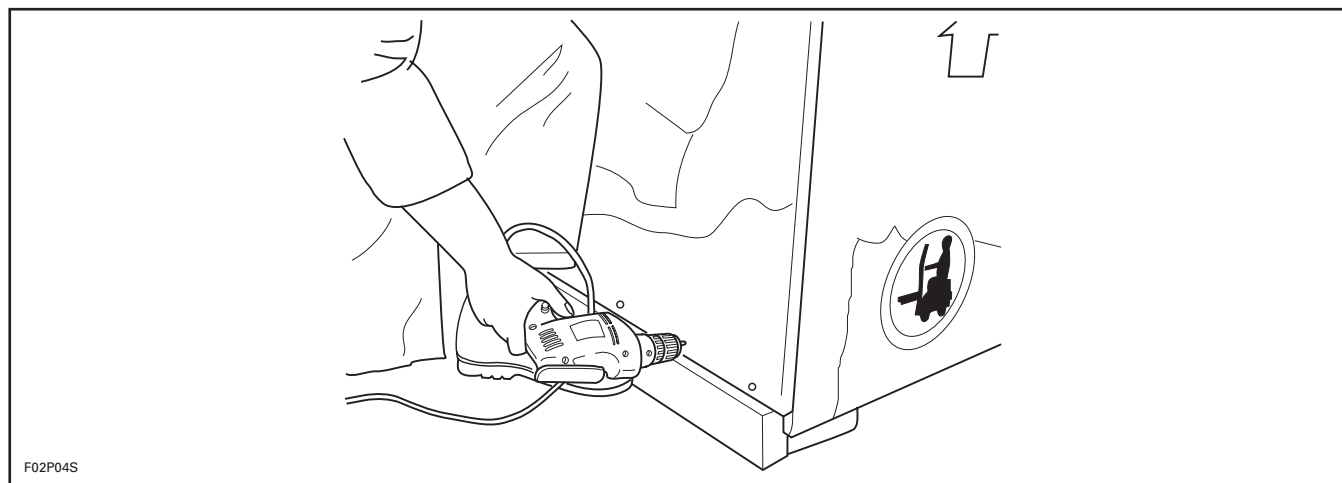
UNCRATING



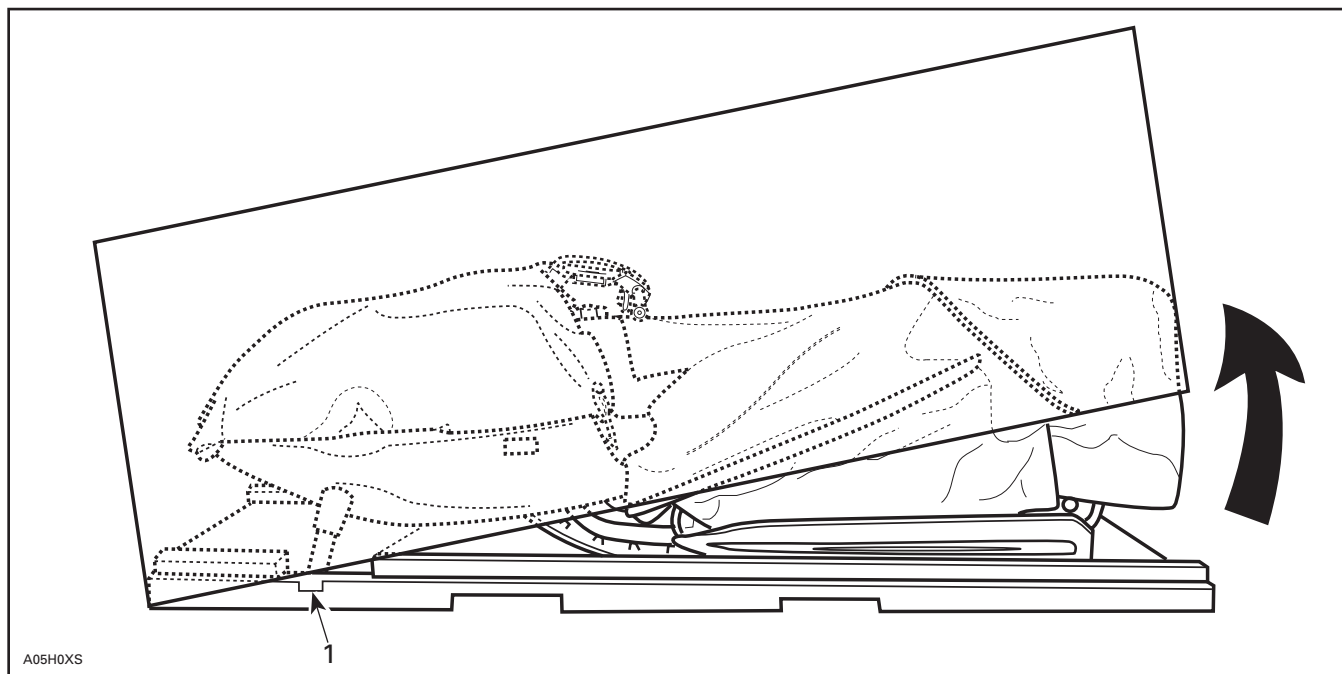
◆ **WARNING :** Torque wrench tightening specifications must be strictly adhered to. Locking devices (e.g. lock tabs, elastic stop nuts) must be installed or replaced by new ones, where specified. If the efficiency of a locking device is impaired, it must be renewed.

▼ **CAUTION :** Allowing the crate to drop may cause serious damage to the vehicle.

Using a screwdriver remove all screws retaining crate cover to base.

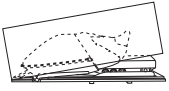


Tip cover towards front of vehicle. There is a notch in crate base at front.

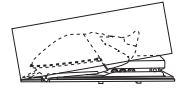


1. Notch

Detach parts to be installed (e.g. skis, windshield) from the vehicle and its base.



UNCRATING



CAUTION : Make sure vehicle is properly supported before removing ski legs and rear suspension from crate brackets.

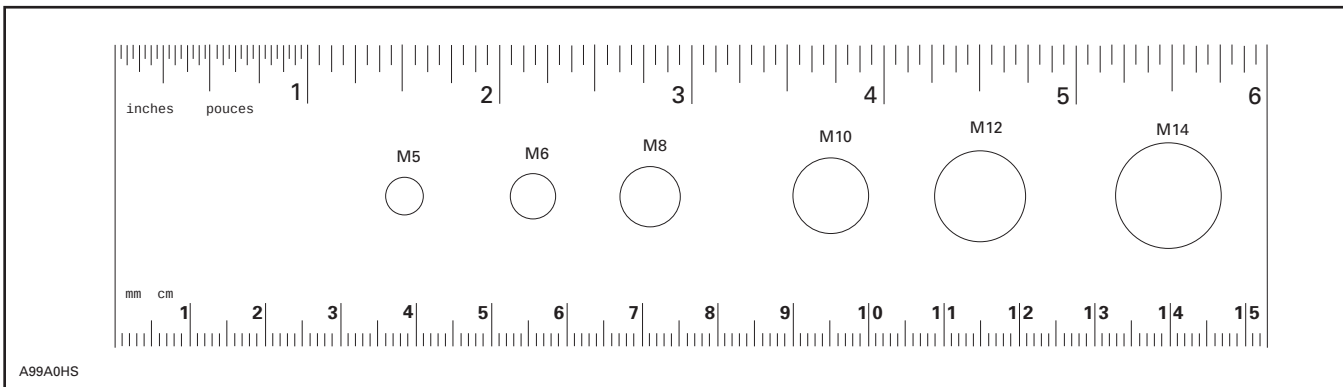
Detach ski legs from crate. Keep ski leg bolts to bolt skis to ski legs. Discard nuts.

Remove vehicle from base.

Remove predelivery kit from engine compartment.

PREDELIVERY KIT P / N	MODELS
582 0609 00	All Tundra II LT

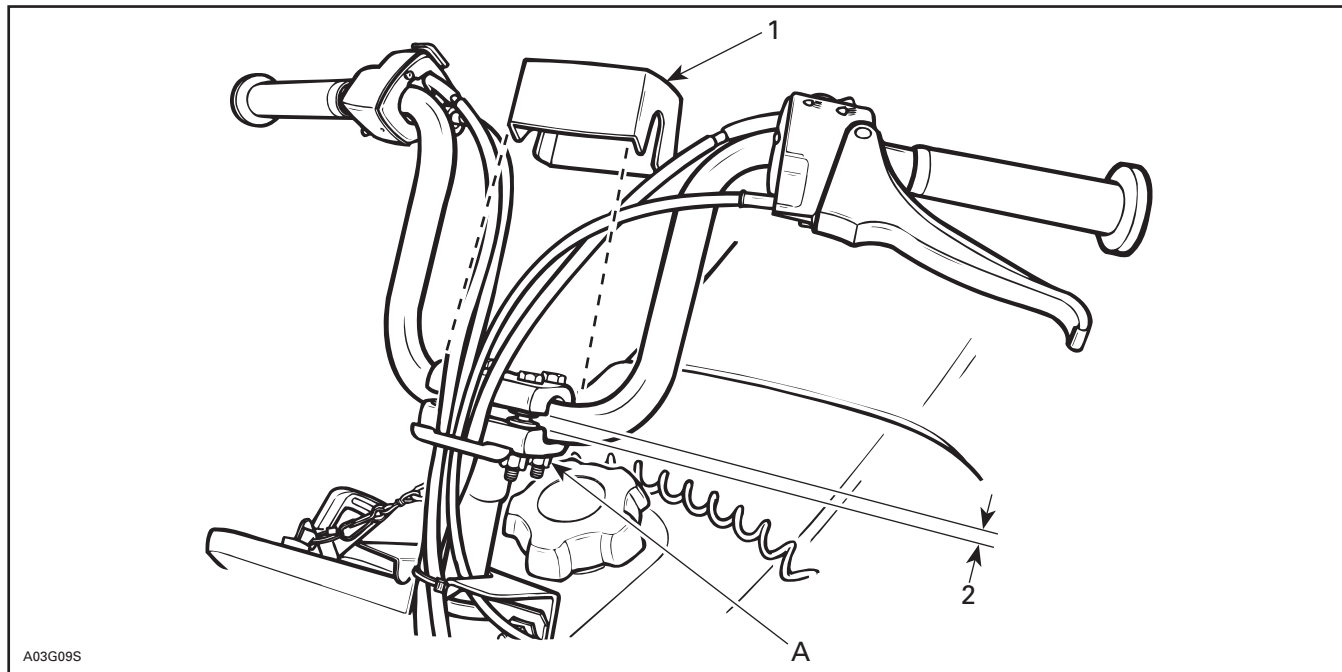
NOTE : This rule can be helpful to identify fastener length / size.





PARTS INSTALLATION

STEERING COVER



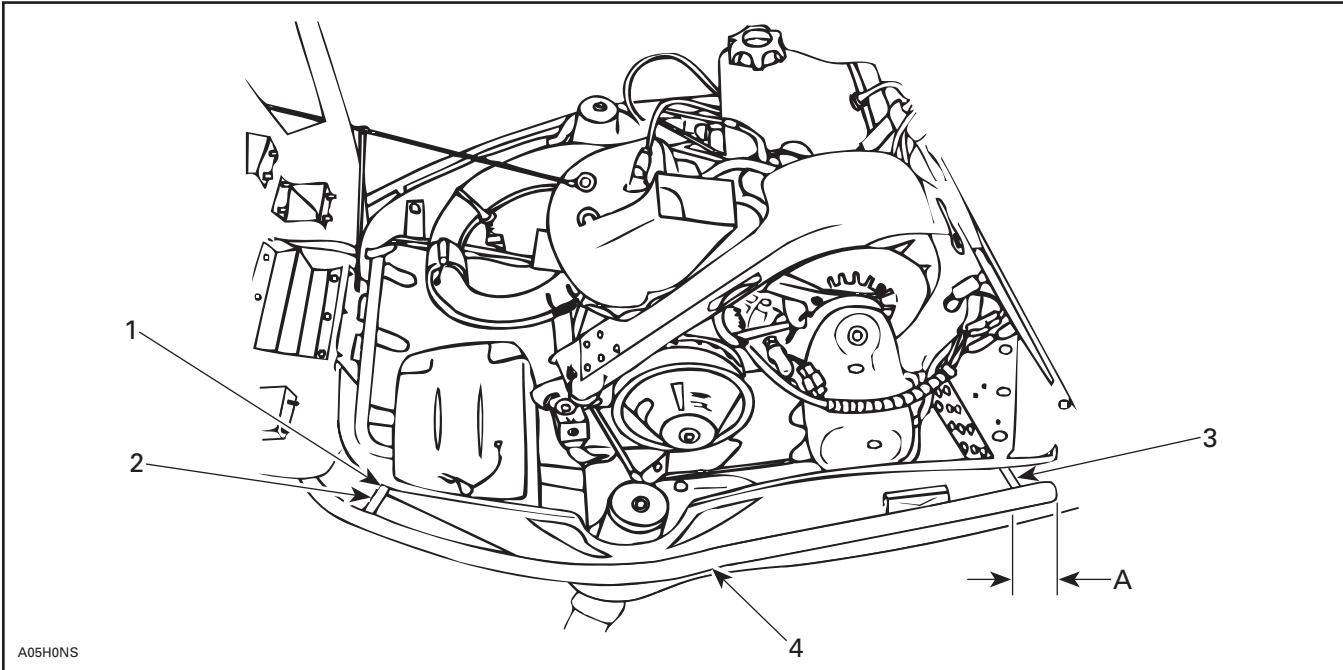
A03G09S

1. Steering cover (P / N 572 0669 00) (on handlebar)
2. Equal gap all around
- A. 26 N•m (19 lbf•ft)



PARTS INSTALLATION

FRONT BUMPER

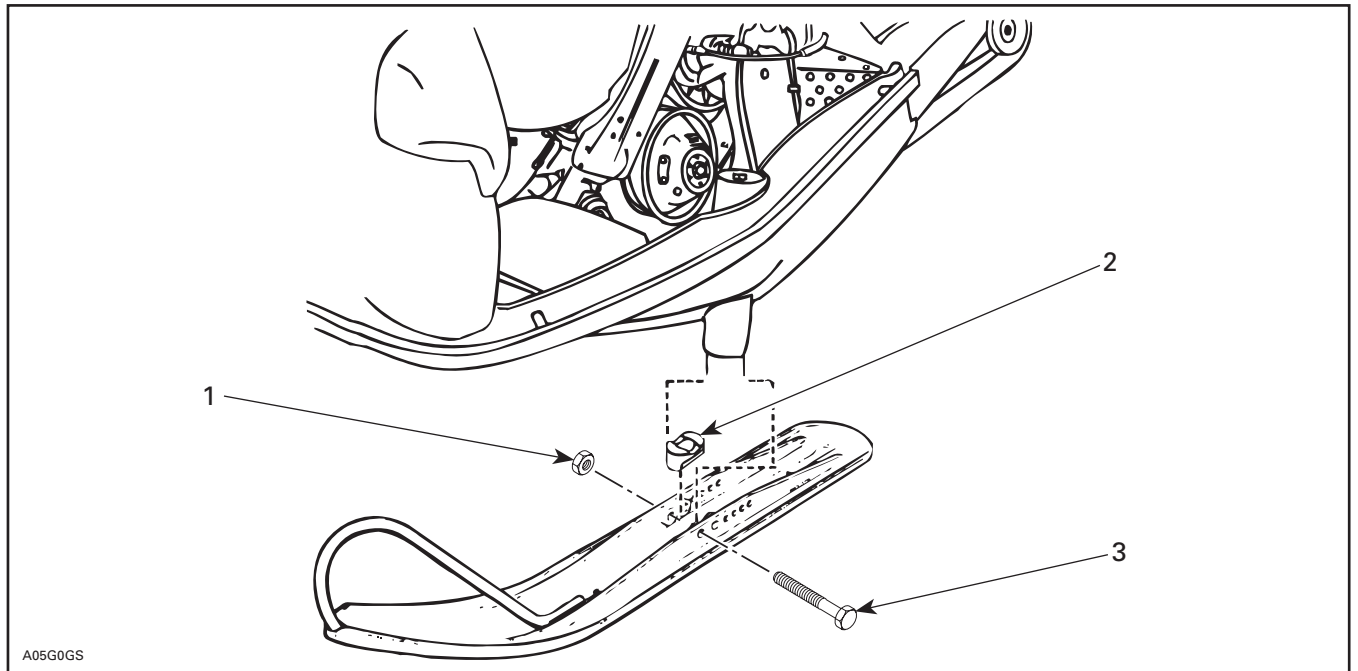


1. Nut M8 x 1.25 (4) (P / N 228 5810 45) (Section no. 2). Torque to 15 N•m (133 lbf•in)
2. Bushing (long) (2) (P / N 517 2506 00) (Section no. 3)
3. Bushing (short) (2) (P / N 517 2507 00) (Section no. 3)
4. Groove on top
- A. 55 mm (2-1/8 in)



PARTS INSTALLATION

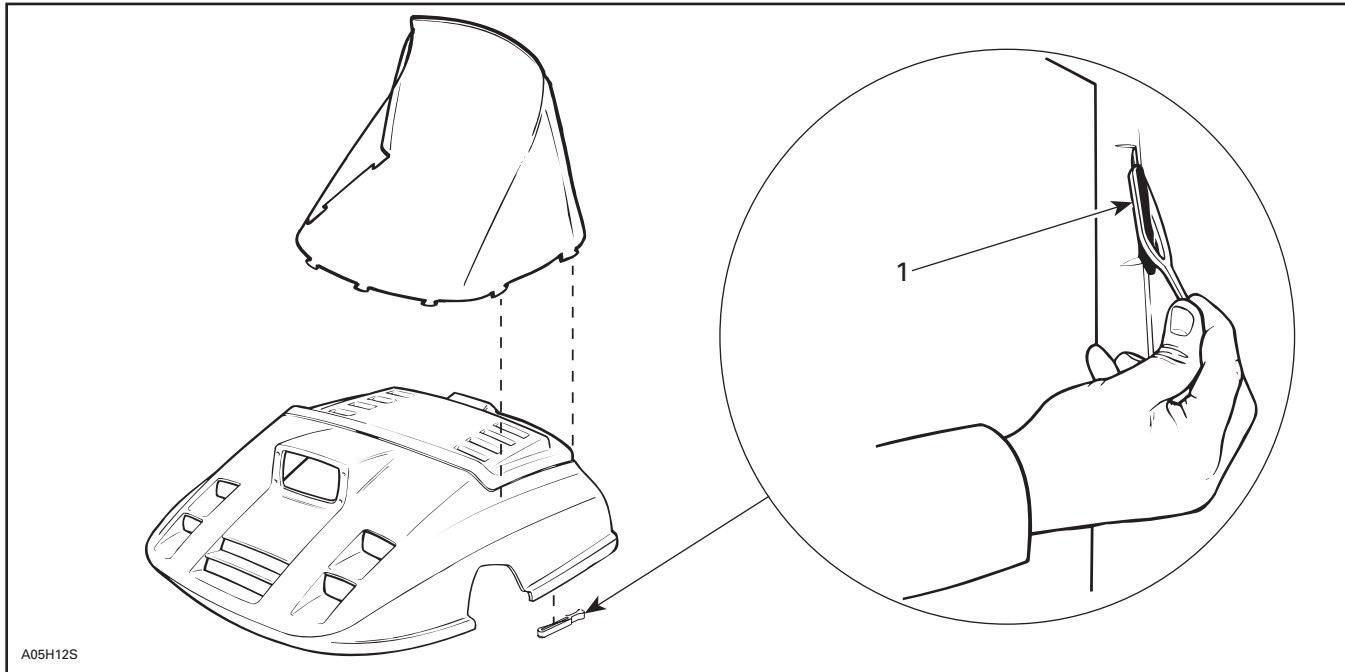
SKI



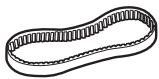
1. Nut (2) M10 x 1.5 (P / N 228 5010 45) (Section no. 1). Torque to 29 N•m (21 lbf•ft)
2. Stopper (2) (P / N 570 0270 00) (Section no. 4). Thicker side toward front
3. Bolt (2) M10 x 1.5 x 90 (P / N 222 0090 65) (on crate)



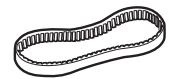
PARTS INSTALLATION WINDSHIELD



1. Latch (9) (P / N 570 0238 00) (Section no. 3)



PARTS INSTALLATION DRIVE BELT



At factory a protective coating for the shipping is applied on pulleys and disc brake. This protective coating must be removed at predelivery.

Clean pulleys and brake disc with a suitable cleaner such as Loctite Safety Solvent (P / N 413 7082 00) before installing drive belt.

Make sure the entire surface of the drive belt travel is clean; open the driven pulley as required for cleaning.

▼ **CAUTION :** Do not install a new drive belt without properly cleaning the pulleys.

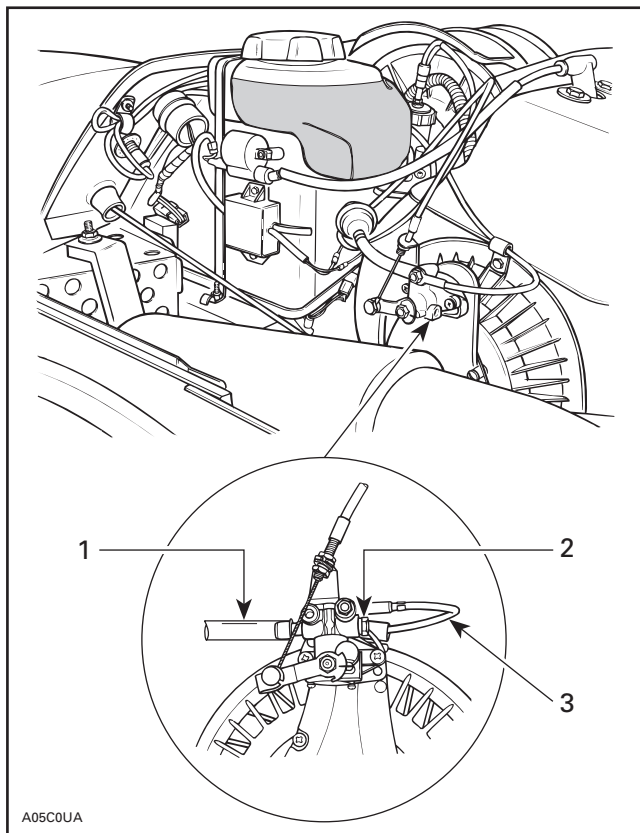


LIQUIDS

OIL INJECTION PUMP BLEEDING

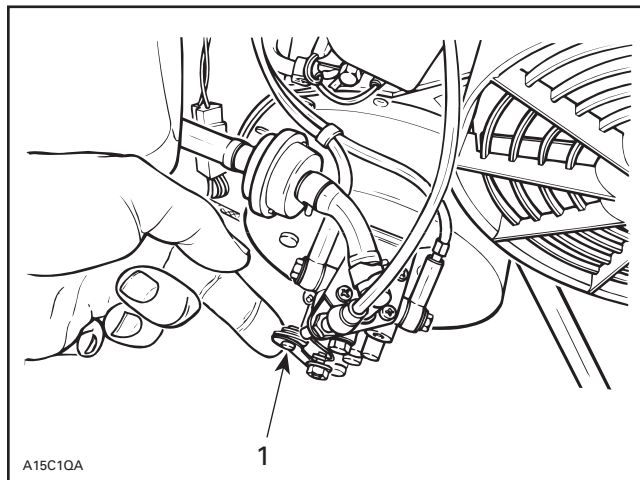


Bleed main oil line (between tank and pump) by loosening the bleeder screw until all air has escaped from the line.



1. Main oil line
2. Bleeder screw
3. Small line

Bleed the small line between pump and intake manifold by running engine at idle while holding the pump lever in fully open position.



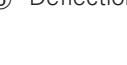
TYPICAL — ENGINE AT IDLE

1. Fully open position



TECHNICAL DATA



		TUNDRA II LT
	Engine Type	277
	Maximum HP RPM ① ± 100 RPM	6900
	Carburetor Type	VM 34-443
	Main Jet	190
	Needle Jet	159 O-8
	Pilot Jet	40
	Needle Identification – Clip Position	6DH4-2
	Slide Cut-away	2.5
	Float Adjustment ± 1 mm (± .04 in)	24 (.94)
	Air Screw Adjustment ± 1/16 turn	1
	Idle Speed ± 200 RPM	1200
	Gas Grade / Octane Number ② (R + M) / 2	Regular Unleaded / 87
	Gas / Oil Ratio	Oil Injection
	Ignition Timing BTDC ③ mm (in)	2.52 (.099)
	Engagement Speed ± 100 RPM	3100
	Pulley Distance Z (+ 0, – 1) mm (+0, –1/32 in)	37.0 (1-29/64)
	Offset X ± 0.4 mm (± 1/64 in)	36.0 (1-27/64)
	Y	Dimension Y must exceed X by up to 1.5 mm (1/16 in)
	Drive Belt Adjustment Deflection mm (in)	32 (1-1/4)
	Force ④ kg (lbf)	6.8 (15)
	Driven Pulley Preload ± 1 kg (± 2 lbf)	3.6 (8)
	Drive Chain Tension	Automatic (Spring Loaded)
	Track Adjustment Deflection ⑤ mm (in)	35 to 45 (1-3/8 to 1-3/4)

① Engine speed at which maximum power is achieved.

② In most service station pump octane number corresponds to (R + M) / 2 octane number.

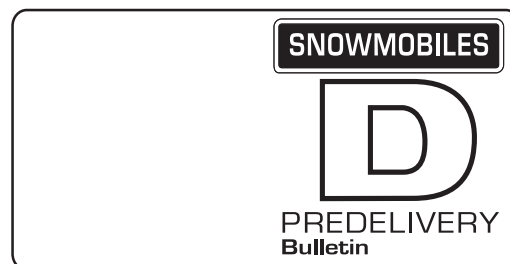
③ At 6000 RPM (engine cold) with headlamp turned on.

④ Force applied midway between pulleys to obtain specified deflection.

⑤ Deflection with a 7.3 kg (16 lb) downward pull.

Please route to :

☐ Service	Init. ☐
☐ Sales	☐
☐ Parts	☐



No. **97-2**

Date: June 28, 1996

SUBJECT: Predelivery Procedures

YEAR	MODEL NAME	MODEL NUMBER	SERIAL NUMBER
1996	Canada and United states: Touring E/E LT/LE/SLE, Skandic 380/500 Formula S/SL	1115, 1116, 1113, 1112, 1110, 1111, 1120, 1121, 1117, 1118, 1108, 1106, and 1107	ALL
1996	Sweden: Touring LE/SLE, Skandic 380/500 and Formula S/SL	1186, 1114, 1122, 1119 and 1109	ALL

This bulletin must be used in conjunction with the check list enclosed in *Operator's Guide* bag. Make sure that *Predelivery Check List* is completed and signed.

◆ WARNING To obtain warranty coverage, predelivery procedures must be performed by an authorized Bombardier snowmobile dealer. Apply all necessary torques as indicated.

NOTE: The Information and components/system descriptions contained in this document are correct at the time of publication. Bombardier Inc. however, maintains a policy of continuous improvement of its products without imposing upon itself any obligation to install them on products previously manufactured. Due to late changes, it may have some differences between the manufactured product and the descriptions and/or specifications in this document. Bombardier Inc. reserves the right at any time to discontinue or change specifications, designs, features, models or equipment without incurring obligation.

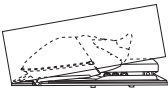
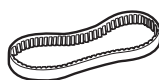
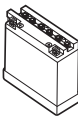
The illustrations in this document show the typical construction of the different assemblies and may not reproduce the full detail or exact shape of the parts. However, they represent parts that have the same or similar function.

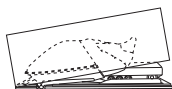
The content of this bulletin is designed as a guideline only. All mechanics performing predelivery procedures should have attended the current model year service training. Further information or inquiries should be directed to your distributor service representative and/or specific *Shop Manual* sections.

Please complete the *Predelivery Check List* for each snowmobile and return a customer signed copy. Make sure the customer receives the *Operator's Guide*, *Safety Handbook* and video.

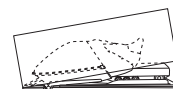
There is a tag attached to the ignition key, only the customer must removed it. This label will remind the customer to ask the dealer to perform suspension adjustments according to riding style and vehicle load.

TABLE OF CONTENTS

SUBJECT	PAGE		SUBJECT	PAGE	
	UNCRATING	3		PARTS INSTALLATION DRIVE BELT	13
	PARTS INSTALLATION FRONT SUSPENSION	5		LIQUIDS OIL INJECTION PUMP BLEEDING	13
	PARTS INSTALLATION BATTERY	6		LIQUIDS BRAKE FLUID LEVEL	14
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	PARTS INSTALLATION WINDSHIELD	11		ADJUSTMENT DRIVEN PULLEY	14
	PARTS INSTALLATION BACKREST	12		TECHNICAL DATA	15



UNCRATING



◆ WARNING

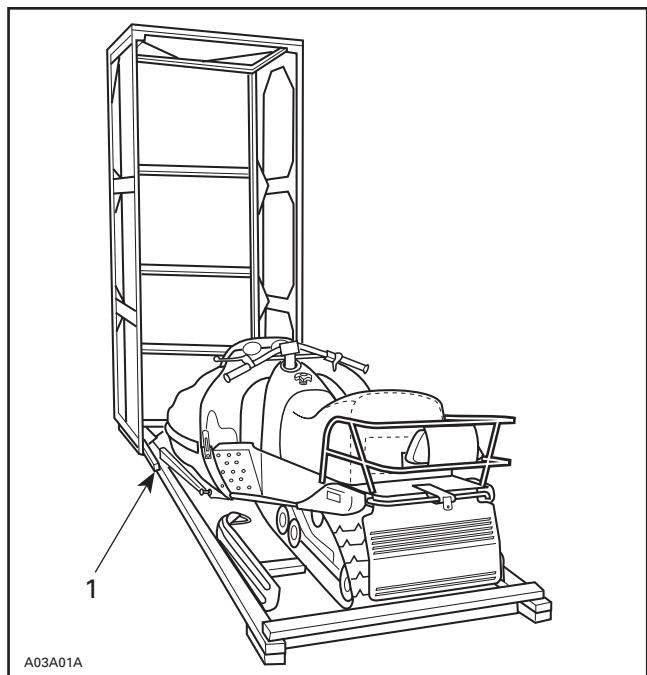
Torque wrench tightening specifications must be strictly adhered to. Locking devices (e.g. lock tabs, elastic stop nuts) must be installed or replaced by new ones, where specified. If the efficiency of a locking device is impaired, it must be renewed.

Carefully lay the crate on its bottom.

▼ CAUTION

Allowing the crate to drop may cause serious damage to the vehicle.

Unscrew all screws retaining cover to vehicle base. Tip cover over front of vehicle. There is a notch in crate base at front.



1. Notch

Detach parts to be installed (e.g. skis, windshield) from the vehicle and its base.

Cut locking ties retaining windshield. Slowly pull out metal strip, if equipped.

▼ CAUTION

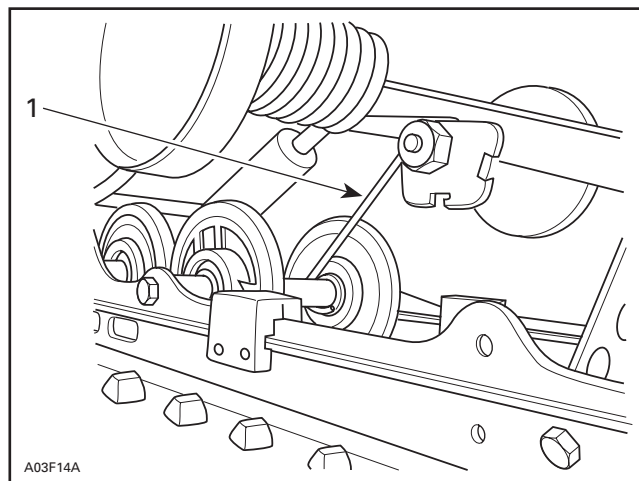
Make sure vehicle is properly supported before removing ski legs and rear suspension from crate brackets.

Detach ski legs from crate. Keep ski leg bolts and slider cushions to bolt skis to ski legs. Discard crating spacers and nuts.

Remove vehicle from base.

Remove steering pad, drive belt, predelivery kit and detach shock absorbers from engine compartment.

Apply pressure on rear suspension and remove hook from rear portion of suspension as illustrated.

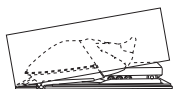


1. Remove hook

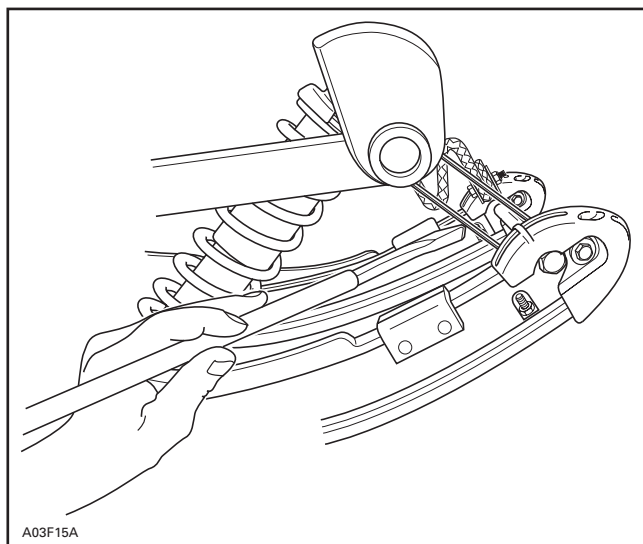
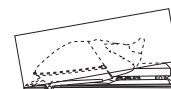
Using a long flat chisel such as Snap-On PPC820LA cut shipping strap that collapses front portion of rear suspension.

◆ WARNING

Failure to use this method of strap removal could result in personal injury.



UNCRATING

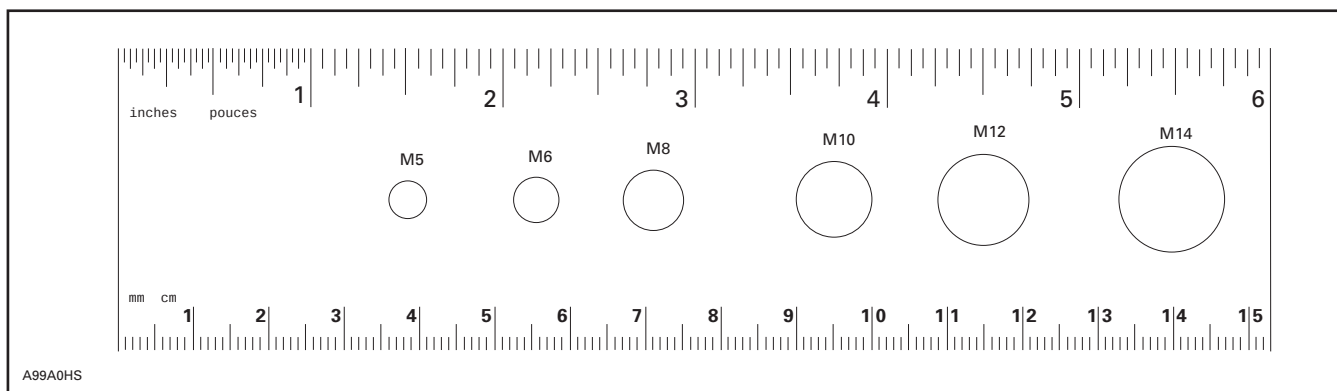


◆ WARNING

Shipping strap must be cut and hook removed to have snowmobile suspension operational.

PREDELIVERY KIT P/N	MODELS
580 6532 00	TOURING E
580 6529 00	TOURING ELT/LE/SLE
580 6533 00	SKANDIC 380/500
580 6388 00	FORMULA S/SL

NOTE: This rule can be helpful to identify fastener length or size.





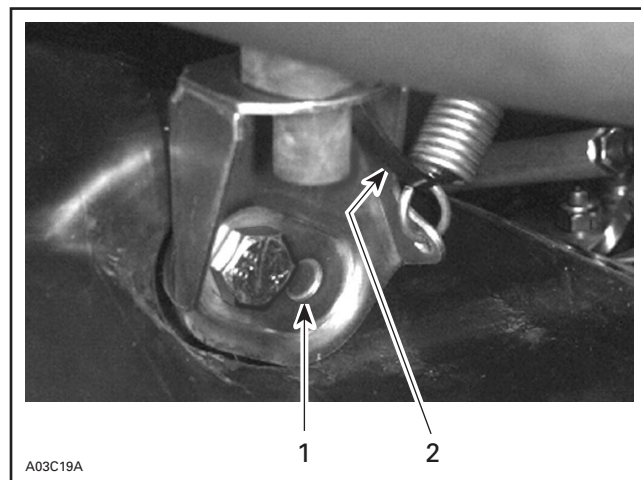
PARTS INSTALLATION

FRONT SUSPENSION



Except Skandic 380/500

Cut locking tie retaining exhaust spring to exhaust support.



1. Lug in recess
2. Locking tie

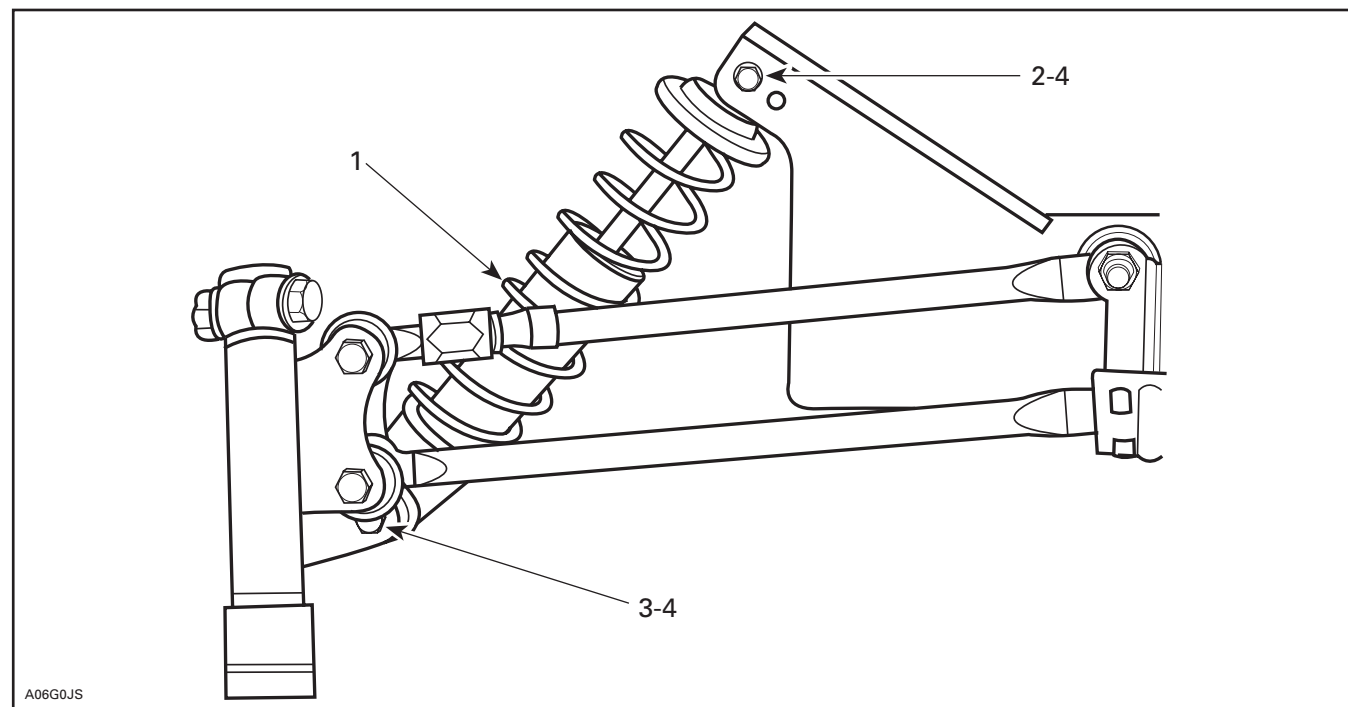
Lift front of vehicle and block safely.

Remove and discard shipping brackets from suspension. Discard spring clips, keep screws.

Secure shock absorbers to suspension with their adjusting ring, if equipped, at bottom.

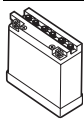
NOTE: Position screw heads toward front.

Properly position exhaust support on chassis making sure that its lug rests in chassis recess. Hook up exhaust spring.

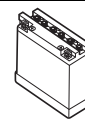


TYPICAL—RIGHT SIDE SHOWN

1. Shock absorber (2) (engine compartment) adjusting ring, if equipped, at bottom
2. Screw M10 x 1.5 x 60 (2) (P/N 222 0060 65) (on suspension)
3. Screw M10 x 1.5 x 55 (2) (P/N 222 0055 65) (on suspension)
4. Flanged elastic nut (4) (P/N 228 5010 45) (section no.1 or 5) torque to 48 N•m (35 lbf•ft)



PARTS INSTALLATION BATTERY



Touring Models Only

During vehicle preparation, the battery can be activated as described in Shop Manual.

▼ CAUTION

Prior to charging the battery, always remove it from the vehicle to prevent electrolyte spillage.

Battery Removal

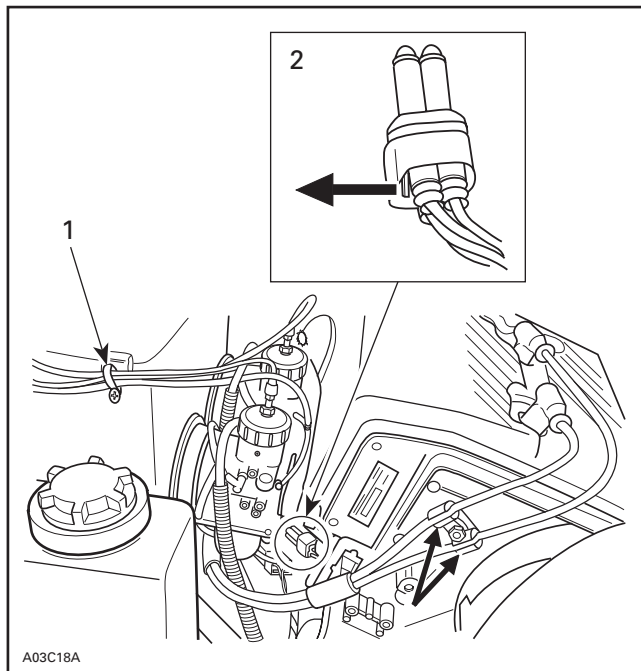
Remove belt guard.

Unfasten spark plug cables from fan housing. Unplug spark plug caps.

Remove throttle cable and primer hose plastic clip from air silencer.

Unplug CDI box harness connector.

Slacken collar on carburetor adaptors. Remove air silencer. CDI box will come along with.



- 1. Plastic clip
- 2. CDI box harness connector

Remove battery.

Battery Installation

Install vent tube on battery.

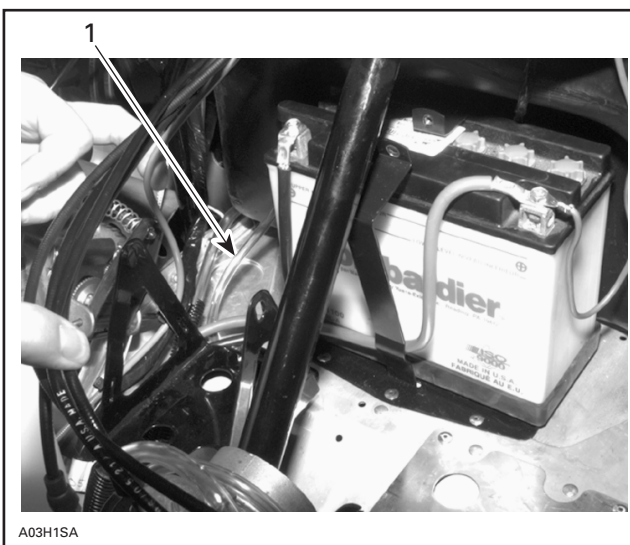
Connect RED positive cable and RED wire to positive battery terminal.

Connect BLACK negative cable LAST.

◆ WARNING

Always connect the battery cables exactly in the specified order. Connect RED positive cable first, then BLACK negative ground cable.

Connect vent tube to vehicle fitting on front frame as shown.



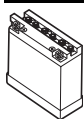
BATTERY CONNECTION

- 1. Vent tube on fitting

Apply silicone dielectric grease (P/N 413 7017 00) on battery posts and connectors.

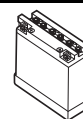
Ensure vent tube is properly installed on battery elbow, then install protective boot over battery.

Close and fasten retaining strips as shown on the next photo.



PARTS INSTALLATION

BATTERY



A03H1WA

BATTERY PROTECTIVE BOOT INSTALLED

Ensure that vent tube is not kinked or blocked.

Reinstall air silencer and ignition module.

Reinstall throttle cable and primer hose plastic clip to air silencer. Fasten spark plug cables.



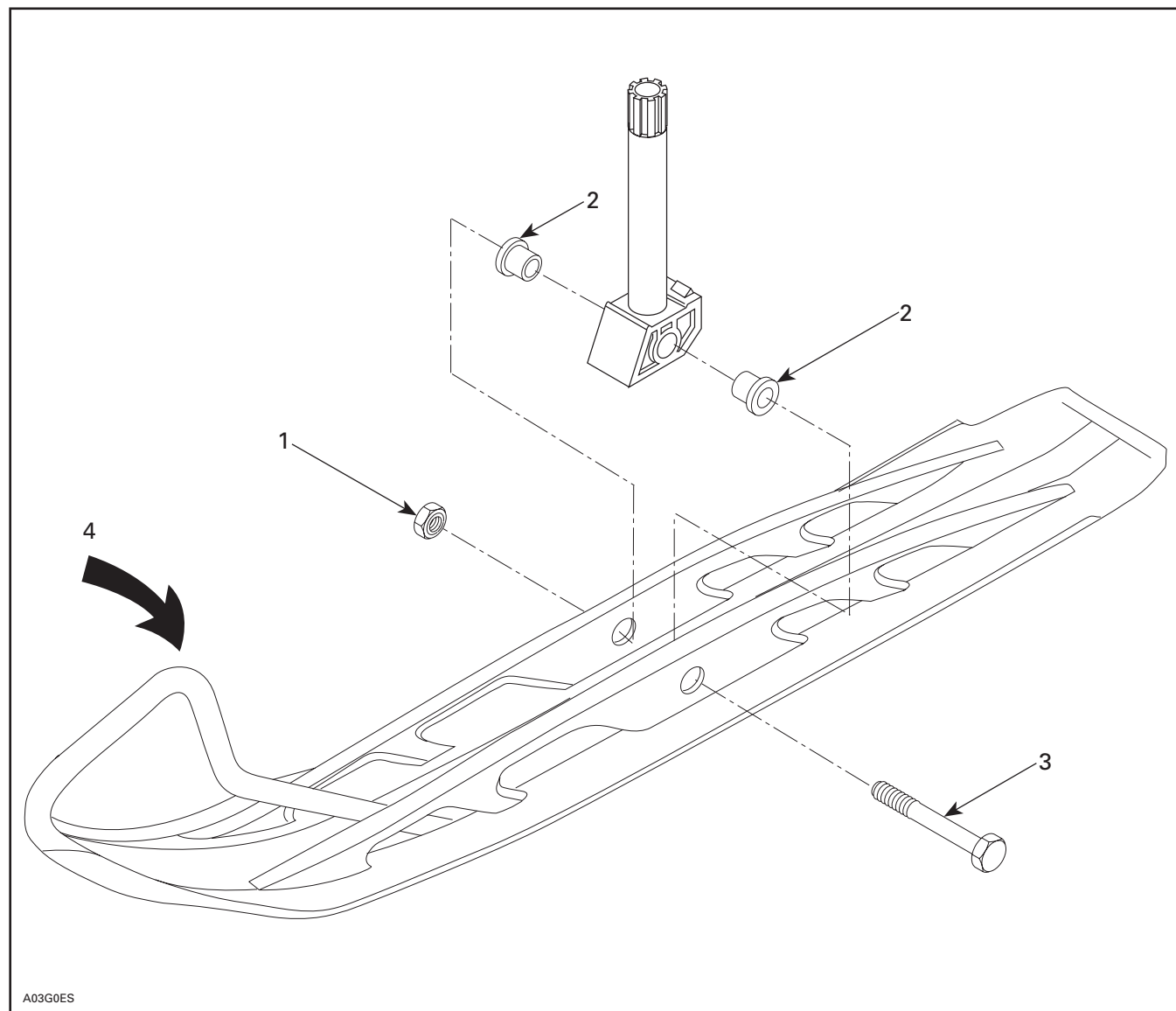
PARTS INSTALLATION SKIS



Install skis on vehicle.

NOTE: Make sure that slider cushions are still in ski leg.

Replace vehicle on ground.



TYPICAL—RIGHT SIDE SHOWN

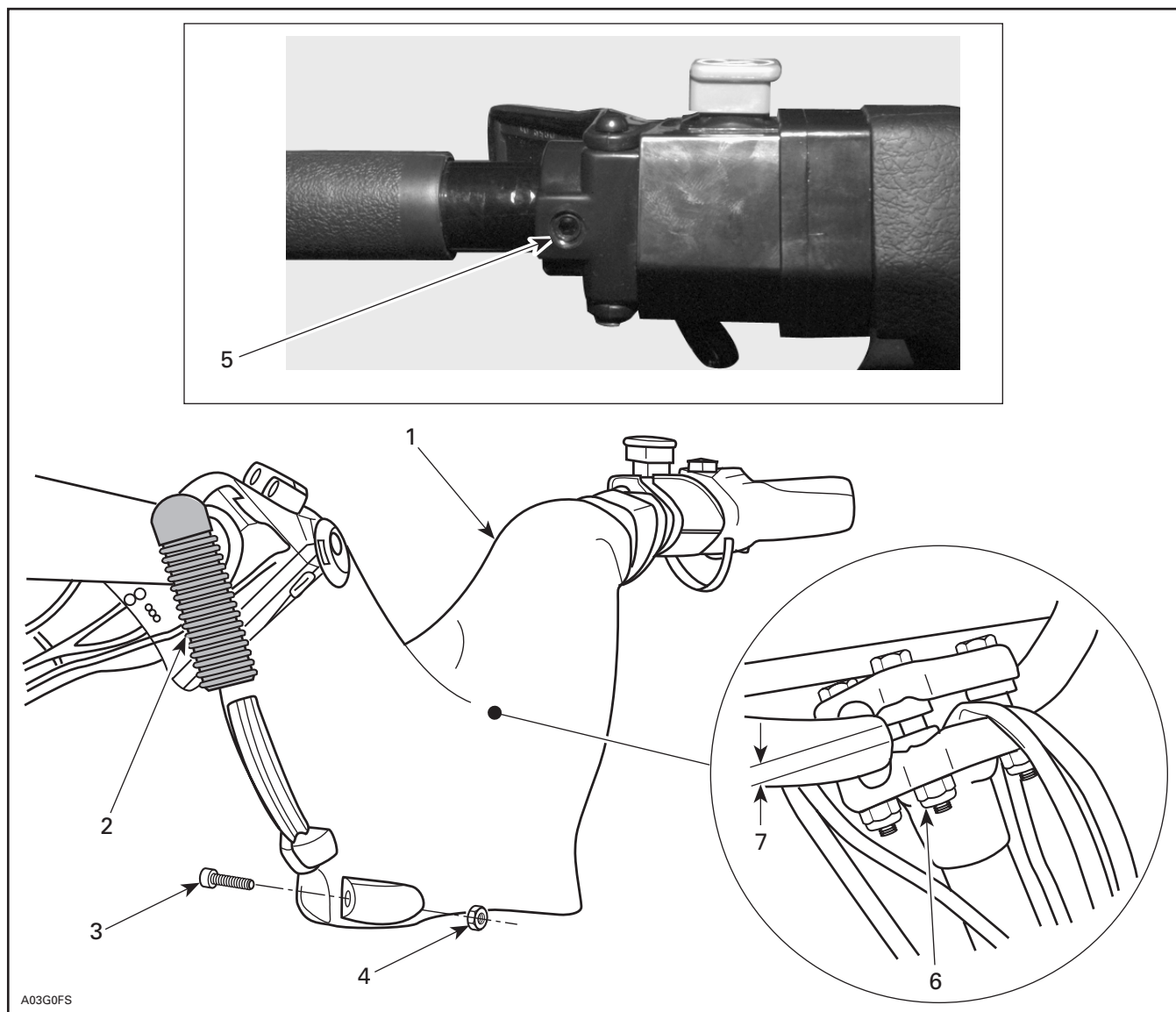
1. Nut M12 x 1.75 (2) (section no. 1 or 3) torque to 40 N•m (30 lbf•ft)
2. Slider cushion (4) (ski leg)
3. Bolt M12 (2) (ski leg)
4. Twist ski to ease bolt installation



PARTS INSTALLATION STEERING PAD



Align handlebar with steering column axis and tighten nuts loosely for now.
Loosen, at least 3 turns, Allen screw of throttle and brake handle housings.
Install steering pad temporary, and adjust for proper fit with console.
Remove steering pad and torque nuts to 26 N•m (19 lbf•ft).
Reinstall steering pad, adjust and tighten throttle and brake handle housings.



1. Steering pad (P/N 572 0238 00) (engine compartment)
2. Keyway (2) (P/N 572 0239 00) (section no. 4) use liquid soap to ease installation
3. Screw M5 x 20 (2) (P/N 222 8520 65) (section no. 4)
4. Nut M5 (2) (P/N 228 7510 45) (section no. 4) seat tighten only, no deformation of rubber
5. Loosen allen screw
6. Torque nuts to 26 N•m (19 lbf•ft)
7. Equal gap each side



PARTS INSTALLATION

STEERING PAD



Formula S/SL Only

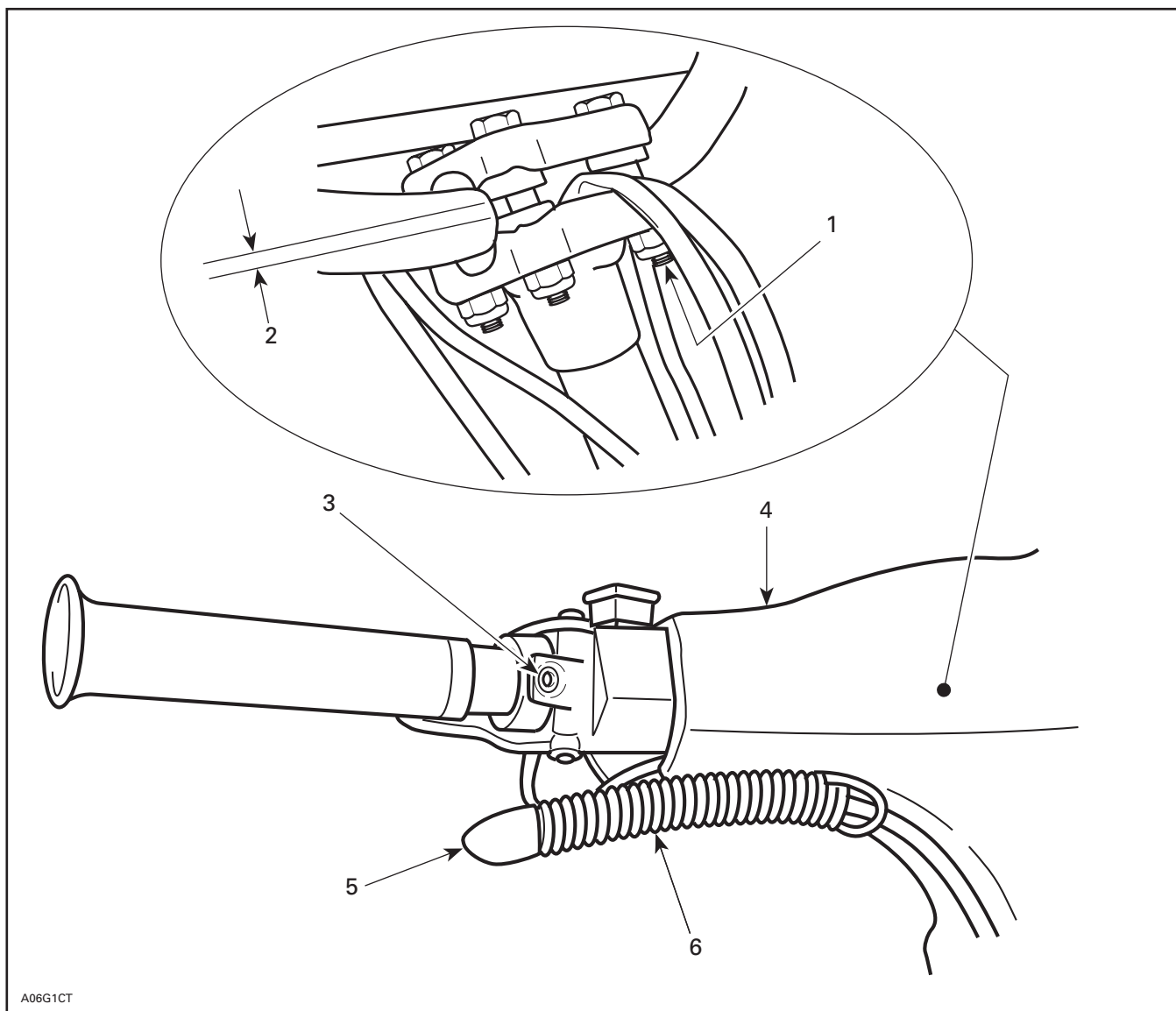
Adjust handlebar temporary and tighten nuts loosely for now.

Loosen, at least 3 turns, Allen screw of throttle and brake handle housings.

Install steering pad temporary, and adjust for proper fit with console.

Remove steering pad and torque nuts to 26 N•m (19 lbf•ft).

Reinstall steering pad, adjust and tighten throttle and brake handle housings.



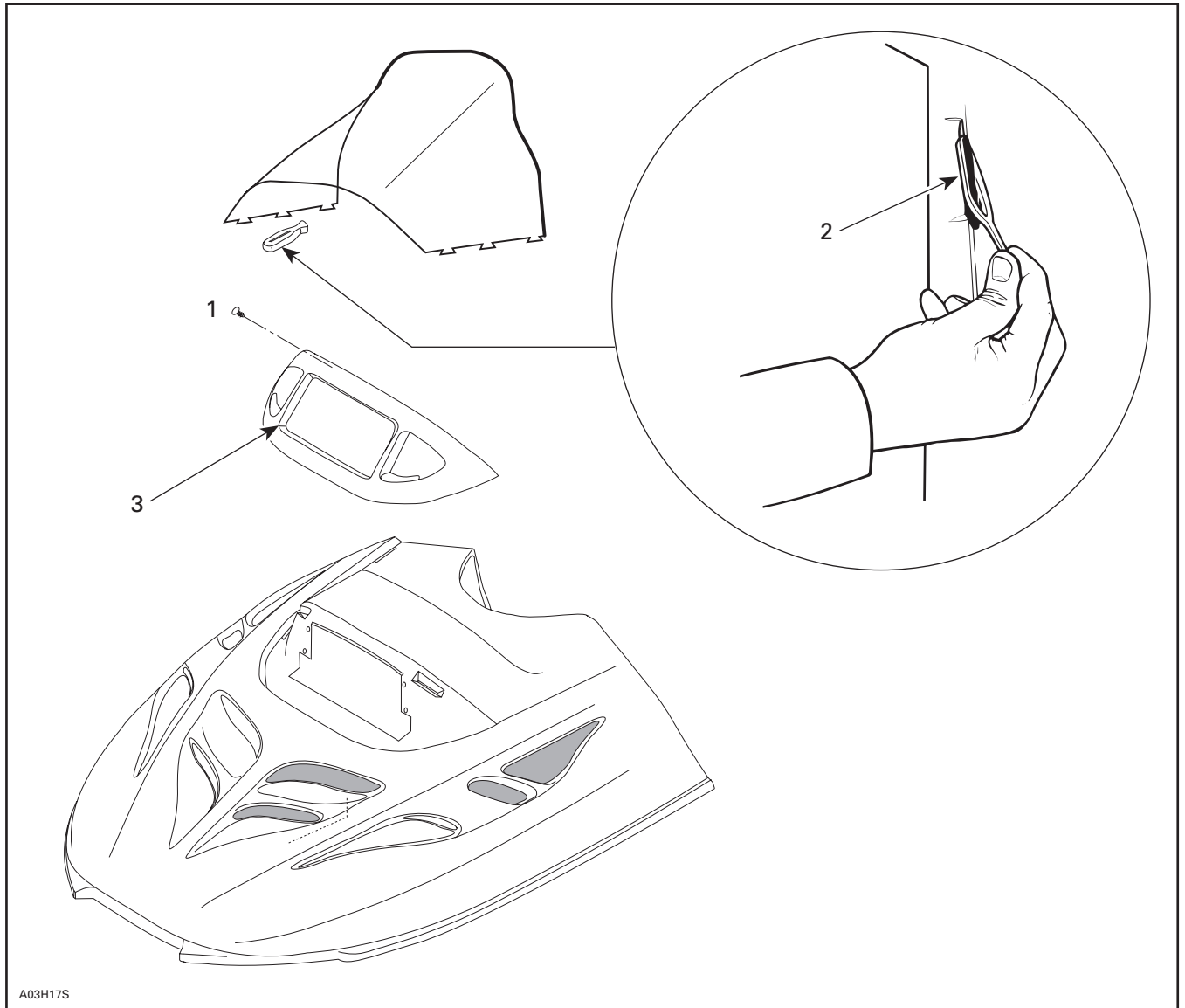
1. Torque to 26 N•m (19 lbf•ft)
2. Equal gap each side
3. Loosen allen screw
4. Steering pad (P/N 572 0840 00 and 572 0841 00) (engine compartment)
5. Use liquid soap to ease installation
6. Keyway (2) (P/N 572 0724 00) (section no. 3)



PARTS INSTALLATION WINDSHIELD



Install windshield on dashboard.



A03H17S

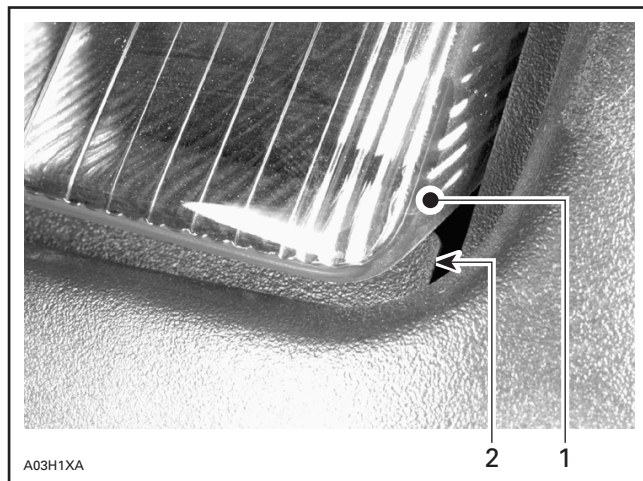
1. Dart (1) (P/N 414 6443 00) (section no. 2 or 5)
2. Latch (6) (P/N 570 0238 00) (section no. 4 or 6)
3. Temporary remove headlamp molding for windshield installation



PARTS INSTALLATION WINDSHIELD



When reinstalling headlamp molding make sure lip is behind headlamp.



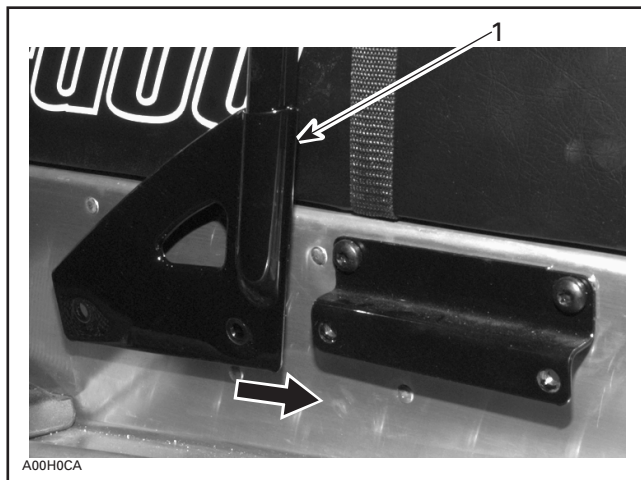
1. Headlamp
2. Lip of headlamp molding behind headlamp



PARTS INSTALLATION BACKREST



Except Touring E and Formula S/SL

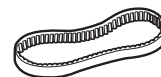


1. Slide backrest on mounting bracket and install with screws



PARTS INSTALLATION

DRIVE BELT



Clean pulleys and disc brake with a suitable cleaner such as Loctite Cleaning Solvent (P/N 413 7082 00) before installing drive belt.



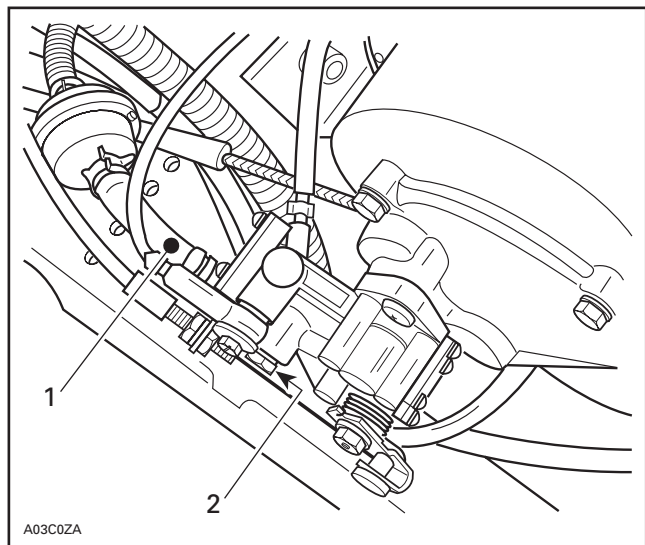
LIQUIDS

OIL INJECTION PUMP BLEEDING



To assure additional protection during the initial engine break-in, 500 mL (18 imp. oz) of BOMBARDIER Injection Oil (P/N 496 0133 00) should be added to fuel for the first full filling of fuel tank. Always remove and clean spark plugs after engine break-in.

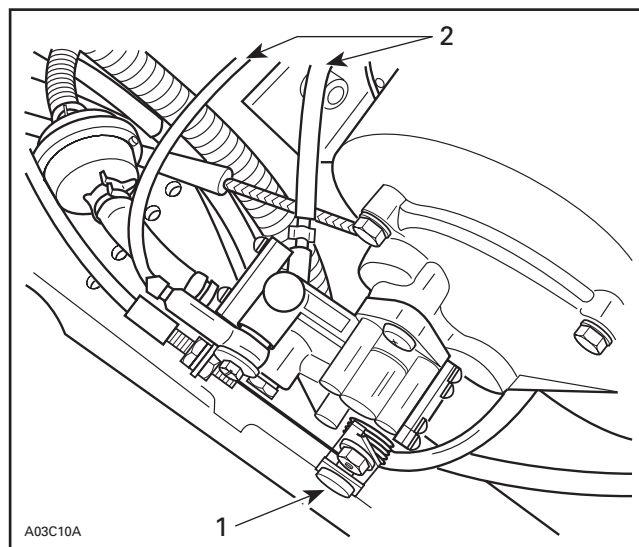
Bleed main oil line (between tank and pump) by loosening the bleeder screw until air has escaped from the line. Add injection oil as required.



TYPICAL

1. Main oil line
2. Bleeder screw

Bleed the small oil line between pump and intake manifold by running engine at idle while holding the pump lever in fully open position.



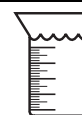
TYPICAL

1. Fully open position
2. Small lines



LIQUIDS

BRAKE FLUID LEVEL



Check brake fluid in reservoir for proper level. Add fluid (DOT 4) as required.



CAUTION

Use only (DOT 4) brake fluid from a sealed container. Do not store or use a partial bottle of brake fluid.

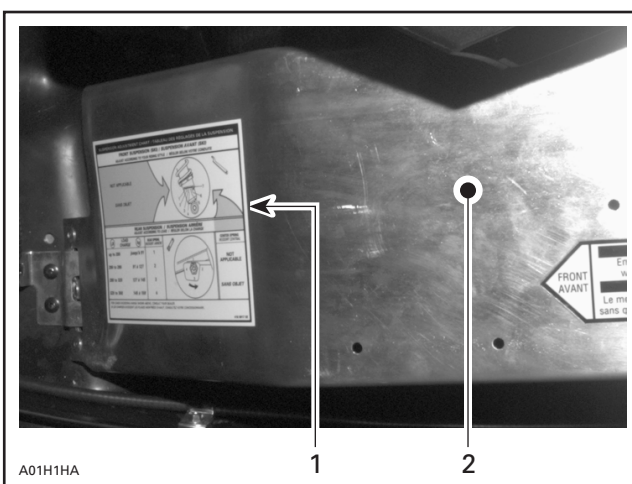


ADJUSTMENT

SUSPENSION



Rear suspension is calibrated at factory. At pre-delivery, mechanics should perform suspension adjustments according to customer riding style and vehicle load as described on suspension adjustment chart which is located on pulley guard.



1. Adjustment chart
2. Pulley guard



ADJUSTMENT

TRACK



Refer to *Shop Manual* to adjust track tension and alignment. See Technical Data section at the end of this bulletin.



ADJUSTMENT

DRIVEN PULLEY

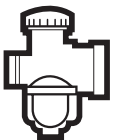


It is usual to experience spring settings during break-in period of a new spring. The factory spring preload is slightly higher to compensate for springs settings. Specifications in Technical Data are applicable after break-in period (about 10 hours of use).



TECHNICAL DATA



	MODELS	TOURING E/E LT FORMULA S SKANDIC 380	TOURING LE
	Engine Type	377	443
	Maximum HP RPM ① ±100 RPM	6900	7000
	Rotary Valve P/N Opening(BTDC)/ Closing (ATDC)	N.A.	N.A.
	Carburetor Type	2 x Mikuni VM 30 mm	2 x Mikuni VM 34
	Main Jet	140	180
	Needle Jet	P-0 (159)	P-1 (159)
	Pilot Jet	40	40
	Needle Identification- clip position	6DP9	6DH2
	Slide Cut-away	2.5	2.5
	Float Adjustment ± 1 mm (± .040 in)	23.9 (.94)	23.9 (.94)
	Air Screw Adjustment ± 1/32 turn	1-1/4	2-1/4
	Idle Speed RPM ±200 RPM	1650	1650
	Gas Grade/Octane Number (R + M)/2	Regular Unleaded/87	Regular Unleaded/87
	Gas/Oil Ratio	Oil Injection	Oil Injection
	Ignition Timing BTDC ② mm (in)	1.68 (.066)	1.68 (.066)
	Trigger Coil Air-Gap mm (in)	0.45 - 0.55 (.018 - .022)	0.45 - 0.55 (.018 - .022)
	Gear Ratio teeth	21/44	21/44
	Engagement Speed ±100 RPM	Formula S: 3100 Touring E: 3100 Touring E LT: 2900 Skandic 380: 2900	3500
	Drive Pulley Calibration Screw Position	N.A.	4
	Pulley Distance Z (+ 0, - 1) mm (+ 0, - 1/32 in)	25.5 (1)	16.5 (21/32)
	Offset X ± 0.5 mm (± .020 in)	33.4 (1-5/16)	35.0 (1-3/8)
	Offset Y	Dimension Y must exceed from 0.5 mm (.020 in) to 1.5 mm (.059 in)	Dimension Y must exceed from 1 mm (.039 in) to 2 mm (.079 in)
	Drive Belt Adjustment Deflection ±5 mm (± .197 in)	32 (1-1/4)	32 (1-1/4)
	Force kg (lbf)	11.34 (25)	11.34 (25)
	Driven Pulley Preload kg (lbf)	4.8 (10.582)	4.8 (10.582)
	Drive Chain Tension	④	④
	Track Adjustment Deflection ⑤ mm (in)	40 to 55 (1-9/16 to 2-5/32)	40 to 55 (1-9/16 to 2-5/32)

① Engine speed at which maximum power is achieved.

② At 6000 RPM (engine cold) with headlamp turned on.

③ Force applied midway between pulleys to obtain specified deflection.

④ Fully tighten adjusting screw by hand then back OFF only far enough for hair pin installation.

⑤ Deflection with a 7.3 kg (16 lb) downward pull.

BTDC: Before Top Dead Center

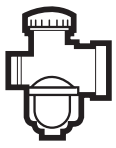
ATDC: After Top Dead Center

N.A.: Not Applicable



TECHNICAL DATA



	MODELS		TOURING SLE FORMULA SL SKANDIC 500
	Engine Type		503
	Maximum HP RPM ①	± 100 RPM	7100
	Rotary Valve	P/N Opening(BTDC)/ Closing (ATDC)	N.A.
	Carburetor Type		PTO VM 34-481 MAG VM 34-482
	Main Jet		PTO 180 MAG 170
	Needle Jet		P-0 (159)
	Pilot Jet		40
	Needle Identification— clip position		6DH2
	Slide Cut-away		2.5
	Float Adjustment	± 1 mm (± .040 in)	23.9 (.94)
	Air Screw Adjustment	± 1/32 turn	1-5/8
	Idle Speed RPM	±200 RPM	1650
	Gas Grade/Octane Number	(R + M)/2	Regular Unleaded/87
	Gas/Oil Ratio		Oil Injection
	Ignition Timing BTDC ②	mm (in)	1.66 (.065)
	Trigger Coil Air-Gap	mm (in)	0.45 - 0.55 (.018 -.022)
	Gear Ratio		Teeth Touring SLE and Skandic 500: 21/44 Formula SL: 22/44
	Engagement Speed		±100 RPM Touring SLE and Skandic 500: 3000 Formula SL: 3600
	Drive Pulley Calibration Screw Position		Formula SL: 3 Touring SLE and Skandic 500: 4
	Pulley Distance	Z (+ 0, - 1) mm (+ 0, - 1/32 in)	16.5 (21/32)
	Offset	X ± 0.4 m (± 1/64 in)	35.0 (1-3/8)
		Y	Dimension Y must exceed X from 1 mm (1/32 in) to 2 mm (5/64 in)
	Drive Belt Adjustment	Deflection mm (in)	32 (1-1/4)
		Force kg (lbf)	11.34 (25)
	Driven Pulley Preload		kg (lbf) 4.8 (10.582)
	Drive Chain Tension		④
	Track Adjustment	Deflection ⑤ mm (in)	40 to 55 (1-9/16 to 2-5/32)

① Engine speed at which maximum power is achieved.

② At 6000 RPM (engine cold) with headlamp turned on.

③ Force applied midway between pulleys to obtain specified deflection.

④ Fully tighten adjusting screw by hand then back OFF only far enough for hair pin installation.

⑤ Deflection with a 7.3 kg (16 lb) downward pull.

BTDC: Before Top Dead Center

ATDC: After Top Dead Center

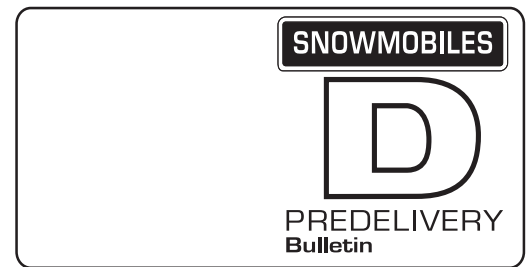
PTO: Power Take OFF side

MAG: Magneto side

N.A.: Not applicable

Please route to :

	Init.
☐ Service	☐
☐ Sales	☐
☐ Parts	☐



No. **97-2**

REVISION 1

Date: July 4, 1996

SUBJECT: Predelivery Procedures

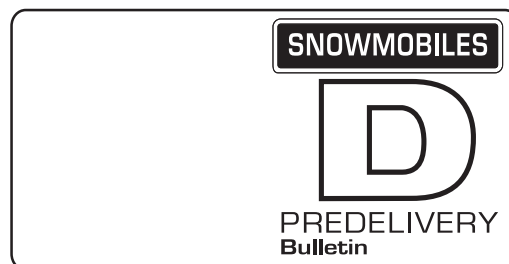
Please update the predelivery bulletin 97-2 with the following page. Replace existing page of your bulletin.

Year models has been changed from 1996 to 1997.

ANNEX FROM 97-2 REVISION 1

Please route to :

☐ Service	Init. ☐
☐ Sales	☐
☐ Parts	☐



No. **97-2**

➡ Date: July 4, 1996

SUBJECT: Predelivery Procedures

YEAR	MODEL NAME	MODEL NUMBER	SERIAL NUMBER
➡ 1997	Canada and United states: Touring E/E LT/LE/SLE, Skandic 380/500 Formula S/SL	1115, 1116, 1113, 1112, 1110, 1111, 1120, 1121, 1117, 1118, 1108, 1106, and 1107	ALL
➡ 1997	Sweden: Touring LE/SLE, Skandic 380/500 and Formula S/SL	1186, 1114, 1122, 1119 and 1109	ALL

This bulletin must be used in conjunction with the check list enclosed in *Operator's Guide* bag. Make sure that *Predelivery Check List* is completed and signed.

 WARNING
To obtain warranty coverage, predelivery procedures must be performed by an authorized Bombardier snowmobile dealer. Apply all necessary torques as indicated.

NOTE: The Information and components/system descriptions contained in this document are correct at the time of publication. Bombardier Inc. however, maintains a policy of continuous improvement of its products without imposing upon itself any obligation to install them on products previously manufactured. Due to late changes, it may have some differences between the manufactured product and the descriptions and/or specifications in this document. Bombardier Inc. reserves the right at any time to discontinue or change specifications, designs, features, models or equipment without incurring obligation.

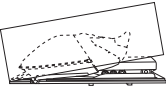
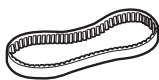
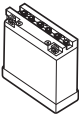
The illustrations in this document show the typical construction of the different assemblies and may not reproduce the full detail or exact shape of the parts. However, they represent parts that have the same or similar function.

The content of this bulletin is designed as a guideline only. All mechanics performing predelivery procedures should have attended the current model year service training. Further information or inquiries should be directed to your distributor service representative and/or specific *Shop Manual* sections.

Please complete the *Predelivery Check List* for each snowmobile and return a customer signed copy. Make sure the customer receives the *Operator's Guide*, *Safety Handbook* and video.

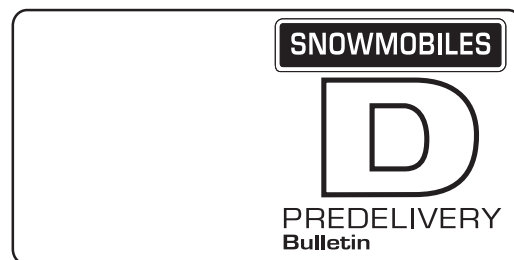
There is a tag attached to the ignition key, only the customer must removed it. This label will remind the customer to ask the dealer to perform suspension adjustments according to riding style and vehicle load.

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	PARTS INSTALLATION 5 FRONT SUSPENSION		LIQUIDS 13 OIL INJECTION PUMP BLEEDING
	PARTS INSTALLATION 6 BATTERY		LIQUIDS 14 BRAKE FLUID LEVEL
	PARTS INSTALLATION 8 SKIS		ADJUSTMENT 14 SUSPENSION
	PARTS INSTALLATION 9 STEERING PAD		ADJUSTMENT 14 TRACK
	PARTS INSTALLATION 11 WINDSHIELD		ADJUSTMENT 14 DRIVEN PULLEY
	PARTS INSTALLATION 12 BACKREST		TECHNICAL DATA 15

Please route to :

☐ Service	☐ Init.
☐ Sales	☐
☐ Parts	☐



No. **97-3**

Date: July 29, 1996

SUBJECT: Predelivery Procedures

YEAR	MODEL NAME	MODEL NUMBER	SERIAL NUMBER
1997	Canada and United States: Summit* 500/583/670 and Formula* 500/500 De Luxe/583/Z	1157/1158/1159/1160/ 1162/1163/1138/1139/ 1191/1192/1141/1142/ 1145/1146	ALL
1997	Sweden: Summit 583 and Formula 500	1161/1140	ALL

This bulletin must be used in conjunction with the check list enclosed in the bag with the *Operator's Guide*. Make sure that predelivery check list is completed and signed.

◆ WARNING
To obtain warranty coverage, predelivery procedures must be performed by an authorized Bombardier snowmobile dealer. Apply all necessary torques as indicated.

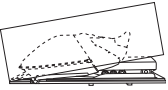
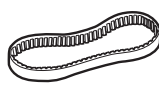
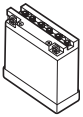
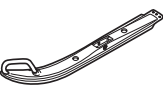
NOTE: The information and components/system descriptions contained in this document are correct at the time of publication. Bombardier Inc. however, maintains a policy of continuous improvement of its products without imposing upon itself any obligation to install them on products previously manufactured. Due to late changes, it may have some differences between the manufactured product and the descriptions and/or specifications in this document. Bombardier Inc. reserves the right at any time to discontinue or change specifications, designs, features, models or equipment without incurring obligation.

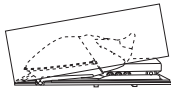
The illustrations in this document show the typical construction of the different assemblies and may not reproduce the full detail or exact shape of the parts. However, they represent parts that have the same or similar function.

The content of this bulletin is designed as a guideline only. All mechanics performing predelivery procedures should have attended the current model year service training. Further information or inquiries should be directed to your distributor service representative and/or specific *Shop Manual* sections. Please complete the *Predelivery Check List* for each snowmobile and retain a customer signed copy. Make sure the customer receives the *Operator's Guide*, *Safety Handbook*, *Predelivery Check List* signed copy and video.

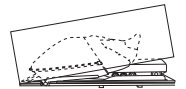
There is a tag attached to the ignition key, only the customer must removed it. This label will remind the customer to ask dealer to perform suspension adjustments according to riding style and vehicle load.

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			TECHNICAL DATA 14



UNCRATING



◆ WARNING

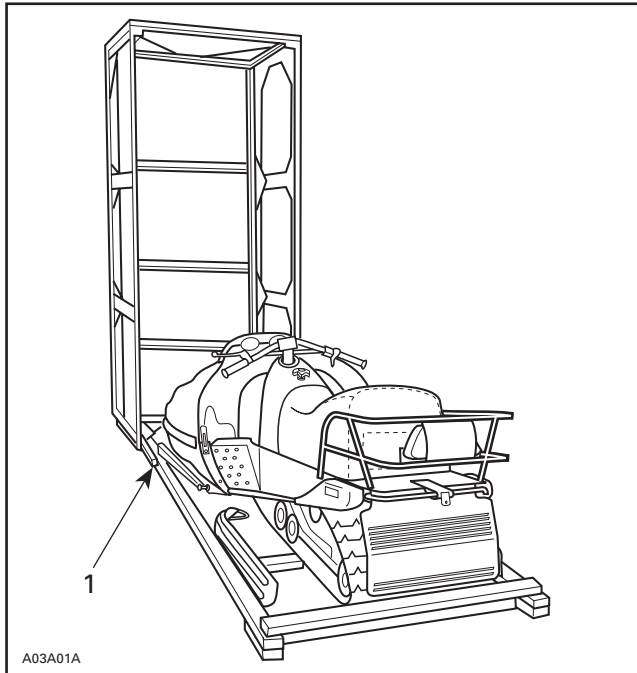
Torque wrench tightening specifications must be strictly adhered to. Locking devices (e.g. lock tabs, elastic stop nuts) must be installed or replaced by new ones, where specified. If the efficiency of a locking device is impaired, it must be renewed.

Carefully lay the crate on its bottom.

▼ CAUTION

Allowing the crate to drop may cause serious damage to the vehicle.

Remove all screws retaining cover to vehicle base. Tip cover toward front of vehicle. There is a notch at the front of crate. Lift cover slowly to avoid damaging the snow guard or taillight.



1. Notch

Detach parts to be installed (e.g. skis, windshield) from the vehicle and its base.

Cut locking ties retaining windshield. Slowly pull out metal strip, if equipped.

When this metal strip is under the seat loosen 2 or 4 nuts retaining the seat before pulling out the metal strip.

▼ CAUTION

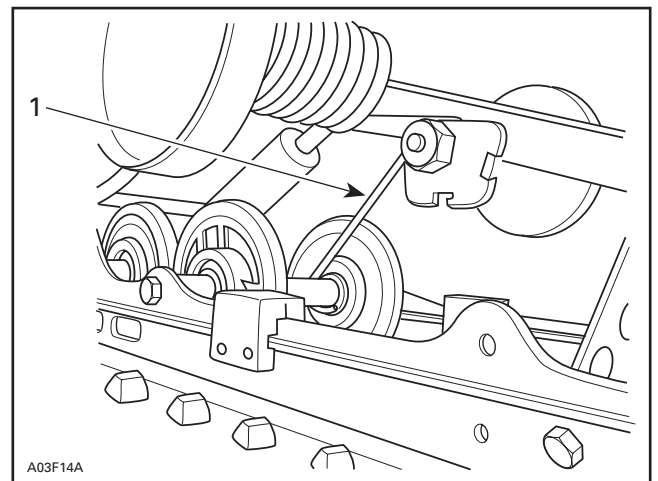
Make sure vehicle is properly supported before removing ski legs and rear suspension from crate brackets.

Detach ski legs from crate. Keep ski leg bolts and slider cushions to bolt skis to ski legs. Discard crating spacers and nuts.

Remove vehicle from base.

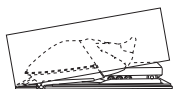
Remove steering pad, drive belt, predelivery kit and detach shock absorbers from engine compartment.

Apply pressure on rear suspension and remove hook from rear portion of suspension, as illustrated.

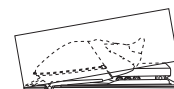


1. Remove hook

Using a long flat chisel such as Snap-On® PPC820LA cut shipping strap that collapses front portion of rear suspension.

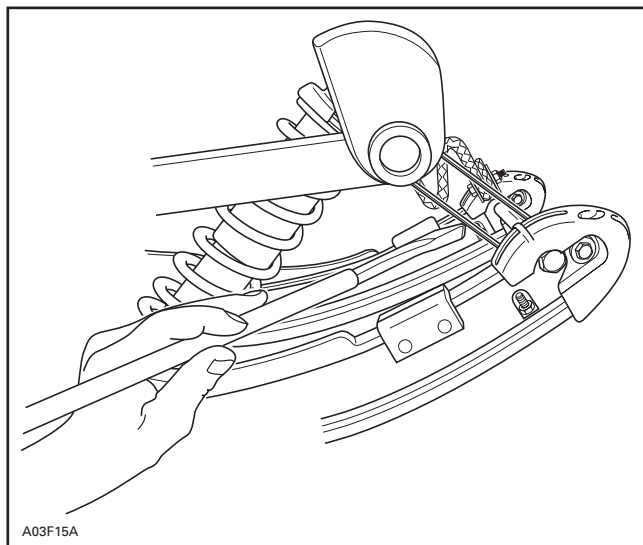


UNCRATING



◆ WARNING

Failure to use this method of strap removal could result in personal injury.

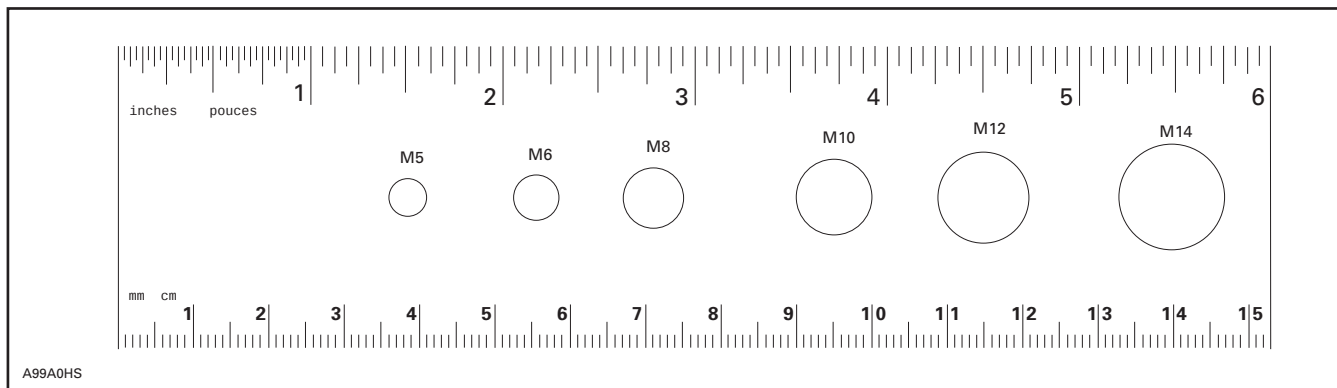


A03F15A

◆ WARNING

Shipping strap must be cut and hook removed to have snowmobile suspension operational.

PREDELIVERY KIT P/N	MODELS
580 6540 00	SUMMIT 500/583/670 FORMULA Z FORMULA 500 DE LUXE
580 6543 00	FORMULA 500/583



A99A0HS

NOTE: This ruler can be helpful to identify fastener length or size.



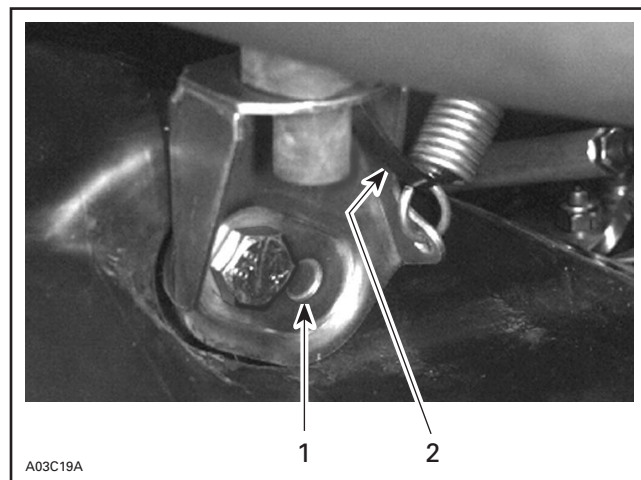
PARTS INSTALLATION

FRONT SUSPENSION



Formula 500/500 De Luxe/583, Summit 583

Cut locking tie retaining exhaust spring to exhaust support.



1. Lug in recess
2. Locking tie

All Models

Lift front of vehicle and block safely.

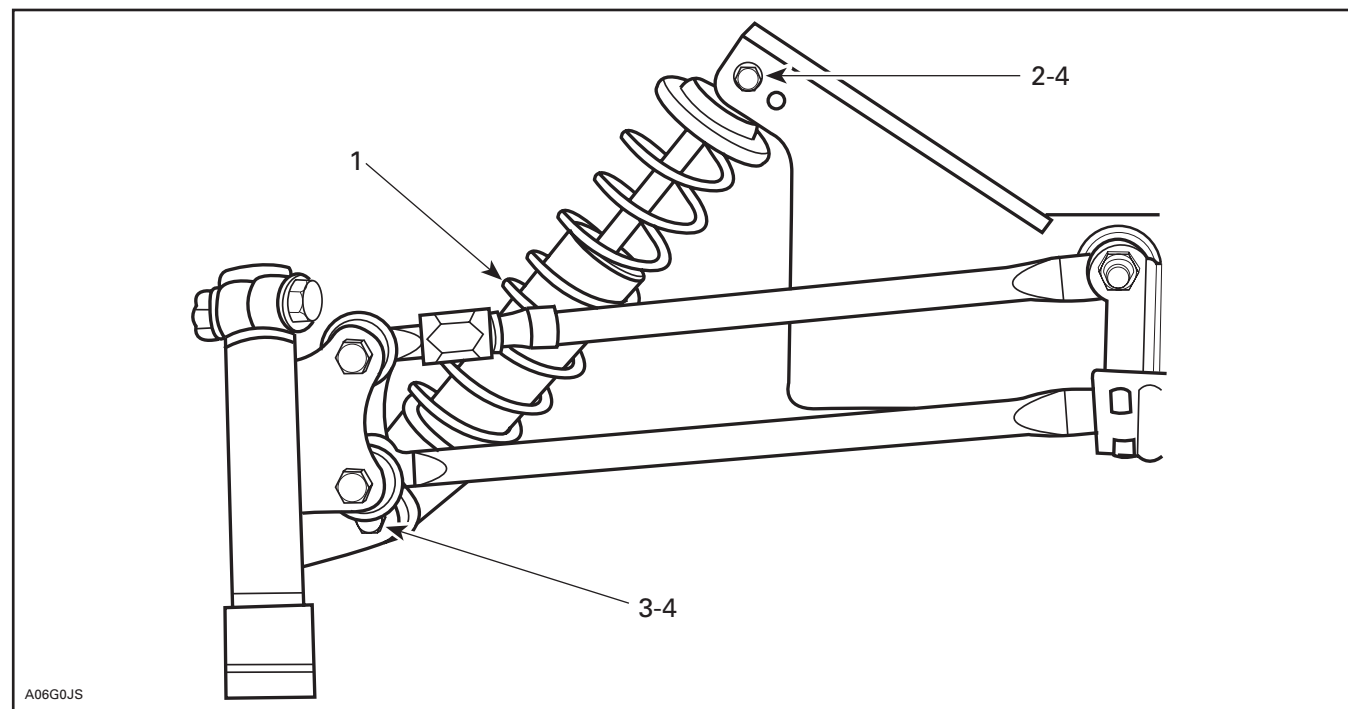
Remove and discard shipping brackets from suspension. Discard spring clips, keep screws.

Secure shock absorbers to suspension with their adjusting ring at bottom.

NOTE: Except for Summit 500 and 583 bottom screw heads, position screw heads toward front.

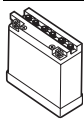
Properly position exhaust support on chassis making sure that its lug rests in chassis recess. Hook up exhaust spring.

NOTE: On models equipped with a 5 holes exhaust support, hook up exhaust spring on mid-hole.



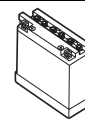
TYPICAL — RH SIDE SHOWN

1. Shock absorber (2) (Engine compartment) adjusting ring, if equipped, at bottom
2. Screw M10 x 1.5 x 60 (2) (P/N 222 0060 65) (On suspension)
3. Screw M10 x 1.5 x 55 (2) (P/N 222 0055 65) (On suspension)
4. Elastic flanged nut M10 x 1.5 (2) (P/N 228 5010 45) (Section no. 4 or 5). Torque to 48 N•m (35 lbf•ft)



PARTS INSTALLATION

BATTERY



Formula 500 De Luxe Only

During vehicle preparation, the battery can be activated as described in *Shop Manual*.



CAUTION

Prior to charging the battery, always remove it from the vehicle to prevent electrolyte spillage. Do not charge an installed battery.

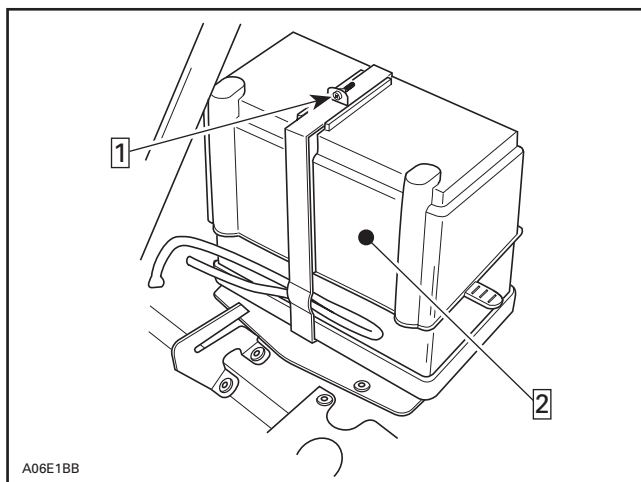
Battery Removal

Remove belt guard.

Remove air intake silencer.

Unfasten battery retaining strips.

Open strips and lift battery protective boot.



Step 1 :Detach and open

Step 2 :Lift battery protective boot

Withdraw battery from vehicle.

Battery Installation

NOTE: Before reinstalling battery and air silencer check oil pump lever adjustment.

Install vent tube on battery.

Connect RED positive cable and RED wire to positive battery terminal.

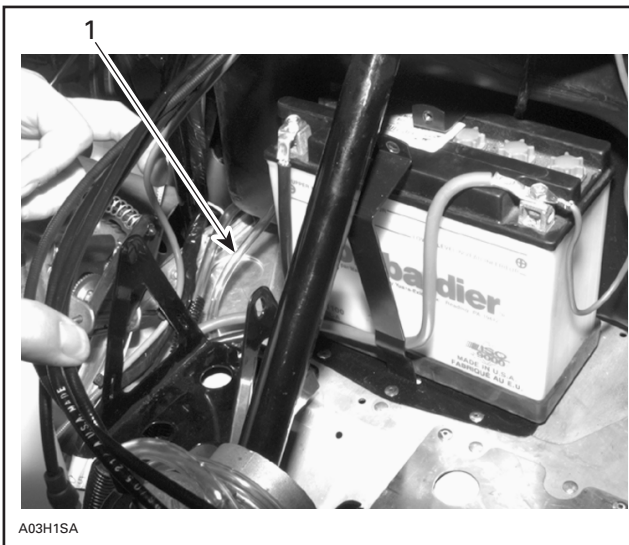
Connect BLACK negative cable LAST.



WARNING

Always connect the battery cables exactly in the specified order. Connect RED positive cable first, then BLACK negative ground cable.

Connect vent tube to vehicle fitting on front frame, as shown.



A03H1SA

BATTERY CONNECTION

1. Vent tube on fitting

Apply silicone dielectric grease (P/N 413 7017 00) on battery posts and connectors.

Ensure vent tube is properly installed on battery elbow, then install protective boot over battery.

Close and fasten retaining strips as shown on the next photo.



A03H1WA

BATTERY PROTECTIVE BOOT INSTALLED

Ensure that vent tube is not kinked or blocked. Reinstall air silencer.



PARTS INSTALLATION SKIS

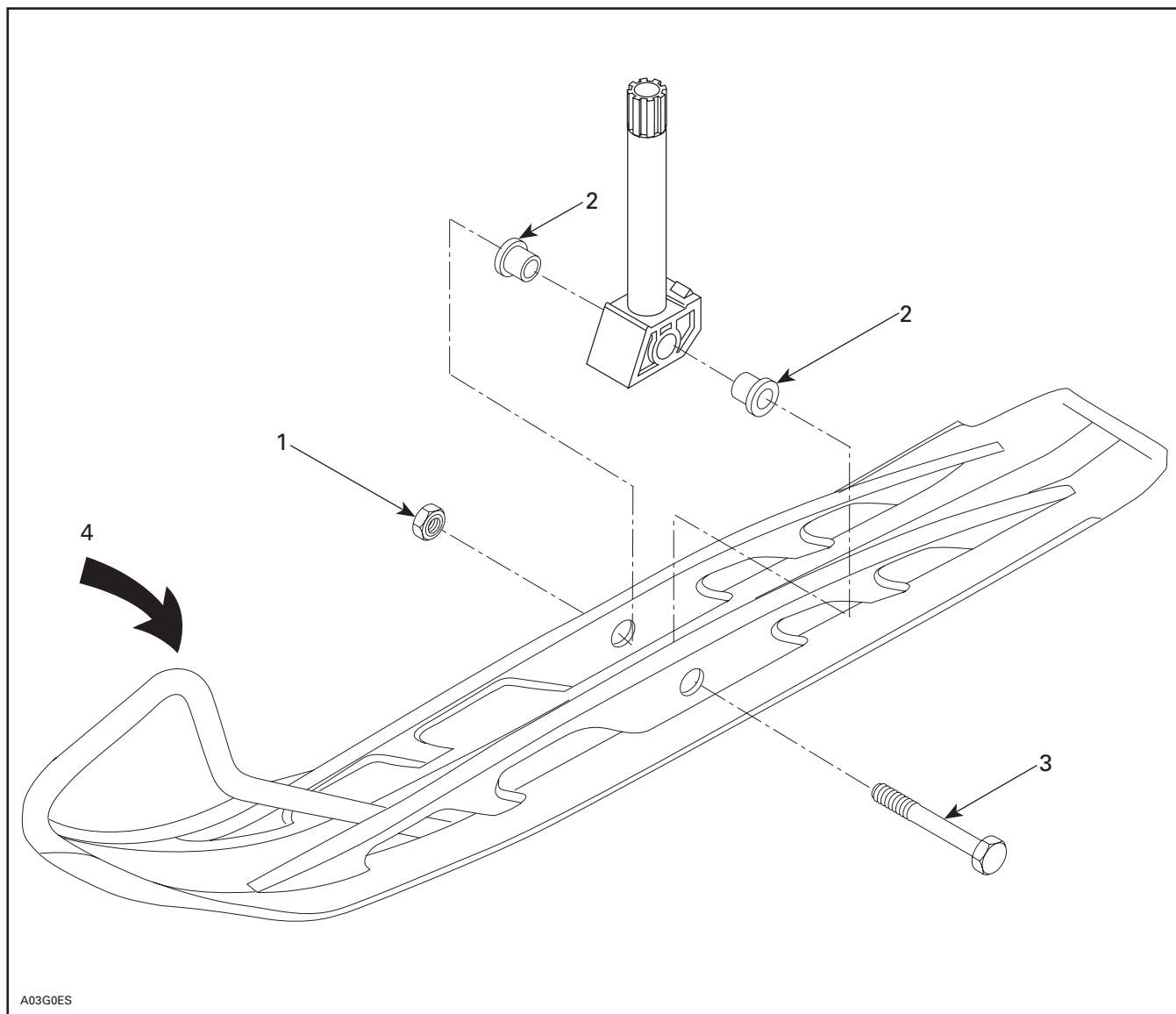


Formula 500 and 583 Only

Install skis on vehicle.

NOTE: Make sure that slider cushions are still in ski leg.

Replace vehicle on ground.



LEFT SIDE SHOWN

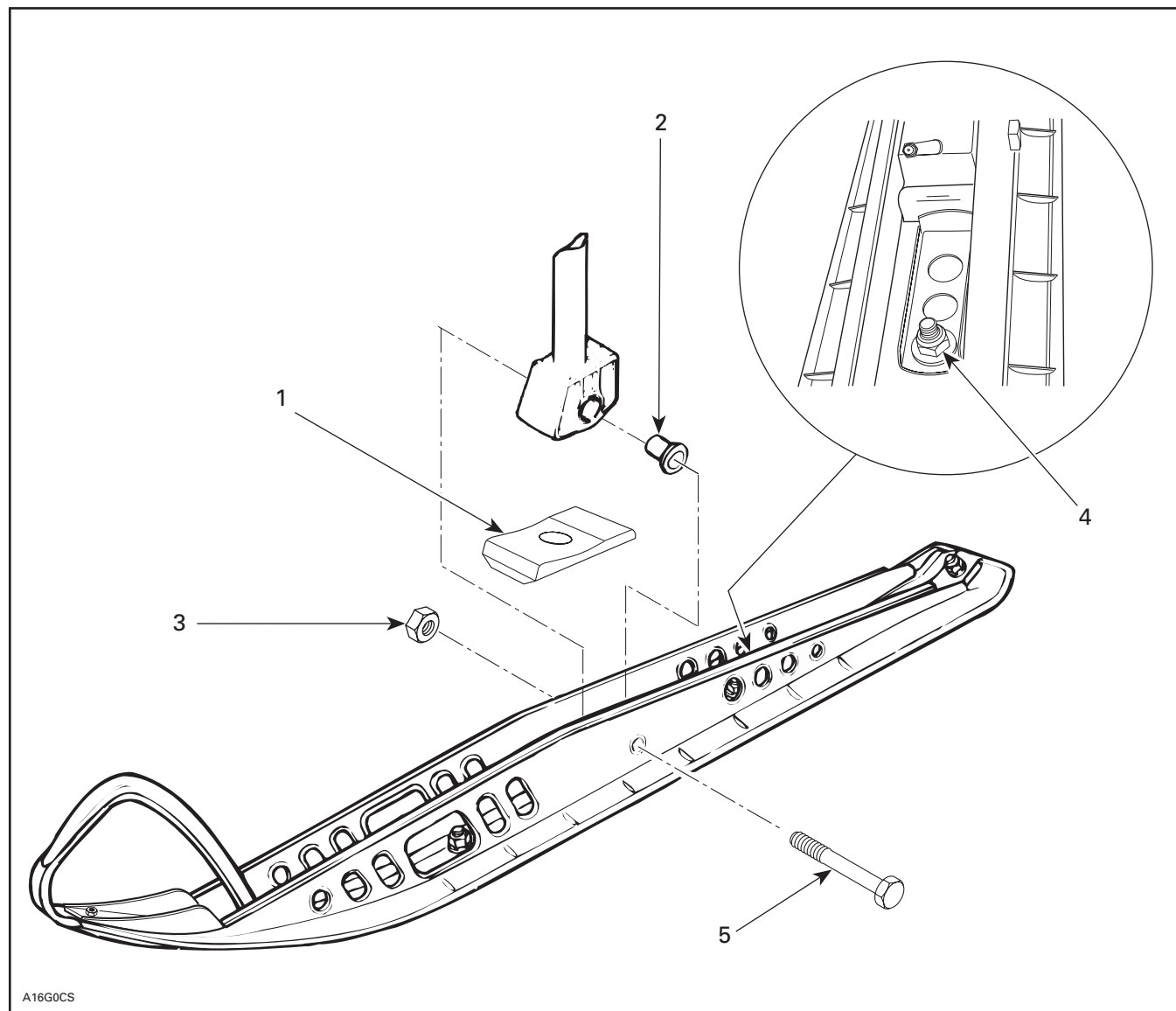
1. Elastic flanged nut M12 x 1.75 (2) (P/N 228 5210 45) (Section no. 1). Torque to 40 N•m (30 lbf•ft)
2. Slider cushion (4) (Ski leg)
3. Bolt M12 (2) (Ski leg)
4. Twist ski to ease bolt installation



PARTS INSTALLATION SKIS



Formula 500 De Luxe, Formula Z, Summit 500/583/670



A16G0CS

LEFT SIDE SHOWN

1. Stop bounding (2) (P/N 570 0468 00) (Section no. 8)
2. Slider cushion (4) (Ski leg)
3. Elastic flanged nut M12 (2) (Ski leg). Torque to 40 N•m (30 lbf•ft)
4. Loosen then adjust against stop bounding.
Torque to 14 N•m (124 lbf•in)
5. Bolt M12 (2) (Ski leg)

After ski installation, adjust stopper against stop bounding then tighten nut to 14 N•m (124 lbf•in). More preload on stop bounding will result in a more aggressive steering. Adjust according to driver preferences.



PARTS INSTALLATION STEERING PAD



All Models

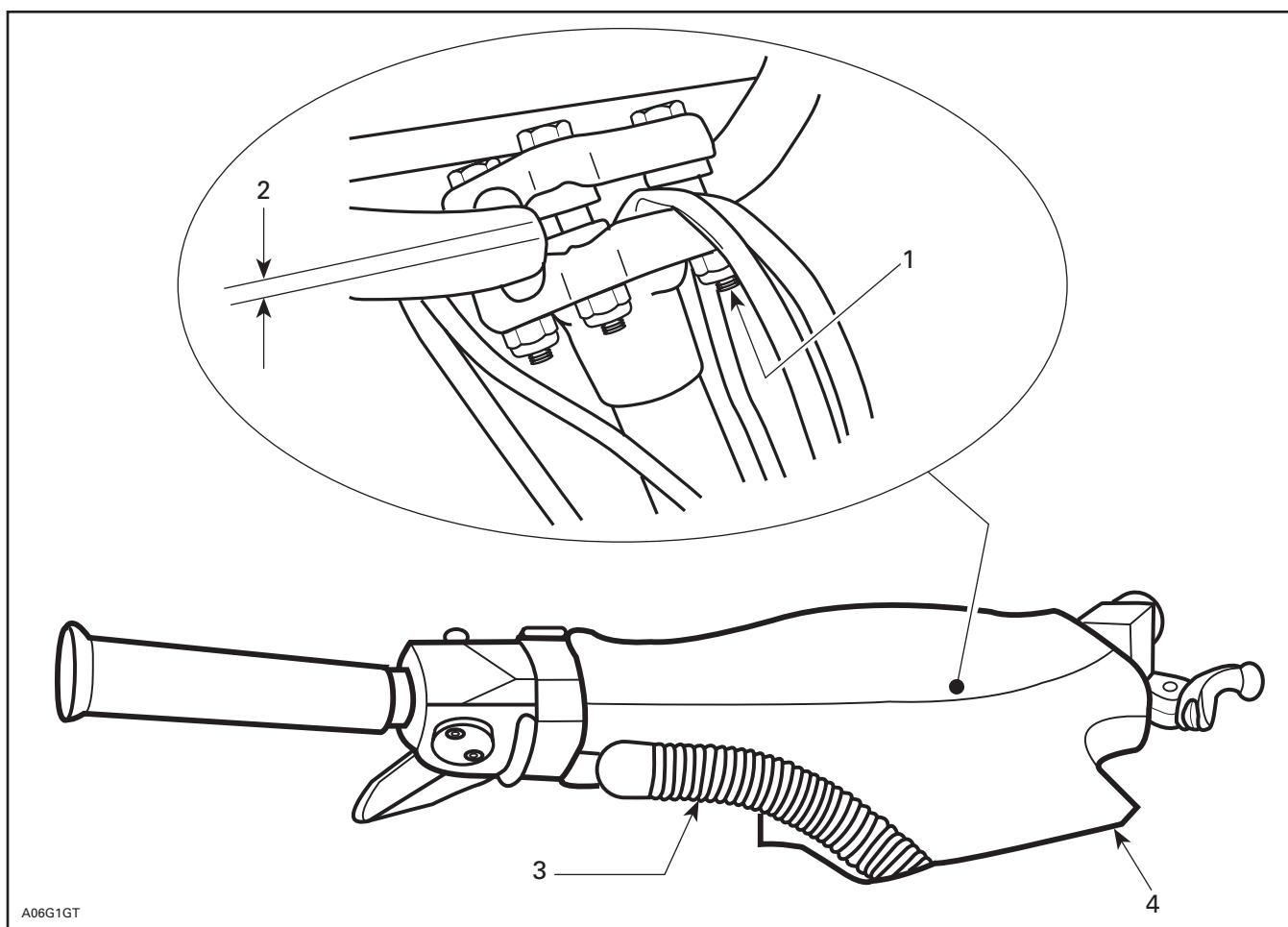
Adjust handlebar temporary and tighten nuts loosely for now.

Loosen, at least 3 turns, Allen screw of throttle and brake handle housings.

Install steering pad temporary, and adjust for proper fit with console.

Remove steering pad and torque nuts to 26 N•m (19 lbf•ft).

Reinstall steering pad, adjust and tighten throttle and brake handle housings.

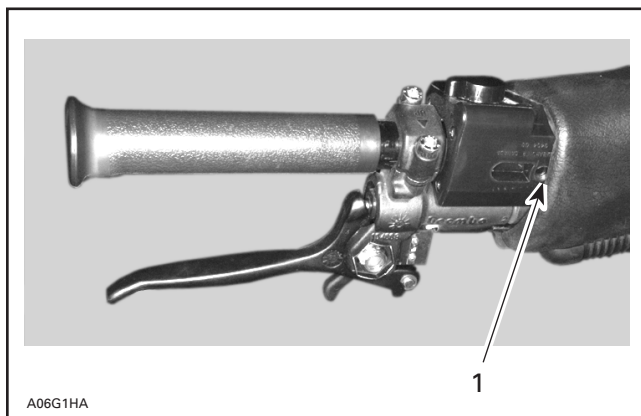


1. Torque to 26 N•m (19 lbf•ft)
2. Equal gap each side (Both clamps)
3. Keyway (2) (P/N 572 0724 00) (Section no. 3 or 5)
4. Steering pad (engine compartment)



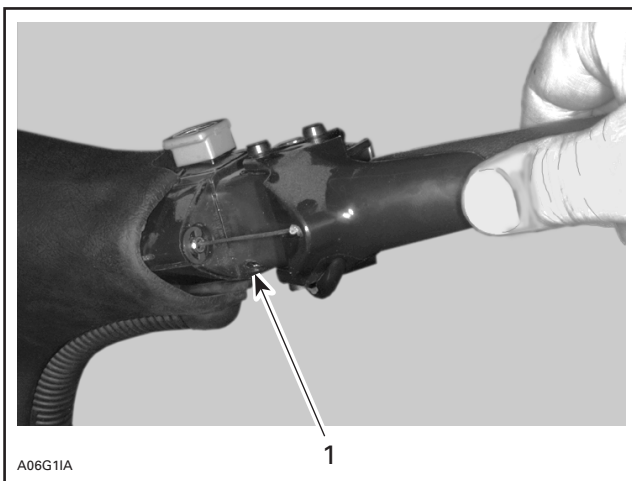
PARTS INSTALLATION

STEERING PAD



BRAKE HANDLE HOUSING

1. Tighten set screw to 2 N•m (18 lbf•in)



THROTTLE HANDLE HOUSING

1. Tighten set screw to 2 N•m (18 lbf•in)



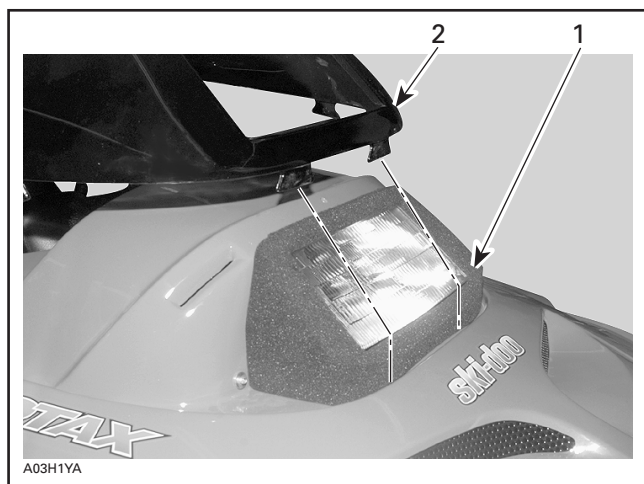
PARTS INSTALLATION WINDSHIELD



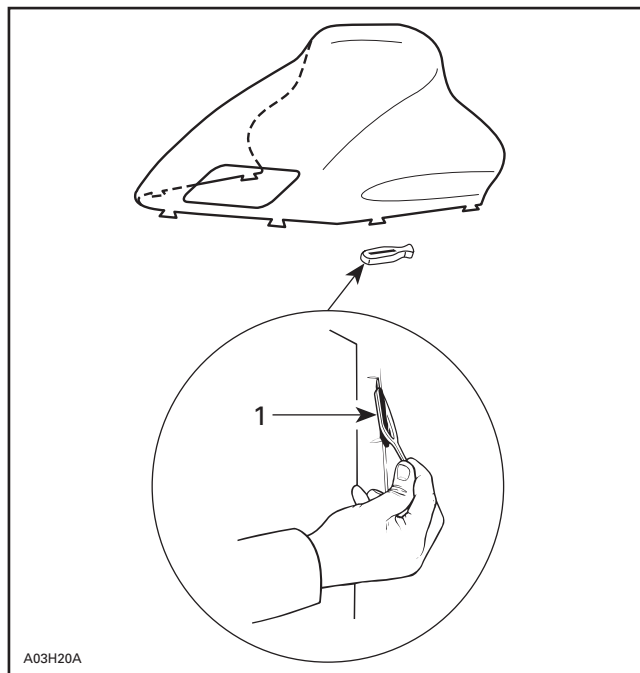
All Models

Install windshield on dashboard.

NOTE: Make sure that protective foam is properly positioned around headlamp before installing windshield.



1. Protective foam
2. Install windshield on dashboard



1. Latch (6) (P/N 570 0238 00) (section no. 4 or 6)

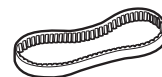


WINDSHIELD INSTALLED ON DASHBOARD



PARTS INSTALLATION

DRIVE BELT



Clean pulleys and disc brake with a suitable cleaner such as Loctite Cleaning Solvent (P/N 413 7082 00) before installing drive belt.



LIQUIDS

OIL INJECTION PUMP BLEEDING



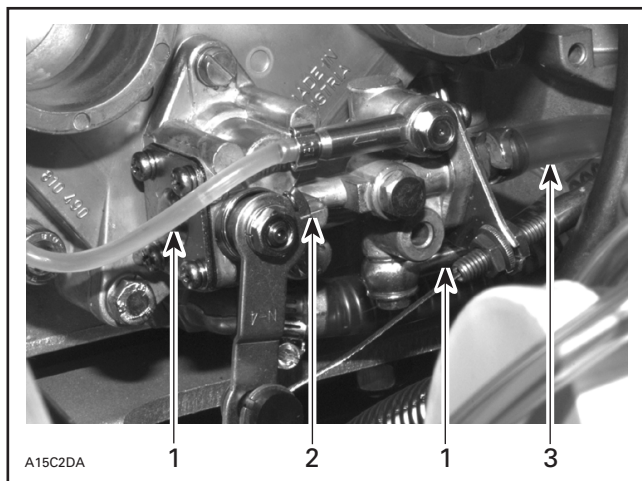
SUPPLEMENTAL OIL

To assure additional protection during the initial engine break-in, 500 mL (18 imp. oz) of BOMBARDIER ROTAX Injection Oil (P/N 413 8030 00) should be added to fuel for the first full filling of fuel tank. Always remove and clean spark plugs after engine break-in.

BLEEDING PROCEDURE

Remove air silencer and move carburetors aside. Bleed main oil line (between tank and pump) by loosening the bleeder screw until air has escaped from the line. Add injection oil as required.

Check also for proper oil lever adjustment. Marks must align when throttle lever is activated just enough to take all cable play.

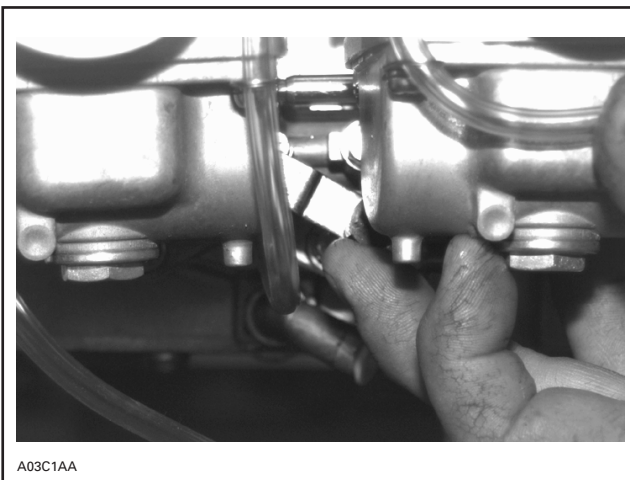


1. Small oil line
2. Marks aligned
3. Main oil line

Reinstall all parts except air silencer.

Bleed the small oil line between pump and intake manifold by running engine at idle while holding the pump lever in fully open position.

NOTE: If the air silencer has been reinstalled, make a J hook out of mechanical wire to lift the lever.



TYPICAL — ENGINE AT IDLE
Reinstall air silencer.



ADJUSTMENT DRIVE PULLEY



Summit 500 and 583

Adjust TRA drive pulley screw according to decal on belt guard.



LIQUIDS BRAKE FLUID LEVEL



Check brake fluid in reservoir for proper level. Add fluid (DOT) as required.

▼ CAUTION

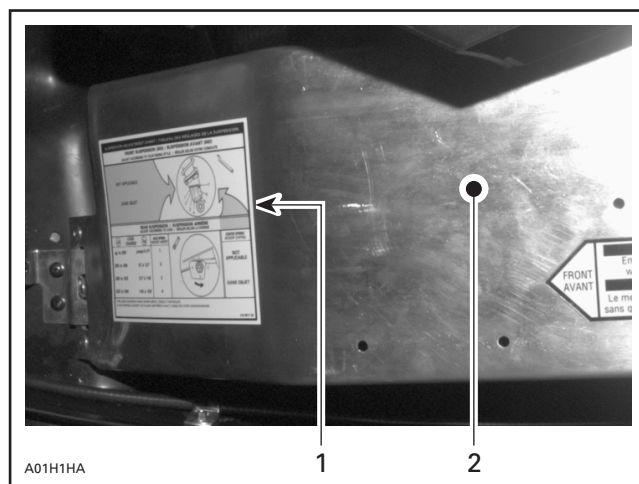
Use only (DOT 4) brake fluid from a sealed container. Do not store or use a partial bottle of brake fluid.



ADJUSTMENT SUSPENSION



Rear suspension is calibrated at factory. At pre-delivery, mechanics should perform suspension adjustments according to customer riding style and vehicle load as described on suspension adjustment chart which is located on pulley guard.



1. Adjustment chart
2. Pulley guard



ADJUSTMENT TRACK



Refer to *Shop Manual* to adjust track tension and alignment. See TECHNICAL DATA section at the end of this bulletin.



ADJUSTMENT DRIVEN PULLEY



It is usual to experience spring settings during break-in period of a new spring. The factory spring preload is slightly higher to compensate for springs settings. Specifications in TECHNICAL DATA are applicable after break-in period (about 10 hours of use).



TECHNICAL DATA



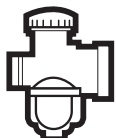
The content of the TECHNICAL DATA pages should be used as necessary to fine-tune and perform additional adjustments required on the snowmobile. Vehicles used at high altitudes, above 600 m (2000 ft) should be fitted with a high altitude kit. Further inquiries should be directed to your distributor service representative.



TECHNICAL DATA



A dot (•) on right indicates changes from 1996 model.

	MODELS	FORMULA 500/500 DE LUXE	FORMULA 583
	Engine Type	494	583
	Maximum HP RPM ① ±100 RPM	7750 •	7900 •
	Rotary Valve P/N Opening (BTDC)/ Closing (ATDC)	420 9245 09 135°/64°	420 9245 02 140/71
	Carburetor Type	PTO VM 38 - 345 • MAG VM 38 - 346 •	PTO VM 38 - 349 • MAG VM 38 - 350 •
	Main Jet	PTO 310/MAG 290 •	PTO 280/MAG 270 •
	Needle Jet	P-3 (480) •	Q-6 (480) •
	Pilot Jet	50 •	50 •
	Needle Identification – clip Position	6FEY1 •	6BGY15 •
	Slide Cut-away	2.5	2.5
	Float Adjustment ±1 mm (in)	18.1 (.71)	18.1 (.71)
	Air Screw Adjustment ± 1/16 turn	1-1/2 •	2-1/4 •
	Idle Speed RPM ±200 RPM	1800 •	1800 •
	Gas Grade/Octane Number (R + M)/2	Regular Unleaded/87	Regular Unleaded/87
	Gas/Oil Ratio	Oil Injection	Oil Injection
	Ignition Timing BTDC ② mm (in)	1.81 (.071)	1.75 (.069)
	Trigger Coil Air-Gap mm (in)	0.55 - 1.45(.022 - .057)	0.55 - 1.45(.022 - .057)
	Gear Ratio teeth	23/44 •	25/44 •
	Engagement Speed ± 100 RPM	4200 •	4100 •
	Drive Pulley Calibration Screw Position	3	3
	Pulley Distance Z (+ 0, - 1) mm (+ 0, - 1/32) in	16.5 (21/32)	
	Offset X ± 0.4 mm (± 1/64 in)	35.0 (1-3/8)	
	Offset Y	Dimension Y must exceed X from 1mm (1/32in) to 2 mm (5/64 in)	
	Drive Belt Adjustment Deflection mm (in)	32 (1-1/4)	
	Force ③ kg (lbf)	11.34 (25) •	
	Driven Pulley Preload ±0.7 kg (±1.5 lbf)	7.0 (15.43) •	
	Drive Chain Tension	Fully tighten adjusting screw by hand then back OFF only far enough for hair pin installation	
	Track Adjustment Deflection mm (in)	40 to 55 (1-9/16 to 2-5/32) with a 7.3 kg (16 lb) downward pull	30 to 40 (1-3/16 to 1-9/16) with a 7.3 kg (16 lb) down- ward pull •

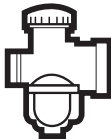
NOTE: See end of specifications for foot notes.



TECHNICAL DATA



A dot (•) on right indicates changes from 1996 model.

	MODEL	SUMMIT 500	
	Engine Type	494	
	Maximum HP RPM ① ±100 RPM	7750	
	Rotary Valve P/N Opening (BTDC)/ Closing (ATDC)	420 9245 09 135°/64°	
	Carburetor Type	PTO VM 38 - 363	MAG VM 38 - 364
	Main Jet	PTO 400	MAG 380
	Needle Jet	Q - 0 (480)	
	Pilot Jet	75	
	Needle Identification– clip Position	6FEY1	
	Slide Cut-away	2.5	
	Float Adjustment ±1 mm (in)	18.1 (.71)	
	Air Screw Adjustment ± 1/16 turn	2	
	Idle Speed RPM ±200 RPM	1800	
	Gas Grade/Pump Octane Number (R + M)/2	Regular Unleaded/87	
	Gas/Oil Ratio	Oil Injection	
	Ignition Timing BTDC ② mm (in)	1.81 (.071)	
	Trigger Coil Air-Gap mm (in)	0.55 - 1.45 .022 - .057)	
	Gear Ratio teeth	22/44	
	Engagement Speed ±100 RPM	4800	
	Drive Pulley Calibration Screw Position	5	
	Pulley Distance Z (+ 0, – 1) mm (+ 0, – 1/32) in	16.5 (21/32)	
	Offset X ± 0.4 mm (± 1/64 in)	35.0 (1-3/8)	
	Y	Dimension Y must exceed X from 1 mm (1/32 in) to 2 mm (5/64 in)	
	Drive Belt Adjustment Deflection ±.5 mm (in)	32 (1-1/4)	
	Force ③ kg (lbf)	11.34 (25)	
	Driven Pulley Preload ±0.7 kg (lbf)	7.0 (15.43)	
	Drive Chain Tension	Fully tighten adjusting screw by hand then back OFF only far enough for hair pin installation	
	Track Adjustment Deflection mm (in)	45 to 50 (1-3/4 - 2) with a 7.3 kg (16 lb) downward pull	

NOTE: See end of specifications for foot notes.



TECHNICAL DATA



A dot (•) on right indicates changes from 1996 model.

	MODEL	SUMMIT 583	
	Engine Type	583	
	Maximum HP RPM ①	±100 RPM	7800 •
	Rotary Valve	P/N Opening (BTDC)/ Closing (ATDC)	420 9245 09 135°/64°
	Carburetor Type	PTO VM 38 - 365	MAG VM 38 - 366 •
	Main Jet	PTO 340	MAG 330 •
	Needle Jet	Q-6 (480) •	
	Pilot Jet	75 •	
	Needle Identification- clip Position	6BGY15 •	
	Slide Cut-away	2.5	
	Float Adjustment	±1 mm (in)	18.1 (.71) •
	Air Screw Adjustment	± 1/16 turn	2-1/4 •
	Idle Speed RPM	±200 RPM	1900 •
	Gas Grade/Pump Octane Number	(R + M)/2	Regular Unleaded/87
	Gas/Oil Ratio	Oil Injection	
	Ignition Timing BTDC ②	mm (in)	1.75 (.069)
	Trigger Coil Air-Gap	mm (in)	0.55 - 1.45 .022 - .057
	Gear Ratio	teeth	22/44
	Engagement Speed	±100 RPM	4500
	Drive Pulley Calibration Screw Position		5 •
	Pulley Distance	Z (+ 0, - 1) mm (+ 0, - 1/32) in	16.5 (21/32)
	Offset	X ± 0.4 mm (± 1/64 in)	35.0 (1-3/8)
		Y	Dimension Y must exceed X from 1 mm (1/32 in) to 2 mm (5/64 in)
	Drive Belt Adjustment	Deflection ±.5 mm (in)	32 (1-1/4)
		Force ③	kg (lbf) • 11.34 (25)
	Driven Pulley Preload	±0.7 kg (lbf)	7.0 (15.43) •
	Drive Chain Tension	Fully tighten adjusting screw by hand then back OFF only far enough for hair pin installation	
	Track Adjustment	Deflection mm (in)	45 to 50 (1-3/4 - 2) with a 7.3 kg (16 lb) downward pull

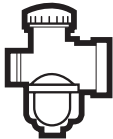
NOTE: See end of specifications for foot notes.



TECHNICAL DATA



A dot (•) on right indicates changes from 1996 model.

	MODEL	SUMMIT 670	
	Engine Type	670	
	Maximum HP RPM ① ±100 RPM	7700	
	Rotary Valve P/N Opening (BTDC)/ Closing (ATDC)	420 9245 00 145°/71°	
	Carburetor Type	PTO VM 40 - 90	MAG VM 40 - 91
	Main Jet	PTO 380	MAG 370
	Needle Jet	AA-2 (224)	
	Pilot Jet	75	
	Needle Identification– clip Position	7DPI1	
	Slide Cut-away	2.5	
	Float Adjustment ±1 mm (in)	18.1 (.71)	
	Air Screw Adjustment ± 1/16 turn	2-1/4	
	Idle Speed RPM ±200 RPM	1900	
	Gas Grade/Pump Octane Number (R + M)/2	Regular Unleaded/87	
	Gas/Oil Ratio	Oil Injection	
	Ignition Timing BTDC ② mm (in)	1.93 (.076)	
	Trigger Coil Air-Gap mm (in)	0.55 - 1.45 .022 - .057)	
	Gear Ratio teeth	23/44	
	Engagement Speed ±100 RPM	4100	
	Drive Pulley Calibration Screw Position	5	
	Pulley Distance Z (+ 0, – 1) mm (+ 0, – 1/32) in	16.5 (21/32)	
	Offset X ± 0.4 mm (± 1/64 in)	35.0 (1-3/8)	
	Y	Dimension Y must exceed X from 1 mm (1/32 in) to 2 mm (5/64 in)	
	Drive Belt Adjustment Deflection ±.5 mm (in)	32 (1-1/4)	
	Force ③ kg (lbf)	11.34 (25)	
	Driven Pulley Preload ±0.7 kg (lbf)	7.0 (15.43)	
	Drive Chain Tension	Fully tighten adjusting screw by hand then back OFF only far enough for hair pin installation	
	Track Adjustment Deflection mm (in)	45 to 50 (1-3/4 - 2) with a 7.3 kg (16 lb) downward pull	

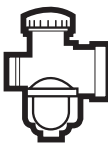
NOTE: See end of specifications for foot notes.



TECHNICAL DATA



A dot (•) on right indicates changes from 1996 model.

	MODEL	FORMULA Z	
	Engine Type	583	
	Maximum HP RPM ① ±100 RPM	7900	
	Rotary Valve P/N Opening (BTDC)/ Closing (ATDC)	420 9245 02 140°/71°	
	Carburetor Type	PTO VM 40 - 88	MAG VM 40 - 89
	Main Jet	PTO 280	MAG 260
	Needle Jet	AA-2 (224)	
	Pilot Jet	60	
	Needle Identification– clip Position	7ECY1	
	Slide Cut-away	2.5	
	Float Adjustment ±1 mm (in)	18.1 (.71)	
	Air Screw Adjustment ± 1/16 turn	2	
	Idle Speed RPM ±200 RPM	1800	
	Gas Grade/Pump Octane Number (R + M)/2	Regular Unleaded/87	
	Gas/Oil Ratio	Oil Injection	
	Ignition Timing BTDC ② mm (in)	1.75 (.069)	
	Trigger Coil Air-Gap mm (in)	0.55 - 1.45 .022 - .057)	
	Gear Ratio teeth	25/44	
	Engagement Speed ±100 RPM	4100	
	Drive Pulley Calibration Screw Position	3	
	Pulley Distance Z (+ 0, – 1) mm (+ 0, – 1/32) in	16.5 (21/32)	
	Offset X ± 0.4 mm (± 1/64 in)	35.0 (1-3/8)	
	Y	Dimension Y must exceed X from 1 mm (1/32 in) to 2 mm (5/64 in)	
	Drive Belt Adjustment Deflection ±.5 mm (in)	32 (1-1/4)	
	Force ③ kg (lbf)	11.34 (25)	
	Driven Pulley Preload ±0.7 kg (lbf)	7.0 (15.43)	
	Drive Chain Tension	Fully tighten adjusting screw by hand then back OFF only far enough for hair pin installation	
	Track Adjustment Deflection mm (in)	30 to 40 (1-3/16 - 1-9/16) with a 7.3 kg (16 lb) downward pull	

①Engine speed at which maximum power is achieved.

②At 6000 RPM (engine cold) with headlamp turned on.

③Force applied midway between pulleys to obtain specified deflection.

④High Altitude Compensator.

BTDC: Before Top Dead Center

ATDC: After Top Dead Center

PTO: Power Take OFF side

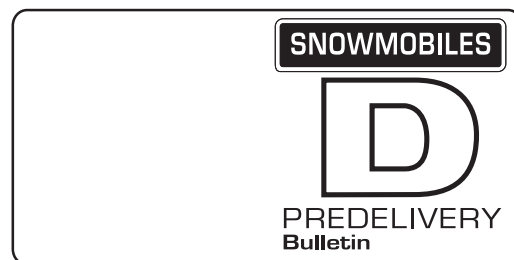
MAG: Magneto side

CRT: Center

N.A.: Not applicable

Please route to :

☐ Service	Init. ☐
☐ Sales	☐
☐ Parts	☐



No. **97-4**

Date: August 2, 1996

SUBJECT: Predelivery Procedures

YEAR	MODEL NAME	MODEL NUMBER	SERIAL NUMBER
1997	Skandic* WT (Canada and United States)	1134/1135	ALL
1997	Skandic* SWT (Canada and United States)	1136/1137	ALL
1997	Skandic* WT LC (Canada and United States)	1132/1133	ALL

This bulletin must be used in conjunction with the check list enclosed in the *Operator's Guide* bag. Make sure that predelivery check list is completed and signed.

 WARNING
To obtain warranty coverage, predelivery procedures must be performed by an authorized Bombardier snowmobile dealer. Apply all necessary torques as indicated.

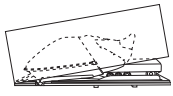
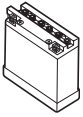
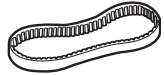
The contents of this bulletin is designed as a guideline only. All mechanics performing predelivery procedures should have attended the current model year service training. Further information or inquires should be directed to your distributor service representative or specific *Shop Manual* sections.

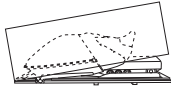
Please complete the Predelivery Check List for each snowmobile and return a customer signed copy. Make sure the customer receives the *Operator's Guide*, *Safety Handbook* and video.

NOTE: The information and components/system descriptions in this document are correct at the time of publication. Bombardier Inc. however, maintains a policy of continuous improvement of its products without imposing upon itself any obligation to install them on products previously manufactured. Due to late changes, it may have some differences between the manufactured product and the descriptions and/or specifications in this document. Bombardier Inc. reserves the right at any time to discontinue or change specifications, designs, features, models or equipment without incurring obligation.

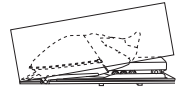
The illustrations in this document show the typical construction of the different assemblies and may not reproduce the full detail or exact shape of the parts. However, they represent parts that have the same or similar function.

TABLE OF CONTENTS

SUBJECT	PAGE	SUBJECT	PAGE
	UNCRATING 3		PARTS INSTALLATION 13 BACKREST AND SEAT STRAP
	PARTS INSTALLATION 5 BATTERY		PARTS INSTALLATION 14 DRIVE BELT
	PARTS INSTALLATION 8 REAR SUSPENSION		LIQUIDS 14 OIL INJECTION PUMP BLEEDING
	PARTS INSTALLATION 8 FRONT SUSPENSION		LIQUIDS 15 BRAKE FLUID LEVEL
	PARTS INSTALLATION 9 SKIS		LIQUIDS 15 ENGINE COOLANT LEVEL
	PARTS INSTALLATION 11 STEERING PAD		ADJUSTMENT 15 TRACK
	PARTS INSTALLATION 12 WINDSHIELD		TECHNICAL DATA 16



UNCRATING



All Models

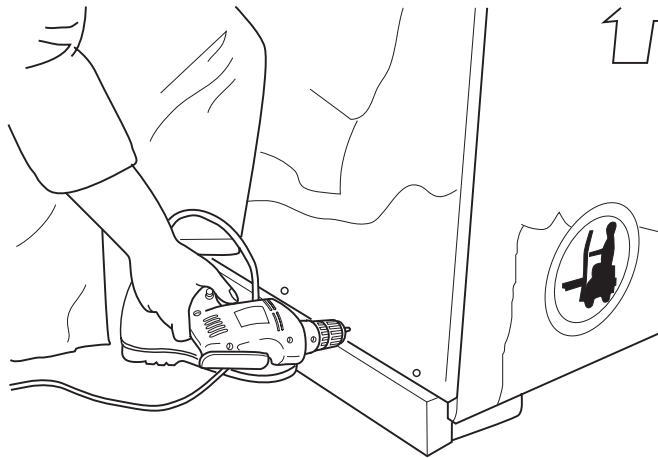
◆ WARNING

Torque wrench tightening specifications must be strictly adhere to. Locking devices (e.g. lock tabs, nylon stop nuts) must be installed or replaced by new one, where specified. If the efficiency of a locking device is impaired, it must be renewed.

▼ CAUTION

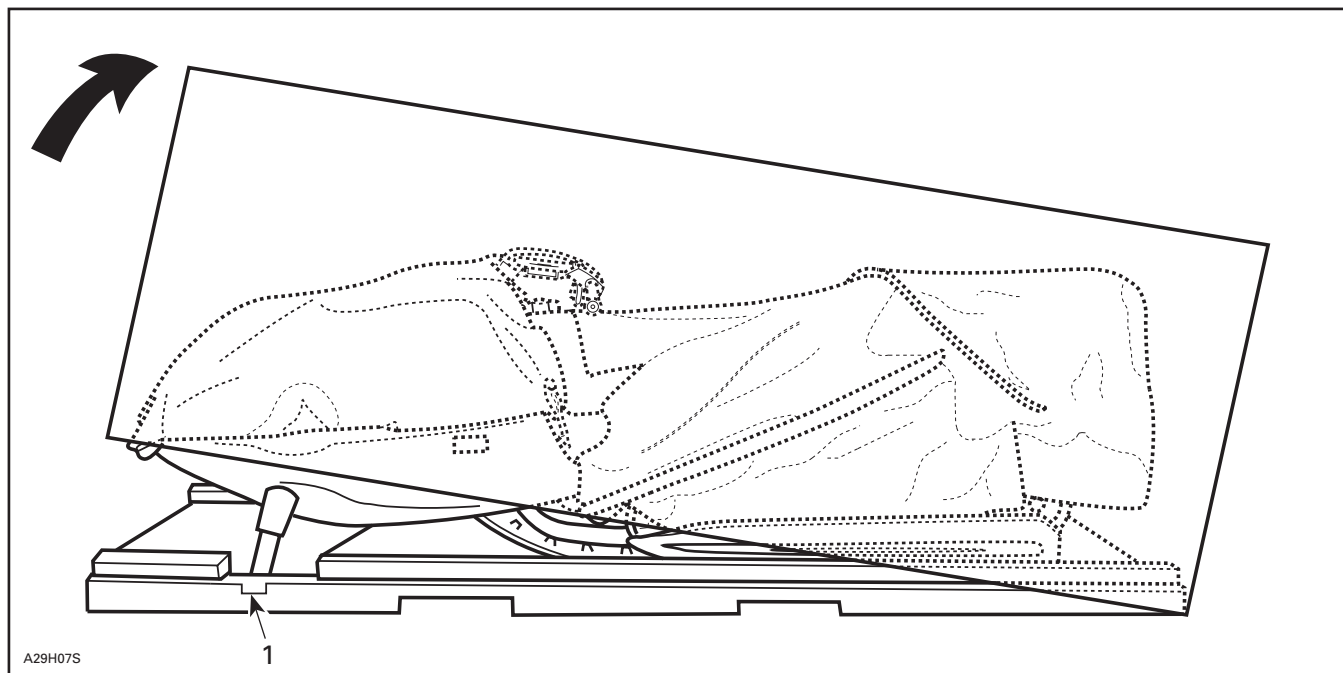
Allowing the crate to drop may cause serious damage to the vehicle.

Using a screwdriver, remove all screws retaining crate to base.



F02P04S

Tip cover towards rear of vehicle. There is a notch in crate base at front.



1. Notch

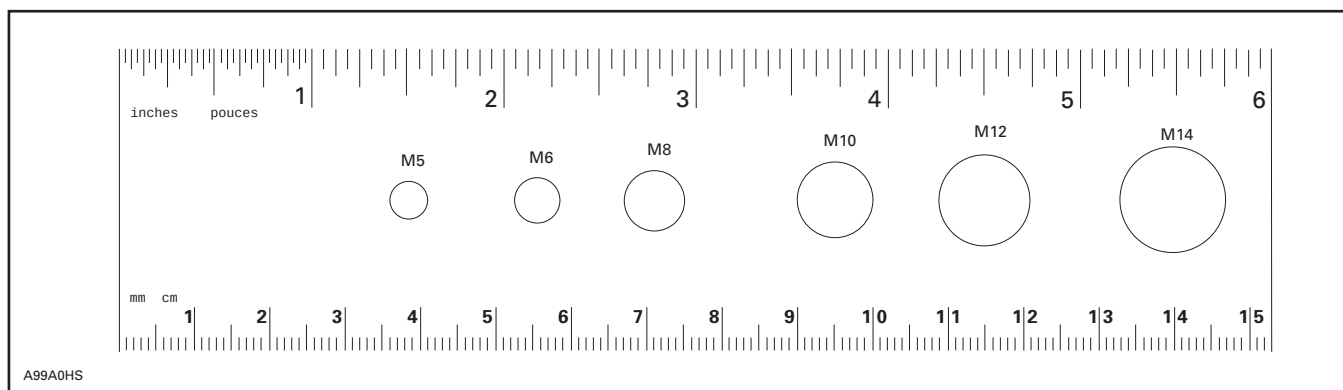
Detach parts to be installed (e.g. skis, windshield), from the vehicle and its base.

▼ CAUTION

Make sure vehicle is properly supported before removing ski legs and rear suspension from crate brackets.

Remove predelivery kit and parts to be installed from under seat compartment.

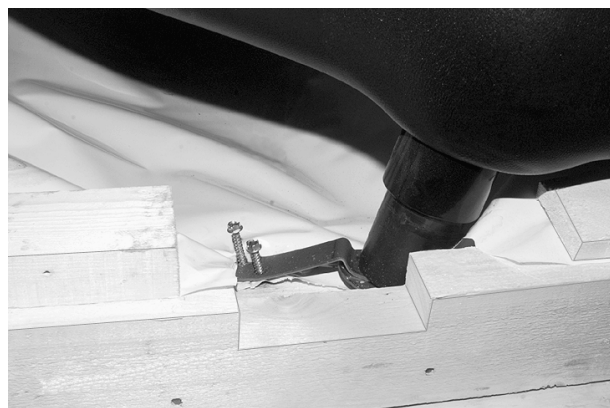
NOTE: This rule can be helpful to identify fastener length/size.



▼ **CAUTION**

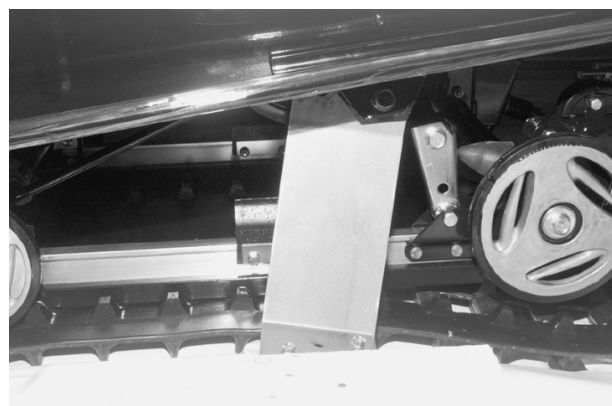
Make sure vehicle is properly supported.

Detach ski legs from crate. Discard nuts and bolts.



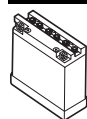
A29G0AA

Remove the rear retaining brackets from both sides of vehicle and retain bolts holding brackets to body.



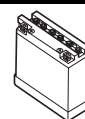
A29F05A

Remove vehicle from base.



PARTS INSTALLATION

BATTERY



All models

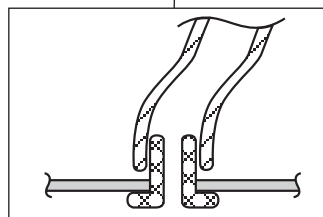
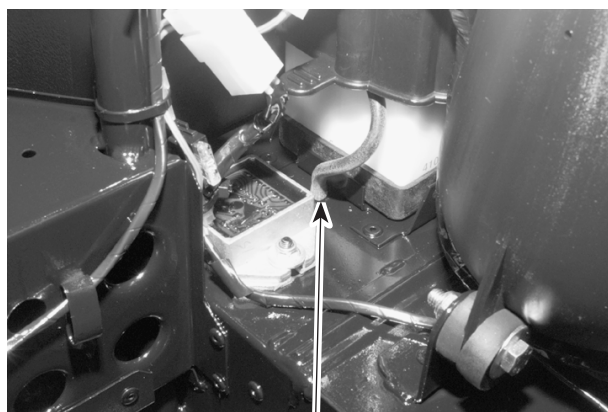
During preparation, the battery can be activated as described in 1997 *Ski-Doo Shop Manual*.

▼ **CAUTION**

Prior to charging the battery, always remove it from the vehicle to prevent electrolyte spillage.

On WT and SWT models, a special vented rivet is fixed to the chassis in order to plug the vent tube from the battery.

On WT LC, vent tube is connected to a special plastic reservoir.

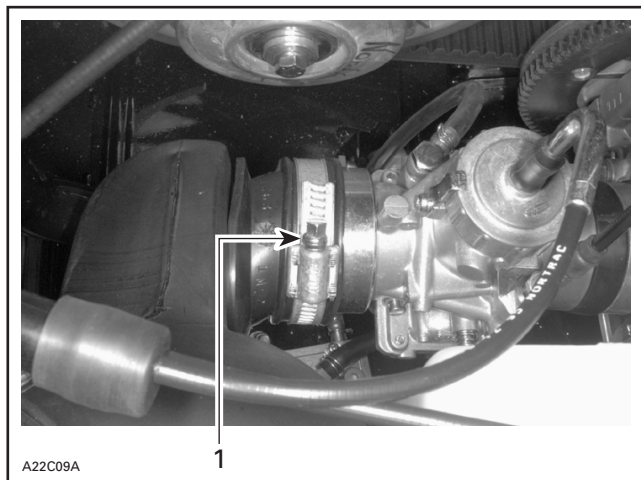


A29E0FA

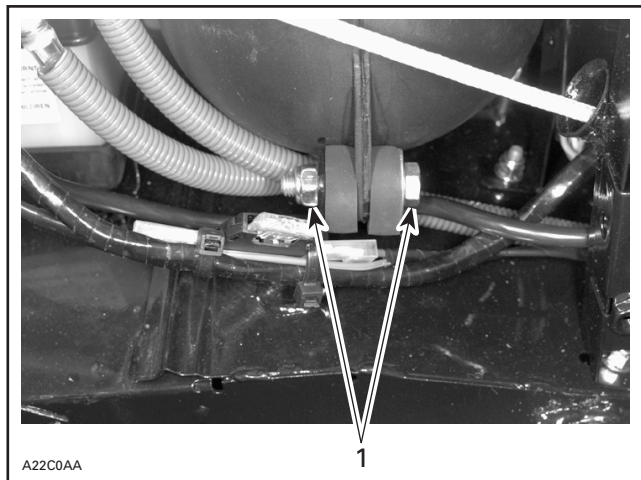
Skandic WT

Battery removal

Remove air intake silencer.

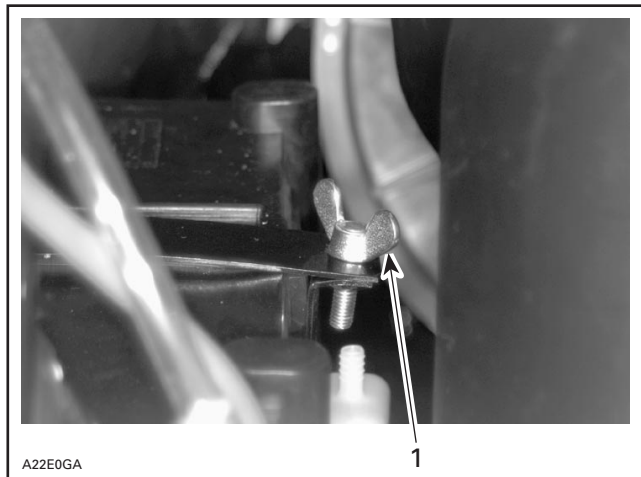


1. Loosen clamp



1. Remove bolt and lock nut

Unfasten battery brackets and remove battery.



1. Wing Screw

Battery installation

Secure battery brackets.

Connect battery cables.

◆ WARNING

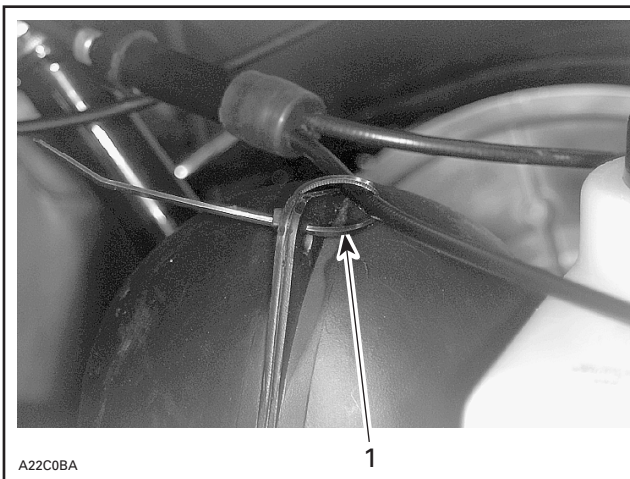
Always connect the battery cables exactly in the specified order. Connect RED positive cable first, then BLACK negative ground cable.

Apply silicone dielectric grease (P/N 413 7017 00) on battery posts and connectors.

Ensure that battery vent tube is properly installed from battery to the plug provided on the frame.

Reinstall air intake silencer.

Secure oil injection pump cable to air intake silencer using a locking tie. Install locking tie loosely as per following illustration.



1. Locking tie

Skandic SWT

Battery removal

Remove battery bracket and remove battery from vehicle.



Battery installation

Install battery in vehicle.

Connect battery cables.

◆ WARNING

Always connect the battery cables exactly in the specified order. Connect RED positive cable first, then BLACK negative ground cable.

Apply silicone dielectric grease (P/N 413 7017 00) on battery posts and connectors.

Install battery cover.

Secure battery with bracket and tighten wing screw.

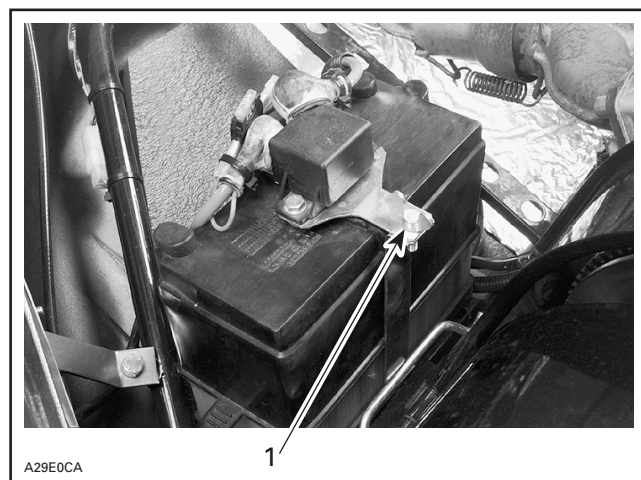
Ensure vent tube is properly installed from battery to the plug provided on the frame.

Skandic WT LC

Battery Removal

Unscrew wing screw and remove bracket with solenoid.

Remove battery cover and remove battery from vehicle.



1. Wing screw

Battery installation

Install battery in vehicle.

Connect battery cables.

◆ WARNING

Always connect the battery cables exactly in the specified order. Connect RED positive cable first, then BLACK negative ground cable.

Apply silicone dielectric grease (P/N 413 7017 00) on battery posts and connectors.

Install battery cover.

Install battery bracket with solenoid and secure with wing screw.

Ensure vent tube is properly installed from battery to the special reservoir provided.



PARTS INSTALLATION

REAR SUSPENSION

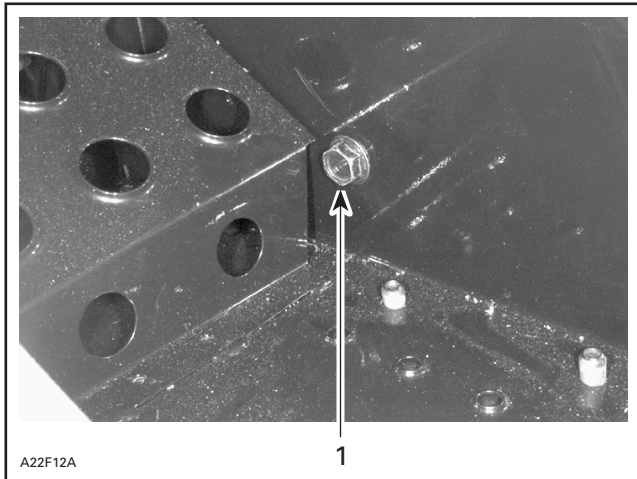


Secure front arm upper axle of rear suspension using 2 M10 x 30 screws in plastic bag under the seat.

Apply Loctite 242 on threads and torque screws to 58 N•m (43 lbf•ft).

Secure rear arm using previously removed screws.

Apply Loctite 242 on threads and torque screws to 58 N•m (43 lbf•ft).



1. Torque screw on each side to 58 N•m (43 lbf•ft)

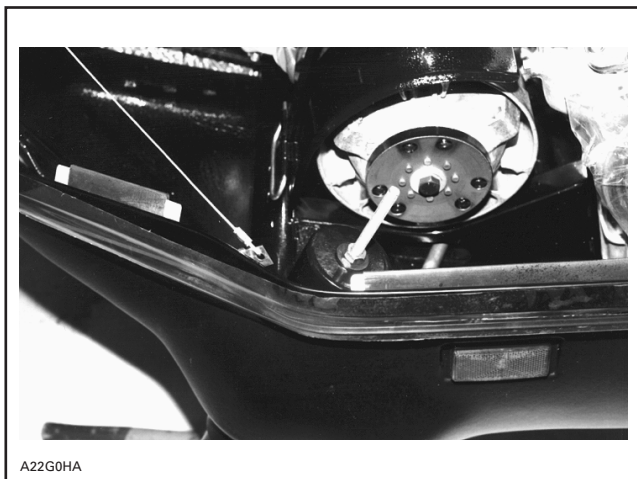


PARTS INSTALLATION

FRONT SUSPENSION



Remove long bolts that compresses front suspension on both sides.

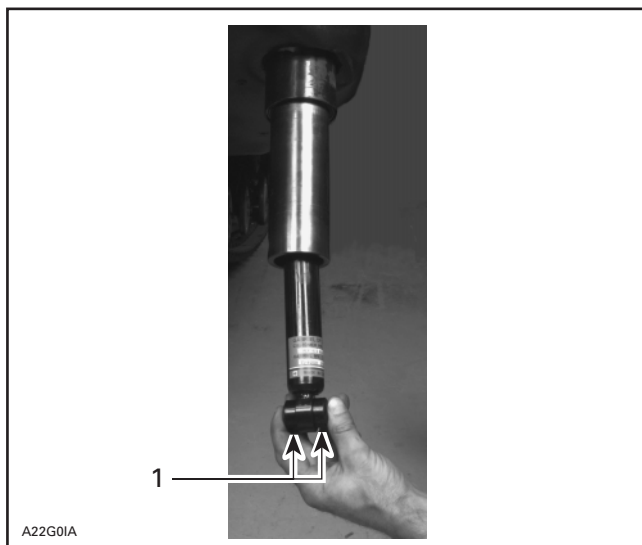


Install 2 plastic bushings into shock absorber eyelet.

Stretch shock to its maximum.

Slide shock absorber onto bottom of ski leg until shock rod goes through cap hole.

Loosely install washer and nut on shock rods, keeping at least 1/4 in (5mm) of free play.



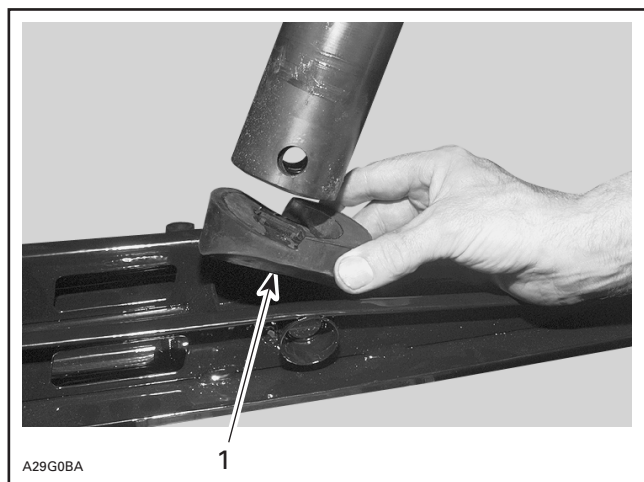
1. Plastic Bushings



PARTS INSTALLATION SKIS

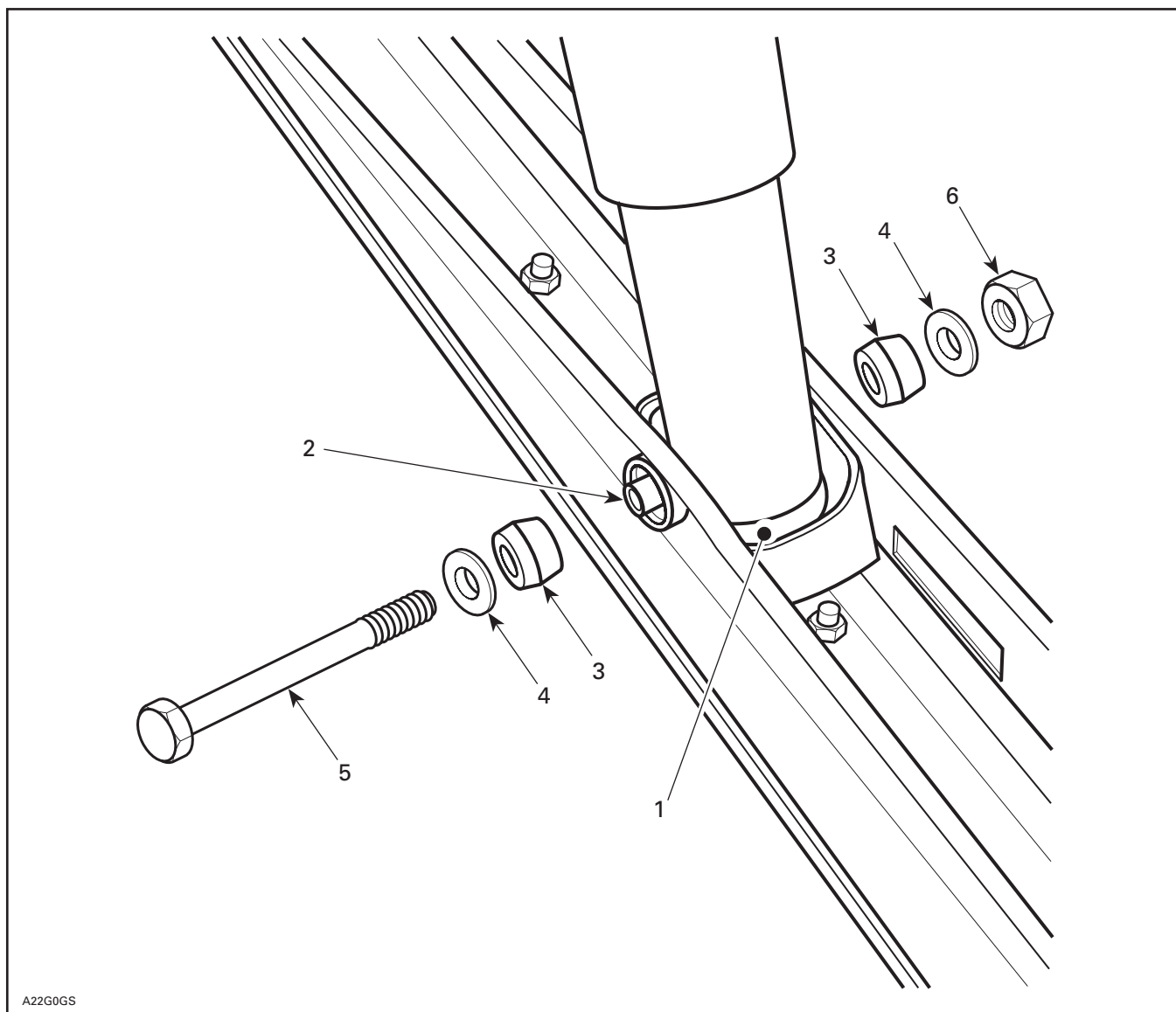


Install stop bounding on skis with its highest portion toward front.



1. Stop bounding

Install skis on vehicle using bolts, nuts, washers and rubber bushings supplied in the predelivery kit.



- 1. Stop bounding
- 2. Sleeve
- 3. Rubber bushing (2)
- 4. Flat washer (2)
- 5. Bolt M10 x 120
- 6. M10 lock nut, tighten to 48 N•m (35 lbf•ft)

Tighten shock rod top nuts to 30 N•m (22 lbf•ft).



PARTS INSTALLATION

STEERING PAD

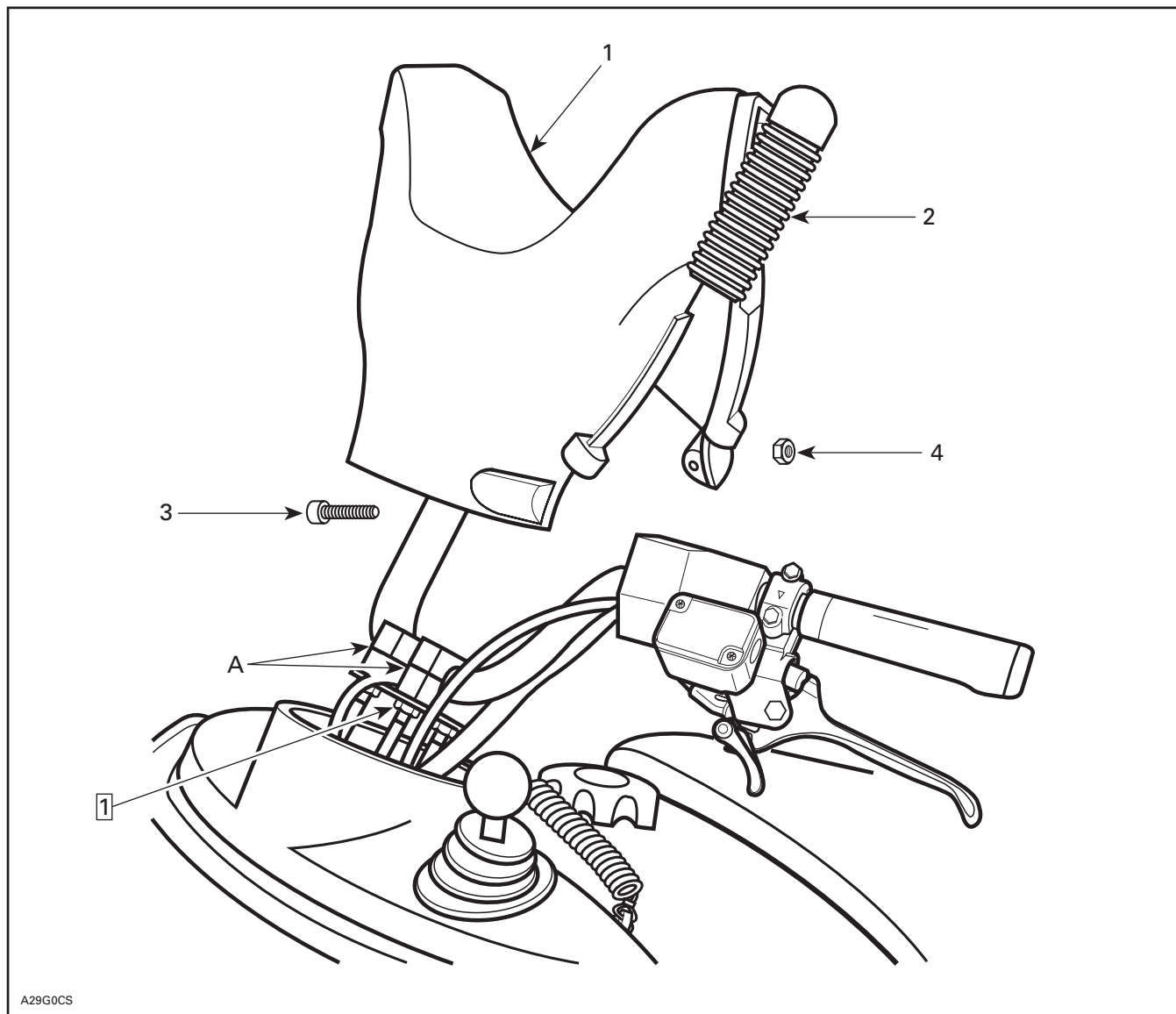


Adjust handle bar and set both clamps to have equal gap on each side. Torque nuts to 26 N•m (19 lbf•ft).

Loosen throttle and brake handle housings.
Install steering pad.

NOTE: On Skandic SWT, make sure to secure steering column cover with steering pad before tightening bolts.

Adjust both throttle and brake handle housings to match steering pad.



A29G0CS

TYPICAL

Step 1: Torque to 26 N•m (19 lbf•ft)

1. Steering pad
2. Keyway. Use liquid soap to ease installation
3. Screw M5 x 0.80 x 20 (2)
4. Nut M5 x 0.80 x 20 (2). Seat tighten only, no deformation of rubber
- A. Equal gap on each side (Both clamps)

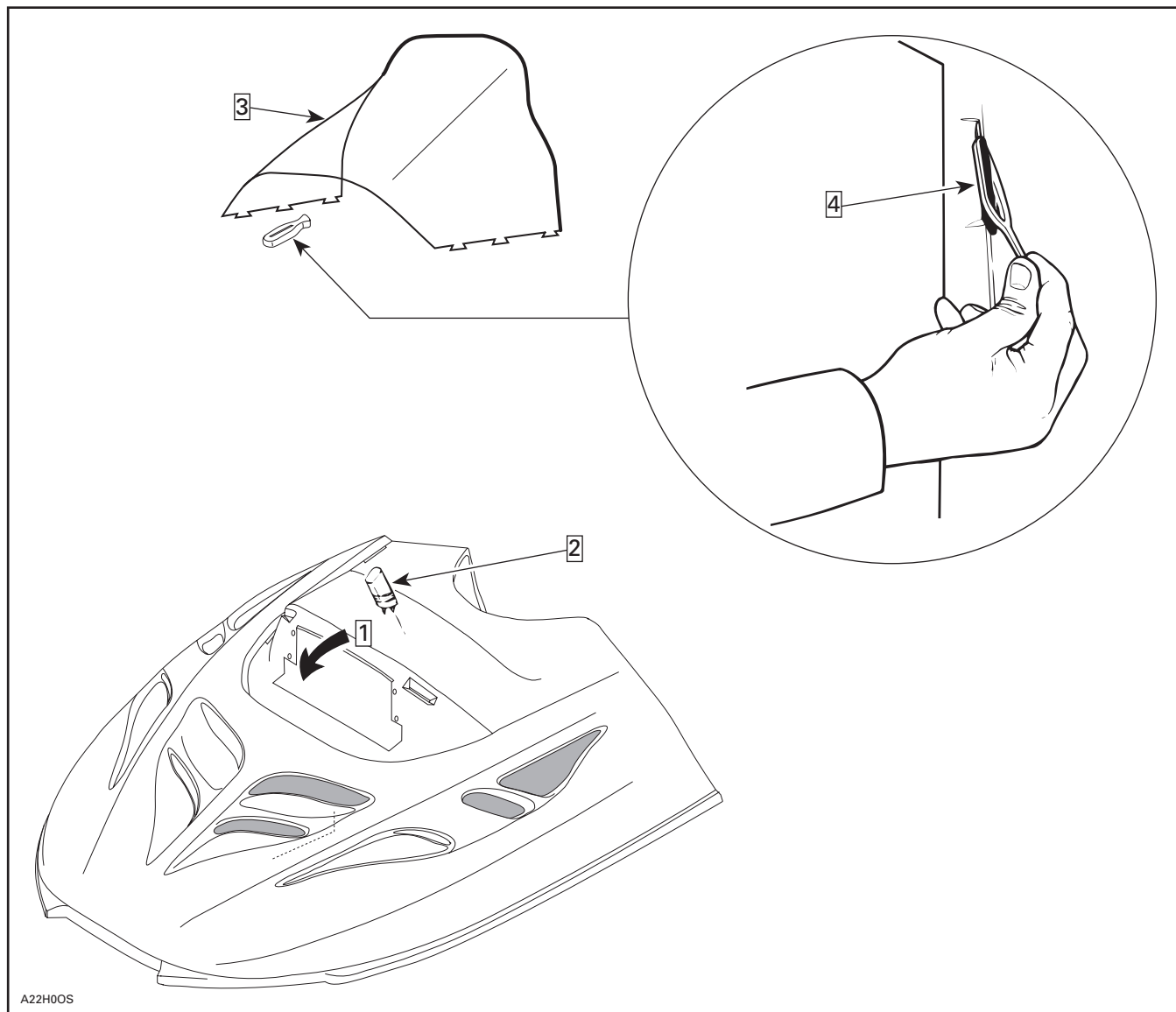


PARTS INSTALLATION WINDSHIELD



Remove headlamp molding.

Install rubber support in predrilled holes on the hood.



- Step **1**: Pry out headlamp molding
Step **2**: Install support. Apply soap on tips to ease installation
Step **3**: Install windshield
Step **4**: Install latches (10)

Install windshield and secure with latches inside hood.

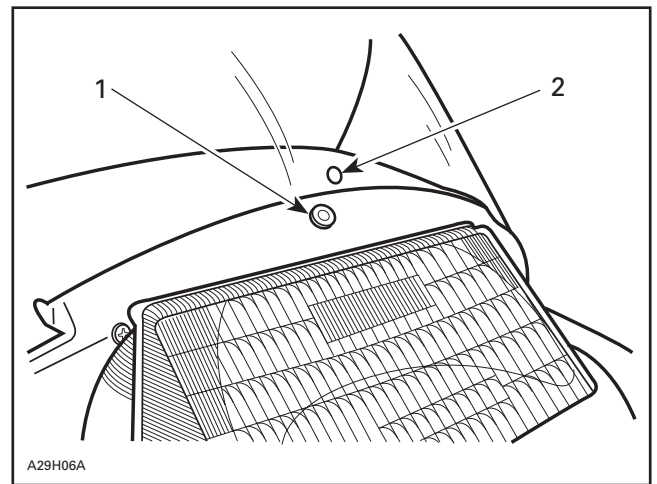
Install rubber expansion nut in hole above head light.

Line up hole in windshield with rubber expansion nut and install screw with cup.

Tighten slightly so that rubber expands inside hood.

Install rubber cap on screw and reinstall headlamp molding.

Make sure to properly position lower edge of plastic molding under head lamp.



1. Rubber Expansion Nut
2. hole in windshield



PARTS INSTALLATION BACKREST AND SEAT STRAP

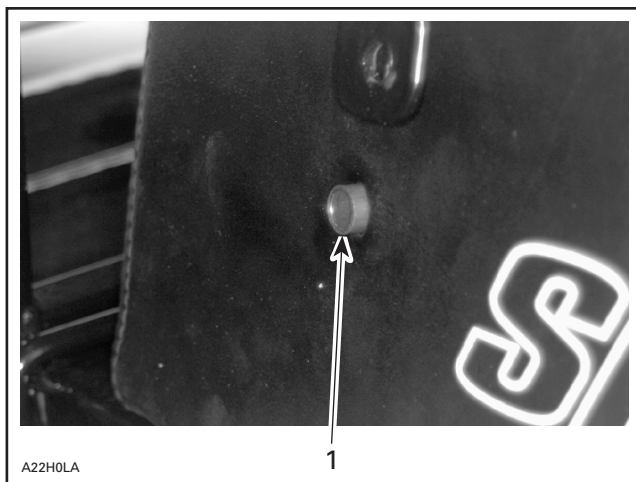


WT and WT LC

Remove screws retaining backrest to seat.

Remove backrest.

Install spacers (included in shrink kit) in rear seat holes of backrest.

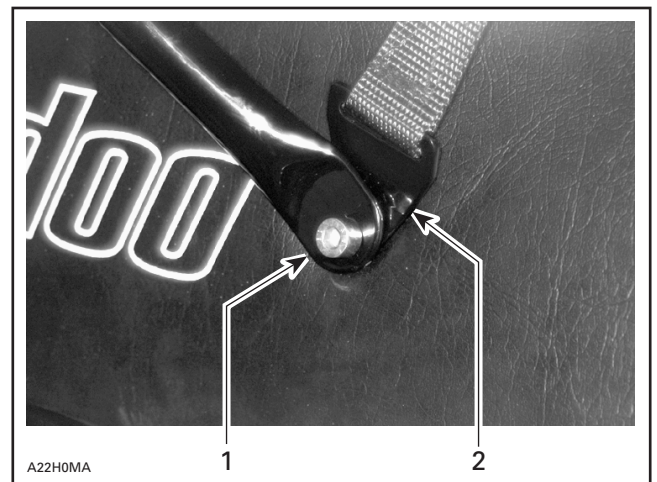


1. Spacer

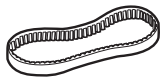
Reinstall backrest in its proper position.

Secure rear arm backrest using 2 M8 x 30 screws previously retaining backrest to seat.

Install seat strap with front arm of backrest and secure with M8 X 20 screws included in the shrink pack.

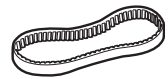


1. Front arm of backrest
2. Seat strap



PARTS INSTALLATION

DRIVE BELT



Clean pulleys and disk brake with a suitable cleaner such as Loctite Cleaning Solvent (P/N 413 7082 00) before installing drive belt.



LIQUIDS

OIL INJECTION PUMP BLEEDING

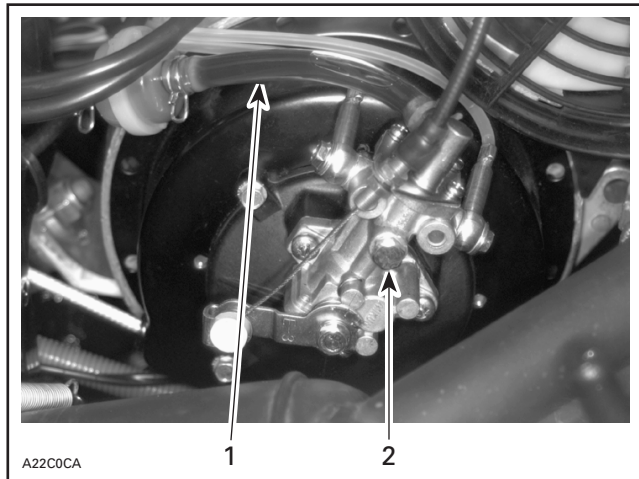


All models

To assure additional protection during the initial engine break-in, 500 ml (18 imp. oz.) of BOMBARDIER ROTAX injection oil (P/N 413 8029 00) should be added to fuel for the first full filling of fuel tank.

Skandic WT and SWT

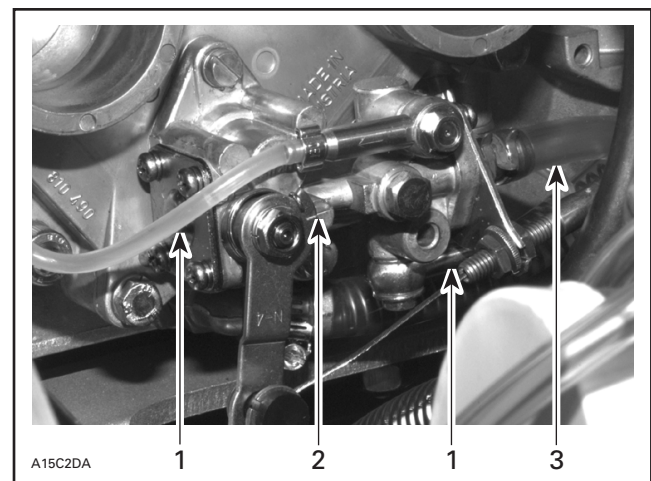
Bleed main oil line (between tank and pump) by loosening the bleeder screw until all air has escaped from the line. Add injection oil as required.



1. No air in main line
2. Bleeder screw

Bleed the small oil lines between pump and intake manifold by running engine at idle while holding the pump lever in fully open position.

Skandic WT LC



1. Small oil line
2. Marks aligned
3. Main oil line

Remove air silencer and move carburetors aside.

Bleed main oil line (between tank and pump) by loosening the bleeder screw until air has escaped from the line. Add injection oil as required.

Check also for proper oil lever adjustment. Marks must align when throttle lever is activated just enough to take all cable free-play.

Bleed the small oil line between pump and intake manifold by running engine at idle while holding the pump lever in fully open position.

Reinstall air silencer.



LIQUIDS

BRAKE FLUID LEVEL



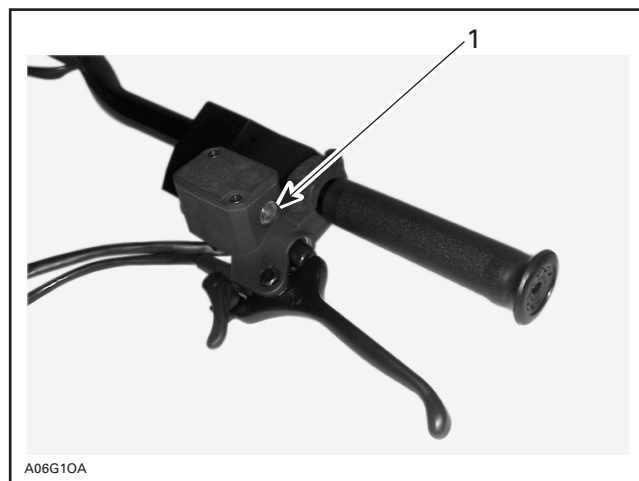
All Models

Check brake fluid in reservoir for proper level.
Add recommended brake fluid as required.



CAUTION

Use only (DOT 4) brake fluid from a sealed container. Do not store or use a partial bottle of brake fluid.

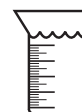


1. Fluid level window



LIQUIDS

ENGINE COOLANT LEVEL



Skandic WT LC only

With vehicle on a flat surface and engine cold, remove pressure cap and check coolant level. Add coolant as needed.



CAUTION

To prevent rust formation or freezing conditions, always use ethyl-glycol antifreeze containing corrosion inhibitors specially recommended for aluminum engines. Always use 60% antifreeze and 40% water.

Reinstall pressure cap.

Run engine until thermostat opens then stop engine.

Check hoses for leaks.

When engine has completely cooled down, re-check coolant level and top up if necessary.



ADJUSTMENT

TRACK



Refer to *Shop Manual* to adjust track tension and alignment. See TECHNICAL DATA section at the end of this bulletin.



TECHNICAL DATA



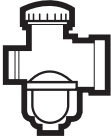
The content of the TECHNICAL DATA pages should be used as necessary to fine-tune and perform additional adjustments required on the snowmobile. Vehicle used at high altitudes, above 600 m (2000 ft.) should be fitted with a high altitude kit. Further inquiries should be directed to your distributor service representative.



TECHNICAL DATA



The dot (•) indicates changes from 1996 models.

	MODELS	SKANDIC WT	SKANDIC SWT
	Engine Type	ROTAX 503	ROTAX 503
	Maximum HP RPM ① ±100 RPM	6500	6500
	Rotary Valve P/N Opening (BTDC)/ Closing (ATDC)	N.A.	N.A.
	Carburetor Type	VM 32	VM 32
	Main Jet	230	230
	Needle Jet	159 O-0	159 O-0
	Pilot Jet	25	25
	Needle Identification— clip Position	6DH8-4	6DH8-4
	Slide Cut-away	3.0	3.0
	Float Adjustment mm (in)	23.9 (.94)	23.9 (.94)
	Air Screw Adjustment ±1/32 turn	1.5	1.5
	Idle Speed RPM	1500-1800	1500-1800
	Gas Grade/Pump Octane Number (R + M)/2	Regular Unleaded/87	Regular Unleaded/87
	Gas/Oil Ratio	Oil Injection	Oil Injection
	Ignition Timing BTDC ② mm (in)	1.66 (.065)	1.66 (.065)
	Trigger Coil Air-Gap mm (in)	0.45 - 0.55 (.018 - .022)	0.45 - 0.55 (.018 - .022)
	Gear Ratio	1st gear 1:3.27 2nd gear 1:2.07	1st gear 1:4.41 2nd gear 1:3.19
	Engagement Speed ±100 RPM	3300	3300
	Drive Pulley Calibration Screw Position	3	4
	Pulley Distance Z (+0, -1) mm (+0, -1/32) in	32.75 (1-9/32)	32.75 (1-9/32)
	Offset X ± 0.4 mm (± 1/64 in)	36.25 (1-27/64)	36.25 (1-27/64)
	Y	Dimension Y must exceed X from 1 mm (1/32 in) to 2 mm (5/64)	Dimension Y must exceed X from 1 mm (1/32 in) to 2 mm (5/64)
	Drive Belt Adjustment Deflection mm (in)	32 (1-1/4)	32 (1-1/4)
	Force ③ kg (lbf)	6.8 (15)	6.8 (15)
	Driven Pulley Preload kg (lbf)	7.0 ± 0.7	6.0 ± 0.7
	Drive Chain Tension	Not Applicable	Not Applicable
	Track Adjustment Deflection mm (in)	40 to 45 (1.5 to 1.7)	40 to 45 (1.5 to 1.7)
	Force Kg (lbf)	7.3 (16.1)	7.3 (16.1)

① Engine speed at which maximum power is achieved.

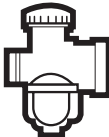
② At 6000 RPM (engine cold) with headlamp turned on.

③ Force applied midway between pulleys to obtain specified deflection.



TECHNICAL DATA



	MODELS	SKANDIC WT LC
	Engine Type	494
	Maximum HP RPM ①RPM	6800-6900
	Rotary ValveP/N Opening (BTDC)/ Closing (ATDC)	420 9245 09 148° 52°
	Carburetor Type	PTO VM 34 MAG VM 34
	Main Jet	PTO 260 MAG 260
	Needle Jet	PTO 159 P-0 MAG 159 P-0
	Pilot Jet	PTO 30 MAG 30
	Needle Identification– clip Position	PTO 6DH4-3 MAG 6DH4-3
	Slide Cut-away	PTO 2.0 MAG 2.0
	Float Adjustment ± 1 mm (±.040 in)	23.9 (15/16)
	Air Screw Adjustment ± 1/16 turn	PTO 1.0 MAG 3/4
	Idle Speed RPMRPM	1800 - 2000
	Gas Grade/Octane Number (R + M)/2	Regular Unleaded/87
	Gas/Oil Ratio	Oil Injection
	Ignition Timing BTDC ②mm (in)	1.81 (.071)
	Trigger Coil Air-Gapmm (in)	0.55-1.45 (.022 - .057)
	Gear Ratio	Low 1:3.38 High 1:1.86
	Engagement SpeedRPM	3400
	Drive Pulley Calibration Screw Position	2
	Pulley DistanceZ (+ 0, –1) mm (+0, –1/32) in	32.75 (1-9/32)
	OffsetX ± 0.4 mm (±1/64 in)	32.75 1 27/64
	Y	Dimension Y must exceed X from1 mm (1/32in) to 2.0 mm (5/64 in)
	Drive Belt AdjustmentDeflectionmm (in)	32 (1-1/4)
	Force ③kg (lbf)	6.8 (15)
	Driven Pulley Preloadkg (lbf)	7.0 ±0.7 (15.5 ±1.5)
	Drive Chain Tension	Not applicable
	Track AdjustmentDeflectionmm (in)	45 to 50 (1 3/4 - 2) with a 7.3 kg (16 lb) downward pull

① Engine speed at which maximum power is achieved.

② At 6000 RPM (engine cold) with headlamp turned on.

③ Force applied midway between pulleys to obtain specified deflection.

Please route to :

	Init.
☐ Service	☐
☐ Sales	☐
☐ Parts	☐



SNOWMOBILES



PREDELIVERY
Bulletin

No. **97-5**

Date: August 2, 1996

SUBJECT: Uncrating Procedure

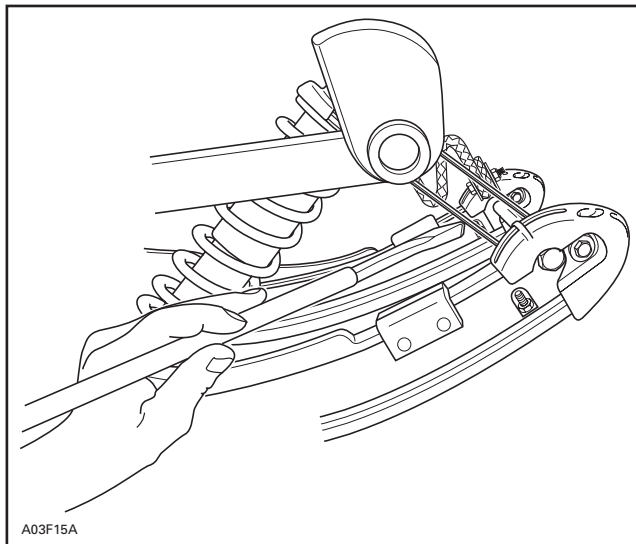
YEAR	MODEL NAME	MODEL NUMBER	SERIAL NUMBER
1997	ALL except Skandic* WT/SWT and Tundra* II LT	ALL	ALL

SHIPPING STRAP REMOVAL

Cut shipping strap using one of these 2 following methods:

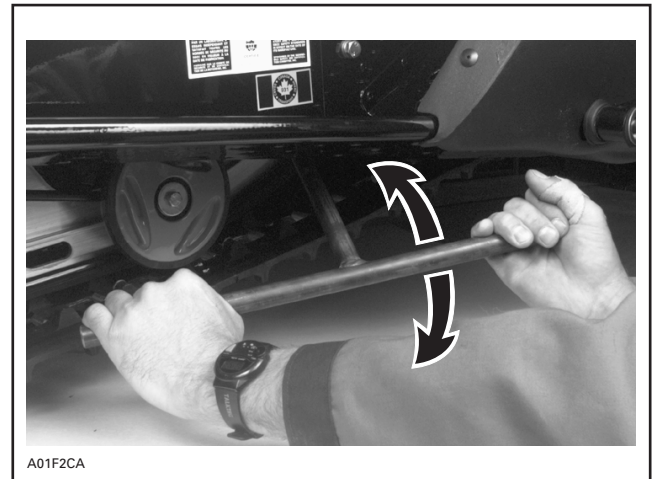
Method 1

Using a long flat chisel such as Snap-On® PPC820LA cut shipping strap that collapses front portion of rear suspension, as shown on the next photo.



Method 2

Using a special tool cut shipping strap as shown on the next photo.



1. Insert tool tip onto strap and twist

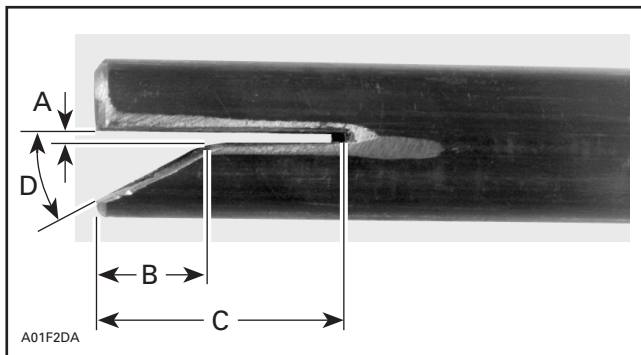
How to build the special tool

Using 20 mm (3/4 in) steel tubing, cut the first piece to 460 mm (18 in) and the second one to 410 mm (16 in).

NOTE: High forces will be apply on this special tool, use strong tubing with a minimum wall thickness of 2 mm (5/64 in).

On one end of the 460 mm (18 in) piece, cut a 1.2 mm (3/64 in) slot by 28.5 mm (1-1/8 in).

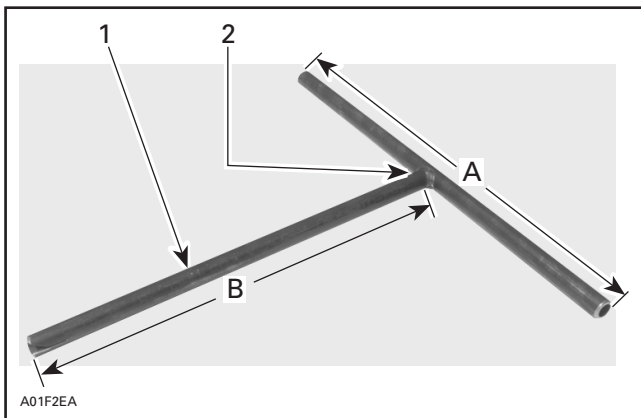
Make a chamfer of 30° X 10 mm (25/64 in), as shown on the next photo.



- A. 1.2 mm (3/64 in)
- B. 10 mm (25/64 in)
- C. 28.5 mm (1-1/8 in)
- D. 30°

Remove all sharp edges.

Assemble the two pieces and weld them together, as shown on the following photo.

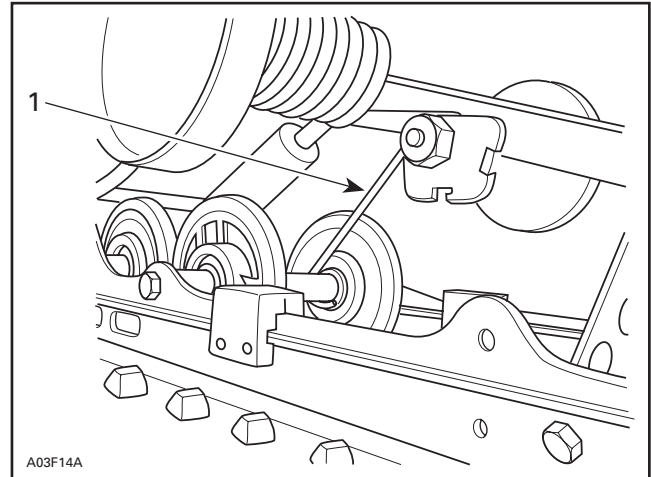


- 1. 20 mm (3/4 in) steel tubing
- 2. Welded joint
- A. 410 mm (16 in)
- B. 460 mm (18 in)

◆ WARNING

Failure to use one of these two methods of strap removal could result in personal injury.

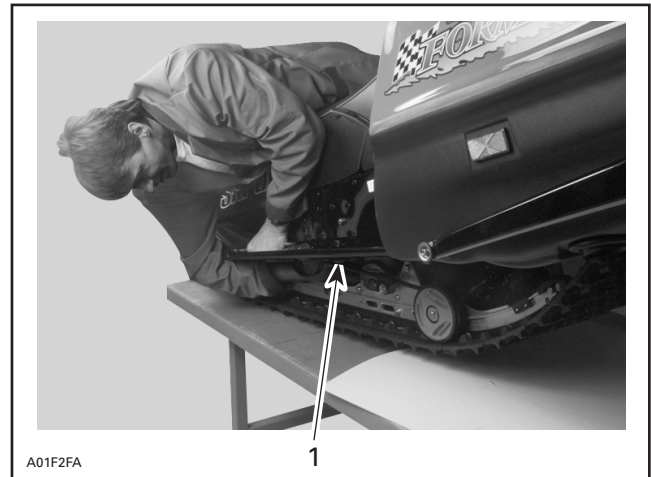
HOOK REMOVAL



- 1. Hook to be removed

Lift front of vehicle to position bumper 35 to 40 inches upward.

Lean on vehicle seat to apply pressure on rear suspension and remove hook from rear portion of suspension, as shown on the next photo.



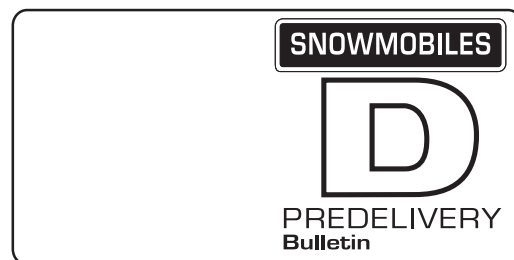
- 1. Remove hook on the rear portion of the suspension

◆ WARNING

Shipping strap must be cut and hook removed to have snowmobile suspension operational.

Please route to :

☐ Service	Init. ☐
☐ Sales	☐
☐ Parts	☐



No. **97-6**

Date: August 14, 1996

SUBJECT: Predelivery Procedures

YEAR	MODEL NAME	MODEL NUMBER	SERIAL NUMBER
1997	Canada and United States: MX Z* 440, MX Z 440 F, MX Z 583 and MX Z 670	1168, 1169, 1171, 1172, 1174, 1175, 1193, 1194	ALL
1997	Sweden: MX Z 440, MX Z 440 F, MX Z 583 and MX Z 670	1170, 1173, 1176, 1195	ALL

This bulletin must be used in conjunction with the check list enclosed in the bag with the *Operator's Guide*. Make sure that predelivery check list is completed and signed.

◆ WARNING
To obtain warranty coverage, predelivery procedures must be performed by an authorized Bombardier snowmobile dealer. Apply all necessary torques as indicated.

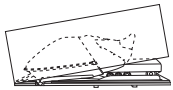
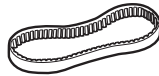
NOTE: The information and components/system descriptions contained in this document are correct at the time of publication. Bombardier Inc. however, maintains a policy of continuous improvement of its products without imposing upon itself any obligation to install them on products previously manufactured. Due to late changes, it may have some differences between the manufactured product and the descriptions and/or specifications in this document. Bombardier Inc. reserves the right at any time to discontinue or change specifications, designs, features, models or equipment without incurring obligation.

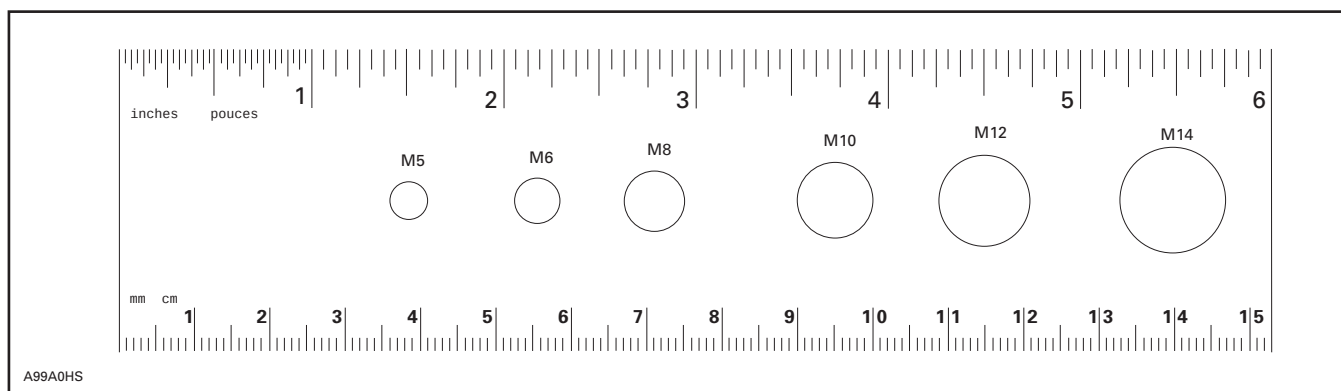
The illustrations in this document show the typical construction of the different assemblies and may not reproduce the full detail or exact shape of the parts. However, they represent parts that have the same or similar function.

The content of this bulletin is designed as a guideline only. All mechanics performing predelivery procedures should have attended the current model year service training. Further information or inquiries should be directed to your distributor service representative and/or specific *Shop Manual* sections. Please complete the *Predelivery Check List* for each snowmobile and retain a customer signed copy. Make sure the customer receives the *Operator's Guide*, *Safety Handbook*, *Predelivery Check List* signed copy and video.

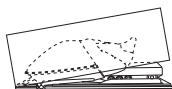
There is a tag attached to the ignition key, only the customer must remove it. This label will remind the customer to ask dealer to perform suspension adjustments according to riding style and vehicle load.

TABLE OF CONTENTS

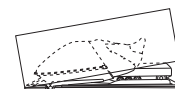
SUBJECT	PAGE	SUBJECT	PAGE
 UNCRATING	3	 PARTS INSTALLATION DRIVE BELT	11
 PARTS INSTALLATION FRONT SUSPENSION	6	 LIQUIDS OIL INJECTION PUMP BLEEDING	11
 PARTS INSTALLATION SKIS	7	 LIQUIDS BRAKE FLUID LEVEL	12
 PARTS INSTALLATION STEERING PAD	8	 ADJUSTMENT SUSPENSION	13
 PARTS INSTALLATION WINDSHIELD	10	 ADJUSTMENT TRACK	13
		 ADJUSTMENT DRIVEN PULLEY	13
		 TECHNICAL DATA	13



NOTE: This ruler can be helpful to identify fastener length or size.



UNCRATING



PREDELIVERY KIT P/N	MODELS
580 6543 00	MX Z 440/440 F/583/670

◆ WARNING

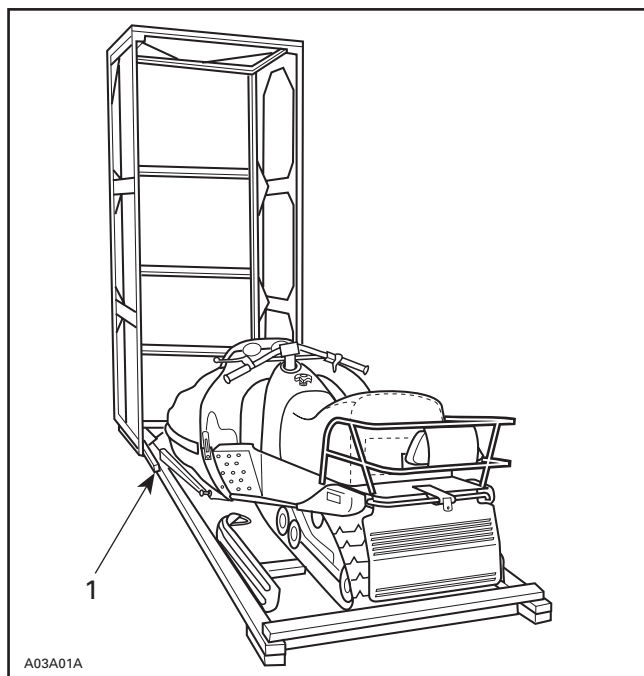
Torque wrench tightening specifications must be strictly adhered to. Locking devices (e.g. lock tabs, elastic stop nuts) must be installed or replaced by new ones, where specified. If the efficiency of a locking device is impaired, it must be renewed.

Carefully lay the crate on its bottom.

▼ CAUTION

Allowing the crate to drop may cause serious damage to the vehicle.

Remove all screws retaining cover to vehicle base. Tip cover toward front of vehicle. There is a notch at the front of crate. Lift cover slowly to avoid damaging the snow guard or taillight.



A03A01A

1. Notch

Detach parts to be installed (e.g. skis, windshield) from the vehicle and its base.

Cut locking ties retaining windshield. Slowly pull out metal strip, if equipped.

When this metal strip is under the seat loosen 2 or 4 nuts retaining the seat before pulling out the metal strip.

▼ CAUTION

Make sure vehicle is properly supported before removing ski legs and rear suspension from crate brackets.

Detach ski legs from crate. Keep ski leg bolts and slider cushions to bolt skis to ski legs. Discard crating spacers and nuts.

Remove vehicle from base.

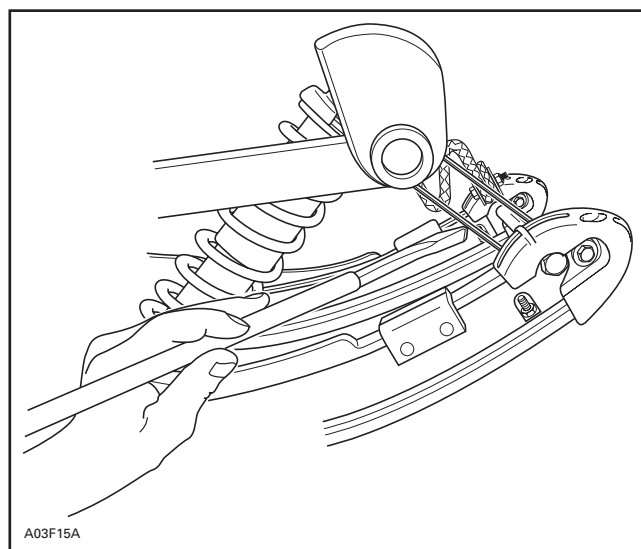
Remove steering pad, drive belt, predelivery kit and detach shock absorbers from engine compartment.

SHIPPING STRAP REMOVAL

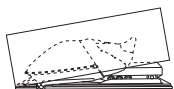
Cut shipping strap using one of these 2 following methods:

Method 1

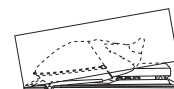
Using a long flat chisel such as Snap-On® PPC820LA cut shipping strap that collapses front portion of rear suspension, as shown on the next photo.



A03F15A

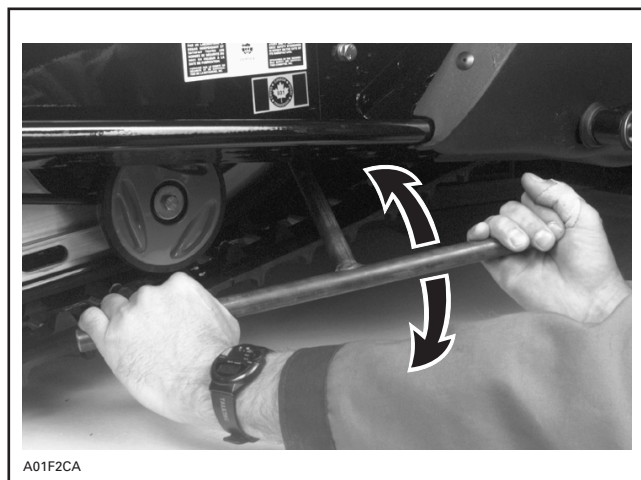


UNCRATING



Method 2

Using a special tool cut shipping strap as shown on the next photo.



1. Insert tool tip onto strap and twist

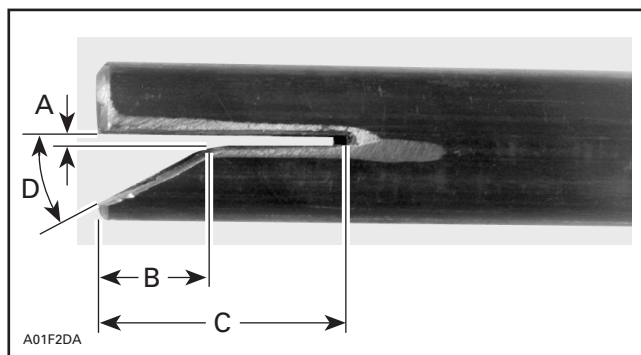
How to Build the Special Tool

Using 20 mm (3/4 in) steel tubing, cut the first piece to 460 mm (18 in) and the second one to 410 mm (16 in).

NOTE: High forces will be applied on this special tool, use strong tubing with a minimum 2 mm (5/64 in) wall thickness.

On one end of the 460 mm (18 in) piece, cut a 1.2 mm (3/64 in) slot by 28.5 mm (1-1/8 in).

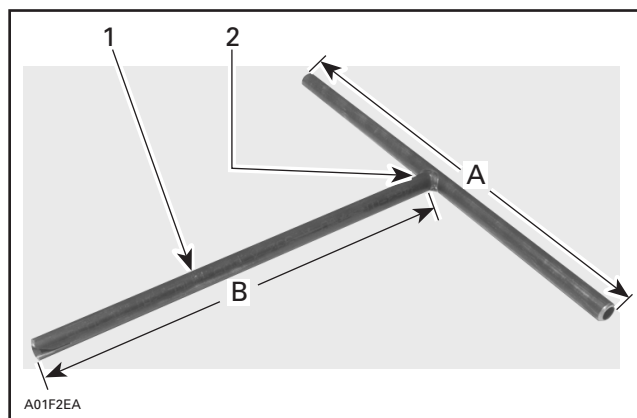
Make a chamfer of 30° X 10 mm (25/64 in), as shown on the next photo.



- A. 1.2 mm (3/64 in)
- B. 10 mm (25/64 in)
- C. 28.5 mm (1-1/8 in)
- D. 30°

Remove all sharp edges.

Assemble the two pieces and weld them together, as shown on the following photo.

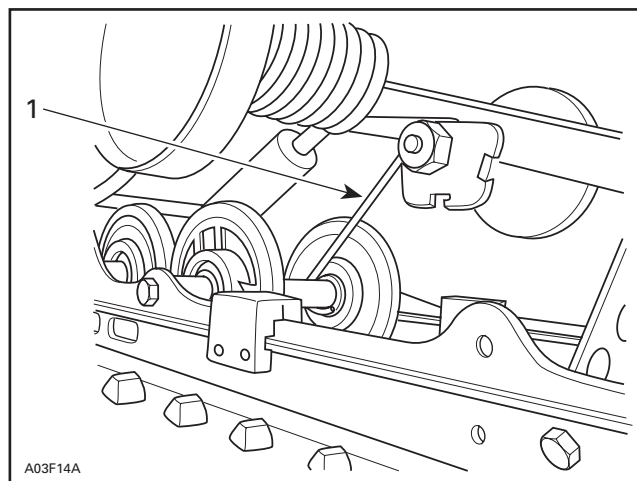


- 1. 20 mm (3/4 in) steel tubing
- 2. Welded joint
- A. 410 mm (16 in)
- B. 460 mm (18 in)

WARNING

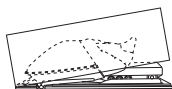
Failure to use one of these two methods of strap removal could result in personal injury.

HOOK REMOVAL

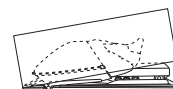


1. Hook to be removed

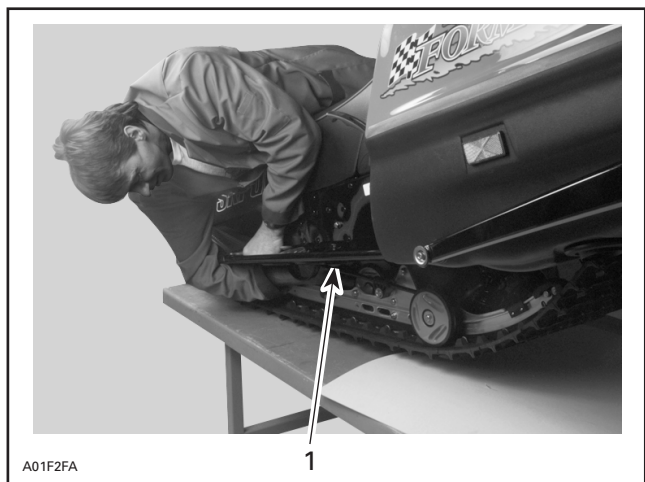
Lift front of vehicle to position bumper 35 to 40 inches upward.



UNCRATING



Lean on vehicle seat to apply pressure on rear suspension and remove hook from rear portion of suspension, as shown on the next photo.



1. Remove hook on the rear portion of the suspension



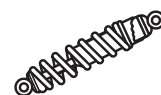
WARNING

Shipping strap must be cut and hook removed to have snowmobile suspension operational.

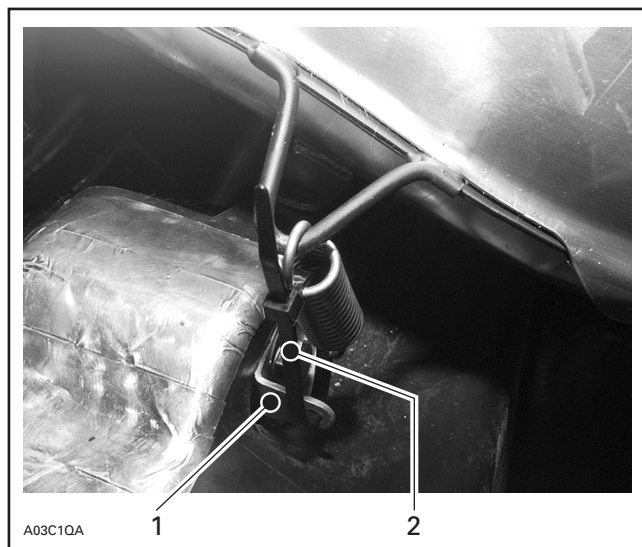


PARTS INSTALLATION

FRONT SUSPENSION



Cut locking tie retaining exhaust spring to exhaust support.



1. Lug in recess
2. Locking tie

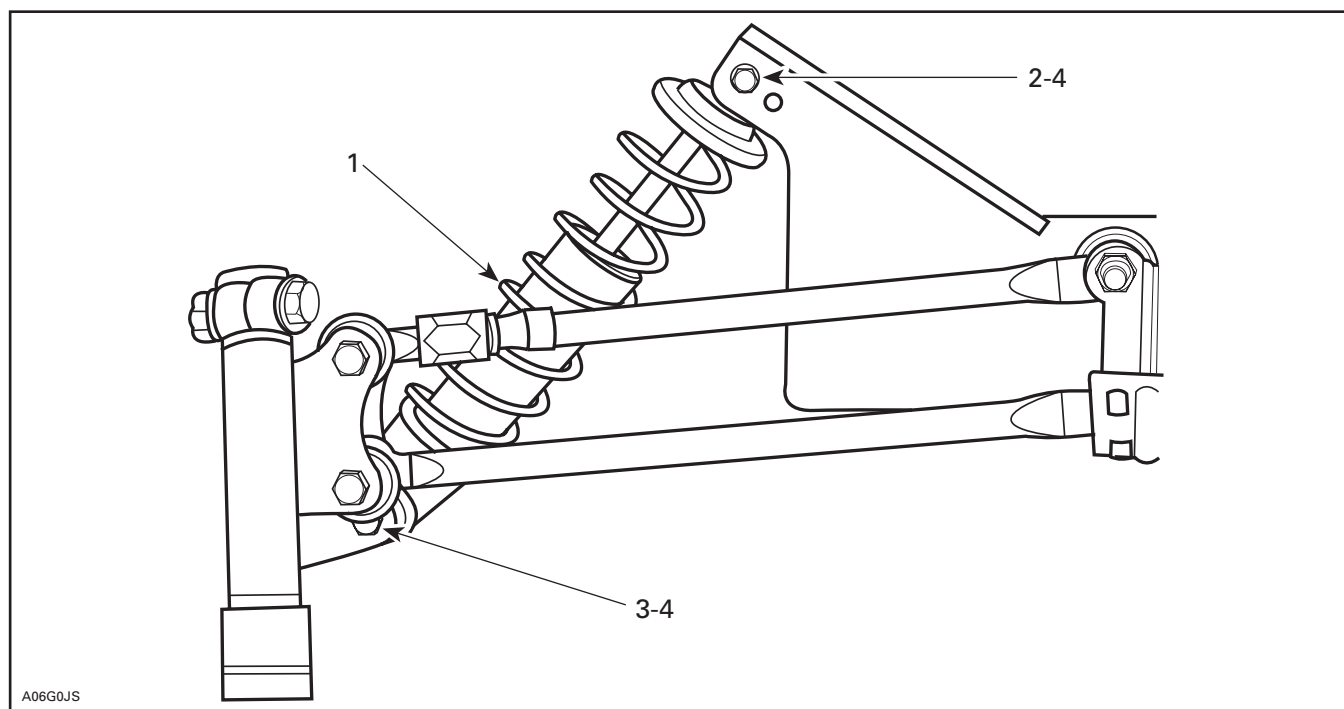
Lift front of vehicle and block safely.

Remove and discard shipping brackets from suspension. Discard spring clips, keep screws.

Secure shock absorbers to suspension with their adjusting ring at bottom.

NOTE: Except for MX Z 440 F bottom screw heads, position screw heads toward front.

Properly position exhaust support on chassis making sure that its lug rests in chassis recess. Hook up exhaust spring.



TYPICAL — RH SIDE SHOWN

1. Shock absorber (2) (Engine compartment) adjusting ring, if equipped, at bottom
2. Screw M10 x 1.5 x 60 (2) (P/N 222 0060 65) (On suspension)
3. Screw M10 x 1.5 x 55 (2) (P/N 222 0055 65) (On suspension)
4. Elastic flanged nut M10 x 1.5 (2) (P/N 228 5010 45) (Section no. 5). Torque to 48 N•m (35 lbf•ft)



PARTS INSTALLATION SKIS

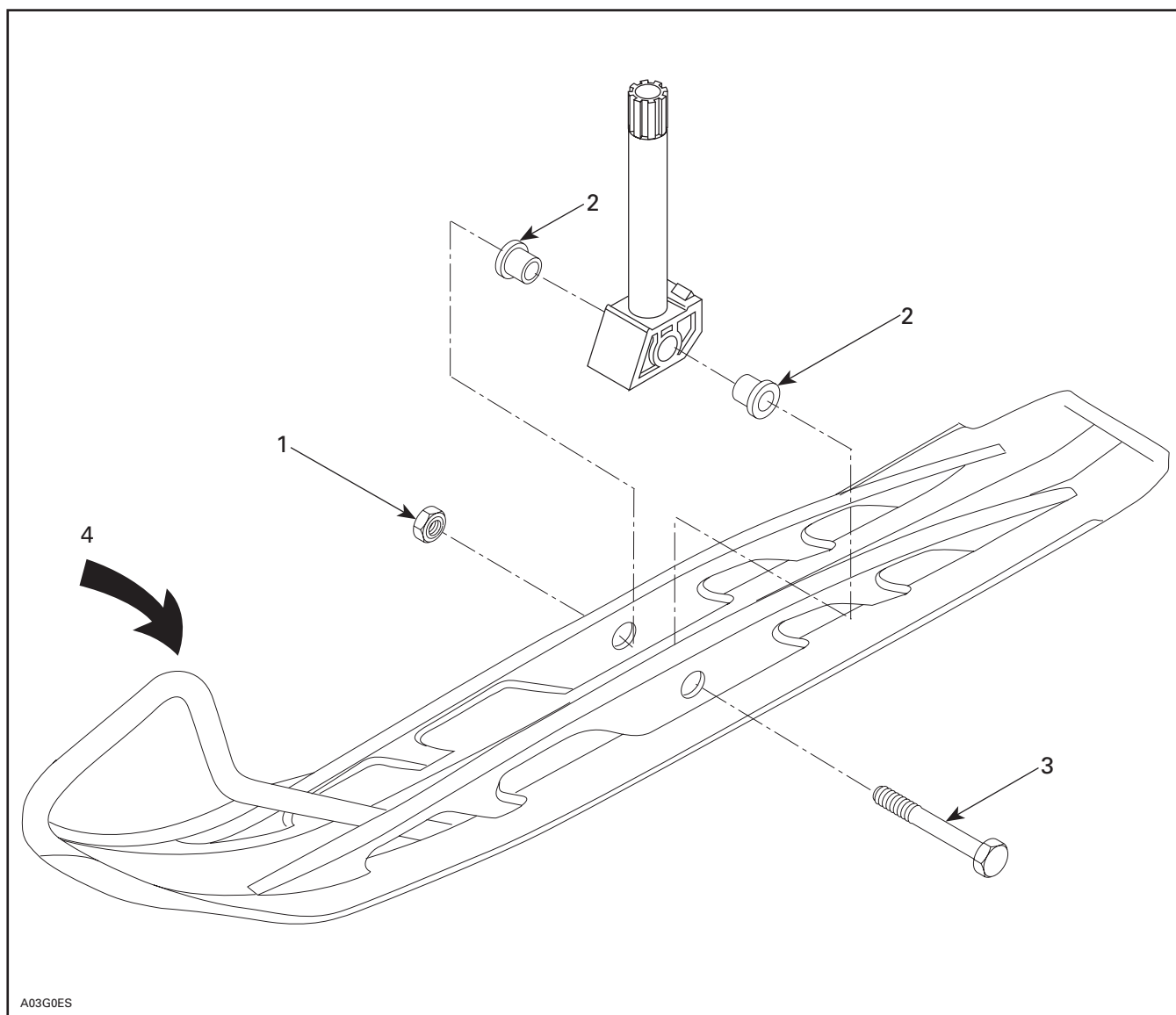


All Models

Install skis on vehicle.

NOTE: Make sure that slider cushions are still in ski leg.

Replace vehicle on ground.



LEFT SIDE SHOWN

1. Elastic flanged nut M12 x 1.75 (2) (P/N 228 5210 45) (Section no. 1). Torque to 40 N•m (30 lbf•ft)
2. Slider cushion (4) (Ski leg)
3. Bolt M12 (2) (Ski leg)
4. Twist ski to ease bolt installation



PARTS INSTALLATION

STEERING PAD



All Models

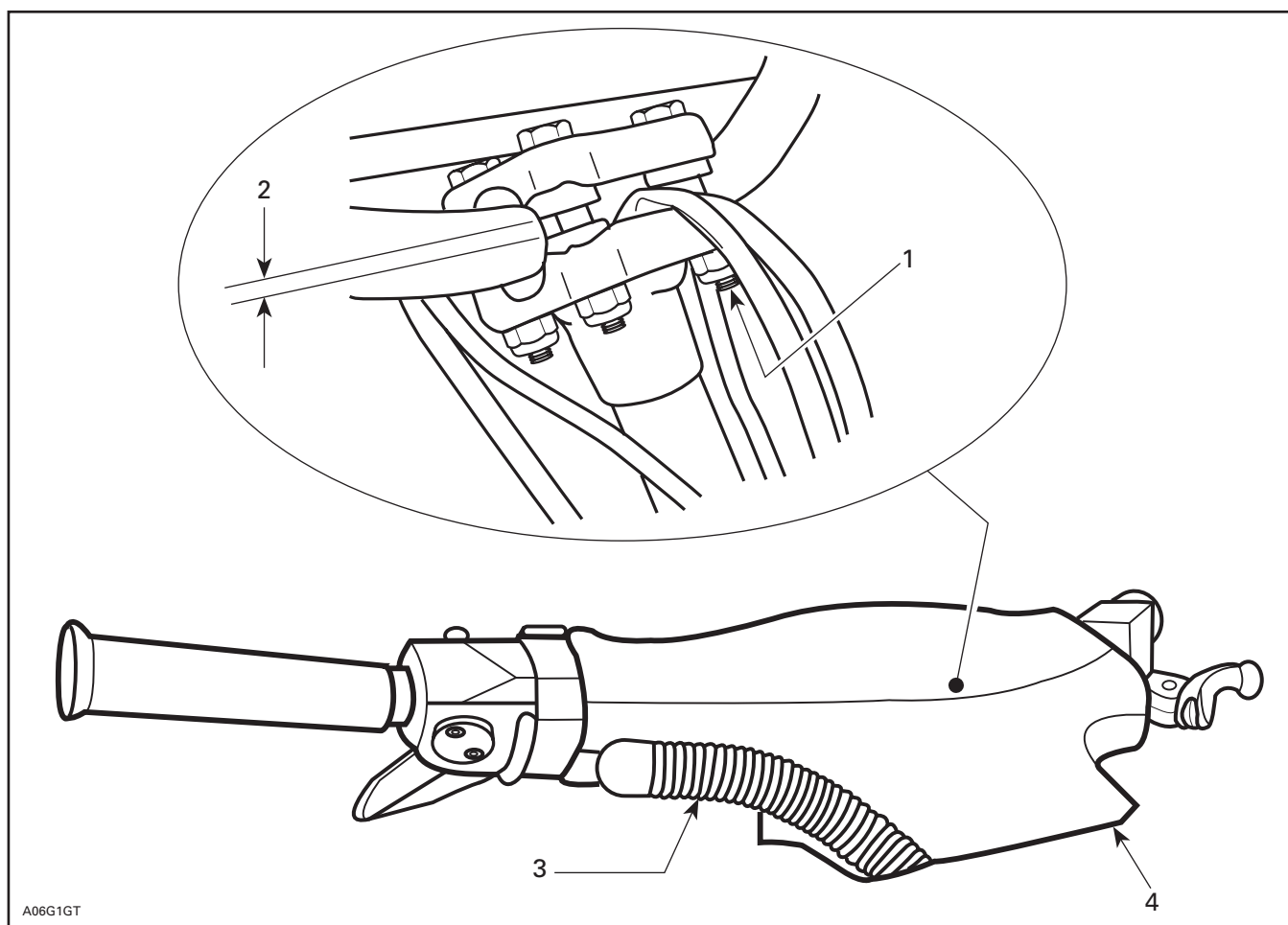
Adjust handlebar temporarily and tighten nuts loosely for now.

Loosen, at least 3 turns, Allen screw of throttle and brake handle housings.

Install steering pad temporarily, and adjust for proper fit with console.

Remove steering pad and torque nuts to 26 N•m (19 lbf•ft).

Reinstall steering pad, adjust and tighten throttle and brake handle housings.

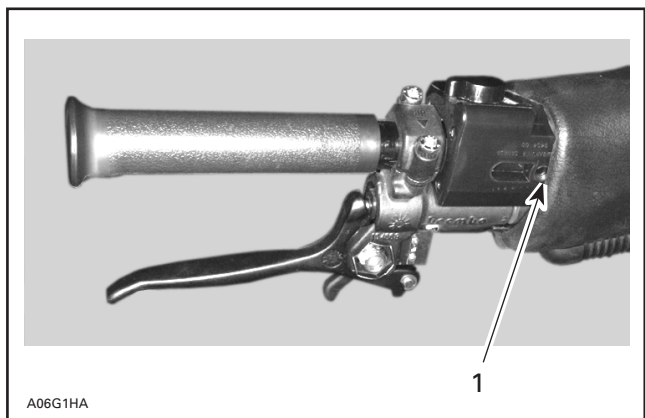


- A06G1GT
1. Torque to 26 N•m (19 lbf•ft)
 2. Equal gap each side (Both clamps)
 3. Keyway (2) (P/N 572 0724 00) (Section no. 3)
 4. Steering pad (Engine compartment)



PARTS INSTALLATION

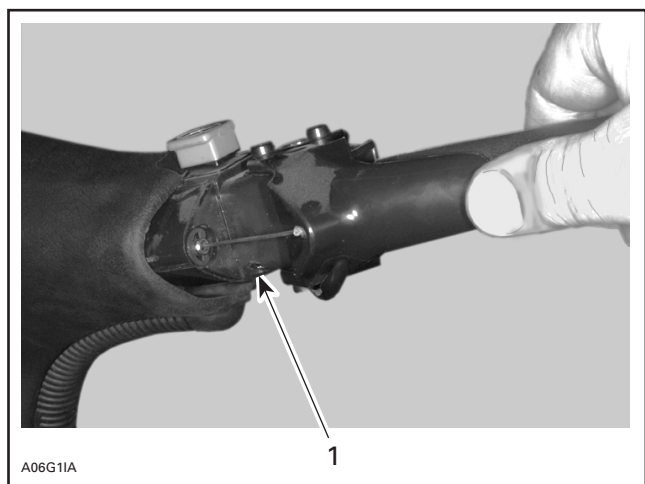
STEERING PAD



BRAKE HANDLE HOUSING

1. Tighten set screw to 2 N•m (18 lbf•in)

Except MX Z 440 F



THROTTLE HANDLE HOUSING

1. Tighten set screw to 2 N•m (18 lbf•in)



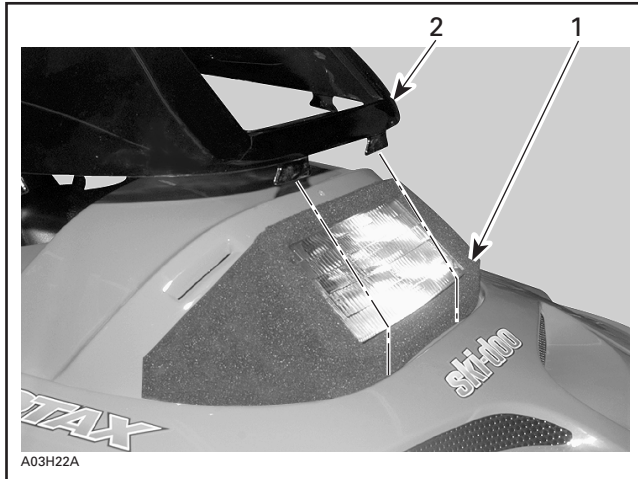
PARTS INSTALLATION WINDSHIELD



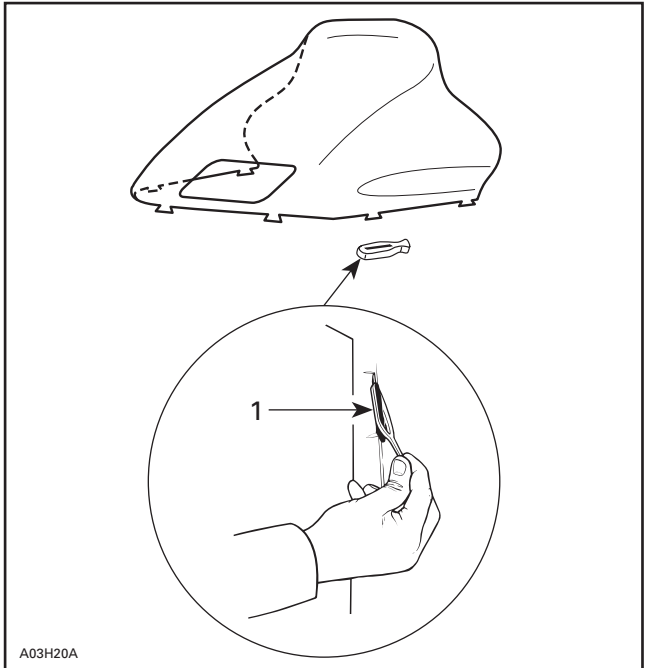
All Models

Install windshield on dashboard.

NOTE: Make sure that protective foam is properly positioned around headlamp before installing windshield.



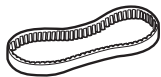
1. Protective foam
2. Install windshield on dashboard



1. Latch (6) (P/N 570 0238 00) (section no. 4 or 6)

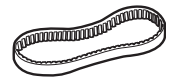


WINDSHIELD INSTALLED ON DASHBOARD



PARTS INSTALLATION

DRIVE BELT

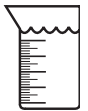


Clean pulleys and disc brake with a suitable cleaner such as Loctite Cleaning Solvent (P/N 413 7082 00) before installing drive belt.



LIQUIDS

OIL INJECTION PUMP BLEEDING



All Models Except MX Z 440 F

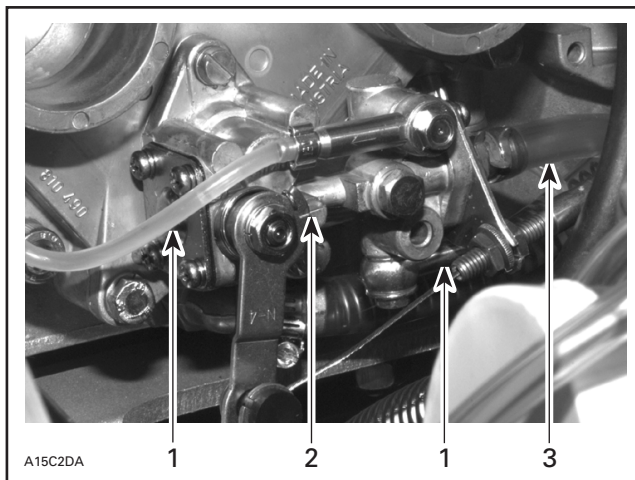
SUPPLEMENTAL OIL

To assure additional protection during the initial engine break-in, 500 mL (18 imp. oz) of BOMBARDIER ROTAX Injection Oil (P/N 413 8030 00) should be added to fuel for the first full filling of fuel tank. Always remove and clean spark plugs after engine break-in.

BLEEDING PROCEDURE

Remove air silencer and move carburetors aside. Bleed main oil line (between tank and pump) by loosening the bleeder screw until air has escaped from the line. Add injection oil as required.

Check also for proper oil lever adjustment. Marks must align when throttle lever is activated just enough to take all cable play.

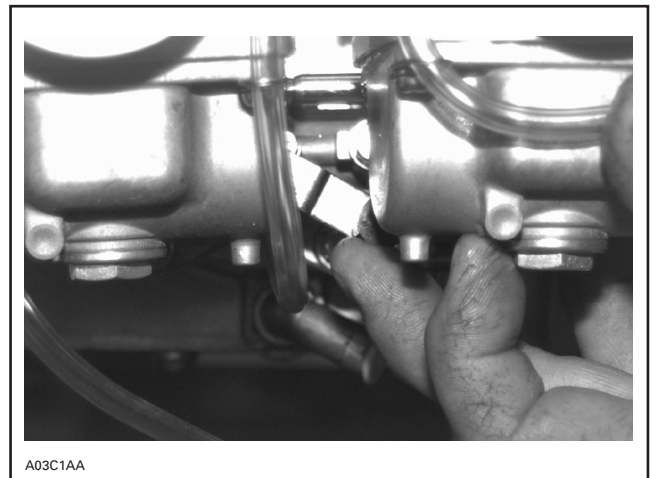


1. Small oil line
2. Marks aligned
3. Main oil line

Reinstall all parts except air silencer.

Bleed the small oil line between pump and intake manifold by running engine at idle while holding the pump lever in fully open position.

NOTE: If the air silencer has been reinstalled, make a J hook out of mechanical wire to lift the lever.



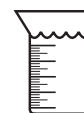
TYPICAL — ENGINE AT IDLE

Reinstall air silencer.



LIQUIDS

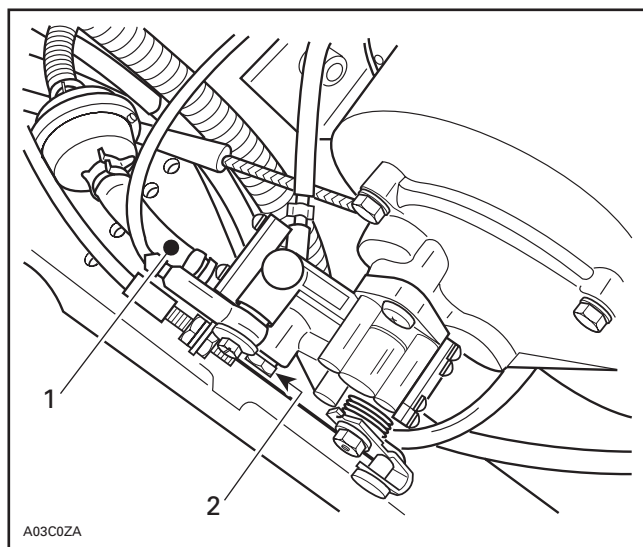
OIL INJECTION PUMP BLEEDING



MX Z 440 F Only

To assure additional protection during the initial engine break-in, 500 mL (18 imp. oz) of BOMBARDIER Injection Oil (P/N 496 0133 00) should be added to fuel for the first full filling of fuel tank. Always remove and clean spark plugs after engine break-in.

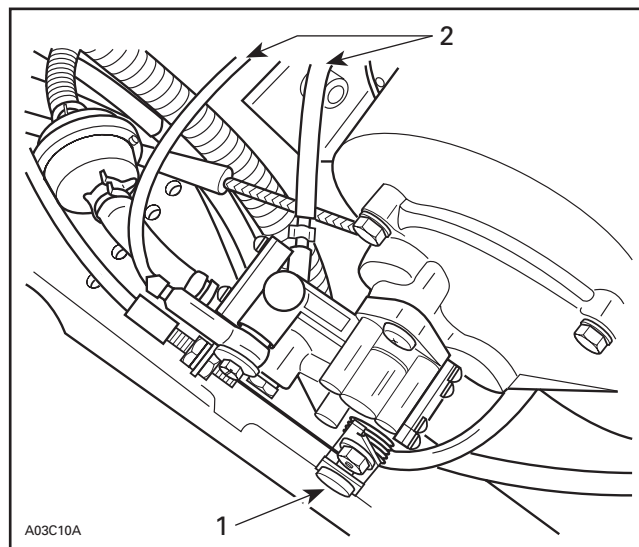
Bleed main oil line (between tank and pump) by loosening the bleeder screw until air has escaped from the line. Add injection oil as required.



TYPICAL

1. Main oil line
2. Bleeder screw

Bleed the small oil line between pump and intake manifold by running engine at idle while holding the pump lever in fully open position.



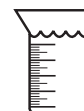
TYPICAL

1. Fully open position
2. Small lines



LIQUIDS

BRAKE FLUID LEVEL



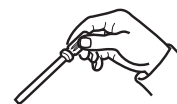
Check brake fluid in reservoir for proper level. Add fluid (DOT) as required

CAUTION

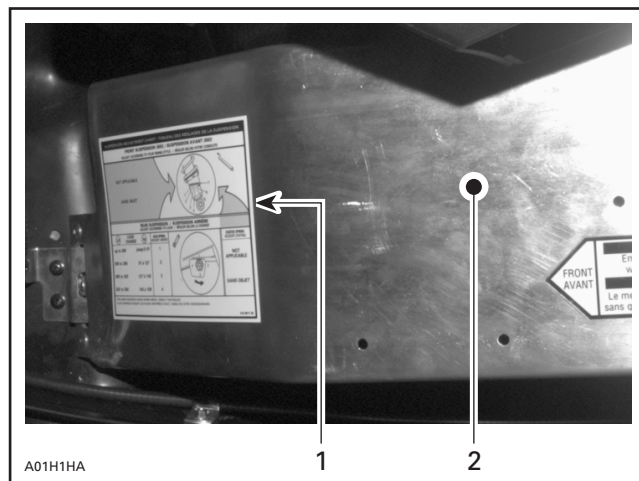
Use only (DOT 4) brake fluid from a sealed container. Do not store or use a partial bottle of brake fluid.



ADJUSTMENT SUSPENSION



Rear suspension is calibrated at factory. At pre-delivery, mechanics should perform suspension adjustments according to customer riding style and vehicle load as described on suspension adjustment chart which is located on pulley guard.



1. Adjustment chart
2. Pulley guard



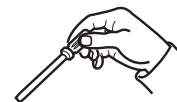
ADJUSTMENT TRACK



Refer to Shop Manual to adjust track tension and alignment. See TECHNICAL DATA section at the end of this bulletin.



ADJUSTMENT DRIVEN PULLEY



It is usual to experience spring settings during break-in period of a new spring. The factory spring preload is slightly higher to compensate for springs settings. Specifications in TECHNICAL DATA are applicable after break-in period (about 10 hours of use).



TECHNICAL DATA



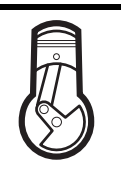
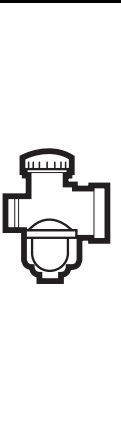
The content of the TECHNICAL DATA pages should be used as necessary to fine-tune and perform additional adjustments required on the snowmobile. Vehicles used at high altitudes, above 600 m (2000 ft) should be fitted with a high altitude kit. Further inquiries should be directed to your distributor service representative.



TECHNICAL DATA



A dot (•) on right indicates changes from 1996 model.

	MODELS	MX Z 440	MX Z 583
	Engine Type	454	583
	Maximum HP RPM ① ±100 RPM	8000	7900
	Rotary Valve P/N Opening (BTDC)/ Closing (ATDC)	420 9245 02 146°/65°	420 9245 02 140°/71°
	Carburetor Type	PTO VM 34 - 492 • MAG VM 34 - 493 •	PTO VM 40 - 92 • MAG VM 40 - 93 •
	Main Jet	PTO 240/MAG 210 •	PTO 280/MAG 260 •
	Needle Jet	P-8 (159)	AA-2 (224)
	Pilot Jet	40	60 •
	Needle Identification — Clip Position	6FJ43 •	7ECY1 •
	Slide Cutaway	2.5	2.5
	Float Adjustment ±1 mm (in)	23.9 (.941)	18.1 (.71)
	Air Screw Adjustment ± 1/16 turn	1/2	2 •
	Idle Speed RPM ±200 RPM	1700 •	1800 •
	Gas Grade/Octane Number (R + M)/2	Regular Unleaded/87	Regular Unleaded/87
	Gas/Oil Ratio	Oil Injection	Oil Injection
	Ignition Timing BTDC ② mm (in)	1.48 (.058)	1.75 (.069)
	Trigger Coil Air Gap mm (in)	0.55 - 1.45 (.022 - .057)	0.55 - 1.45 (.022 - .057)
	Gear Ratio teeth	23/44	25/44
	Engagement Speed ± 100 RPM	4400	4400 •
	Drive Pulley Calibration Screw Position	3	3 •
	Pulley Distance Z (+ 0, - 1) mm (+ 0, - 1/32) in	16.5 (21/32)	
	Offset X ± 0.4 mm (± 1/64 in)	35.0 (1-3/8)	
	Y	Dimension Y must exceed X from 1mm (1/32in) to 2 mm (5/64 in)	
	Drive Belt Adjustment Deflection mm (in)	32 (1-1/4)	
	Force ③ kg (lbf)	11.34 (25) •	
	Driven Pulley Preload ±0.7 kg (±1.5 lbf)	7.0 (15.43) •	
	Drive Chain Tension	Fully tighten adjusting screw by hand then back OFF only far enough for hair pin installation	
	Track Adjustment Deflection mm (in)	40 to 55 (1-9/16 to 2-5/32) with a 7.3 kg (16 lb) downward pull •	30 to 40 (1-3/16 to 1-9/16) with a 7.3 kg (16 lb) downward pull •

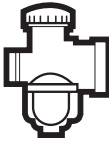
NOTE: See end of specifications for foot notes.



TECHNICAL DATA



A dot (•) on right indicates changes from 1996 model.

	MODEL	MX Z 670
	Engine Type	670
	Maximum HP RPM ① ±100 RPM	7700
	Rotary Valve P/N Opening (BTDC)/ Closing (ATDC)	420 9245 00 145°/71°
	Carburetor Type	PTO VM 40 - 94 MAG VM 40 - 95 •
	Main Jet	PTO 300 MAG 270
	Needle Jet	AA-2 (224)
	Pilot Jet	60
	Needle Identification — Clip Position	7EDY1 •
	Slide Cutaway	2.5
	Float Adjustment ±1 mm (in)	18.1 (.71)
	Air Screw Adjustment ± 1/16 turn	2-1/4
	Idle Speed RPM ±200 RPM	1700 •
	Gas Grade/Pump Octane Number (R + M)/2	Regular Unleaded/87
	Gas/Oil Ratio	Oil Injection
	Ignition Timing BTDC ② mm (in)	1.75 (.069) •
	Trigger Coil Air Gap mm (in)	0.55 - 1.45 (.022 - .057)
	Gear Ratio teeth	26/44
	Engagement Speed ±100 RPM	3800
	Drive Pulley Calibration Screw Position	3
	Pulley Distance Z (+ 0, - 1) mm (+ 0, - 1/32) in	16.5 (21/32)
	Offset X ± 0.4 mm (± 1/64 in)	35.0 (1-3/8)
	Y	Dimension Y must exceed X from 1 mm (1/32 in) to 2 mm (5/64 in)
	Drive Belt Adjustment Deflection ±.5 mm (in)	32 (1-1/4)
	Force ③ kg (lbf)	11.34 (25) •
	Driven Pulley Preload ±0.7 kg (lbf)	7.0 (15.43) •
	Drive Chain Tension	Fully tighten adjusting screw by hand then back OFF only far enough for hair pin installation
	Track Adjustment Deflection mm (in)	30 to 40 (1-3/16 - 1-9/16) with a 7.3 kg (16 lb) downward pull •

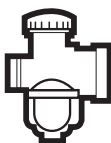
NOTE: See end of specifications for foot notes.



TECHNICAL DATA



A dot (•) on right indicates changes from 1996 model.

	MODEL	MX Z 440 F
	Engine Type	443
	Maximum HP RPM ① ±100 RPM	7000
	Rotary Valve P/N Opening (BTDC)/ Closing (ATDC)	N.A. N.A.
	Carburetor Type	PTO VM 34 - 479 MAG VM 34 - 480
	Main Jet	PTO 205 MAG 195
	Needle Jet	P-O (159)
	Pilot Jet	35
	Needle Identification — Clip Position	6DH2
	Slide Cutaway	2.5
	Float Adjustment ±1 mm (in)	23.9 (.94)
	Air Screw Adjustment ± 1/16 turn	1-1/2
	Idle Speed RPM ±200 RPM	1650
	Gas Grade/Pump Octane Number (R + M)/2	Regular Unleaded/87
	Gas/Oil Ratio	Oil Injection
	Ignition Timing BTDC ② mm (in)	1.68 (.066)
	Trigger Coil Air Gap mm (in)	0.45 - 0.55 (.018 - .022)
	Gear Ratio teeth	22/44
	Engagement Speed ±100 RPM	3800
	Drive Pulley Calibration Screw Position	3
	Pulley Distance Z (+ 0, - 1) mm (+ 0, - 1/32) in	16.5 (21/32)
	Offset X ± 0.4 mm (± 1/64 in)	35.0 (1-3/8)
	Y	Dimension Y must exceed X from 1 mm (1/32 in) to 2 mm (5/64 in)
	Drive Belt Adjustment Deflection ±.5 mm (in)	32 (1-1/4)
	Force ③ kg (lbf)	11.34 (25)
	Driven Pulley Preload ±0.7 kg (lbf)	6.1 (13.45)
	Drive Chain Tension	Fully tighten adjusting screw by hand then back OFF only far enough for hair pin installation
	Track Adjustment Deflection mm (in)	40 to 55 (1-9/16 - 2-5/32) with a 7.3 kg (16 lb) downward pull

① Engine speed at which maximum power is achieved.

② At 6000 RPM (engine cold) with headlamp turned on.

③ Force applied midway between pulleys to obtain specified deflection.

BTDC: Before Top Dead Center

ATDC: After Top Dead Center

PTO: Power Take OFF side

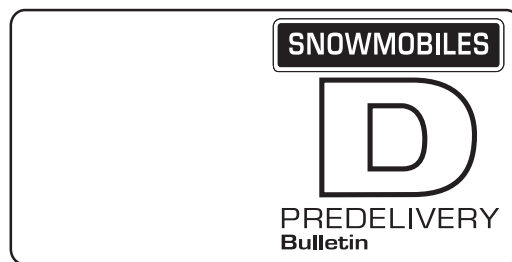
MAG: Magneto side

CRT: Center

N.A.: Not Applicable

Please route to :

☐ Service	☐ Init.
☐ Sales	☐
☐ Parts	☐



No. **97-6**

UPDATE

Date: December 6, 1996

SUBJECT: Technical Data

YEAR	MODEL	MODEL NUMBER	SERIAL NUMBER
1997	MX Z 670	Canada: 1193 United States: 1194 Sweden: 1195	All

The technical data sheet for the above mentioned models has been updated.

Refer to the Ski-Doo *Predelivery Bulletin* no. 97-6.

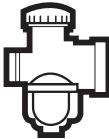
Replace with the attached.



TECHNICAL DATA



A dot (•) on right indicates changes from 1996 model.

	MODEL	MX Z 670
	Engine Type	670
	Maximum HP RPM ① ± 100 RPM	7700
	Rotary Valve P/N Opening (BTDC)/ Closing (ATDC)	420 9245 00 145°/71°
	Carburetor Type	PTO VM 40 - 94 MAG VM 40 - 95 •
	Main Jet	PTO 300 MAG 270
	Needle Jet	AA-2 (224)
	Pilot Jet	60
	Needle Identification — Clip Position	7EDY1 •
	Slide Cutaway	2.5
	Float Adjustment ± 1 mm (in)	18.1 (.71)
	Air Screw Adjustment ± 1/16 turn	2-1/4
	Idle Speed RPM ± 200 RPM	1700 •
	Gas Grade/Pump Octane Number (R + M)/2	Regular Unleaded/87
	Gas/Oil Ratio	Oil Injection
	Ignition Timing BTDC ② mm (in)	1.93 (.076) •
	Trigger Coil Air Gap mm (in)	0.55 - 1.45 (.022 - .057)
	Gear Ratio teeth	26/44
	Engagement Speed ± 100 RPM	3800
	Drive Pulley Calibration Screw Position	3
	Pulley Distance Z (+ 0, - 1) mm (+ 0, - 1/32) in	16.5 (21/32)
	Offset X ± 0.4 mm (± 1/64 in)	35.0 (1-3/8)
	Y	Dimension Y must exceed X from 1 mm (1/32 in) to 2 mm (5/64 in)
	Drive Belt Adjustment Deflection ± .5 mm (in)	32 (1-1/4)
	Force ③ kg (lbf)	11.34 (25) •
	Driven Pulley Preload ± 0.7 kg (lbf)	7.0 (15.43) •
	Drive Chain Tension	Fully tighten adjusting screw by hand then back OFF only far enough for hair pin installation
	Track Adjustment Deflection mm (in)	30 to 40 (1-3/16 - 1-9/16) with a 7.3 kg (16 lb) downward pull •

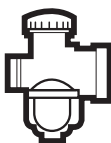
NOTE: See end of specifications for foot notes.



TECHNICAL DATA



A dot (•) on right indicates changes from 1996 model.

	MODEL	MX Z 440 F
	Engine Type	443
	Maximum HP RPM ① ±100 RPM	7000
	Rotary Valve P/N Opening (BTDC)/ Closing (ATDC)	N.A. N.A.
	Carburetor Type	PTO VM 34 - 479 MAG VM 34 - 480
	Main Jet	PTO 205 MAG 195
	Needle Jet	P-O (159)
	Pilot Jet	35
	Needle Identification — Clip Position	6DH2
	Slide Cutaway	2.5
	Float Adjustment ±1 mm (in)	23.9 (.94)
	Air Screw Adjustment ± 1/16 turn	1-1/2
	Idle Speed RPM ±200 RPM	1650
	Gas Grade/Pump Octane Number (R + M)/2	Regular Unleaded/87
	Gas/Oil Ratio	Oil Injection
	Ignition Timing BTDC ② mm (in)	1.68 (.066)
	Trigger Coil Air Gap mm (in)	0.45 - 0.55 (.018 - .022)
	Gear Ratio teeth	22/44
	Engagement Speed ±100 RPM	3800
	Drive Pulley Calibration Screw Position	3
	Pulley Distance Z (+ 0, - 1) mm (+ 0, - 1/32) in	16.5 (21/32)
	Offset X ± 0.4 mm (± 1/64 in)	35.0 (1-3/8)
	Y	Dimension Y must exceed X from 1 mm (1/32 in) to 2 mm (5/64 in)
	Drive Belt Adjustment Deflection ±.5 mm (in)	32 (1-1/4)
	Force ③ kg (lbf)	11.34 (25)
	Driven Pulley Preload ±0.7 kg (lbf)	6.1 (13.45)
	Drive Chain Tension	Fully tighten adjusting screw by hand then back OFF only far enough for hair pin installation
	Track Adjustment Deflection mm (in)	40 to 55 (1-9/16 - 2-5/32) with a 7.3 kg (16 lb) downward pull

① Engine speed at which maximum power is achieved.

② At 6000 RPM (engine cold) with headlamp turned on.

③ Force applied midway between pulleys to obtain specified deflection.

BTDC: Before Top Dead Center

ATDC: After Top Dead Center

PTO: Power Take OFF side

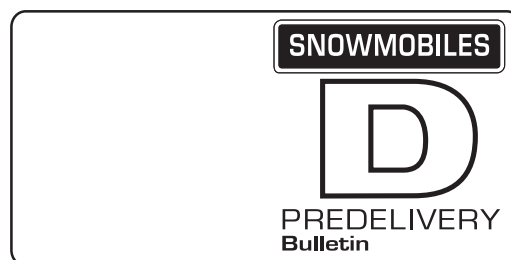
MAG: Magneto side

CRT: Center

N.A.: Not Applicable

Please route to :

☐ Service	☐ Init.
☐ Sales	☐
☐ Parts	☐



No. **97-7**

Date: September 12, 1996

SUBJECT: Predelivery Procedure

YEAR	MODEL	MODEL NUMBER	SERIAL NUMBER
1997	Canada and United States: Formula*III, Mach*1 and Mach* Z	1148, 1149, 1177, 1178, 1180, 1181	ALL
1997	Sweden: Formula III, Mach 1 and Mach Z	1150, 1179, 1182	ALL

This bulletin must be used in conjunction with the check list enclosed in Operator's Guide bag. Make sure that predelivery check list is completed and signed.

◆ WARNING
To obtain warranty coverage, predelivery procedures must be performed by an authorized Bombardier snowmobile dealer. Apply all necessary torques as indicated.

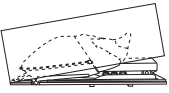
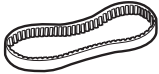
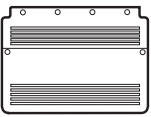
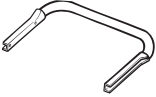
NOTE: The information and components/system descriptions contained in this document are correct at the time of publication. Bombardier Inc. however, maintains a policy of continuous improvement of its products without imposing upon itself any obligation to install them on products previously manufactured. Due to late changes, it may have some differences between the manufactured product and the descriptions and/or specifications in this document. Bombardier Inc. reserves the right at any time to discontinue or change specifications, designs, features, models or equipment without incurring obligation.

The illustrations in this document show the typical construction of the different assemblies and may not reproduce the full detail or exact shape of the parts. However, they represent parts that have the same or similar function.

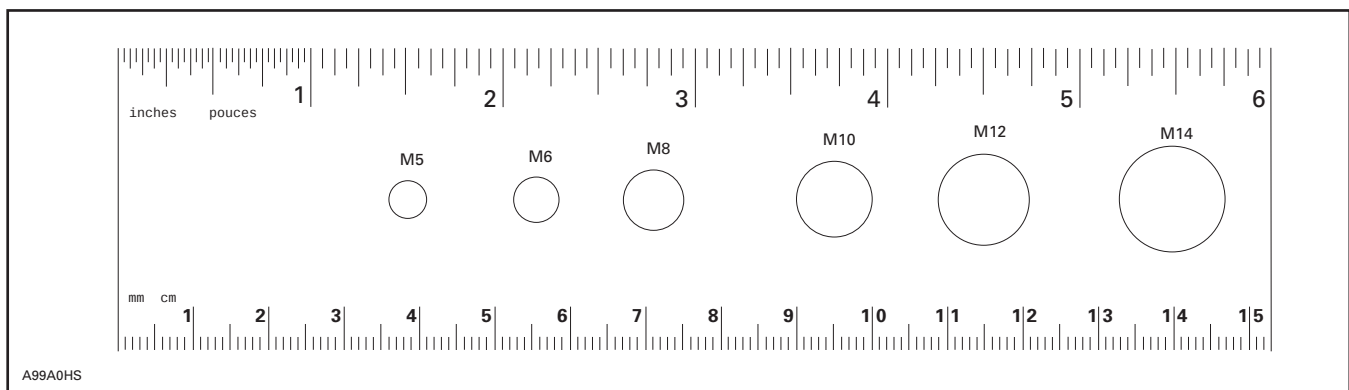
The content of this bulletin is designed as a guideline only. All mechanics performing predelivery procedures should have attended the current model year service training. Further information or inquiries should be directed to your distributor service representative and/or specific Shop Manual sections. Please complete the Predelivery Check List for each snowmobile and return a customer signed copy. Make sure the customer receives the Operator's Guide, Safety Handbook and video.

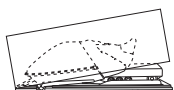
There is a tag attached to the ignition key, only the customer must remove it. This label will remind the customer to ask the dealer to perform suspension adjustments according to riding style and vehicle load.

TABLE OF CONTENTS

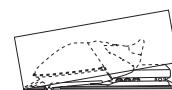
SUBJECT	PAGE	SUBJECT	PAGE
	UNCRATING 3		PARTS INSTALLATION 12 DRIVE BELT
	PARTS INSTALLATION 6 FRONT SUSPENSION		LIQUIDS 12 OIL INJECTION PUMP BLEEDING
	PARTS INSTALLATION 7 SKIS		LIQUIDS 13 BRAKE FLUID LEVEL
	PARTS INSTALLATION 8 STEERING PAD		ADJUSTMENTS 13 SUSPENSION
	PARTS INSTALLATION 10 WINDSHIELD		ADJUSTMENTS 14 TRACK
	PARTS INSTALLATION 11 SNOW GUARD		ADJUSTMENTS 14 DRIVEN PULLEY
	PARTS INSTALLATION 11 REAR BUMPER		TECHNICAL DATA 14

NOTE: This ruler can be helpful to identify fastener length or size.





UNCRATING



PREDELIVERY KIT P/N	MODELS
580 6581 00	Mach 1 and Mach Z
580 6580 00	Formula III

◆ WARNING

Torque wrench tightening specifications must be strictly adhered to. Locking devices (e.g. lock tabs, elastic stop nuts) must be installed or replaced by new ones, where specified. If the efficiency of a locking device is impaired, it must be renewed.

Carefully lay the crate on its bottom.

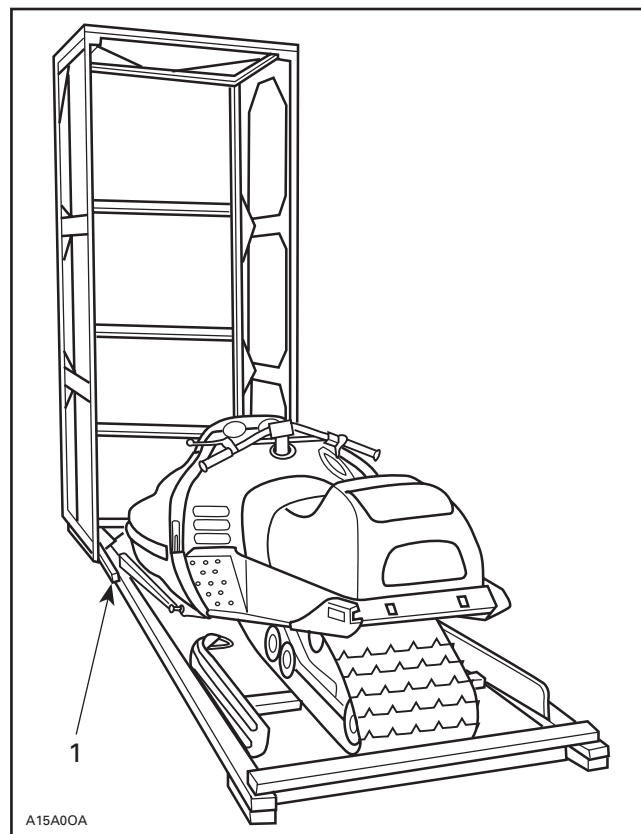
▼ CAUTION

Allowing the crate to drop may cause serious damage to the vehicle.

Unscrew all screws retaining cover to crate base.

Notch in crate base is at front.

Tip cover over front of vehicle.



1. Notch

Detach parts to be installed (e.g. skis, windshield) from the vehicle and its base.

Cut locking ties retaining windshield.

From underneath tunnel, loosen 4 nuts retaining seat then slowly pull out metal strip retaining windshield. Tighten nuts.

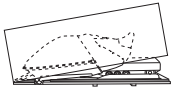
▼ CAUTION

Failure to lift seat might result in leatherette damage.

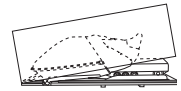
▼ CAUTION

Make sure vehicle is properly supported before removing ski legs and rear suspension from crate brackets.

Detach ski legs from crate. Keep ski leg bolts and slider cushions to bolt skis to ski legs. Discard crating spacers and elastic stop nuts.



UNCRATING



Remove vehicle from base.

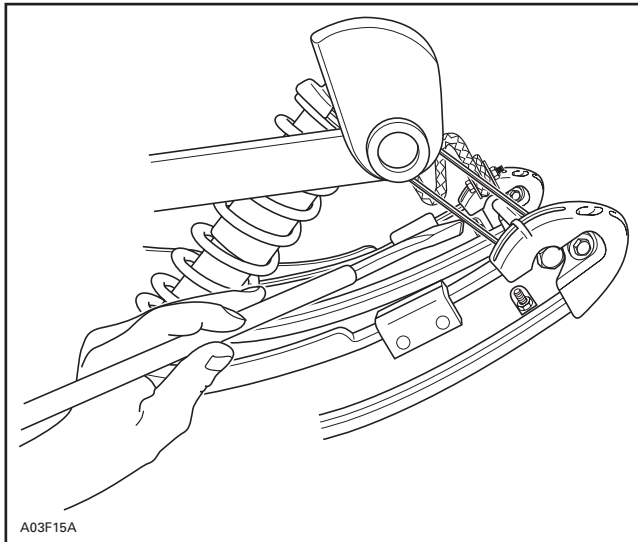
Remove steering pad, shock absorbers, snow guard, drive belt and predelivery kit from engine compartment.

SHIPPING STRAP REMOVAL

Cut shipping strap using one of these 2 following methods:

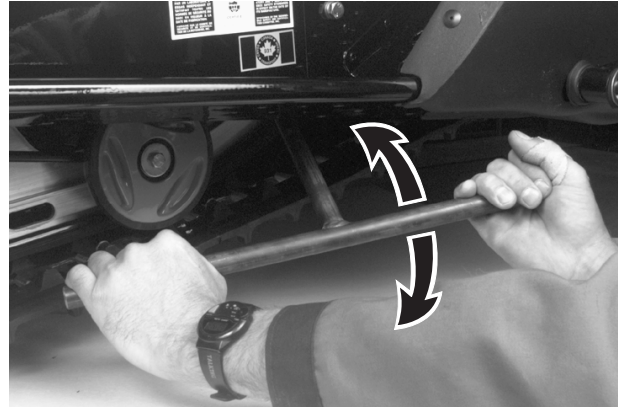
Method 1

Using a long flat chisel such as Snap-On® PPC820LA cut shipping strap that collapses front portion of rear suspension, as shown on the next photo.



Method 2

Using a special tool cut shipping strap as shown on the next photo.



INSERT TOOL TIP ONTO STRAP AND TWIST

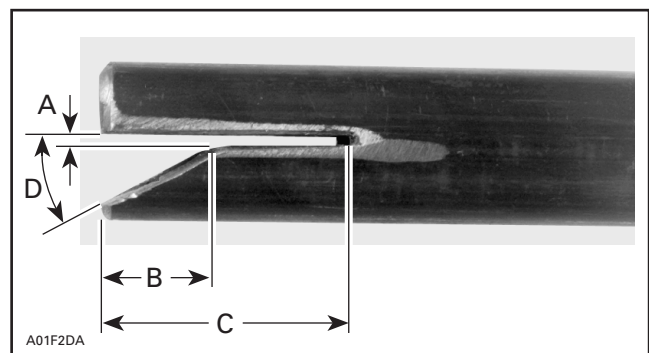
How to Build the Special Tool

Using 20 mm (3/4 in) steel tubing, cut the first piece to 460 mm (18 in) and the second one to 410 mm (16 in).

NOTE: High forces will be applied on this special tool, use strong tubing with a minimum 2 mm (5/64 in) wall thickness.

On one end of the 460 mm (18 in) piece, cut a 1.2 mm (3/64 in) slot by 28.5 mm (1-1/8 in).

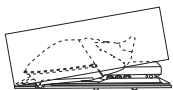
Make a chamfer of 30° x 10 mm (25/64 in), as shown on the next photo.



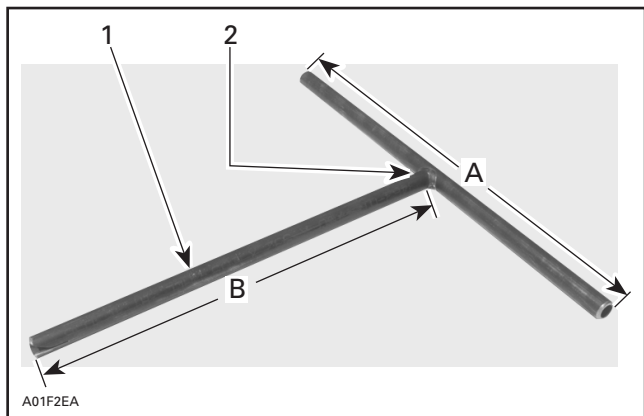
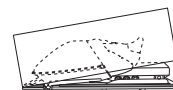
- A. 1.2 mm (3/64 in)
- B. 10 mm (25/64 in)
- C. 28.5 mm (1-1/8 in)
- D. 30°

Remove all sharp edges.

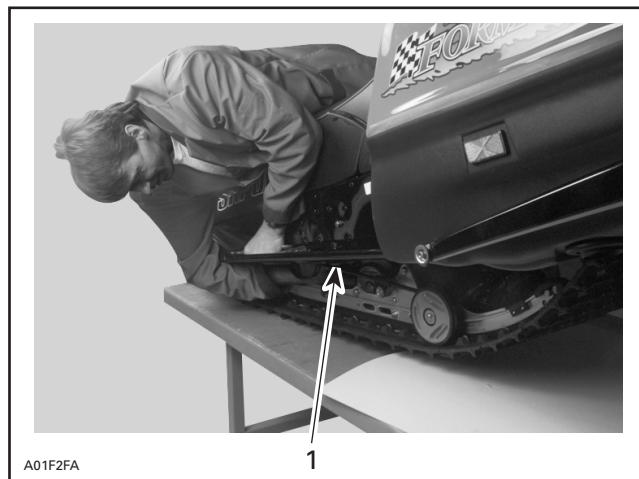
Assemble the two pieces and weld them together, as shown on the following photo.



UNCRATING



1. 20 mm (3/4 in) steel tubing
2. Welded joint
- A. 410 mm (16 in)
- B. 460 mm (18 in)



1. Remove hook on the rear portion of the suspension

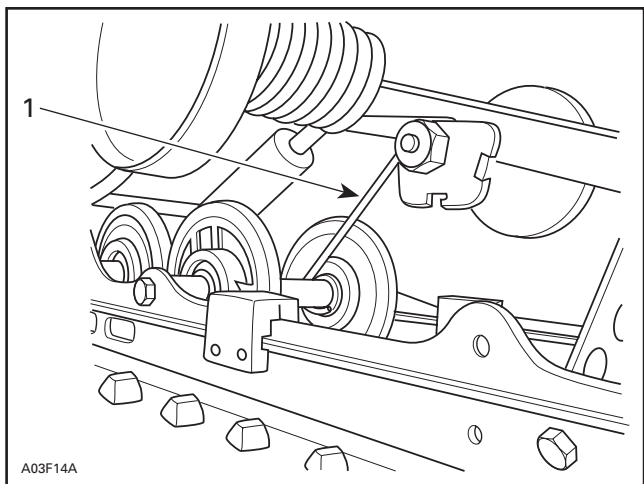
◆ WARNING

Failure to use one of these two methods of strap removal could result in personal injury.

◆ WARNING

Shipping strap must be cut and hook removed to have snowmobile suspension operational.

HOOK REMOVAL



1. Hook to be removed

Lift front of vehicle to position bumper 35 to 40 inches upward. Lean on vehicle seat to apply pressure on rear suspension and remove hook from rear portion of suspension, as shown on the next photo.



PARTS INSTALLATION

FRONT SUSPENSION

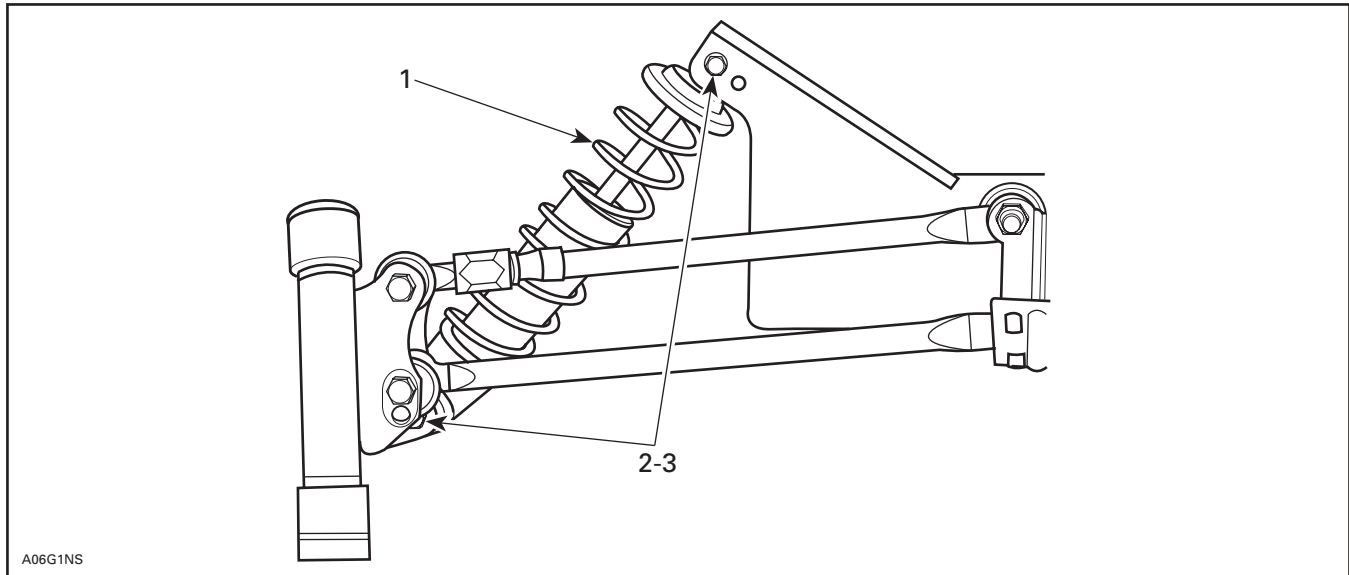


Lift front of vehicle and block safely.

Remove and discard shipping brackets from suspension. Discard spring clips, keep bolts.

Secure shock absorbers to suspension with their adjusting ring at bottom.

NOTE: Position bolt heads toward front.

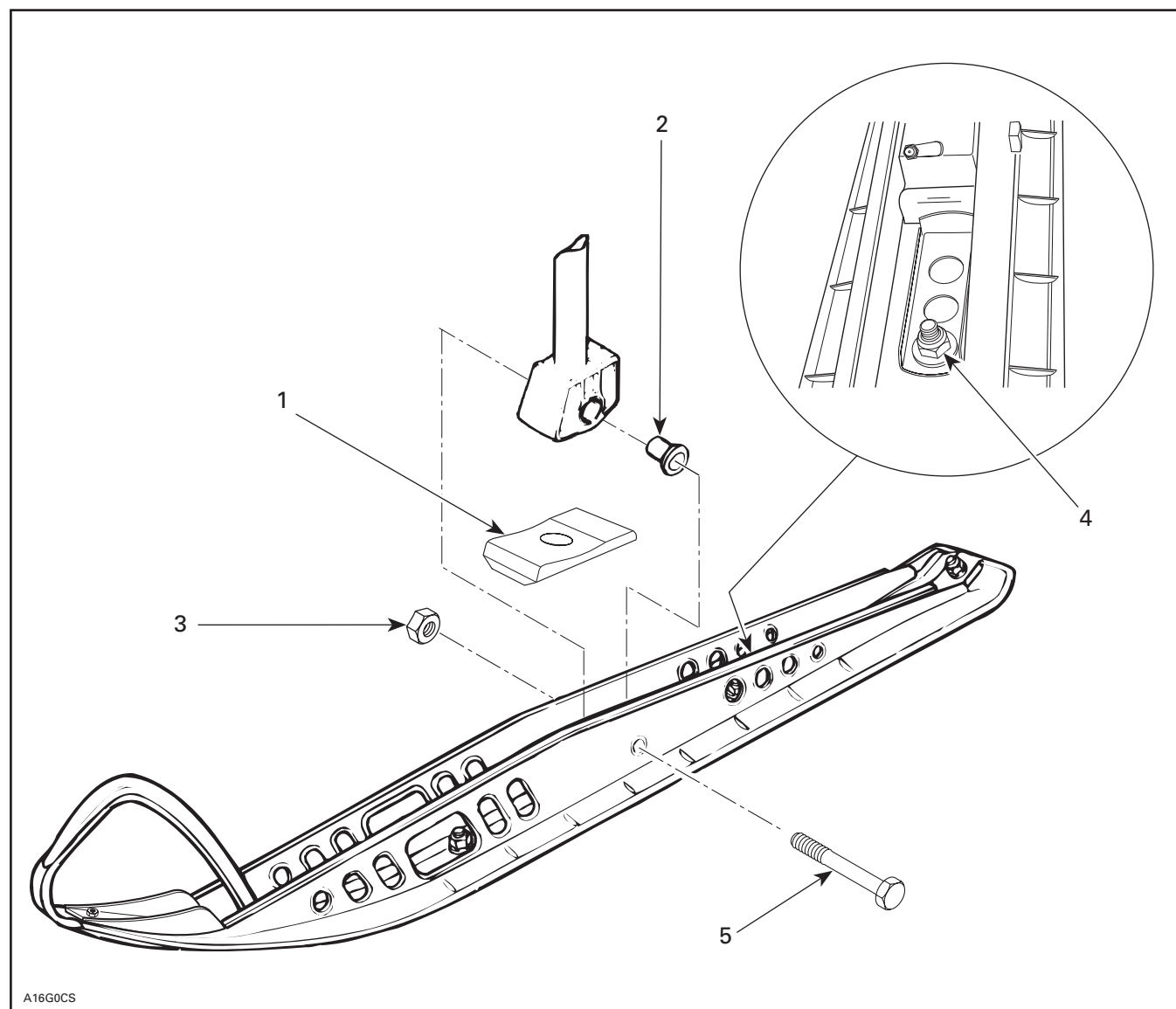


TYPICAL — RIGHT SIDE SHOWN

1. Shock absorber (2) (engine compartment)
2. M10 x 1.5 x 55 bolt (on suspension)
3. M10 x 1.5 nut (section no. 4). Torque to 48 N•m (35 lbf•ft)



PARTS INSTALLATION SKIS



A16G0CS

LEFT SIDE SHOWN

1. Ski stopper (2) (section no. 8) "AVANT" toward front
2. Slider cushion (4)
3. Elastic flanged nut M12 (2) (section no. 8). Torque to 40 N•m (30 lbf•ft)
4. Loosen then adjust against ski stopper 14 N•m (124 lbf•in)
5. Bolt M12 (2) (ski leg)

After ski installation, adjust stopper against stop bounding then tighten nut to 14 N•m (124 lbf•in). More preload on stop bounding will result in a more aggressive steering. Adjust according to driver preferences.



PARTS INSTALLATION

STEERING PAD



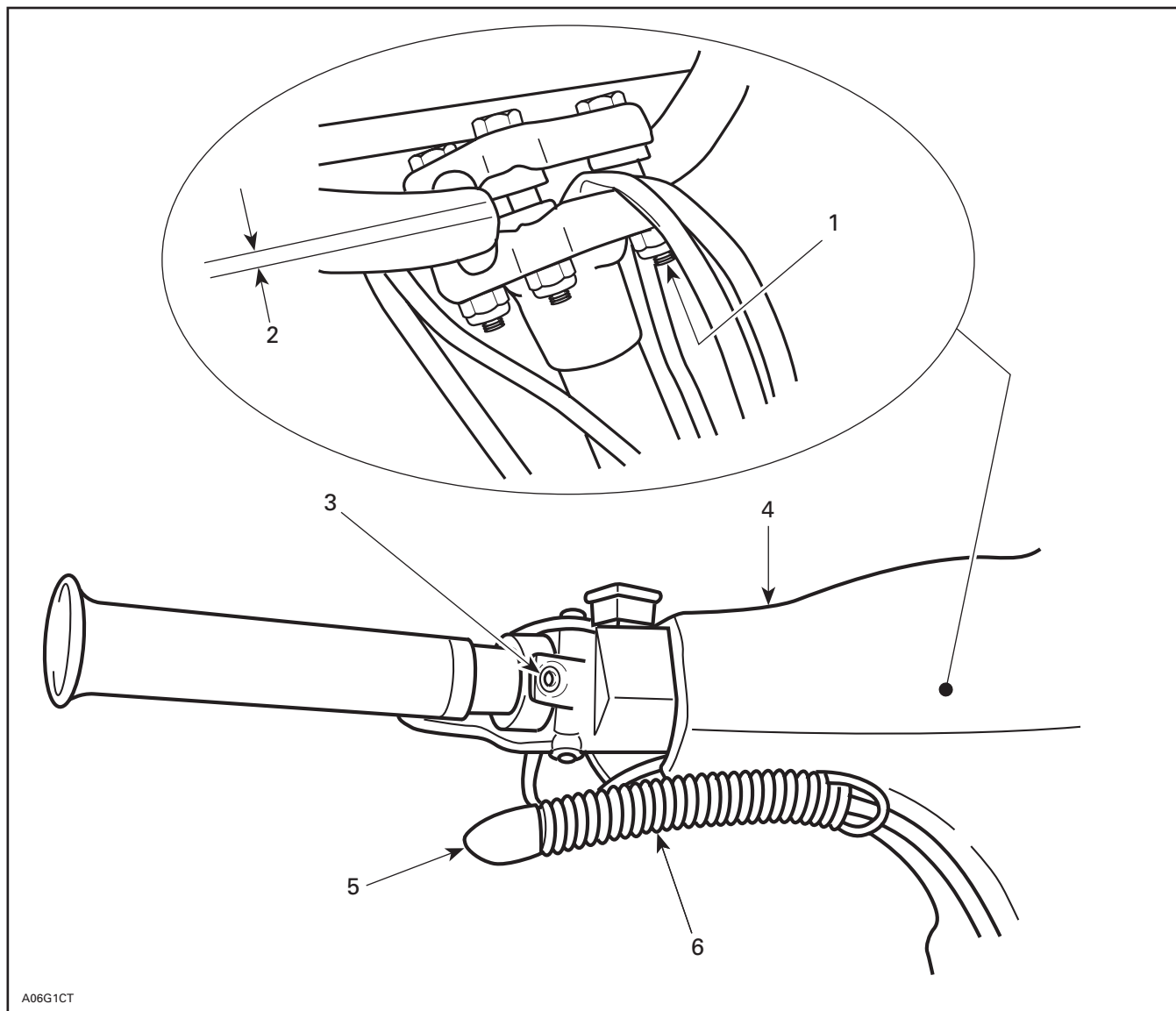
Adjust handlebar temporarily and tighten nuts loosely for now.

Loosen, at least 3 turns, Allen screw of throttle and brake handle housings.

Install steering pad temporarily, and adjust for proper fit with console.

Remove steering pad and torque nuts to 26 N•m (19 lbf•ft).

Reinstall steering pad, adjust and tighten throttle and brake handle housings.



1. Torque to 26 N•m (19 lbf•ft)
2. Equal gap each side (both clamps)
3. Loosen Allen screw
4. Steering pad (engine compartment)
5. Use liquid soap to ease installation
6. Keyway (2) (P/N 572 0724 00) (section no. 5)

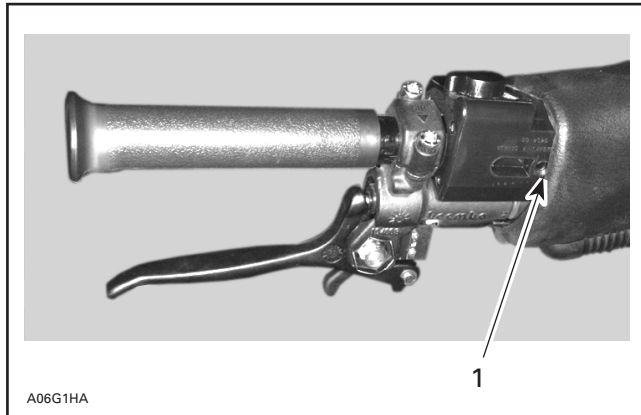


PARTS INSTALLATION

STEERING PAD



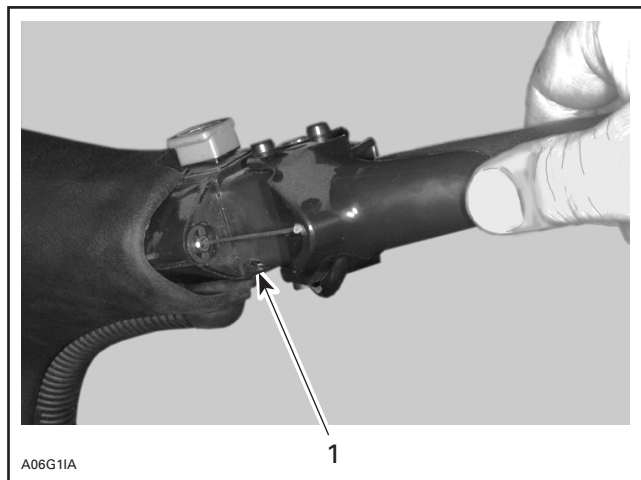
Adjust then tighten throttle and brake handle housings.



BRAKE HANDLE HOUSING

1. Tighten set screw to 2 N•m (18 lb•in)

Mach Z Only



THROTTLE HANDLE HOUSING

1. Tighten set screw to 2 N•m (18 lb•in)

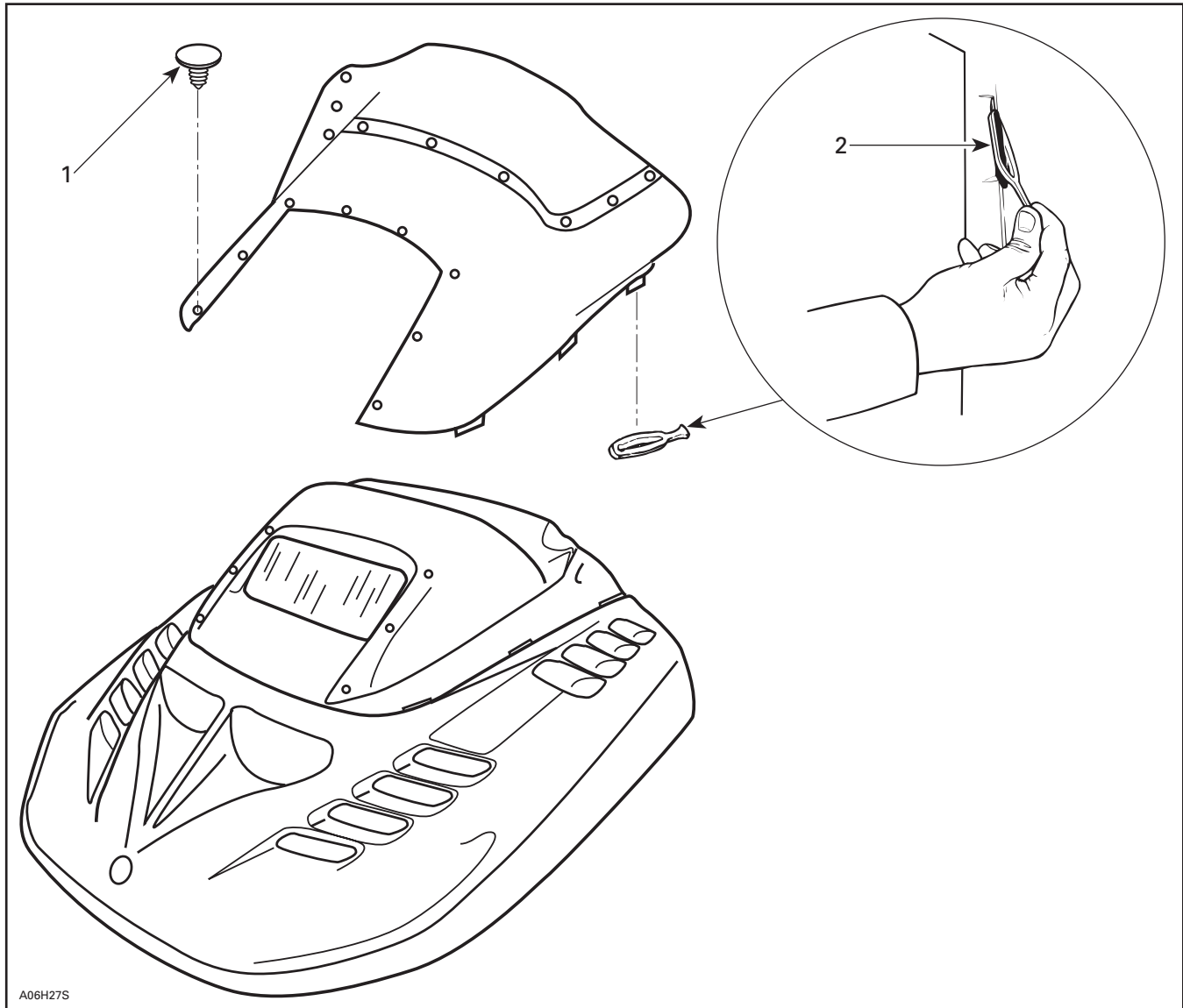


PARTS INSTALLATION WINDSHIELD

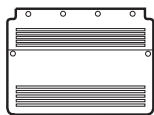


Install windshield on hood.

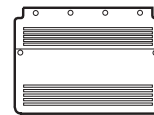
NOTE: To ease installation, install windshield with darts first.



1. Dart (section no. 6)
2. Latch (section no. 6)

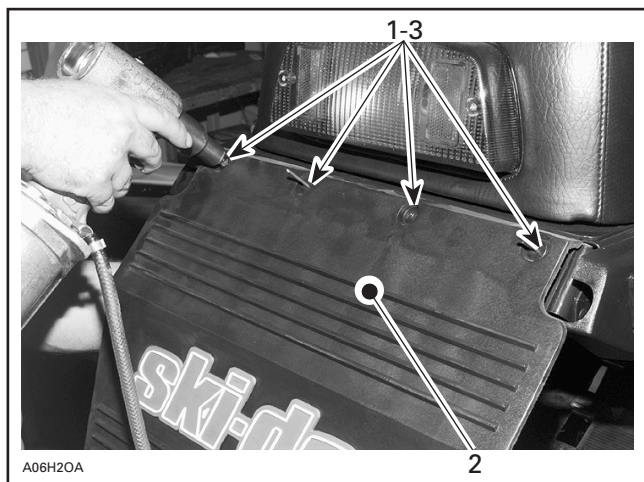


PARTS INSTALLATION SNOW GUARD



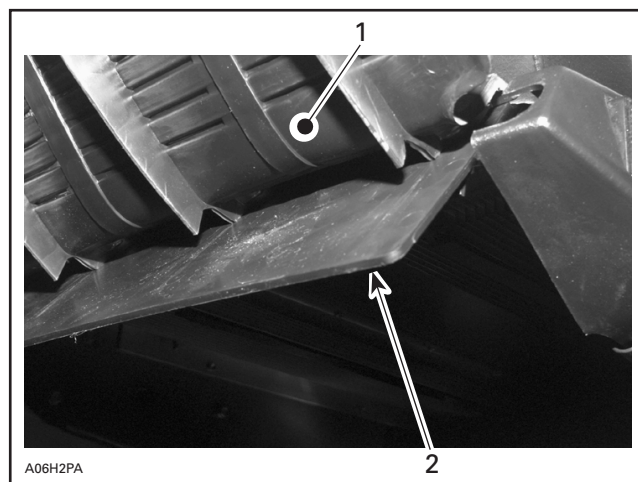
Position snow guard protector pad onto chassis.
Install snow guard over protector pad and secure the two parts with rivets.

NOTE: Place washers inside tunnel.



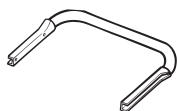
TYPICAL

1. Rivet (4) (section no. 2)
2. Snow guard (in engine compartment)
3. Washer (4) (section no. 2). Position washer inside tunnel

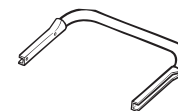


VIEW FROM UNDER SNOW GUARD

1. Snow guard
2. Snow guard protector pad

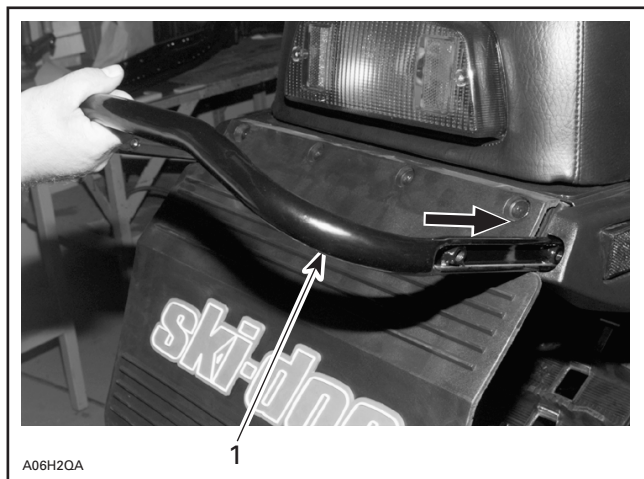


PARTS INSTALLATION REAR BUMPER



NOTE: Bolts located in section no. 3 of shrink pack are not used.

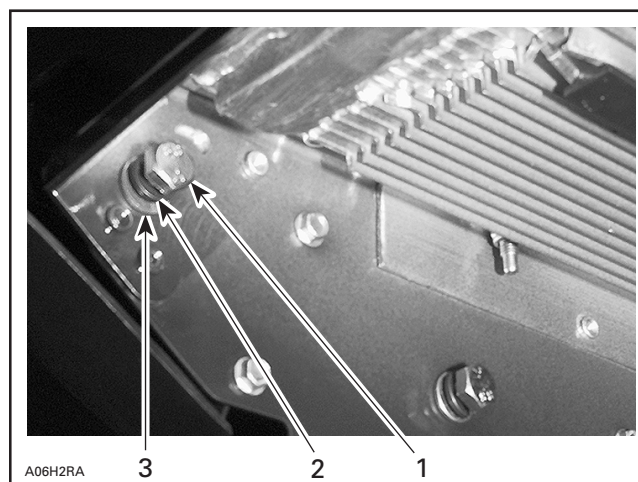
Install rear bumper to chassis.



SLIDE BUMPER INSIDE REAR MOLDINGS

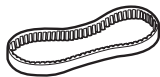
1. Rear bumper

Secure bumper from inside of tunnel.



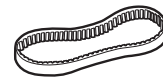
TYPICAL — VIEW FROM INSIDE OF TUNNEL

1. Bolt M8 (4) (section no. 1). Torque to 24 N•m (18 lbf•ft)
2. Lock washer (4) (section no. 1)
3. Washer (4) (section no. 1)



PARTS INSTALLATION

DRIVE BELT



Clean pulleys and disc brake with a suitable cleaner such as Loctite Cleaning Solvent (P/N 413 7082 00) before installing drive belt.



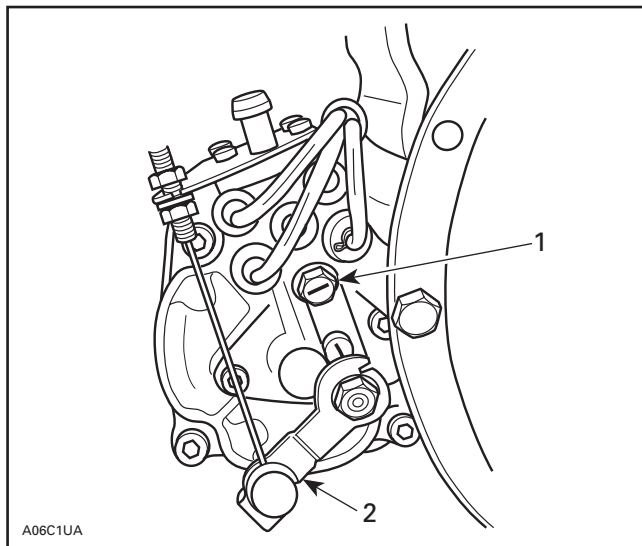
LIQUIDS

OIL INJECTION PUMP BLEEDING



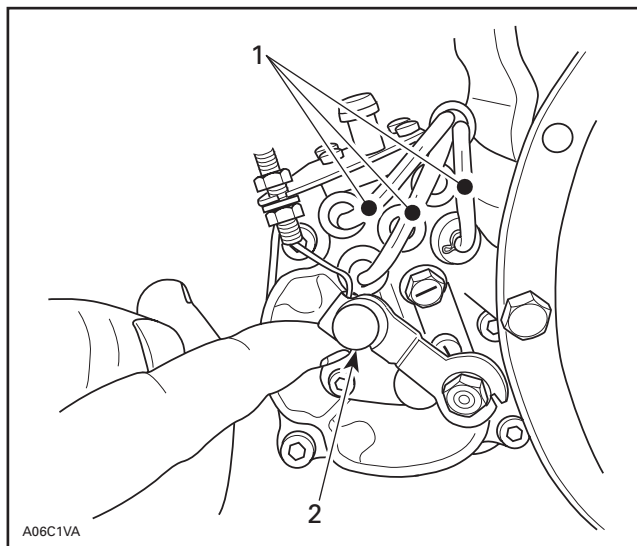
To assure additional protection during the initial engine break-in, 500 mL (18 imp. oz) of BOMBARDIER Injection Oil (P/N 496 0133 00) should be added to fuel for the first full filling of fuel tank. Always remove and clean spark plugs after engine break-in.

Bleed main oil line (between tank and pump) by loosening the bleeder screw until all air has escaped from the line. Add injection oil as required.



1. Bleeder screw
2. Oil pump lever

Bleed the small oil lines between pump and engine crankcase by running engine at idle while holding the pump lever in fully open position.



1. Small oil lines
2. Engine at idle (fully open position)



LIQUIDS

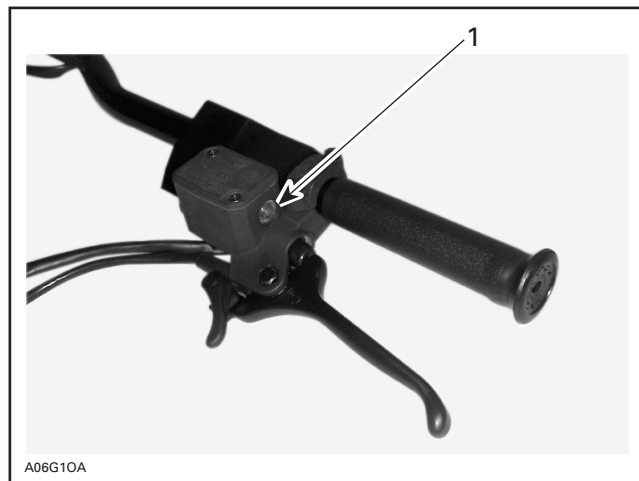
BRAKE FLUID LEVEL



Check brake fluid (DOT 4) in reservoir for proper level. Add fluid (DOT 4) as required.

▼ CAUTION

Use only (DOT 4) brake fluid from a sealed container. Do not store or use a partial bottle of brake fluid.



1. Minimum

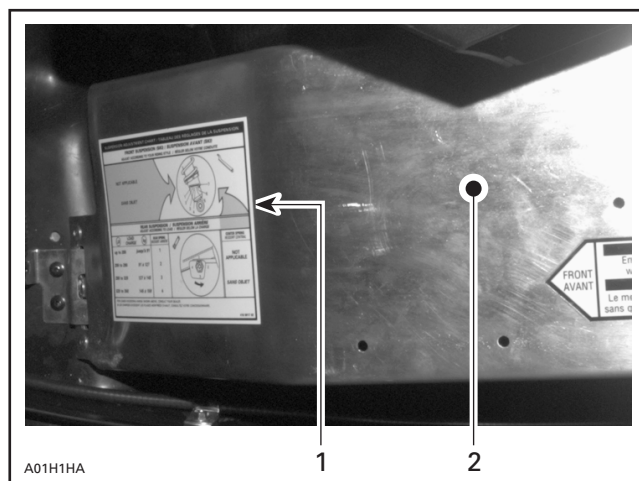


ADJUSTMENTS

SUSPENSION



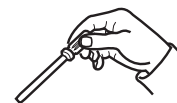
Rear suspension is calibrated at factory. At pre-delivery, mechanics should perform suspension adjustments according to customer riding style and vehicle load as described on suspension adjustment chart which is located on pulley guard.



1. Adjustment chart
2. Pulley guard



ADJUSTMENTS TRACK



Refer to *Shop Manual* to adjust track tension and alignment. See Technical Data section at the end of this bulletin.



ADJUSTMENTS DRIVEN PULLEY



It is usual to experience spring settings during break-in period of a new spring. The factory spring preload is slightly higher to compensate for springs settings. Specifications in TECHNICAL DATA are applicable after break-in period (about 10 hours of use).



TECHNICAL DATA



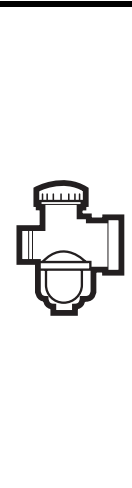
The content of the TECHNICAL DATA pages should be used as necessary to fine-tune and perform additional adjustments required on the snowmobile. Vehicles used at high altitudes, above 600 m (2000 ft) should be fitted with a high altitude kit. Further inquiries should be directed to your distributor service representative.



TECHNICAL DATA



A dot (•) on right indicates changes from 1996 model.

	MODEL	FORMULA III
	Engine Type	599
	Maximum HP RPM ① ± 100 RPM	8500 •
	Rotary Valve P/N Opening (BTDC)/ Closing (ATDC)	N.A.
	Carburetor Type	PTO VM 36-176 CRT VM 36-177 MAG VM 36-178 •
	Main Jet	PTO 330 CRT VM 330 MAG 330 •
	Needle Jet	P-0 (286) •
	Pilot Jet	PTO 50 CRT 50 MAG 50 •
	Needle Identification — Clip Position	6DEY4 •
	Slide Cutaway	2.5
	Float Adjustment ± 1 mm (in)	18.1 (.71)
	Air Screw Adjustment ± 1/16 turn	PTO 1-1/2 CRT 1-1/2 MAG 1-1/2 •
	Idle Speed ± 200 RPM	1900 •
	Gas Grade/Octane Number (R + M)/2	Super Unleaded/91
	Gas/Oil Ratio	Oil Injection
	Ignition Timing BTDC ② mm (in)	2.18 (.086)
	Trigger Coil Air Gap mm (in)	0.55 - 1.45 (.022 - .057)
	Gear Ratio Teeth	25/44
	Engagement Speed ± 100 RPM	4500
	Drive Pulley Calibration Screw Position	4
	Pulley Distance Z (+ 0, - 1) mm (+ 0, - 1/32) in	16.5 (21/32)
	Offset X ± 0.4 mm (± 1/64 in)	35.0 (1-3/8)
	Y	Dimension Y must exceed X from 1 mm (1/32 in) to 2 mm (5/64 in)
	Drive Belt Adjustment Deflection ± 5 mm (in)	32 (1-1/4)
	Force ③ kg (lbf)	11.34 (25) •
	Driven Pulley Preload ± 0.7 kg (± 1.5 lbf)	7.0 (15.43) •
	Drive Chain Tension	Fully tighten adjusting screw by hand then back OFF only far enough for hair pin installation
	Track Adjustment Deflection mm (in)	35 to 40 (1-3/8 to 1-9/16) with a 7.3 kg (16 lb) downward pull •

① Engine speed at which maximum power is achieved.

② At 6000 RPM (engine cold) with headlamp turned on.

③ Force applied midway between pulleys to obtain specified deflection.

BTDC: Before Top Dead Center

ATDC: After Top Dead Center

PTO: Power Take Off Side

CTR: Center

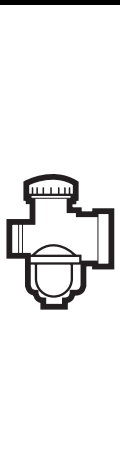
MAG: Magneto Side



TECHNICAL DATA



A dot (•) on right indicates changes from 1996 model.

	MODEL	MACH 1
	Engine Type	699 •
	Maximum HP RPM ① ± 100 RPM	8500 •
	Rotary Valve P/N Opening (BTDC)/ Closing (ATDC)	N.A. •
	Carburetor Type	PTO VM 38-356 CRT VM 38-357 MAG VM 38-358 •
	Main Jet	PTO 350 CRT VM 350 MAG 350 •
	Needle Jet	P-7 (480) •
	Pilot Jet	PTO 50 CRT 50 MAG 50 •
	Needle Identification — Clip Position	6DEY2 •
	Slide Cutaway	2.5
	Float Adjustment ± 1 mm (in)	18.1 (.71)
	Air Screw Adjustment ± 1/16 turn	PTO 2-1/4 CRT 2-1/4 MAG 2-1/4 •
	Idle Speed ± 200 RPM	1800 •
	Gas Grade/Octane Number (R + M)/2	Super Unleaded/91
	Gas/Oil Ratio	Oil Injection
	Ignition Timing BTDC ② mm (in)	2.18 (.086) •
	Trigger Coil Air Gap mm (in)	0.55 - 1.45 (.022 - .057)
	Gear Ratio Teeth	26/44
	Engagement Speed ± 100 RPM	4500
	Drive Pulley Calibration Screw Position	4
	Pulley Distance Z (+ 0, - 1) mm (+ 0, - 1/32) in	16.5 (21/32)
	Offset X ± 0.4 mm (± 1/64 in)	35.0 (1-3/8)
	Y	Dimension Y must exceed X from 1 mm (1/32 in) to 2 mm (5/64 in)
	Drive Belt Adjustment Deflection ± 5 mm (in)	32 (1-1/4)
	Force ③ kg (lbf)	11.34 (25) •
	Driven Pulley Preload ± 0.7 kg (± 1.5 lbf)	7.0 (15.43) •
	Drive Chain Tension	Fully tighten adjusting screw by hand then back OFF only far enough for hair pin installation
	Track Adjustment Deflection mm (in)	40 to 50(1-3/4 to 2) with a 7.3 kg (16 lb) downward pull •

① Engine speed at which maximum power is achieved.

② At 6000 RPM (engine cold) with headlamp turned on.

③ Force applied midway between pulleys to obtain specified deflection.

BTDC: Before Top Dead Center

ATDC: After Top Dead Center

PTO: Power Take Off Side

CTR: Center

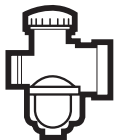
MAG: Magneto Side



TECHNICAL DATA



A dot (•) on right indicates changes from 1996 model.

	MODEL	MACH Z
	Engine Type	809 •
	Maximum HP RPM ① ± 100 RPM	8500 •
	Rotary Valve P/N Opening (BTDC)/ Closing (ATDC)	N.A.
	Carburetor Type	PTO TM 38 C159 CRT TM 38 C159 MAG TM 38 C159 •
	Main Jet	PTO 380 CRT VM 380 MAG 380 •
	Needle Jet	O-4 (327) •
	Pilot Jet	PTO 50 CRT 50 MAG 50 •
	Needle Identification — Clip Position	8AGY1-41 •
	Slide Cutaway	2.5 •
	Float Adjustment ± 1 mm (in)	18.1 (.71) •
	Air Screw Adjustment ± 1/16 turn	PTO 4 CRT 4 MAG 4 •
	Idle Speed ± 200 RPM	1800 •
	Gas Grade/Octane Number (R + M)/2	Super Unleaded/91
	Gas/Oil Ratio	Oil Injection
	Ignition Timing BTDC ② mm (in)	2.11 (.083)
	Trigger Coil Air Gap mm (in)	0.55 - 1.45 (.022 - .057)
	Gear Ratio Teeth	26/44 •
	Engagement Speed ± 100 RPM	4100
	Drive Pulley Calibration Screw Position	3 •
	Pulley Distance Z (+ 0, - 1) mm (+ 0, - 1/32) in	16.5 (21/32)
	Offset X ± 0.4 mm (± 1/64 in)	35.0 (1-3/8)
	Offset Y	Dimension Y must exceed X from 1 mm (1/32 in) to 2 mm (5/64 in)
	Drive Belt Adjustment Deflection ± 5 mm (in)	32 (1-1/4)
	Force ③ kg (lbf)	11.34 (25) •
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☐ Parts	☐



SNOWMOBILES



PREDELIVERY
Bulletin

No. **97-7**

UPDATE

Date: October 7, 1996

SUBJECT: Technical Data

YEAR	MODEL	MODEL NUMBER	SERIAL NUMBER
1997	Canada and United States: Mach*1	1177 and 1178	ALL
1997	Sweden: Mach 1	1179	ALL

The technical data sheet for the above mentioned models has been updated.

Refer to the Ski-Doo *Predelivery Bulletin* no. 97-7.

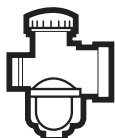
Replace with the attached.



TECHNICAL DATA



A dot (•) on right indicates changes from 1996 model.

	MODEL		FORMULA III		
	Engine Type		599		
	Maximum HP RPM ① ± 100 RPM		8500		
	Rotary Valve P/N Opening (BTDC)/ Closing (ATDC)		N.A.		
	Carburetor Type		PTO VM 36-176	CRT VM 36-177	MAG VM 36-178
	Main Jet		PTO 330	CRT VM 330	MAG 330
	Needle Jet		P-0 (286)		
	Pilot Jet		PTO 50	CRT 50	MAG 50
	Needle Identification — Clip Position		6DEY4		
	Slide Cutaway		2.5		
	Float Adjustment ± 1 mm (in)		18.1 (.71)		
	Air Screw Adjustment ± 1/16 turn		PTO 1-1/2	CRT 1-1/2	MAG 1-1/2
	Idle Speed ± 200 RPM		1900		
	Gas Grade/Octane Number (R + M)/2		Super Unleaded/91		
	Gas/Oil Ratio		Oil Injection		
	Ignition Timing BTDC ② mm (in)		2.18 (.086)		
	Trigger Coil Air Gap mm (in)		0.55 - 1.45 (.022 - .057)		
	Gear Ratio Teeth		25/44		
	Engagement Speed ± 100 RPM		4500		
	Drive Pulley Calibration Screw Position		4		
	Pulley Distance	Z (+ 0, – 1) mm (+ 0, – 1/32) in	16.5 (21/32)		
	Offset	X ± 0.4 mm (± 1/64 in)	35.0 (1-3/8)		
		Y	Dimension Y must exceed X from 1 mm (1/32 in) to 2 mm (5/64 in)		
	Drive Belt Adjustment	Deflection ± 5 mm (in)	32 (1-1/4)		
		Force ③ kg (lbf)	11.34 (25)		
	Driven Pulley Preload ± 0.7 kg (± 1.5 lbf)		7.0 (15.43)		
	Drive Chain Tension		Fully tighten adjusting screw by hand then back OFF only far enough for hair pin installation		
	Track Adjustment	Deflection mm (in)	35 to 40 (1-3/8 to 1-9/16) with a 7.3 kg (16 lb) downward pull		

① Engine speed at which maximum power is achieved.

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BTDC: Before Top Dead Center

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CTR: Center

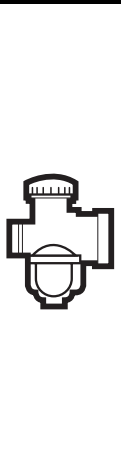
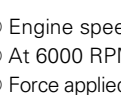
MAG: Magneto Side



TECHNICAL DATA



A dot (•) on right indicates changes from 1996 model.

	MODEL	MACH 1
	Engine Type	699 •
	Maximum HP RPM ① ± 100 RPM	8500 •
	Rotary Valve P/N Opening (BTDC)/ Closing (ATDC)	N.A. •
	Carburetor Type	PTO VM 38-356 CRT VM 38-357 MAG VM 38-358 •
	Main Jet	PTO 350 CRT VM 350 MAG 350 •
	Needle Jet	P-7 (480) •
	Pilot Jet	PTO 50 CRT 50 MAG 50 •
	Needle Identification — Clip Position	6DEY2 •
	Slide Cutaway	2.5
	Float Adjustment ± 1 mm (in)	18.1 (.71)
	Air Screw Adjustment ± 1/16 turn	PTO 2-1/4 CRT 2-1/4 MAG 2-1/4 •
	Idle Speed ± 200 RPM	1800 •
	Gas Grade/Octane Number (R + M)/2	Super Unleaded/91
	Gas/Oil Ratio	Oil Injection
	Ignition Timing BTDC ② mm (in)	2.18 (.086) •
	Trigger Coil Air Gap mm (in)	0.55 - 1.45 (.022 - .057)
	Gear Ratio Teeth	26/44
	Engagement Speed ± 100 RPM	4500
	Drive Pulley Calibration Screw Position	4
	Pulley Distance Z (+ 0, - 1) mm (+ 0, - 1/32) in	16.5 (21/32)
	Offset X ± 0.4 mm (± 1/64 in)	35.0 (1-3/8)
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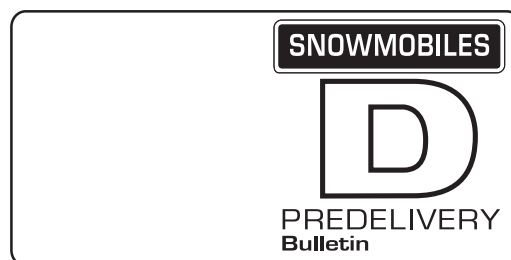
PTO: Power Take Off Side

CTR: Center

MAG: Magneto Side

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No. **97-8**

Date: October 25, 1996

SUBJECT: Predelivery Procedure

YEAR	MODEL	MODEL NUMBER	SERIAL NUMBER
1997	Canada and United States: Formula* III LT and Mach* Z LT	1151, 1152, 1183 and 1184	ALL
1997	Sweden: Formula III LT and Mach Z LT	1153 and 1185	ALL

This bulletin must be used in conjunction with the check list enclosed in *Operator's Guide bag*. Make sure that predelivery check list is completed and signed.

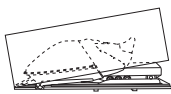
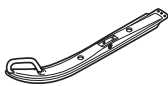
◆ WARNING To obtain warranty coverage, predelivery procedures must be performed by an authorized Bombardier snowmobile dealer. Apply all necessary torques as indicated.

NOTE: The information and components/system descriptions contained in this document are correct at the time of publication. Bombardier Inc. however, maintains a policy of continuous improvement of its products without imposing upon itself any obligation to install them on products previously manufactured. Due to late changes, it may have some differences between the manufactured product and the descriptions and/or specifications in this document. Bombardier Inc. reserves the right at any time to discontinue or change specifications, designs, features, models or equipment without incurring obligation. The illustrations in this document show the typical construction of the different assemblies and may not reproduce the full detail or exact shape of the parts. However, they represent parts that have the same or similar function.

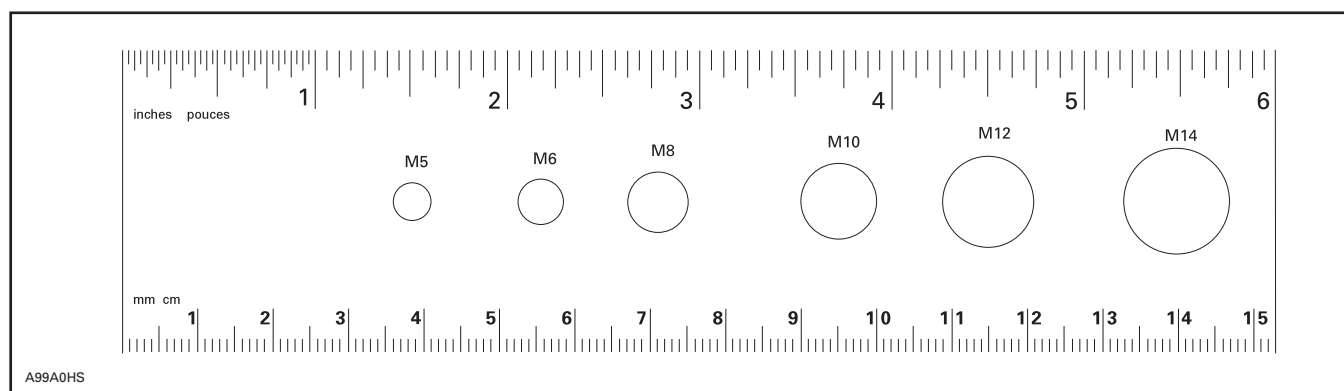
The content of this bulletin is designed as a guideline only. All mechanics performing predelivery procedures should have attended the current model year service training. Further information or inquiries should be directed to your distributor service representative and/or specific Shop Manual sections. Please complete the Predelivery Check List for each snowmobile and return a customer signed copy. Make sure the customer receives the Operator's Guide, Safety Handbook and video.

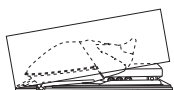
There is a tag attached to the ignition key, only the customer must remove it. This label will remind the customer to ask dealer to perform suspension adjustments according to riding style and vehicle load.

TABLE OF CONTENTS

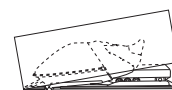
SUBJECT	PAGE	SUBJECT	PAGE
	UNCRATING 3		LIQUIDS 11 OIL INJECTION PUMP BLEEDING
	PARTS INSTALLATION 6 FRONT SUSPENSION		LIQUIDS 12 BRAKE FLUID LEVEL
	PARTS INSTALLATION 7 SKIS		ADJUSTMENTS 12 SUSPENSION
	PARTS INSTALLATION 8 STEERING PAD		ADJUSTMENTS 13 TRACK
	PARTS INSTALLATION 10 WINDSHIELD		ADJUSTMENTS 13 DRIVEN PULLEY
	PARTS INSTALLATION 11 DRIVE BELT		TECHNICAL DATA 13

NOTE: This ruler can be helpful to identify fastener length or size.





UNCRATING



PREDELIVERY KIT P/N	MODELS
580 6472 00	FORMULA III LT MACH Z LT

◆ WARNING

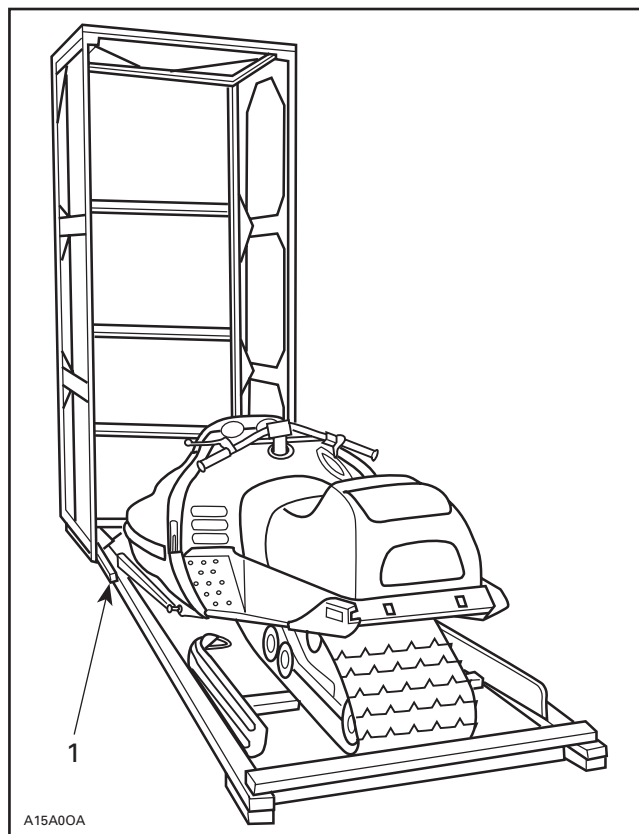
Torque wrench tightening specifications must be strictly adhered to. Locking devices (e.g. lock tabs, elastic stop nuts) must be installed or replaced by new ones, where specified. If the efficiency of a locking device is impaired, it must be renewed.

Carefully lay the crate on its bottom.

▼ CAUTION

Allowing the crate to drop may cause serious damage to the vehicle.

Remove all screws retaining cover to vehicle base. Tip cover toward front of vehicle. There is a notch at the front of crate.



1. Notch

Detach parts to be installed (e.g. skis, windshield) from the vehicle and its base.

Cut locking ties retaining windshield. Slowly pull out metal strip.

When this metal strip is under the seat loosen 2 or 4 nuts retaining the seat before pulling out the metal strip.

▼ CAUTION

Failure to lift seat might result in leatherette damage.

▼ CAUTION

Make sure vehicle is properly supported before removing ski legs and rear suspension from crate brackets.

Detach ski legs from crate. Keep ski leg bolts, slider cushions to bolt skis to ski legs. Discard crating spacers and nuts.

Remove vehicle from base.

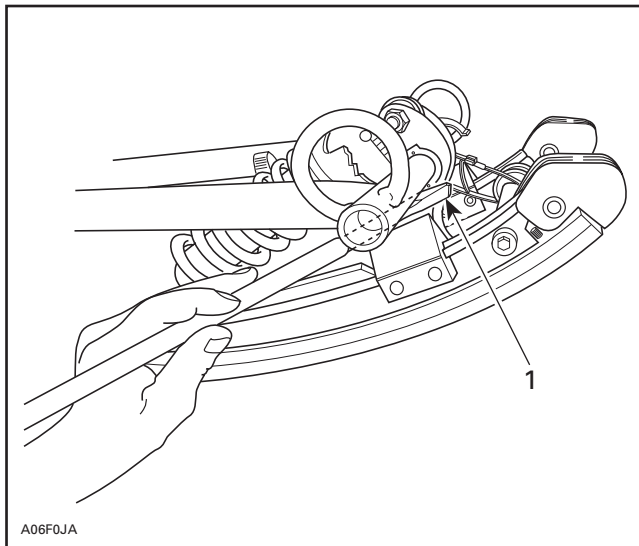
Remove steering pad, drive belt, predelivery kit and detach shock absorbers from engine compartment.

SHIPPING STRAP REMOVAL

Cut shipping strap using one of these 2 following methods:

Method 1

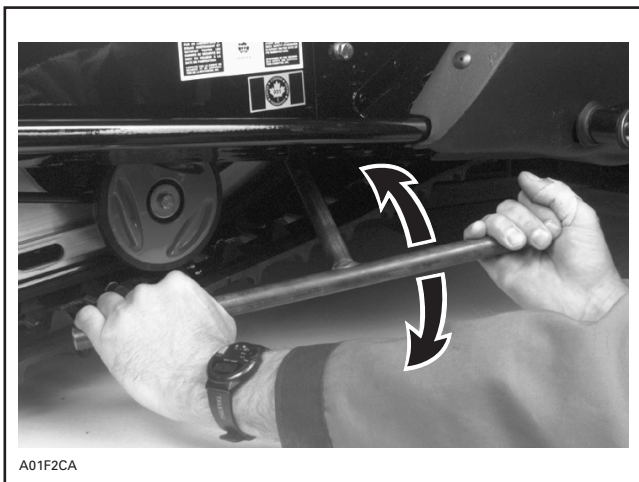
Using a long flat chisel such as Snap-On® PPC820LA cut and remove shipping strap that collapses front portion of rear suspension.



1. Cut shipping strap

Method 2

Using a special tool cut shipping strap as shown on the next photo.



1. Insert tool tip onto strap and twist

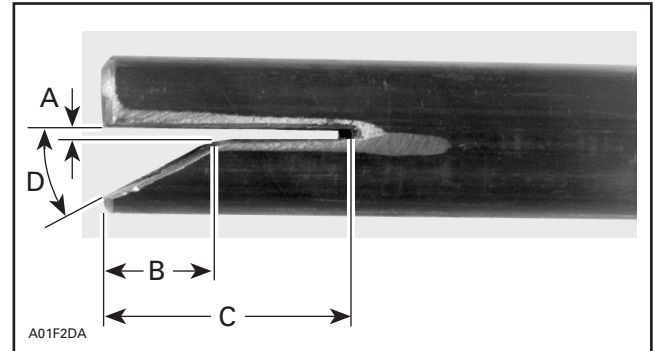
How to Build the Special Tool

Using 20 mm (3/4 in) steel tubing, cut the first piece to 460 mm (18 in) and the second one to 410 mm (16 in).

NOTE: High forces will be applied on this special tool, use strong tubing with a minimum 2 mm (5/64 in) wall thickness.

On one end of the 460 mm (18 in) piece, cut a 1.2 mm (3/64 in) slot by 28.5 mm (1-1/8 in).

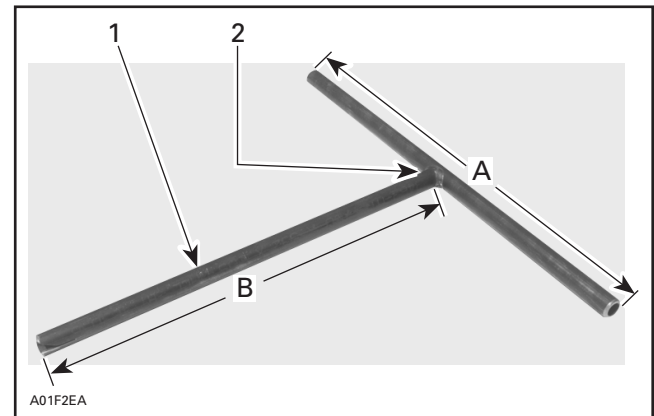
Make a chamfer of 30° X 10 mm (25/64 in), as shown on the next photo.



- A. 1.2 mm (3/64 in)
- B. 10 mm (25/64 in)
- C. 28.5 mm (1-1/8 in)
- D. 30°

Remove all sharp edges.

Assemble the two pieces and weld them together, as shown on the following photo.

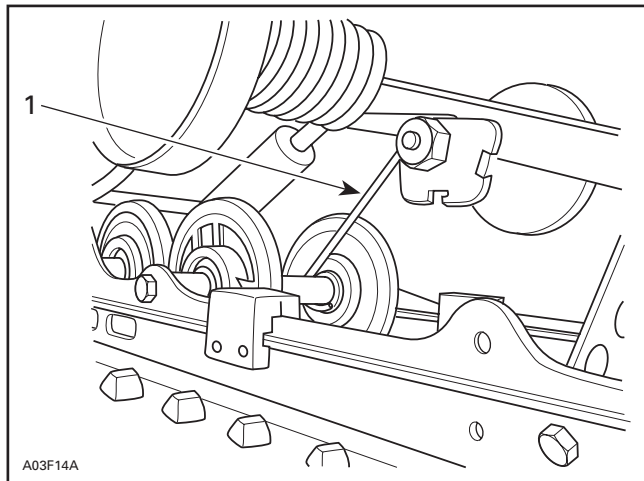


- 1. 20 mm (3/4 in) steel tubing
- 2. Welded joint
- A. 410 mm (16 in)
- B. 460 mm (18 in)

◆ WARNING

Failure to use one of these two methods of strap removal could result in personal injury.

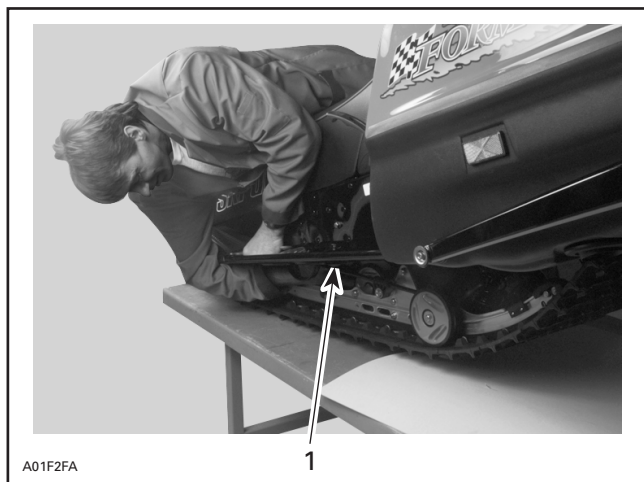
HOOK REMOVAL



1. Hook to be removed

Lift front of vehicle to position bumper 35 to 40 inches upward.

Lean on vehicle seat to apply pressure on rear suspension and remove hook from rear portion of suspension, as shown on the next photo.



1. Remove hook on the rear portion of the suspension

◆ WARNING

Shipping strap must be cut and hook removed to have snowmobile suspension operational.



PARTS INSTALLATION

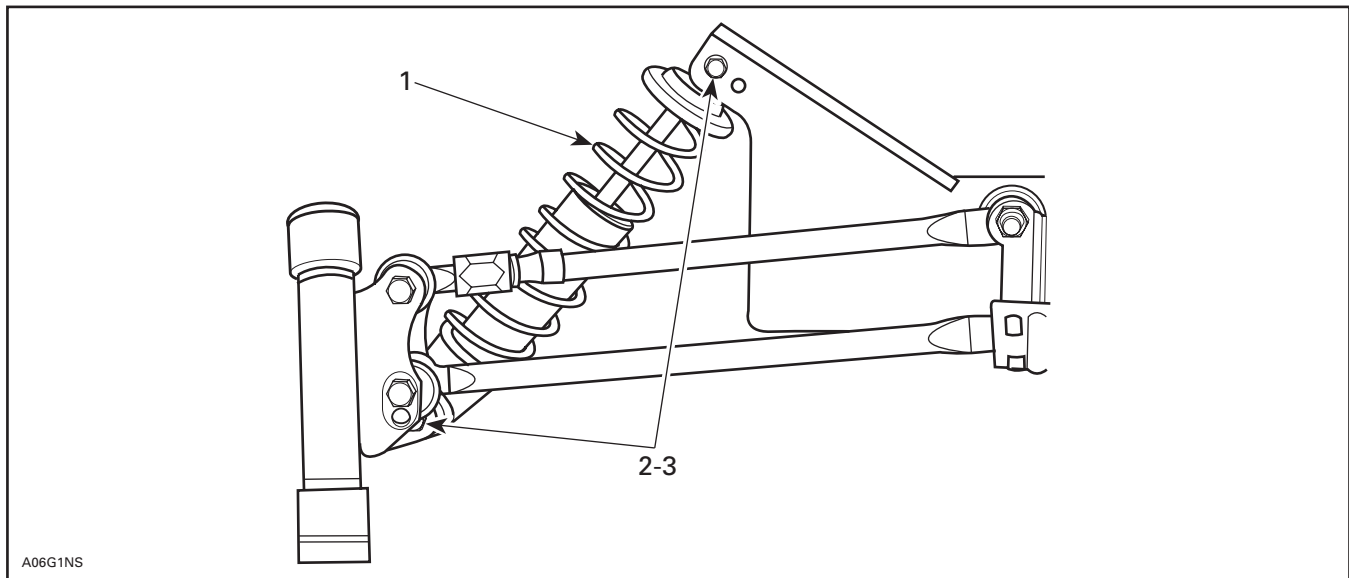
FRONT SUSPENSION



Lift front of vehicle and block safely. Remove and discard shipping brackets from suspension. Discard spring clips, keep bolts.

Secure shock absorbers to suspension with their adjusting ring at bottom.

NOTE: Position bolt heads toward front.

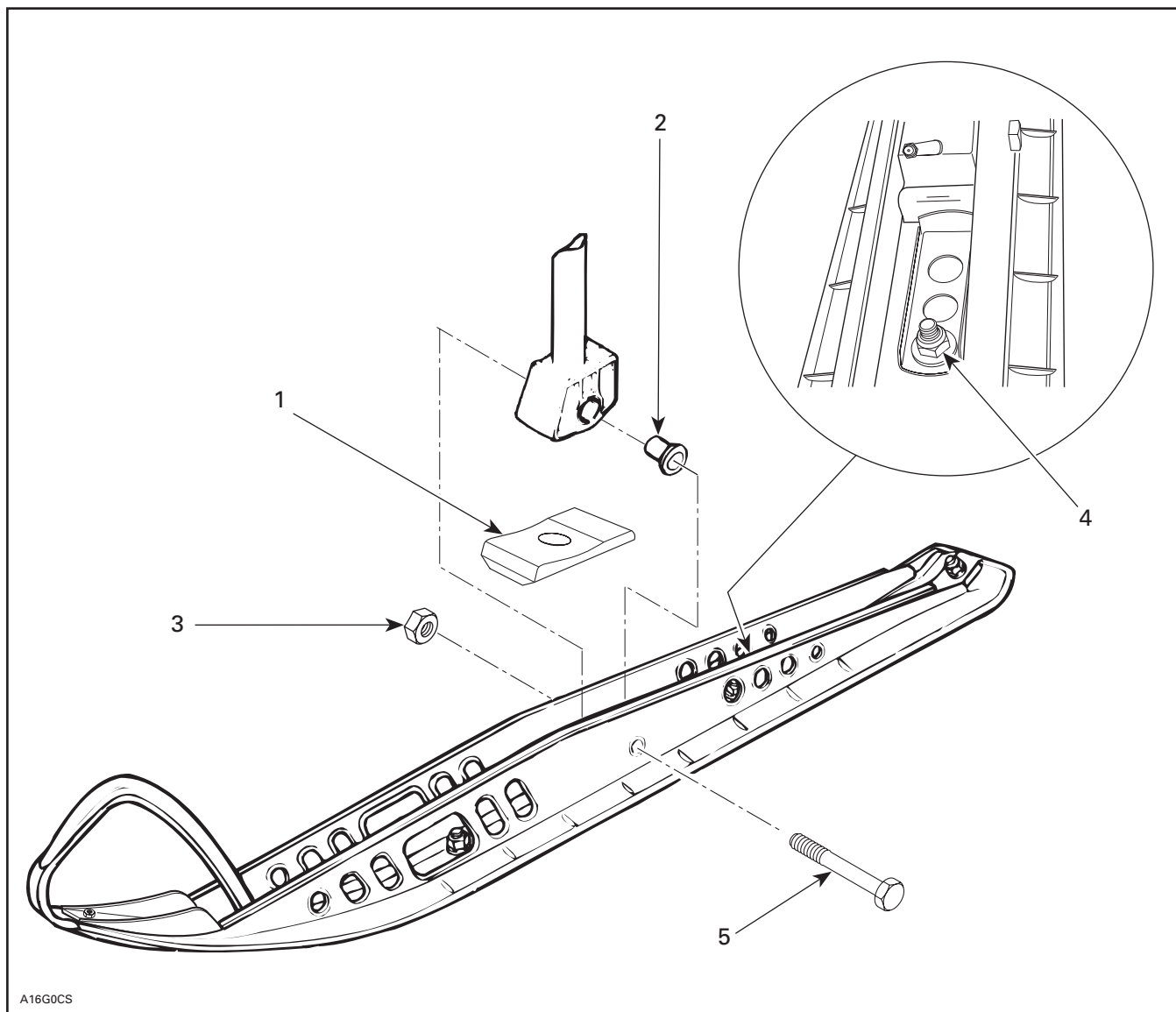


TYPICAL — RIGHT SIDE SHOWN

1. Shock absorber (2) (engine compartment)
2. M10 x 1.5 x 55 bolt (on suspension)
3. M10 x 1.5 nut (section 4). Torque to 48 N•m (35 lbf•ft)



PARTS INSTALLATION SKIS



A16G0CS

LEFT SIDE SHOWN

1. Ski stopper (2) (Section no. 8), "AVANT" toward front
2. Slider cushion (4)
3. Nut M12 (2) (Section no. 8). Torque to 40 N•m (30 lbf•ft)
4. Loosen then adjust against ski stopper 14 N•m (124 lbf•in)
5. Bolt M12 (2)

After ski installation, adjust stopper against stop bounding then tighten nut to 14 N•m (124 lbf•in). More preload on stop bounding will result in a more aggressive steering. Adjust according to driver preferences.



PARTS INSTALLATION

STEERING PAD



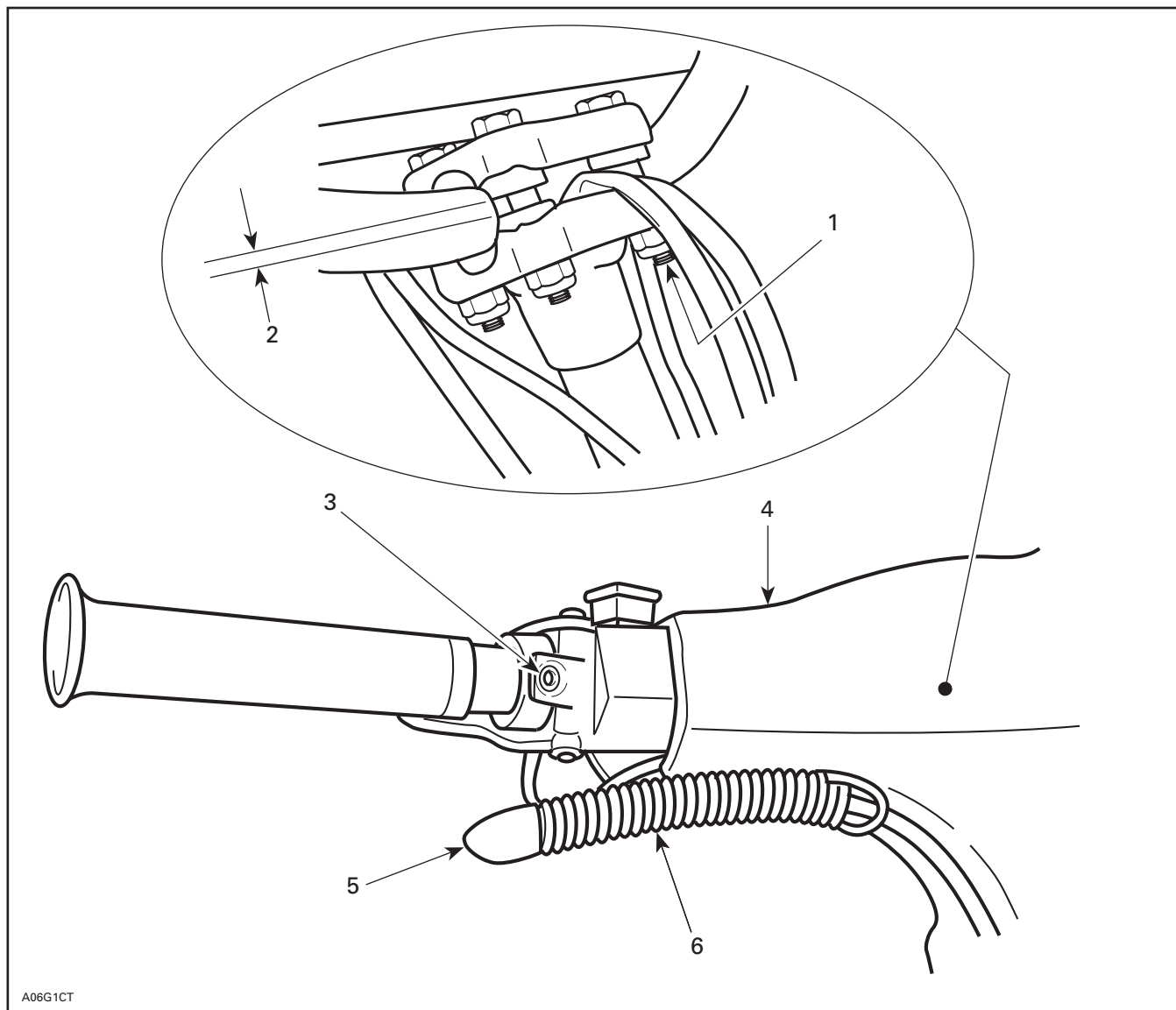
Adjust handlebar temporarily and tighten nuts loosely for now.

Loosen Allen screw of throttle and brake handle housings, at least 3 turns.

Install steering pad temporarily, and adjust for proper fit with console.

Remove steering pad and torque nuts to 26 N•m (19 lbf•ft).

Reinstall steering pad, adjust and tighten throttle and brake handle housings.



1. Step **1** Torque nuts to 26 N•m (19 lbf•ft)
2. Equal gap each side (both clamps)
3. Loosen Allen screw
4. Steering pad (engine compartment)
5. Use liquid soap to ease installation
6. Keyway (2) (section 5)

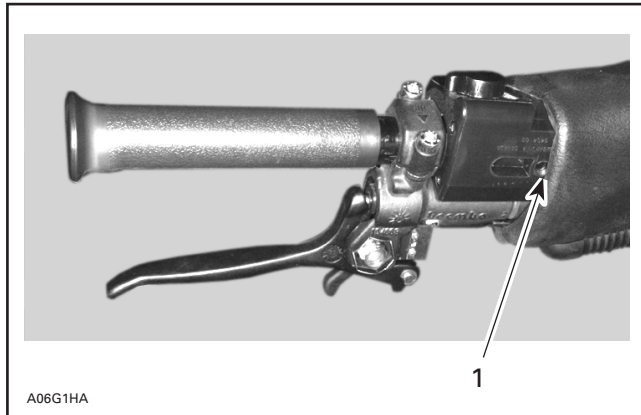


PARTS INSTALLATION

STEERING PAD



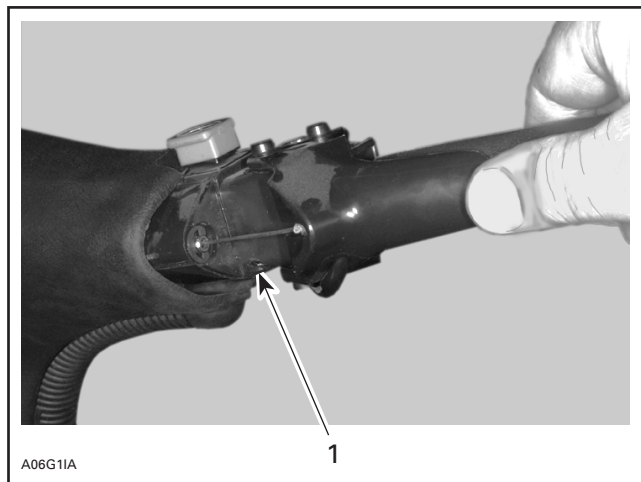
Adjust then tighten throttle and brake handle housings.



BRAKE HANDLE HOUSING

1. Tighten set screw to $2\text{ N}\cdot\text{m}$ ($18\text{ lbf}\cdot\text{in}$)

Mach Z LT Only



THROTTLE HANDLE HOUSING

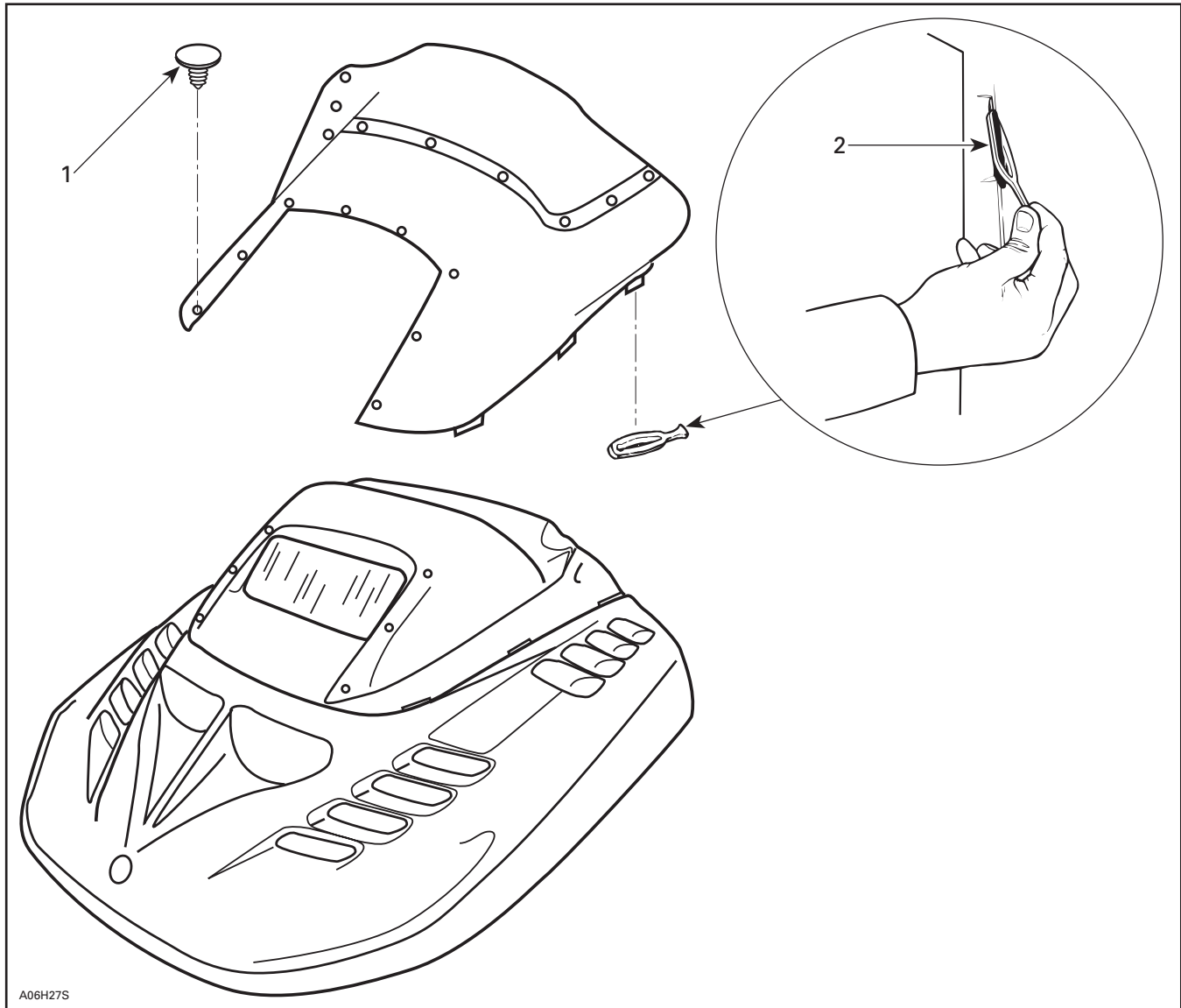
1. Tighten set screw to $2\text{ N}\cdot\text{m}$ ($18\text{ lbf}\cdot\text{in}$)



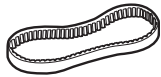
PARTS INSTALLATION WINDSHIELD



Install windshield on hood.

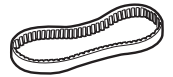


1. Dart (section 6)
2. Latch (section 6)



PARTS INSTALLATION

DRIVE BELT



Clean pulleys and disc brake with a suitable cleaner such as Loctite Cleaning Solvent (P/N 413 7082 00) before installing drive belt.



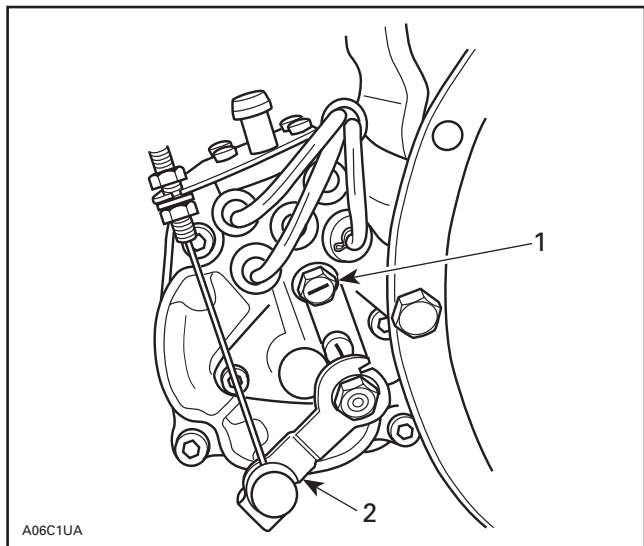
LIQUIDS

OIL INJECTION PUMP BLEEDING



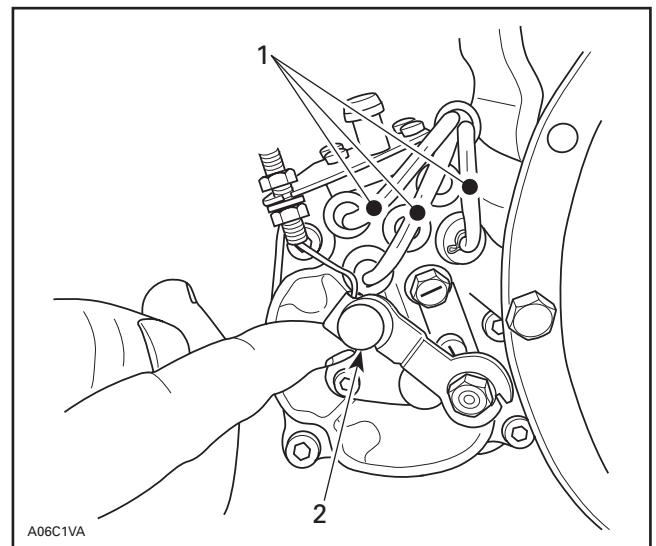
To assure additional protection during the initial engine break-in, 500 mL (18 imp. oz) of BOMBARDIER Injection Oil (P/N 496 0133 00) should be added to fuel for the first full filling of fuel tank. Always remove and clean spark plugs after engine break-in.

Bleed main oil line (between tank and pump) by loosening the bleeder screw until all air has escaped from the line. Add injection oil as required.



1. Bleeder screw
2. Oil pump lever

Bleed the small oil lines between pump and engine crankcase by running engine at idle while holding the pump lever in fully open position.



1. Small oil lines
2. Engine at idle (fully open position)



LIQUIDS

BRAKE FLUID LEVEL



Check brake fluid (DOT 4) in reservoir for proper level. Add fluid (DOT 4) as required.

▼ CAUTION

Use only (DOT 4) brake fluid from a sealed container. Do not store or use a partial bottle of brake fluid.



1. Minimum

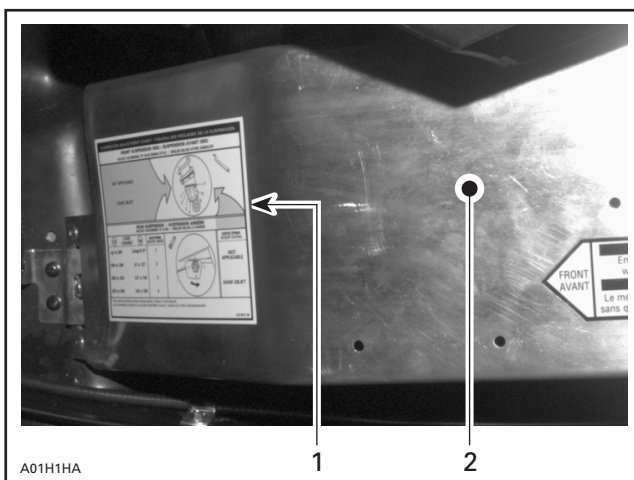


ADJUSTMENTS

SUSPENSION



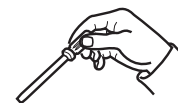
Rear suspension is calibrated at factory. At pre-delivery, mechanics should perform suspension adjustments according to customer riding style and vehicle load as described on suspension adjustment chart which is located on pulley guard.



1. Adjustment chart
2. Pulley guard



ADJUSTMENTS TRACK



Refer to *Shop Manual* to adjust track tension and alignment. See Technical Data section at the end of this bulletin.



ADJUSTMENTS DRIVEN PULLEY



It is usual to experience spring settings during break-in period of a new spring. The factory spring preload is slightly higher to compensate for springs settings. Specifications in TECHNICAL DATA are applicable after break-in period (about 10 hours of use).



TECHNICAL DATA



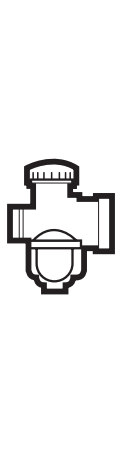
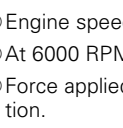
The content of the TECHNICAL DATA pages should be used as necessary to fine-tune and perform additional adjustments required on the snowmobile. Vehicles used at high altitudes, above 600 m (2000 ft) should be fitted with a high altitude kit. Further inquiries should be directed to your distributor service representative.



TECHNICAL DATA



A dot (•) on right indicates changes from 1996 model.

	MODEL	FORMULA III LT
	Engine Type	599
	Maximum HP RPM ① ± 100 RPM	8500 •
	Rotary Valve P/N Opening (BTDC)/ Closing (ATDC)	N.A.
	Carburetor Type	PTO VM 36-176 CTR VM 36-177 MAG VM 36-178 •
	Main Jet	PTO 330 CTR VM 330 MAG 330 •
	Needle Jet	P-0 (286)
	Pilot Jet	PTO 50 CTR 50 MAG 50 •
	Needle Identification — Clip Position	6DEY4 •
	Slide Cutaway	2.5
	Float Adjustment ± 1 mm (in)	18.1 (.71)
	Air Screw Adjustment ± 1/16 turn	PTO 1.5 CTR 1.5 MAG 1.5
	Idle Speed RPM ± 200 RPM	1900 •
	Gas Grade/Octane Number (R + M)/2	Regular Unleaded/87 or Super Unleaded/91 (recommended)
	Gas/Oil Ratio	Oil Injection
	Ignition Timing BTDC ② mm (in)	2.18 (.086) •
	Trigger Coil Air Gap mm (in)	0.55 - 1.45 (.022 - .057)
	Gear Ratio Teeth	23/44 •
	Engagement Speed ± 100 RPM	4500
	Drive Pulley Calibration Screw Position	4
	Pulley Distance Z (+ 0, - 1) mm (+ 0, - 1/32) in	16.5 (21/32)
	Offset X ± 0.4 mm (± 1/64 in)	35.0 (1-3/8)
	Offset Y	Dimension Y must exceed X from 1 mm (1/32 in) to 2 mm (5/64 in)
	Drive Belt Adjustment Deflection mm (in)	32 (1-1/4)
	Force ③ kg (lbf)	11.34 (25.00) •
	Driven Pulley Preload ± 0.7 kg (± 1.5 lbf)	7.00 (15.43) •
	Drive Chain Tension	Fully tighten adjusting screw by hand then back OFF only far enough for hair pin installation
	Track Adjustment Deflection mm (in)	35 to 40 (1-3/8 to 1-9/16) with a 7.3 kg (16 lb) downward pull •

① Engine speed at which maximum power is achieved.

② At 6000 RPM (engine cold) with headlamp turned on.

③ Force applied midway between pulleys to obtain specified deflection.

BTDC: Before Top Dead Center.

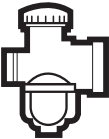
ATDC: After Top Dead Center.

PTO: Power Take Off side.

CTR: Center

MAG: Magneto Side

A dot (•) on right indicates changes from 1996 model.

	MODEL	MACH Z LT
	Engine Type	809 •
	Maximum HP RPM ① ±100 RPM	8500 •
	Rotary Valve P/N Opening (BTDC)/ Closing (ATDC)	N.A.
	Carburetor Type	PTO TM 38-C159 CTR TM 38-C159 MAG TM 38-C159 •
	Main Jet	PTO 380 CTR 380 MAG 380 •
	Needle Jet	O-4 (327) •
	Pilot Jet	PTO 50 CTR 50 MAG 50 •
	Needle Identification — Clip Position	8AGY1-41 •
	Slide Cutaway	2.0
	Float Adjustment ±1 mm (in)	20.0 (.787)
	Air Screw Adjustment ±1/16 Turn	PTO 4 CTR 4 MAG 4 •
	Idle Speed RPM ±200 RPM	1800 •
	Gas Grade/Octane Number (R + M)/2	Regular Unleaded/87 or Super Unleaded/91 (recommended)
	Gas/Oil Ratio	Oil Injection
	Ignition Timing BTDC ② mm (in)	2.11 (.083)
	Trigger Coil Air Gap mm (in)	0.55 - 1.45 (.022 - .057)
	Gear Ratio Teeth	25/44
	Engagement Speed ±100 RPM	4100
	Drive Pulley Calibration Screw Position	3 •
	Pulley Distance Z (+ 0, - 1) mm (+ 0, - 1/32) in	16.5 (21/32)
	Offset X ± 0.4 mm (± 1/64 in)	35.0 (1-3/8)
	Offset Y	Dimension Y must exceed X from 1 mm (1/32 in) to 2 mm (5/64 in)
	Drive Belt Adjustment Deflection ± 5 mm (in)	32 (1-1/4)
	Drive Belt Adjustment Force ③ kg (lbf)	11.34 (25) •
	Driven Pulley Preload ± 0.7 kg (± 1.5 lbf)	7.0 (15.43) •
	Drive Chain Tension	Fully tighten adjusting screw by hand then back OFF only far enough for hair pin installation
	Track Adjustment Deflection mm (in)	35 to 40 (1-3/8 to 1-9/16) with a 7.3 kg (16 lb) downward pull •

① Engine speed at which maximum power is achieved.

② At 6000 RPM (engine cold) with headlamp turned on.

③ Force applied midway between pulleys to obtain specified deflection.

BTDC: Before Top Dead Center

ATDC: After Top Dead Center

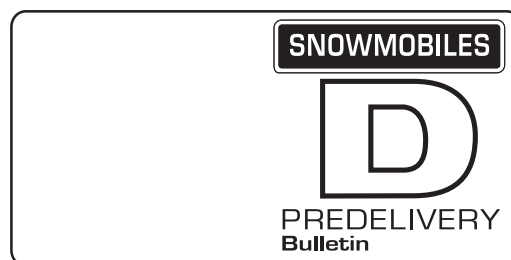
PTO: Power Take Off side

CTR: Center

MAG: Magneto side

Please route to :

	Init.
☐ Service	☐
☐ Sales	☐
☐ Parts	☐



No. **97-9**

Date: October 11, 1996

SUBJECT: Predelivery Procedures

YEAR	MODEL NAME	MODEL NUMBER	SERIAL NUMBER
1997	Canada and United States: Grand Touring 500/583	1123, 1124, 1126 and 1127	ALL
1997	Sweden: Grand Touring 500/583	1125 and 1128	ALL

This bulletin must be used in conjunction with the check list enclosed in *Operator's Guide* bag. Make sure that predelivery check list is completed and signed.

◆ WARNING To obtain warranty coverage, predelivery procedures must be performed by an authorized Bombardier snowmobile dealer. Apply all necessary torques as indicated.

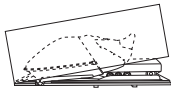
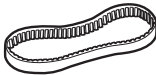
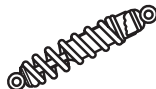
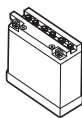
NOTE: The information and components/system descriptions contained in this document are correct at the time of publication. Bombardier Inc. however, maintains a policy of continuous improvement of its products without imposing upon itself any obligation to install them on products previously manufactured. Due to late changes, it may have some differences between the manufactured product and the descriptions and/or specifications in this document. Bombardier Inc. reserves the right at any time to discontinue or change specifications, designs, features, models or equipment without incurring obligation.

The illustrations in this document show the typical construction of the different assemblies and may not reproduce the full detail or exact shape of the parts. However, they represent parts that have the same or similar function.

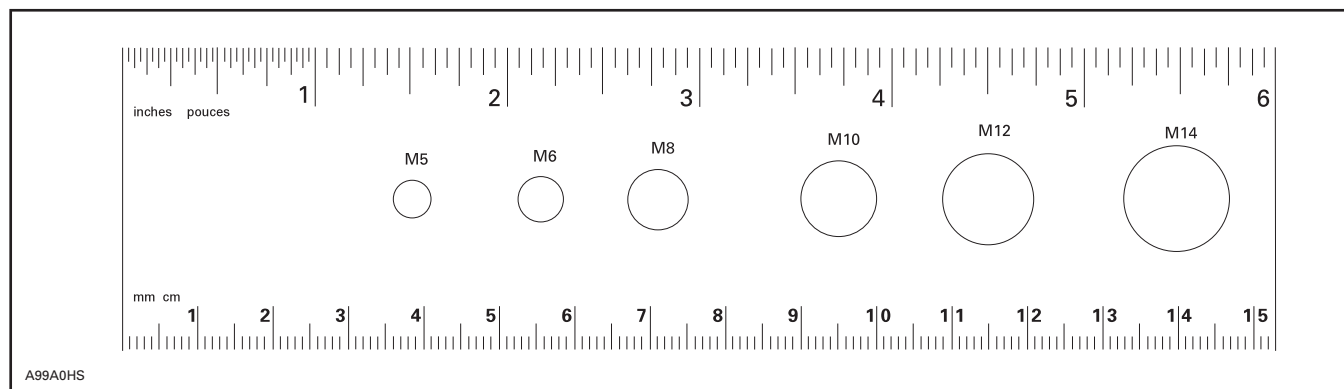
The content of this bulletin is designed as a guideline only. All mechanics performing predelivery procedures should have attended the current model year service training. Further information or inquiries should be directed to your distributor service representative and/or specific Shop Manual sections. Please complete the Predelivery Check List for each snowmobile and return a customer signed copy. Make sure the customer receives the Operator's Guide, Safety Handbook and video.

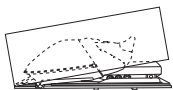
There is a tag attached to the ignition key, only the customer must remove it. This label will remind the customer to ask dealer to perform suspension adjustments according to riding style and vehicle load.

TABLE OF CONTENTS

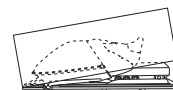
SUBJECT	PAGE	SUBJECT	PAGE
	UNCRATING 3		PARTS INSTALLATION DRIVE BELT 13
	PARTS INSTALLATION FRONT SUSPENSION 6		LIQUIDS OIL INJECTION PUMP BLEEDING 14
	PARTS INSTALLATION BATTERY 7		LIQUIDS BRAKE FLUID LEVEL 14
	PARTS INSTALLATION SKIS 8		ADJUSTMENTS SUSPENSION 15
	PARTS INSTALLATION STEERING PAD 9		ADJUSTMENTS TRACK 15
	PARTS INSTALLATION WINDSHIELD 11		ADJUSTMENTS DRIVEN PULLEY 15
	PARTS INSTALLATION BACKREST 12		TECHNICAL DATA 15

NOTE: This ruler can be helpful to identify fastener length or size.





UNCRATING



PREDELIVERY KIT P/N	MODELS
580 6541 00	GT 500/583

◆ WARNING

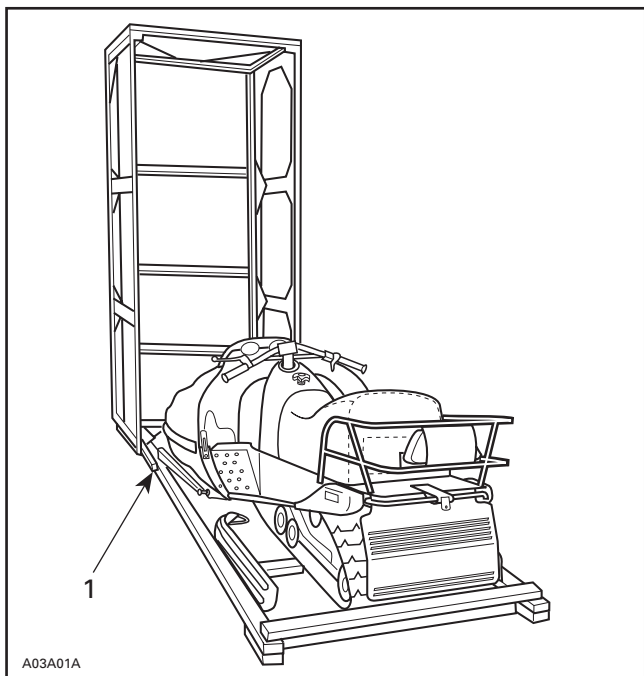
Torque wrench tightening specifications must be strictly adhered to. Locking devices (e.g. lock tabs, elastic stop nuts) must be installed or replaced by new ones, where specified. If the efficiency of a locking device is impaired, it must be renewed.

Carefully lay the crate on its bottom.

▼ CAUTION

Allowing the crate to drop may cause serious damage to the vehicle.

Remove all screws retaining cover to vehicle base. Tip cover toward front of vehicle. There is a notch at the front of crate. Lift cover slowly to avoid damaging the snow guard or taillight.



A03A01A

1. Notch

Detach parts to be installed (e.g. skis, windshield) from the vehicle and its base.

Cut locking ties retaining windshield. Slowly pull out metal strip retaining windshield, if equipped.

When this metal strip is under the seat loosen 2 or 4 nuts retaining the seat before pulling out the metal strip.

▼ CAUTION

Make sure vehicle is properly supported before removing ski legs and rear suspension from crate brackets.

Detach ski legs from crate. Keep ski leg bolts and slider cushions to bolt skis to ski legs. Discard crating spacers and nuts.

Remove vehicle from base.

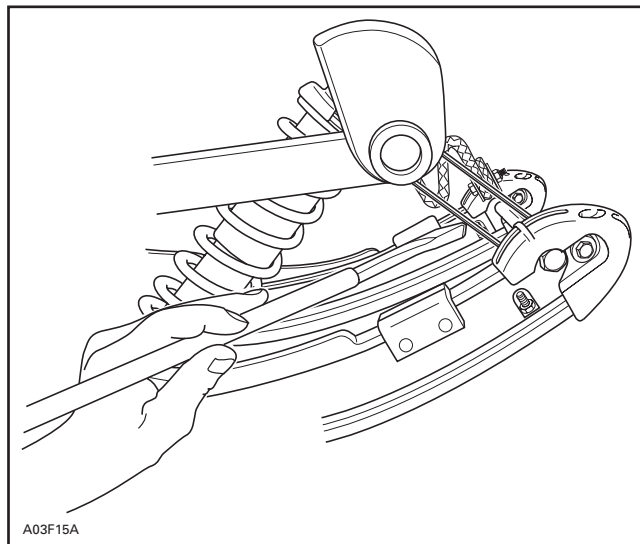
Remove parts to be installed and predelivery kit from engine compartment. Detach shock absorbers from engine compartment.

SHIPPING STRAP REMOVAL

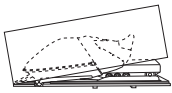
Cut shipping strap using one of these 2 following methods:

Method 1

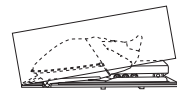
Using a long flat chisel such as Snap-On® PPC820LA cut shipping strap that collapses front portion of rear suspension, as shown on the next photo.



A03F15A

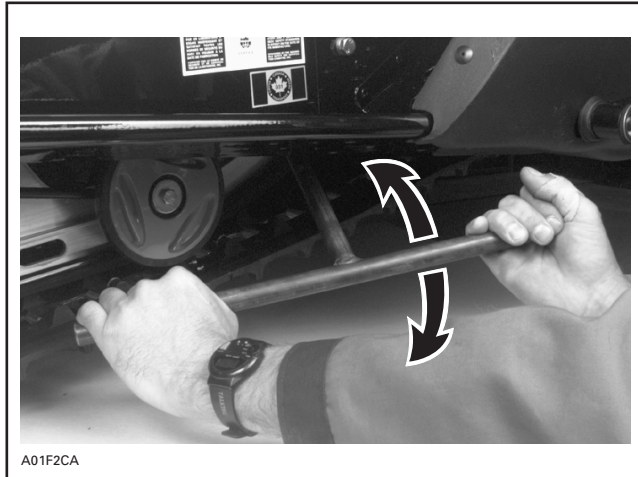


UNCRATING



Method 2

Using a special tool cut shipping strap as shown on the next photo.



INSERT TOOL TIP ONTO STRAP AND TWIST

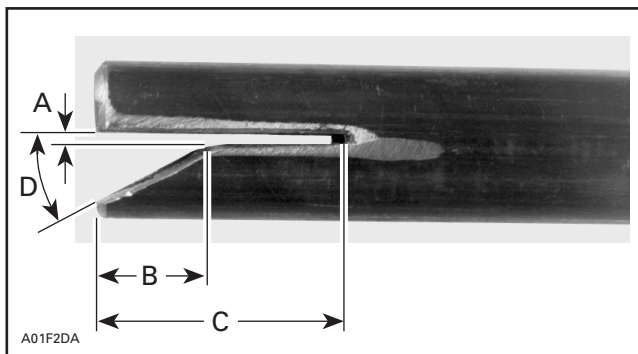
How to Build the Special Tool

Using 20 mm (3/4 in) steel tubing, cut the first piece to 460 mm (18 in) and the second one to 410 mm (16 in).

NOTE: High forces will be applied on this special tool, use strong tubing with a minimum 2 mm (5/64 in) wall thickness.

On one end of the 460 mm (18 in) piece, cut a 1.2 mm (3/64 in) slot by 28.5 mm (1-1/8 in).

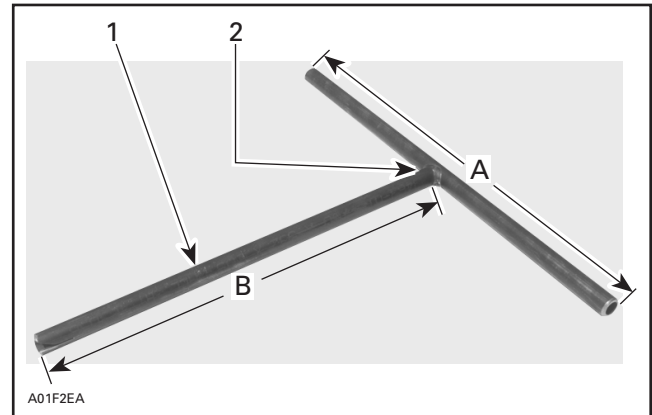
Make a chamfer of 30° x 10 mm (25/64 in), as shown on the next photo.



- A. 1.2 mm (3/64 in)
- B. 10 mm (25/64 in)
- C. 28.5 mm (1-1/8 in)
- D. 30°

Remove all sharp edges.

Assemble the two pieces and weld them together, as shown on the following photo.

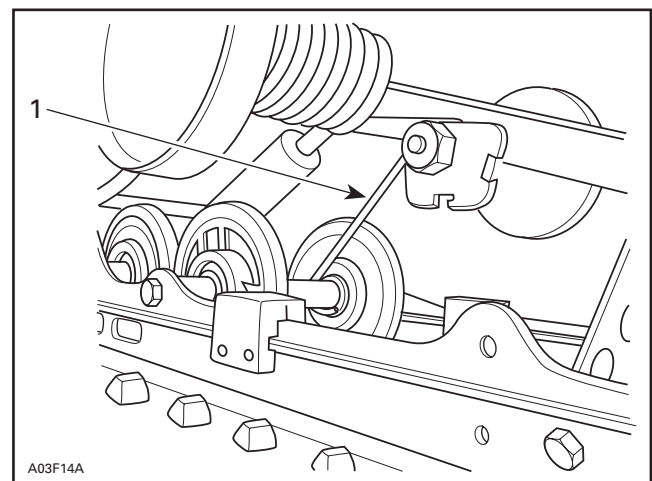


- 1. 20 mm (3/4 in) steel tubing
- 2. Welded joint
- A. 410 mm (16 in)
- B. 460 mm (18 in)

WARNING

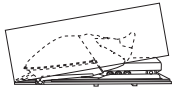
Failure to use one of these two methods of strap removal could result in personal injury.

HOOK REMOVAL

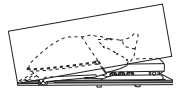


- 1. Hook to be removed

Lift front of vehicle to position bumper 35 to 40 inches upward.



UNCRATING



Lean on vehicle seat to apply pressure on rear suspension and remove hook from rear portion of suspension, as shown on the next photo.



1. Remove hook on the rear portion of the suspension



WARNING

Shipping strap must be cut and hook removed to have snowmobile suspension operational.

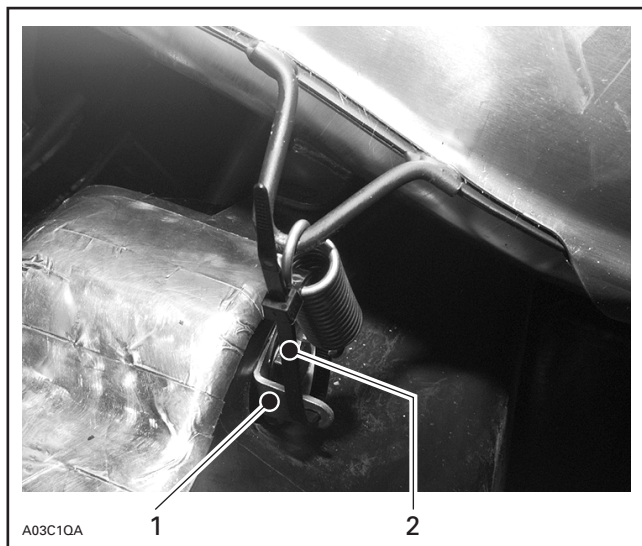


PARTS INSTALLATION

FRONT SUSPENSION



Cut locking tie retaining exhaust spring to exhaust support.



GT 583 SHOWN

1. Lug in recess
2. Locking tie

All Models

Lift front of vehicle and block safely.

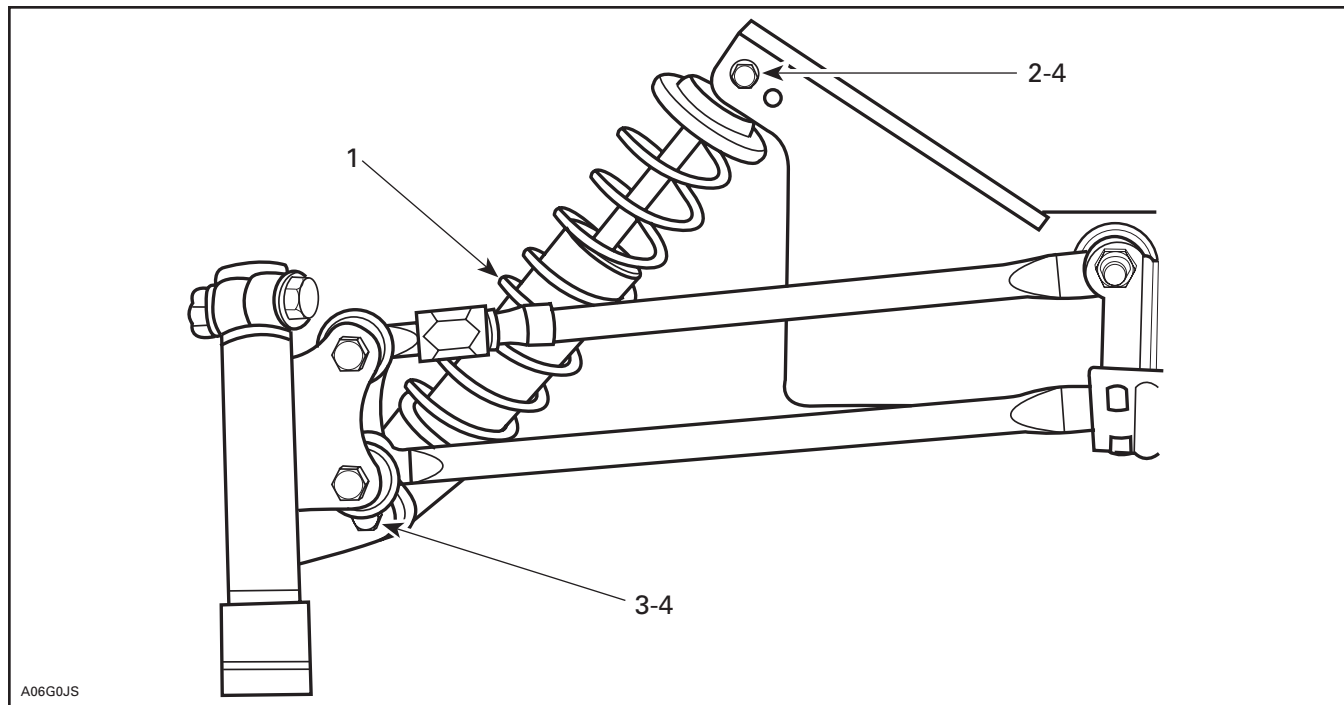
Remove and discard shipping brackets from suspension. Discard spring clips, keep screws.

Secure shock absorbers to suspension with their adjusting ring at bottom.

NOTE: Position screw heads toward front.

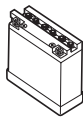
Properly position exhaust support on chassis making sure that its lug rests in chassis recess. Hook up exhaust spring.

NOTE: On GT 500 model, hook up exhaust spring on mid-hole.



TYPICAL — RH SIDE SHOWN

1. Shock absorber (2) (engine compartment)
2. Screw M10 x 1.5 x 60 (2) (P/N 222 0060 65) (on suspension)
3. Screw M10 x 1.5 x 55 (2) (P/N 222 0055 65) (on suspension)
4. Nut M10 x 1.5 (2) (P/N 228 5010 45) (section no. 3). Torque to 48 N•m (35 lbf•ft)



PARTS INSTALLATION

BATTERY



During vehicle preparation, the battery can be activated as described in *Shop Manual*.



CAUTION

Prior to charging the battery, always remove it from the vehicle to prevent electrolyte spillage. Do not charge an installed battery.

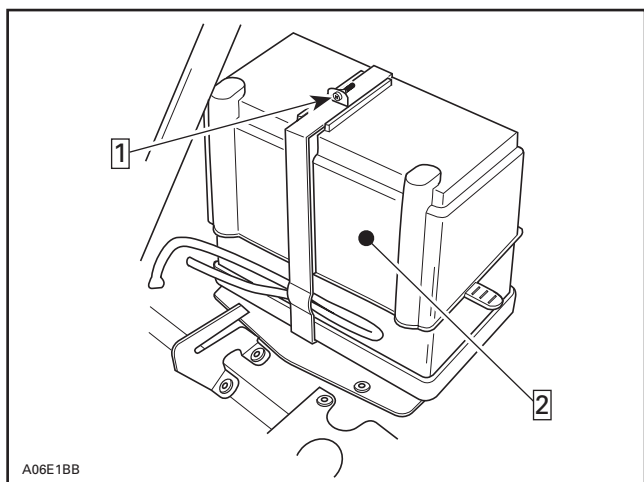
Battery Removal

Remove belt guard.

Remove air intake silencer.

Unfasten battery retaining strips.

Open strips and lift battery protective boot.



Step 1 : Unfasten and open

Step 2 : Lift protective boot

Withdraw battery from vehicle.

Battery Installation

NOTE: Before reinstalling battery and air silencer check oil pump lever adjustment.

Install vent tube on battery.

Connect RED positive cable and RED wire to positive battery terminal.

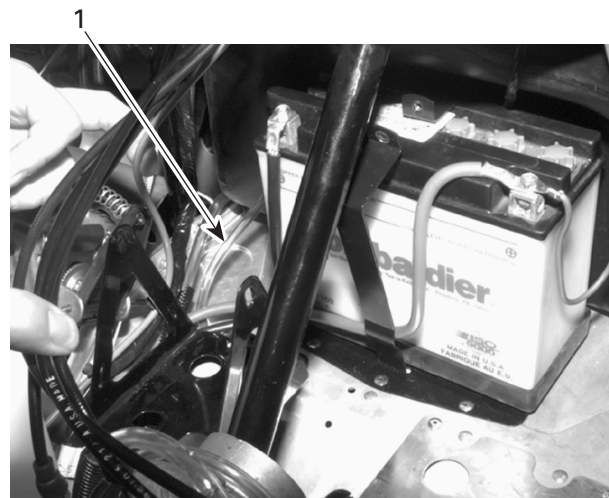
Connect BLACK negative cable LAST.



WARNING

Always connect the battery cables exactly in the specified order. Connect RED positive cable first, then BLACK negative ground cable.

Connect vent tube to vehicle fitting on front frame, as shown.



BATTERY CONNECTION

1. Vent tube on fitting

Apply silicone dielectric grease (P/N 413 7017 00) on battery posts and connectors.

Ensure vent tube is properly installed on battery elbow, then install protective boot over battery.

Close and fasten retaining strips as shown on the next photo.



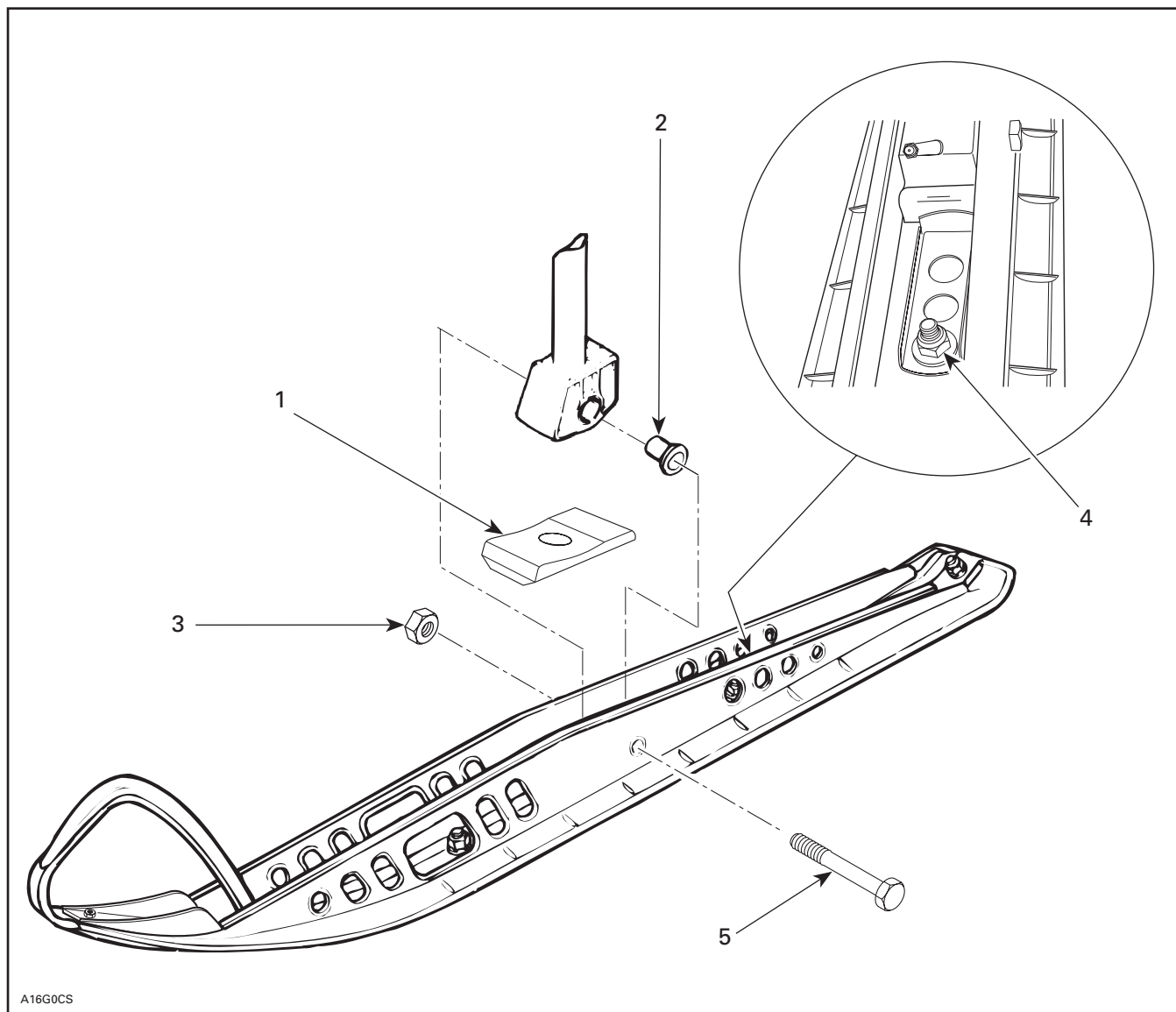
BATTERY PROTECTIVE BOOT INSTALLED

Ensure that vent tube is not kinked or blocked.

Reinstall air silencer.



PARTS INSTALLATION SKIS



LEFT SIDE SHOWN

1. Stop bounding (2) (P/N 570 0468 00) (section no. 4)
2. Slider cushion (4) (ski leg)
3. Nut M12 (2) (ski leg). Torque to 40 N•m (30 lbf•ft)
4. Loosen then adjust against stop bounding. Torque to 14 N•m (124 lbf•in)
5. Bolt M12 (2) (ski leg)

After ski installation, adjust stopper against stop bounding then tighten nut to 14 N•m (124 lbf•in). More pre-load on stop bounding will result in a more aggressive steering. Adjust according to driver preferences.



PARTS INSTALLATION

STEERING PAD



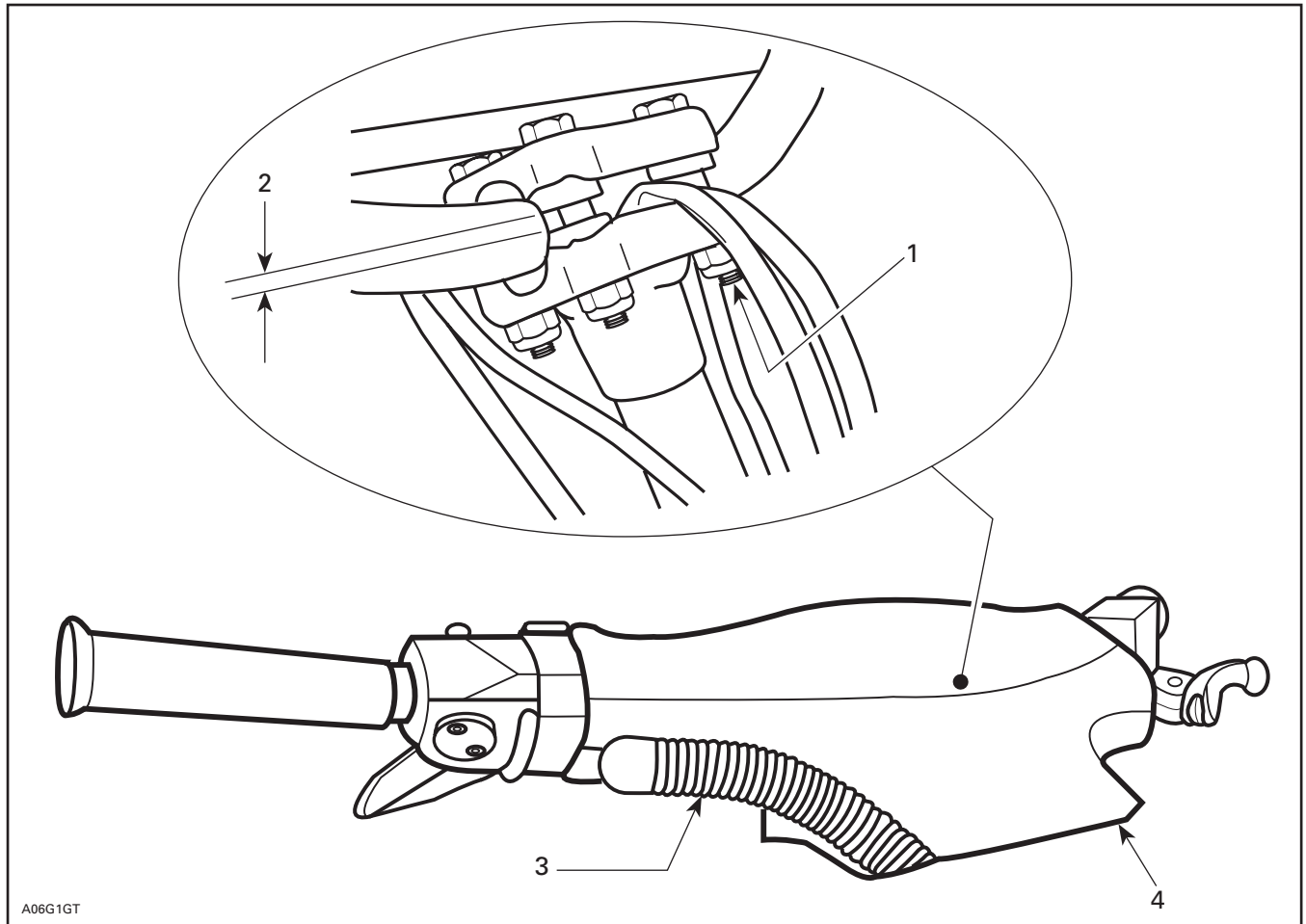
Adjust handlebar temporarily and tighten nuts loosely for now.

Loosen, at least 3 turns, Allen screw of throttle and brake handle housings.

Install steering pad temporarily, and adjust for proper fit with console.

Remove steering pad and torque nuts to 26 N•m (19 lbf•ft).

Reinstall steering pad, adjust and tighten throttle and brake handle housings.

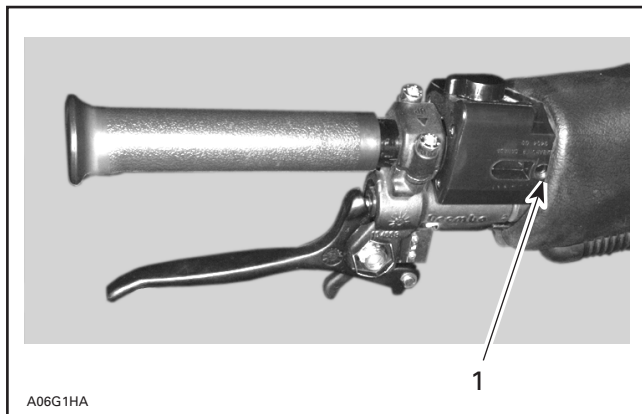


1. Torque to 26 N•m (19 lbf•ft)
2. Equal gap each side (both clamps)
3. Keyway (2) (section no. 3)
4. Steering pad (engine compartment)



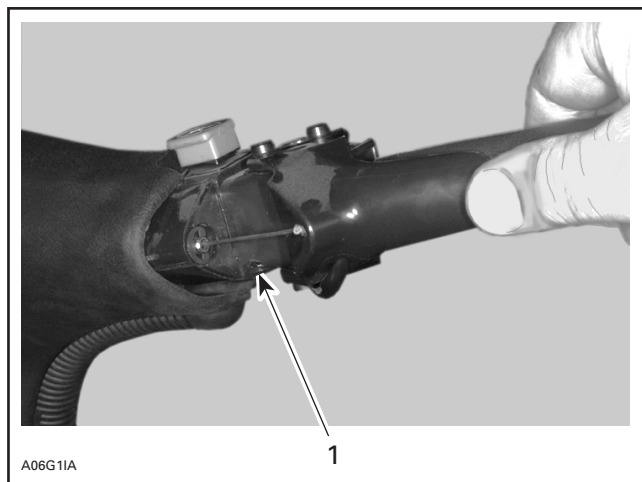
PARTS INSTALLATION

STEERING PAD



BRAKE HANDLE HOUSING

1. Tighten set screw to $2\text{ N}\bullet\text{m}$ ($18\text{ lbf}\bullet\text{in}$)



THROTTLE HANDLE HOUSING

1. Tighten set screw to $2\text{ N}\bullet\text{m}$ ($18\text{ lbf}\bullet\text{in}$)

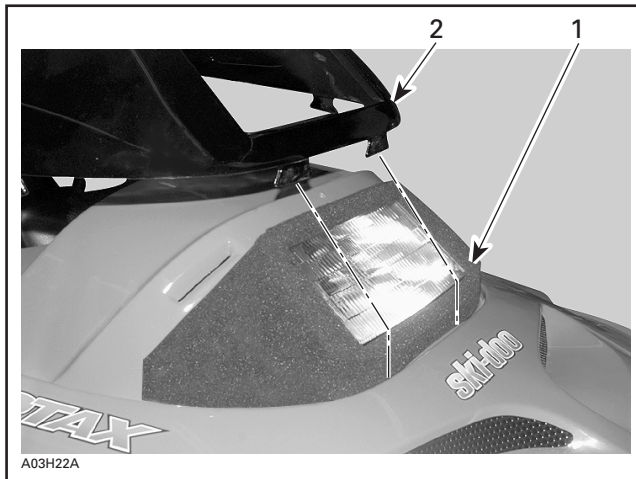


PARTS INSTALLATION WINDSHIELD

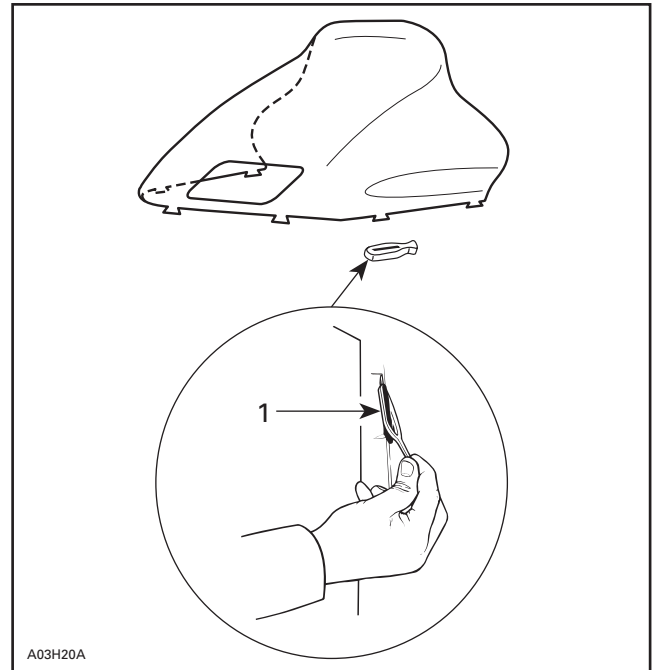


Install windshield on dashboard.

NOTE: Make sure that protective foam is properly positioned around headlamp before installing windshield.



1. Protective foam
2. Install windshield on dashboard



1. Latch (6) (P/N 570 0238 00) (section no. 4 or 6)



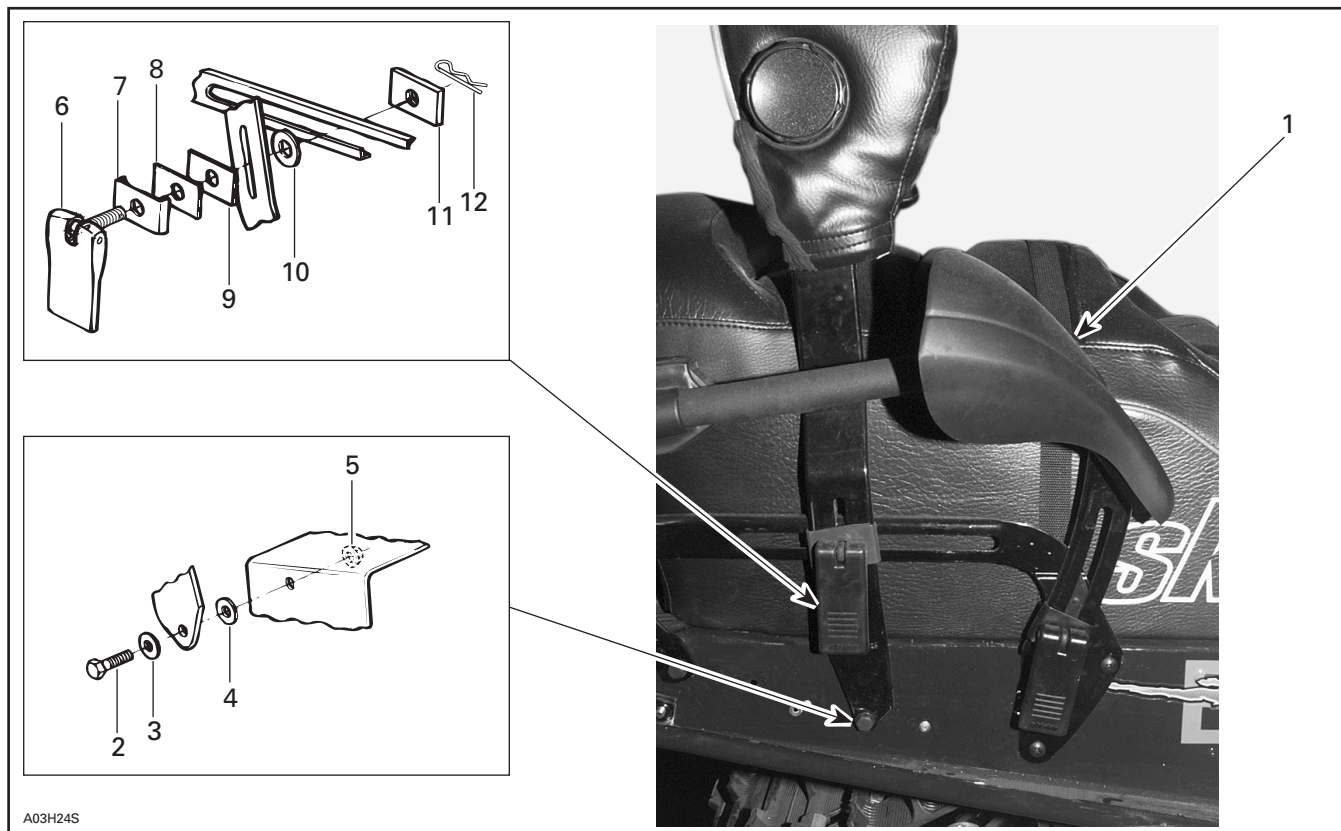
WINDSHIELD INSTALLED ON DASHBOARD



PARTS INSTALLATION BACKREST



Secure backrest frame on tunnel then install lever assembly onto luggage rack rail.
Install hand protectors with rivets onto luggage rack handle.



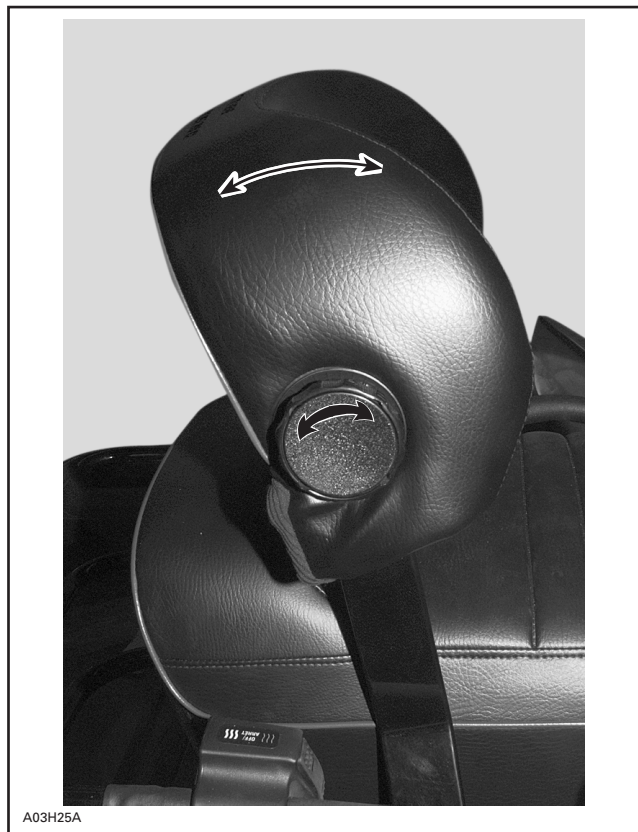
1. Handle protector (2) (seat storage compartment). Secure with rivets
2. Screw (2) (P/N 732 6011 75) (section no. 6)
3. Washer (2) (P/N 732 9000 30) (section no. 6)
4. Plastic washer (2) (P/N 414 8196 00) (section no. 6)
5. Elastic nut (2) (P/N 228 5810 45) (section no. 6). Torque to 8 N•m (73 lbf•in)
6. Lever assembly (2) (P/N 580 6110 00) (section no. 2)
7. Guide (2) (P/N 517 2573 00) (section no. 2)
8. Rubber shim (2) (P/N 570 0274 00) (section no. 6)
9. Spacer (2) (P/N 517 2513 00) (section no. 2)
10. Flanged washer (2) (P/N 414 8195 00) (section no. 6)
11. Threaded plate (2) (P/N 517 2500 00) (section no. 6)
12. Hair pin (2) (P/N 414 1083 00) (section no. 6)



PARTS INSTALLATION BACKREST



Turn adjustment knob left or right to adjust backrest cushion position.



A03H25A



PARTS INSTALLATION DRIVE BELT



Clean pulleys and disc brake with a suitable cleaner such as Loctite Cleaning Solvent (P/N 413 7082 00) before installing drive belt.



LIQUIDS

OIL INJECTION PUMP BLEEDING



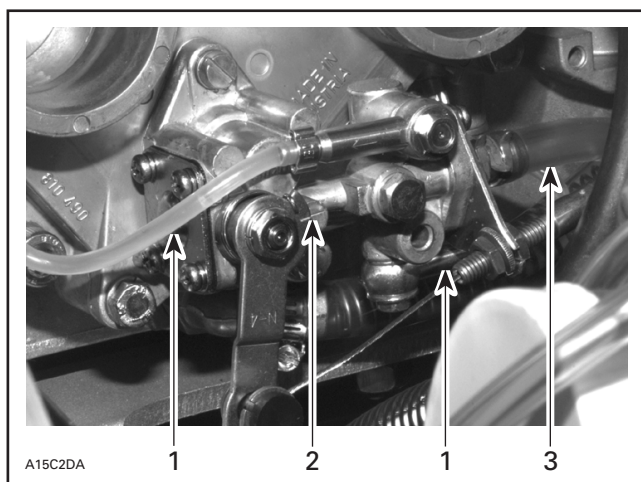
SUPPLEMENTAL OIL

To assure additional protection during the initial engine break-in, 500 mL (18 imp. oz) of BOMBARDIER ROTAX Injection Oil (P/N 413 8030 00) should be added to fuel for the first full filling of fuel tank. Always remove and clean spark plugs after engine break-in.

BLEEDING PROCEDURE

Remove air silencer and move carburetors aside. Bleed main oil line (between tank and pump) by loosening the bleeder screw until air has escaped from the line. Add injection oil as required.

Check also for proper oil lever adjustment. Marks must align when throttle lever is activated just enough to take all cable play.

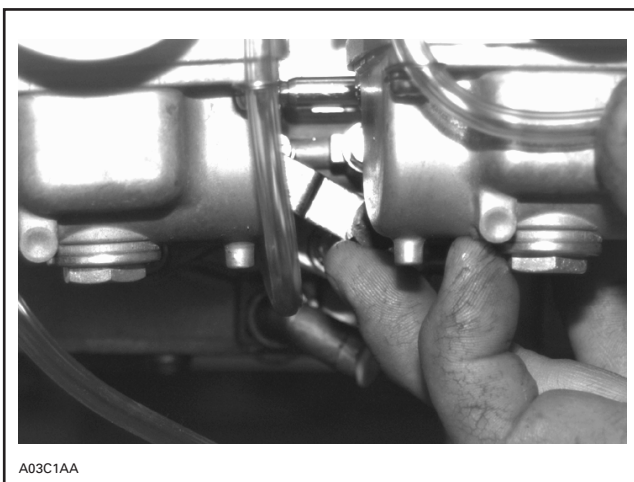


1. Small oil line
2. Marks aligned
3. Main oil line

Reinstall all parts except air silencer.

Bleed the small oil line between pump and intake manifold by running engine at idle while holding the pump lever in fully open position.

NOTE: If the air silencer has been reinstalled, make a J hook out of mechanical wire to lift the lever.



TYPICAL — ENGINE AT IDLE
Reinstall air silencer.



LIQUIDS

BRAKE FLUID LEVEL



Check brake fluid in reservoir for proper level. Add fluid (DOT) as required.

▼ CAUTION

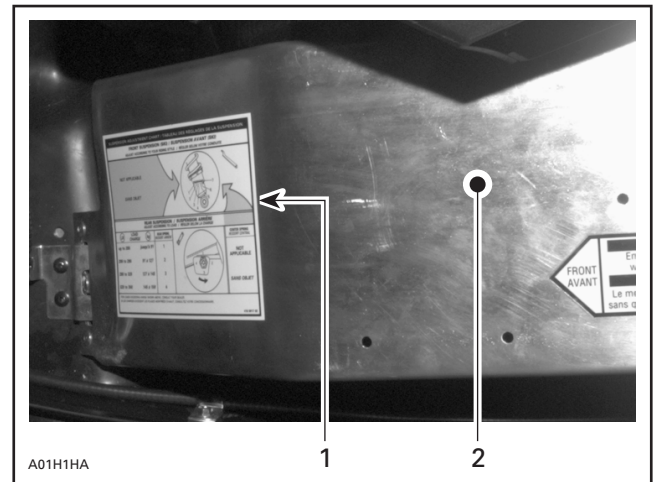
Use only (DOT 4) brake fluid from a sealed container. Do not store or use a partial bottle of brake fluid.



ADJUSTMENTS SUSPENSION



Rear suspension is calibrated at factory. At pre-delivery, mechanics should perform suspension adjustments according to customer riding style and vehicle load as described on suspension adjustment chart which is located on pulley guard.



1. Adjustment chart
2. Pulley guard



ADJUSTMENTS TRACK



Refer to *Shop Manual* to adjust track tension and alignment. See *Technical Data* section at the end of this bulletin.



ADJUSTMENTS DRIVEN PULLEY



It is usual to experience spring settings during break-in period of a new spring. The factory spring preload is slightly higher to compensate for springs settings. Specifications in TECHNICAL DATA are applicable after break-in period (about 10 hours of use).



TECHNICAL DATA



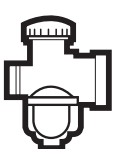
The content of the TECHNICAL DATA pages should be used as necessary to fine-tune and perform additional adjustments required on the snowmobile. Vehicles used at high altitudes, above 600 m (2000 ft) should be fitted with a high altitude kit. Further inquiries should be directed to your distributor service representative.



TECHNICAL DATA



A dot (•) on right indicates changes from 1996 model.

	MODELS	GRAND TOURING 500	GRAND TOURING 583
	Engine Type	494	583 •
	Maximum HP RPM ① ± 100 RPM	7800 •	7900 •
	P/N	420 9245 09	420 9245 02 •
	Rotary valve Opening (BTDC)/Closing (ATDC)	135°/64°	140°/71° •
	Carburetor Type	PTO VM 38 - 347 MAG VM 38 - 348 •	PTO VM 38 - 349 MAG VM 38 - 350 •
	Main Jet	PTO 330 MAG 310 •	PTO 280 MAG 270 •
	Needle Jet	P-4 480 •	Q-6 480 •
	Pilot Jet	50 •	50 •
	Needle Identification — Clip Position	6FEY1 •	6BGY15 •
	Slide Cutaway	2.5	2.5
	Float Adjustment ±1 mm (in)	18.1 (.71)	18.1 (.71)
	Air Screw Adjustment ± 1/16 Turn	1-1/8	2-1/4 •
	Idle Speed RPM ± 200 RPM	1800 •	1800 •
	Gas Grade/ Octane Number (R + M)/2	Regular Unleaded/87	Regular Unleaded/87
	Gas/Oil Ratio	Oil Injection	Oil Injection
	Ignition Timing BTDC ② mm (in)	1.81 (.071)	1.75 (.069) •
	Trigger Coil Air Gap mm (in)	0.55 - 1.45 (.022 - .057)	0.55 - 1.45 (.022 - .057)
	Gear Ratio Teeth	23/44	23/44 •
	Engagement Speed ± 100 RPM	3500 •	3800 •
	Drive Pulley Calibration Screw Position	3	3
	Pulley Distance Z (+ 0, - 1) mm (+ 0, - 1/32) in	16.5 (21/32)	
	Offset X ± 0.4 mm (± 1/64 in)	35.0 (1-3/8)	
	Y	Dimension Y must exceed X from 1 mm (1/32in) to 2 mm (5/64 in)	
	Drive Belt Adjustment Deflection mm (in)	32 (1-1/4)	
	Force ③ kg (lbf)	11.34 (25)	•
	Driven Pulley Preload ± 0.7 kg (lbf)	7.0 (15.43)	6.1 (13.45) •
	Drive Chain Tension	Fully tighten adjusting screw by hand then back OFF only far enough for hair pin installation	
	Track Adjustment Deflection mm (in)	40 to 55 (1-5/8 to 1-3/16) with a M7.3 kg (16 lb) downward pull •	

① Engine speed at which maximum power is achieved

② At 6000 RPM (engine cold) with headlamp turned on

③ Force applied midway between pulleys to obtain specified deflection

BTDC: Before Top Dead Center

ATDC: After Top Dead Center

PTO: Power Take OFF side

MAG: Magneto side

CRT: Center

N.A.: Not applicable

Please route to :

☐ Service	☐ Init.
☐ Sales	☐
☐ Parts	☐



SNOWMOBILES



PREDELIVERY
Bulletin

No. **97-10**

Date: November 5, 1996

SUBJECT: Predelivery Procedures

YEAR	MODEL NAME	MODEL NUMBER	SERIAL NUMBER
1997	Canada and United States: MX Zx* 440 LC	1214 and 1215	ALL

This bulletin must be used in conjunction with the check list enclosed in the bag with the *Operator's Guide*. Make sure that predelivery check list is completed and signed.

◆ **WARNING**

To obtain warranty coverage, predelivery procedures must be performed by an authorized Bombardier snowmobile dealer. Apply all necessary torques as indicated.

▼ **CAUTION**

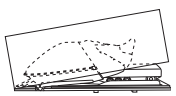
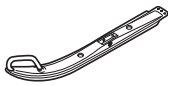
When fuelling snowmobile, always premix fuel with Bombardier-Rotax synthetic injection oil using a ratio of 40:1.

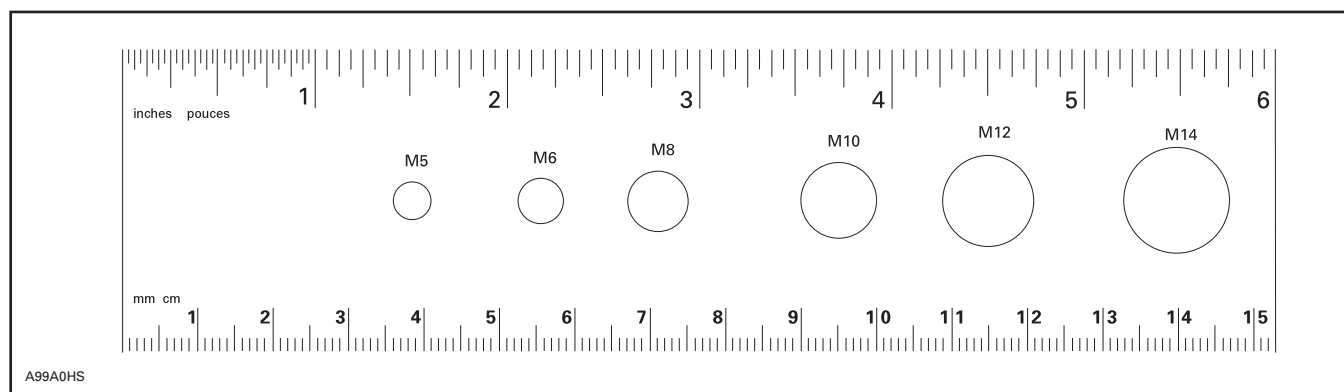
NOTE: The information and components/system descriptions contained in this document are correct at the time of publication. Bombardier Inc. however, maintains a policy of continuous improvement of its products without imposing upon itself any obligation to install them on products previously manufactured. Due to late changes, it may have some differences between the manufactured product and the descriptions and/or specifications in this document. Bombardier Inc. reserves the right at any time to discontinue or change specifications, designs, features, models or equipment without incurring obligation.

The illustrations in this document show the typical construction of the different assemblies and may not reproduce the full detail or exact shape of the parts. However, they represent parts that have the same or similar function.

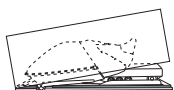
The content of this bulletin is designed as a guideline only. All mechanics performing predelivery procedures should have attended the current model year service training. Further information or inquiries should be directed to your distributor service representative and/or specific *Shop Manual* sections. Please complete the *Predelivery Check List* for each snowmobile and retain a customer signed copy. Make sure the customer receives the *Operator's Guide*, *Safety Handbook*, *Predelivery Check List* signed copy and *Video*.

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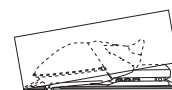
SUBJECT	PAGE	SUBJECT	PAGE
 UNCRATING	3	 LIQUIDS BRAKE FLUID LEVEL	6
 PARTS INSTALLATION SKIS	4	 ADJUSTMENT TRACK	7
 PARTS INSTALLATION WINDSHIELD	5	 ADJUSTMENT DRIVEN PULLEY	7
 PARTS INSTALLATION DRIVE BELT	6	 TECHNICAL DATA	7
 LIQUIDS ROTARY VALVE OIL RESERVOIR LEVEL	6		



NOTE: This ruler can be helpful to identify fastener length or size.



UNCRATING



PREDELIVERY KIT P/N	MODELS
580 6564 00	MX Zx 440 LC

◆ WARNING

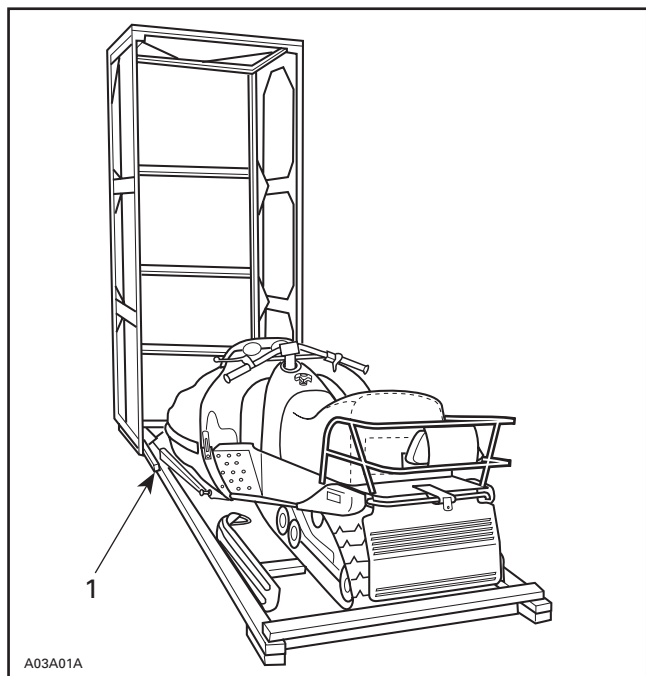
Torque wrench tightening specifications must be strictly adhered to. Locking devices (e.g. lock tabs, elastic stop nuts) must be installed or replaced by new ones, where specified. If the efficiency of a locking device is impaired, it must be renewed.

Carefully lay the crate on its bottom.

▼ CAUTION

Allowing the crate to drop may cause serious damage to the vehicle.

Remove all screws retaining cover to vehicle base. Tip cover toward front of vehicle. There is a notch at the front of crate. Lift cover slowly to avoid damaging the snow guard or taillight.



1. Notch

Detach parts to be installed (e.g. skis, windshield) from the vehicle and its base.

▼ CAUTION

Make sure vehicle is properly supported before removing ski legs and rear suspension from crate brackets.

Detach ski legs from crate. Discard ski leg bolts. Discard crating spacers and nuts.

Remove vehicle from base.

Remove drive belt and predelivery kit from engine compartment.



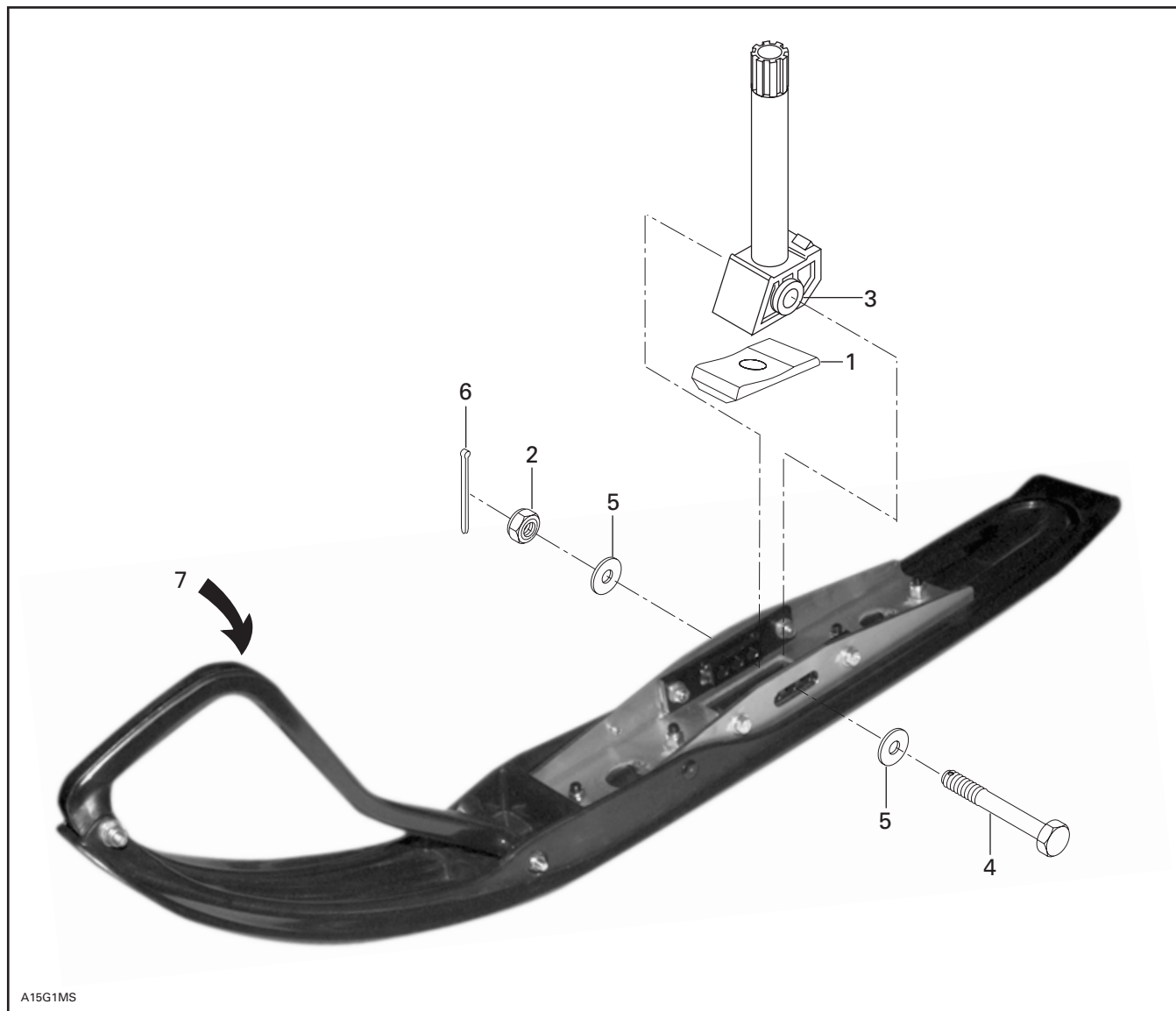
PARTS INSTALLATION SKIS



Install skis on vehicle.

NOTE: Make sure that slider cushions are still in ski leg.

Replace vehicle on ground.



A15G1MS

LEFT SIDE SHOWN

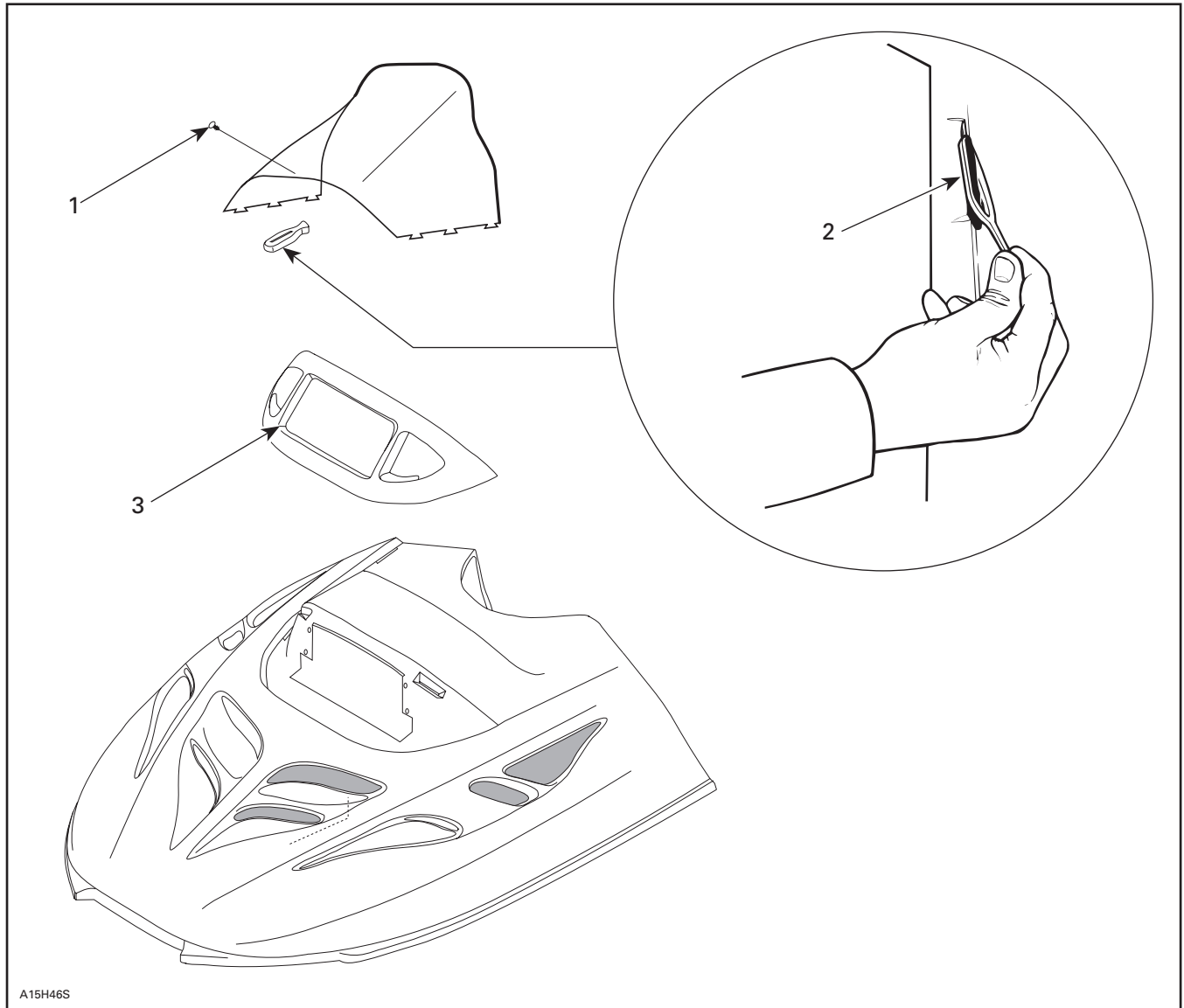
1. Ski stopper (2) (section no. 8) "AVANT" toward front
2. Self-locking nut M12 x 1.75 (2) (Section no. 8). Torque to 24 N•m (18 lbf•ft)
3. Slider cushion (4) (Ski leg)
4. Bolt M12 (2) (section no. 8). Install bolt into mid-hole
5. Washer (4) (section no. 8)
6. Cotter pin (2) (section no. 8)
7. Twist ski to ease bolt installation



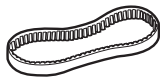
PARTS INSTALLATION WINDSHIELD



Install windshield on dashboard.

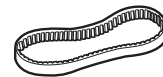


1. Dart (1) (P/N 414 6443 00) (section no. 6)
2. Latch (6) (P/N 570 0238 00) (section no. 6)
3. Temporary remove headlamp molding for windshield installation



PARTS INSTALLATION

DRIVE BELT



Clean pulleys and disc brake with a suitable cleaner such as Loctite Cleaning Solvent (P/N 413 7082 00) before installing drive belt.

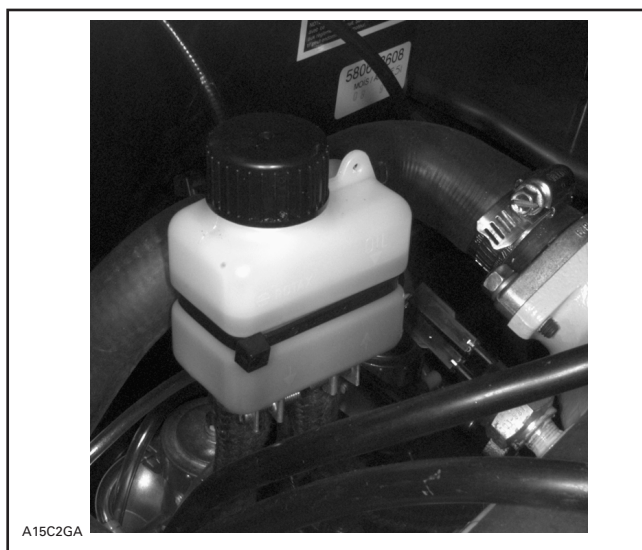


LIQUIDS

ROTARY VALVE OIL RESERVOIR LEVEL



Check oil level in the rotary valve reservoir. Add oil as required. Refer to the following photo.



ROTARY VALVE OIL RESERVOIR

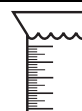
▼ CAUTION

Use only Bombardier-Rotax injection oil (P/N 413 8029 00) (12 x 1L).



LIQUIDS

BRAKE FLUID LEVEL



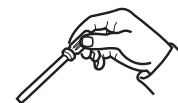
Check brake fluid in reservoir for proper level. Add fluid (DOT) as required.

▼ CAUTION

Use only (DOT 4) brake fluid from a sealed container. Do not store or use a partial bottle of brake fluid.



ADJUSTMENTS TRACK



Refer to *Shop Manual* to adjust track tension and alignment. See TECHNICAL DATA section at the end of this bulletin.



ADJUSTMENTS DRIVEN PULLEY



It is usual to experience spring settings during break-in period of a new spring. The factory spring preload is slightly higher to compensate for springs settings. Specifications in TECHNICAL DATA are applicable after break-in period (about 10 hours of use).



TECHNICAL DATA



The content of the TECHNICAL DATA pages should be used as necessary to fine-tune and perform additional adjustments required on the snowmobile. Vehicles used at high altitudes, above 600 m (2000 ft) should be fitted with a high altitude kit. Further inquiries should be directed to your distributor service representative.



TECHNICAL DATA



	MODEL	MX Zx 440 LC
	Engine Type	454
	Maximum HP RPM ① ± 100 RPM	8450
	Rotary Valve P/N Opening (BTDC)/ Closing (ATDC)	420 924 502 146 65
	Carburetor Type	PTO VM 34 - 498 MAG VM 34 - 499
	Main Jet	PTO 260 MAG 250
	Needle Jet	P-8 (159)
	Pilot Jet	45
	Needle Identification — Clip Position	6FJ43
	Slide Cutaway	2.5
	Float Adjustment ± 1 mm (in)	23.9 (.94)
	Air Screw Adjustment ± 1/16 turn	1
	Idle Speed RPM ± 200 RPM	1700
	Gas Grade/Pump Octane Number (R + M)/2	Regular Unleaded/87
	Ignition Timing BTDC ② mm (in)	1.48 (.058)
	Trigger Coil Air Gap mm (in)	0.55 - 1.45 (.022 - .057)
	Gear Ratio teeth	23/43
	Engagement Speed ± 100 RPM	4900
	Drive Pulley Calibration Screw Position	3
	Pulley Distance Z (+0, -1) mm (+0, -1/32) in	16.5 (21/32)
	Offset X ± 0.4 mm (± 1/64 in)	35.0 (1-3/8)
	Y	Dimension Y must exceed X from 1 mm (1/32 in) to 2 mm (5/64 in)
	Drive Belt Adjustment Deflection ± .5 mm (in)	32 (1-1/4)
	Force ③ kg (lbf)	11.34 (25)
	Driven Pulley Preload ± 0.7 kg (lbf)	7.0 (15.43)
	Drive Chain Tension	Fully tighten adjusting screw by hand then back OFF only far enough for hair pin installation
	Track Adjustment Deflection mm (in)	30 to 35 (1-3/16 - 1-3/8) with a 7.3 kg (16 lb) downward pull

① Engine speed at which maximum power is achieved.

② At 6000 RPM (engine cold) with headlamp turned on.

③ Force applied midway between pulleys to obtain specified deflection.

BTDC: Before Top Dead Center

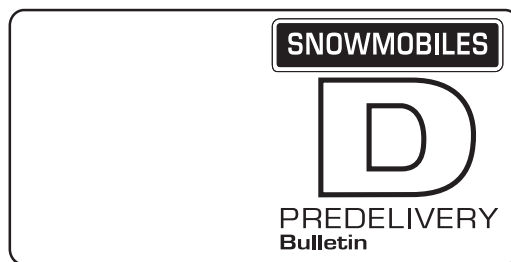
ATDC: After Top Dead Center

PTO: Power Take OFF side

MAG: Magneto side

Please route to :

☐ Service	☐ Init.
☐ Sales	☐
☐ Parts	☐



No. **97-10**

UPDATE

Date: December 12, 1996

SUBJECT: Predelivery

YEAR	MODEL	MODEL NUMBER	SERIAL NUMBER
1997	Canada and United States: MX Zx 440 LC	1214 and 1215	ALL
1997	Sweden: MX Zx 440 LC	1216	ALL

The page 6 for the above mentioned models have been updated. Bombardier-Rotax synthetic injection oil (12 x 1L) part number is 413 7105 00.

Refer to the Ski-Doo *Predelivery Bulletin* no. 97-10.

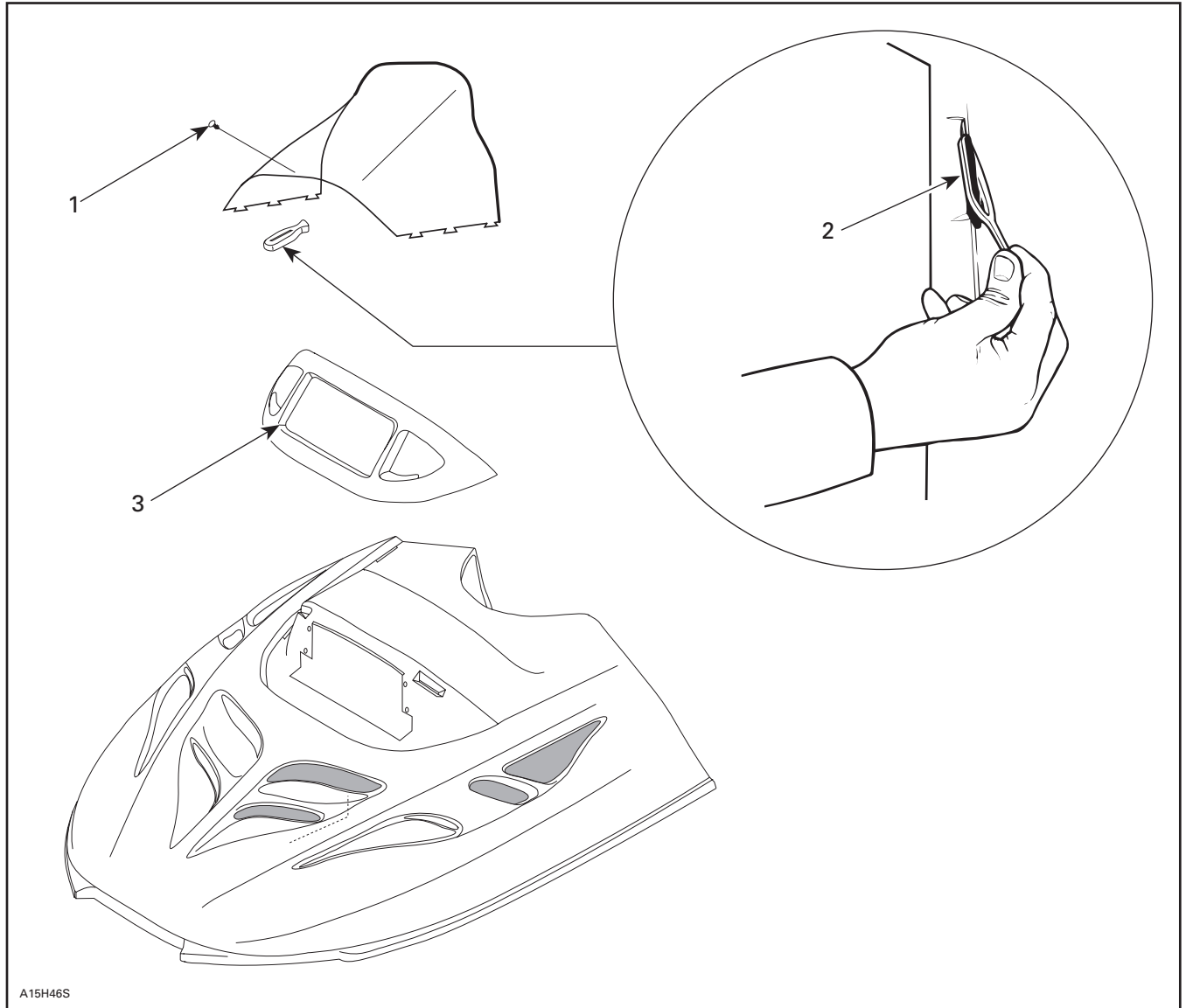
Replace with the attached.



PARTS INSTALLATION WINDSHIELD



Install windshield on dashboard.

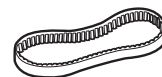


1. Dart (1) (P/N 414 6443 00) (section no. 6)
2. Latch (6) (P/N 570 0238 00) (section no. 6)



PARTS INSTALLATION

DRIVE BELT



Clean pulleys and disc brake with a suitable cleaner such as Loctite Cleaning Solvent (P/N 413 7082 00) before installing drive belt.

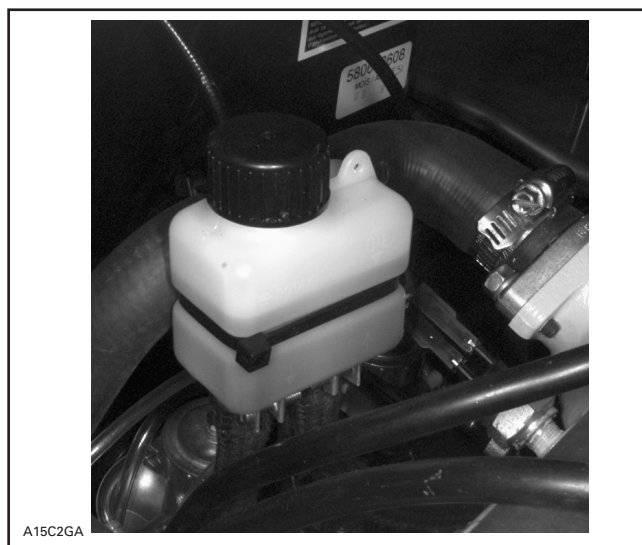


LIQUIDS

ROTARY VALVE OIL RESERVOIR LEVEL



Check oil level in the rotary valve reservoir. Add oil as required. Refer to the following photo.



ROTARY VALVE OIL RESERVOIR



CAUTION

Use only Bombardier-Rotax synthetic injection oil (P/N 413 7105 00) (12 x 1L).



LIQUIDS

BRAKE FLUID LEVEL



Check brake fluid in reservoir for proper level. Add fluid (DOT) as required.



CAUTION

Use only (DOT 4) brake fluid from a sealed container. Do not store or use a partial bottle of brake fluid.

Please route to : ☐ Service ☐ Sales ☐ Parts Init. ☐ ☐ ☐		SNOWMOBILES  PREDelivery Bulletin
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No. 97-11

Date: December 6, 1996

SUBJECT: Predelivery Procedures

YEAR	MODEL NAME	MODEL NUMBER	SERIAL NUMBER
1997	Canada and United States: Grand Touring SE	1129 and 1130	ALL
1997	Sweden: Grand Touring SE	1131	ALL

This bulletin must be used in conjunction with the check list enclosed in *Operator's Guide* bag. Make sure that predelivery check list is completed and signed.

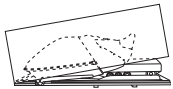
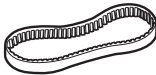
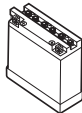
◆ WARNING
To obtain warranty coverage, predelivery procedures must be performed by an authorized Bombardier snowmobile dealer. Apply all necessary torques as indicated.

NOTE: The information and components/system descriptions contained in this document are correct at the time of publication. Bombardier Inc. however, maintains a policy of continuous improvement of its products without imposing upon itself any obligation to install them on products previously manufactured. Due to late changes, it may have some differences between the manufactured product and the descriptions and/or specifications in this document. Bombardier Inc. reserves the right at any time to discontinue or change specifications, designs, features, models or equipment without incurring obligation.

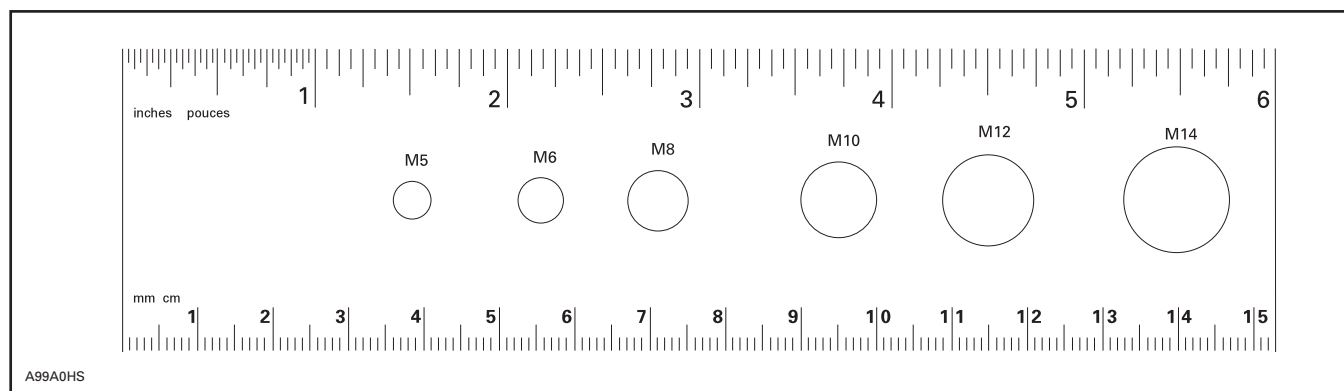
The content of this bulletin is designed as a guideline only. All mechanics performing predelivery procedures should have attended the current model year service training. Further information or inquiries should be directed to your distributor service representative and/or specific *Shop Manual* sections. Please complete the Predelivery Check List for each snowmobile and return a customer signed copy. Make sure the customer receives the *Operator's Guide*, *Safety Handbook* and *Video*.

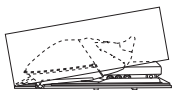
There is a tag attached to the ignition key, only the customer must remove it. This label will remind the customer to ask dealer to perform suspension adjustments according to riding style and vehicle load.

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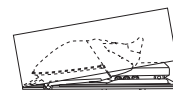
SUBJECT	PAGE	SUBJECT	PAGE
	UNCRATING 3		PARTS INSTALLATION DRIVE BELT 14
	PARTS INSTALLATION FRONT SUSPENSION 6		LIQUIDS OIL INJECTION PUMP BLEEDING 15
	PARTS INSTALLATION SKIS 7		LIQUIDS BRAKE FLUID LEVEL 15
	PARTS INSTALLATION BATTERY 8		ADJUSTMENTS SUSPENSION 16
	PARTS INSTALLATION STEERING PAD 11		ADJUSTMENTS TRACK 16
	PARTS INSTALLATION WINDSHIELD 12		ADJUSTMENTS DRIVEN PULLEY 16
	PARTS INSTALLATION BACKREST 13		TECHNICAL DATA 16

NOTE: This ruler can be helpful to identify fastener length or size.





UNCRATING



PREDELIVERY KIT P/N	MODEL
580 6542 00	GRAND TOURING SE

◆ WARNING

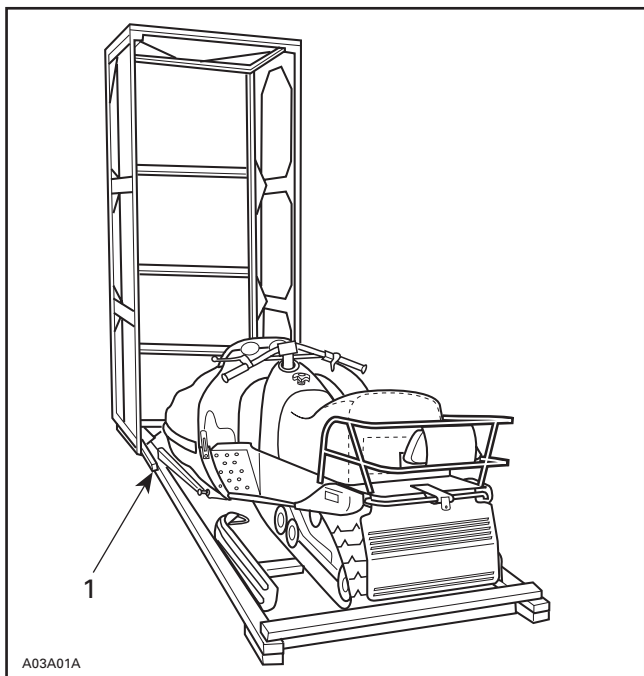
Torque wrench tightening specifications must be strictly adhered to. Locking devices (e.g. lock tabs, elastic stop nuts) must be installed or replaced by new ones, where specified. If the efficiency of a locking device is impaired, it must be renewed.

Carefully lay the crate on its bottom.

▼ CAUTION

Allowing the crate to drop may cause serious damage to the vehicle.

Remove all screws retaining cover to vehicle base. Tip cover toward front of vehicle. There is a notch at the front of crate. Lift cover slowly to avoid damaging the snow guard or taillight.



A03A01A

1. Notch

Detach parts to be installed (e.g. skis, windshield) from the vehicle and its base.

Cut locking ties retaining windshield. Slowly pull out metal strip retaining windshield, if equipped.

When this metal strip is under the seat loosen 2 or 4 nuts retaining the seat before pulling out the metal strip.

▼ CAUTION

Make sure vehicle is properly supported before removing ski legs and rear suspension from crate brackets.

Detach ski legs from crate. Keep ski leg bolts and slider cushions to bolt skis to ski legs. Discard crating spacers and nuts.

Remove vehicle from base.

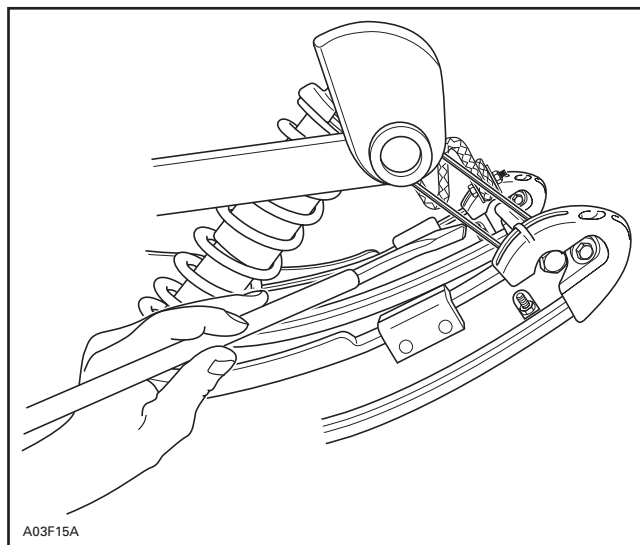
Remove parts to be installed and predelivery kit from engine compartment. Detach shock absorbers from engine compartment.

SHIPPING STRAP REMOVAL

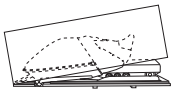
Cut shipping strap using one of these 2 following methods:

Method 1

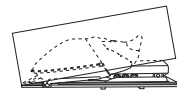
Using a long flat chisel such as Snap-On® PPC820LA cut shipping strap that collapses front portion of rear suspension, as shown on the next illustration.



A03F15A

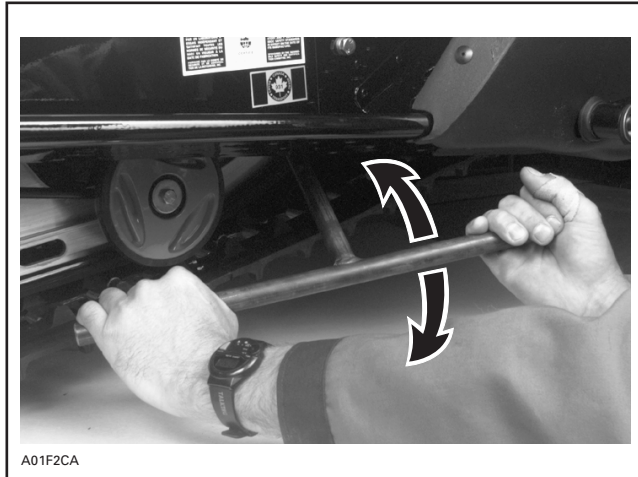


UNCRATING



Method 2

Using a special tool cut shipping strap as shown on the next photo.



INSERT TOOL TIP ONTO STRAP AND TWIST

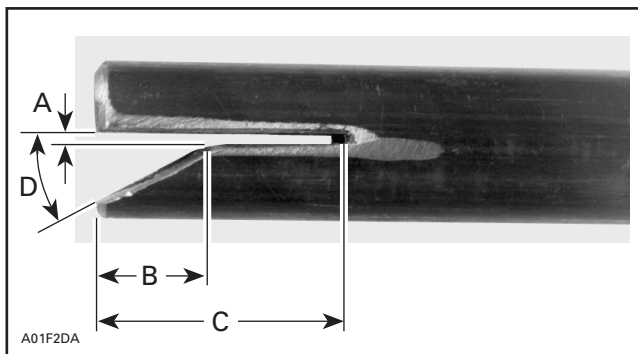
How to Build the Special Tool

Using 20 mm (3/4 in) steel tubing, cut the first piece to 460 mm (18 in) and the second one to 410 mm (16 in).

NOTE: High forces will be applied on this special tool, use strong tubing with a minimum 2 mm (5/64 in) wall thickness.

On one end of the 460 mm (18 in) piece, cut a 1.2 mm (3/64 in) slot by 28.5 mm (1-1/8 in).

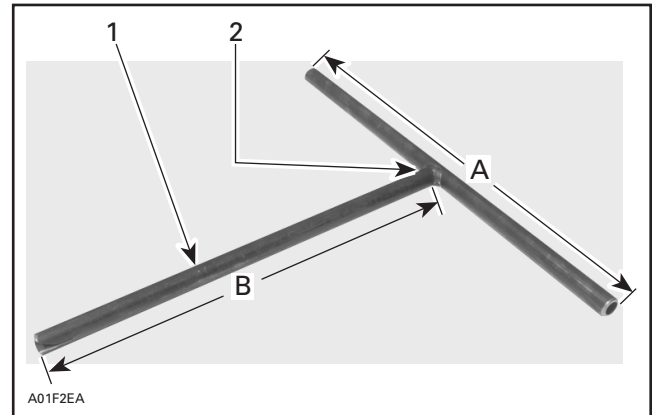
Make a chamfer of 30° x 10 mm (25/64 in), as shown on the next photo.



- A. 1.2 mm (3/64 in)
- B. 10 mm (25/64 in)
- C. 28.5 mm (1-1/8 in)
- D. 30°

Remove all sharp edges.

Assemble the two pieces and weld them together, as shown on the following photo.

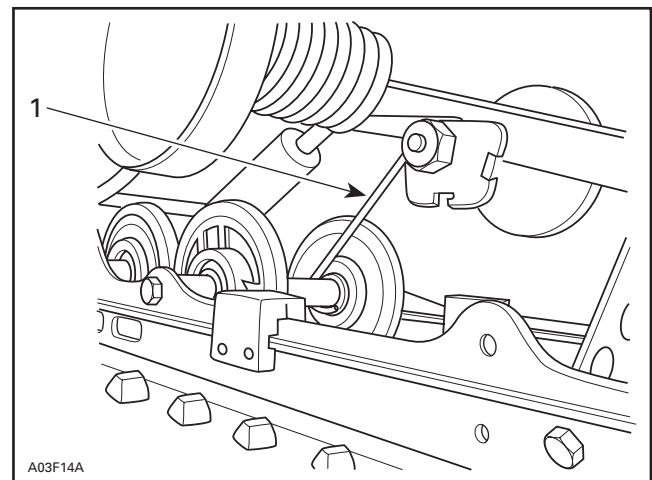


- 1. 20 mm (3/4 in) steel tubing
- 2. Welded joint
- A. 410 mm (16 in)
- B. 460 mm (18 in)

WARNING

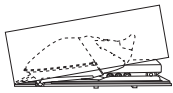
Failure to use one of these two methods of strap removal could result in personal injury.

HOOK REMOVAL

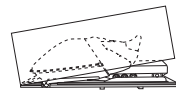


- 1. Hook to be removed

Lift front of vehicle to position bumper 35 to 40 inches upward.



UNCRATING



Lean on vehicle seat to apply pressure on rear suspension and remove hook from rear portion of suspension, as shown on the next photo.



1. Remove hook on the rear portion of the suspension



WARNING

Shipping strap must be cut and hook removed to have snowmobile suspension operational.

DIGITAL ENCODED SECURITY SYSTEM (DESS)

The DESS is a deterrent against theft. **Factory programmed**, the tether cord provided with snowmobile is the only one that allows engine to turn more than 2500 RPM. If a wrong tether cord is installed the engine will start but will not reach engagement speed required to move vehicle.

The snowmobile MPEM can be programmed to allow the use of up to 8 tether cords. When 8 tether cords have been programmed all cords must be deleted from MPEM memory before others can be added.

Each tether cord has a small magnet as well as a small micro chip molded into the rubber cap. The magnet will close a primary circuit in the electrical system. This completes the circuit and allows the MPEM to read the electronic number in the tether cord when engine is started.

NOTE: We do not program the tether cord! we record the tether cord electronic number into the MPEM memory.

The MPEM also handles data input such as; customer name, delivery date and it record the hours of operation.

After engine is started 2 beeps confirm that the MPEM has recognized the tether cord. The vehicle can be driven normally.

A beep every 3 seconds and DESS pilot lamp blinking at same rate mean that a bad connection has been detected. Vehicle can not be driven.

Refer to *SKI-DOO MPEM Programmer Guide* (P/N 480 1436 00) for proper procedure.



PARTS INSTALLATION

FRONT SUSPENSION



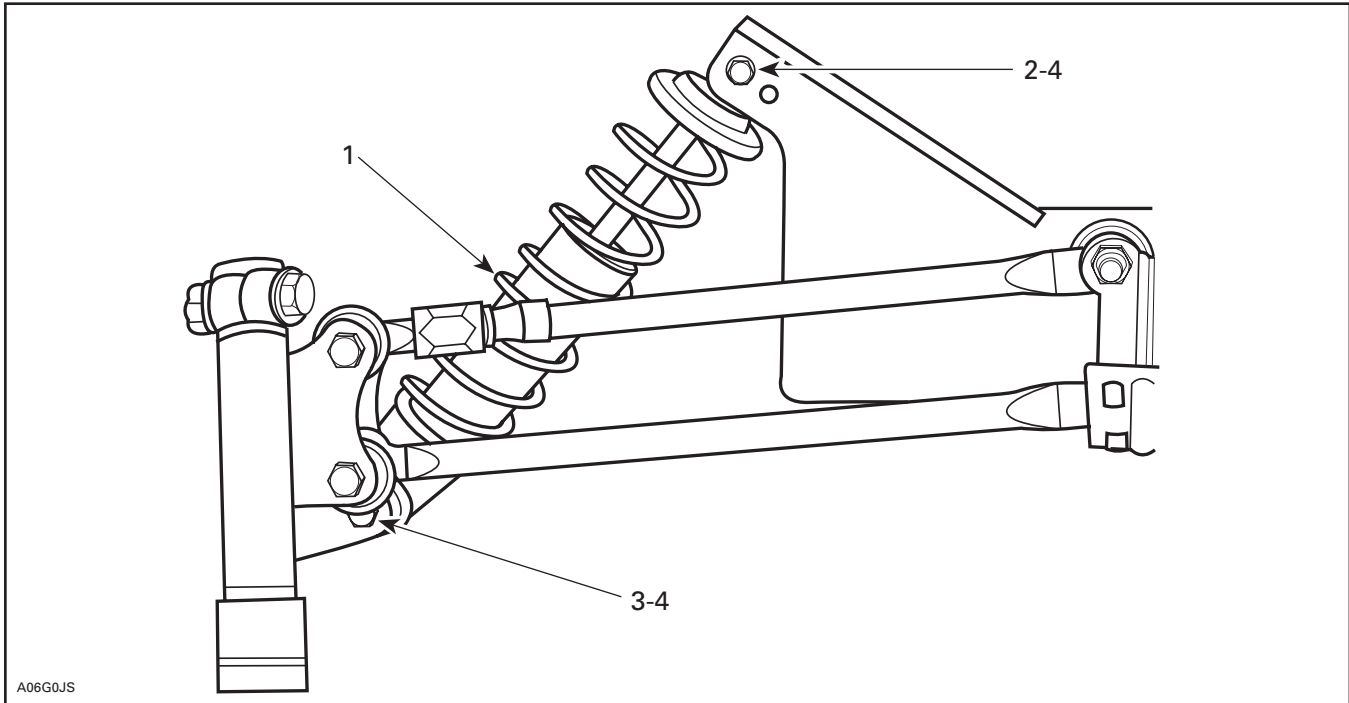
All Models

Lift front of vehicle and block safely.

Remove and discard shipping brackets from suspension. Discard spring clips, keep screws.

Secure shock absorbers to suspension with their adjusting ring at bottom.

NOTE: Position screw heads toward front.

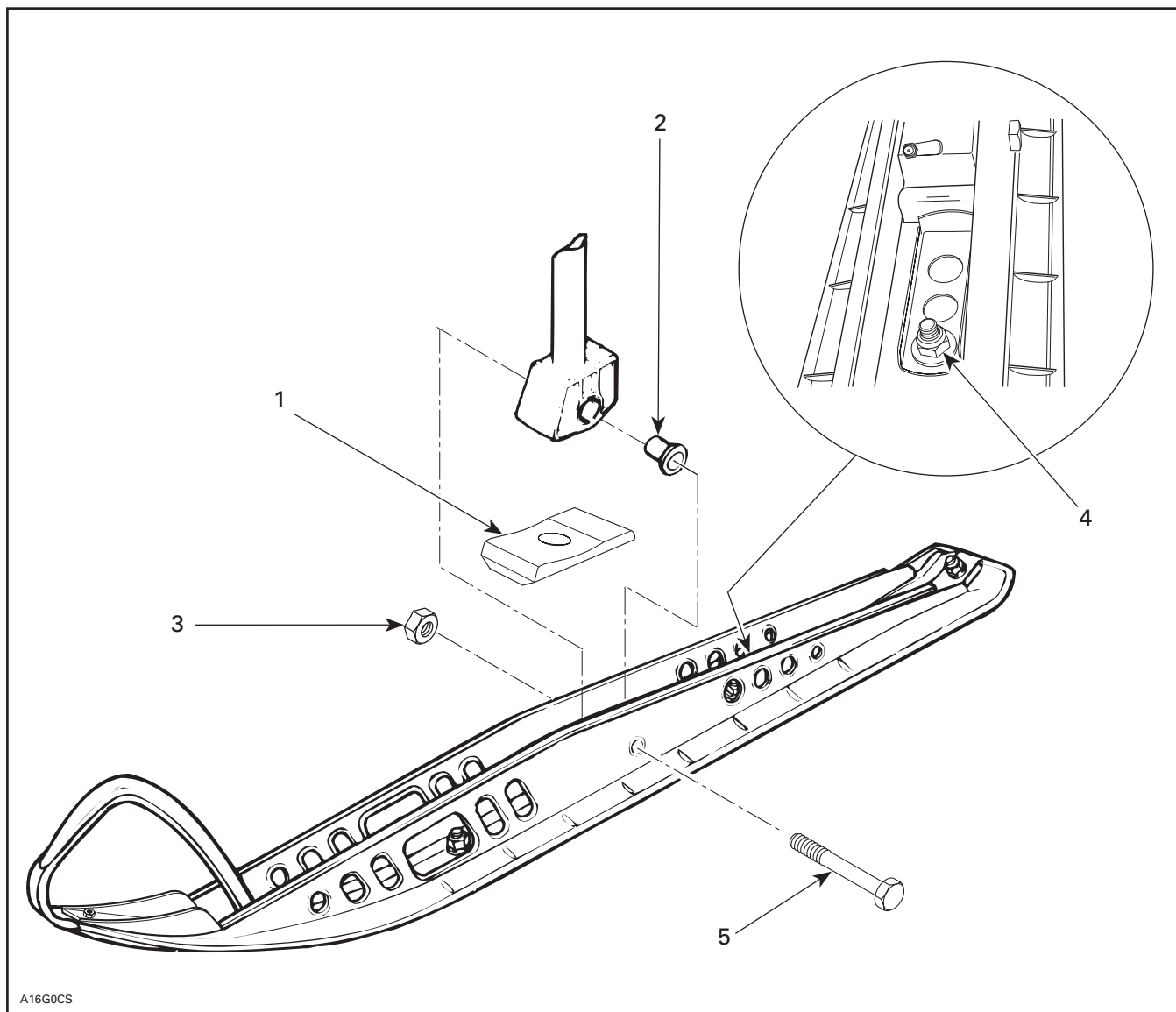


TYPICAL — RH SIDE SHOWN

1. Shock absorber (2) (engine compartment)
2. Screw M10 x 1.5 x 60 (2) (P/N 222 0060 65) (on suspension)
3. Screw M10 x 1.5 x 55 (2) (P/N 222 0055 65) (on suspension)
4. Nut M10 x 1.5 (2) (P/N 228 5010 45) (section no. 3). Torque to 48 N•m (35 lbf•ft)



PARTS INSTALLATION SKIS

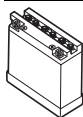


A16G0CS

LEFT SIDE SHOWN

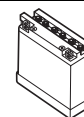
1. Stop bounding (2) (P/N 570 0468 00) (section no. 4)
2. Slider cushion (4) (ski leg)
3. Nut M12 (2) (ski leg). Torque to 40 N•m (30 lbf•ft)
4. Loosen then adjust against stop bounding. Torque to 14 N•m (124 lbf•in)
5. Bolt M12 (2) (ski leg)

After ski installation, adjust stopper against stop bounding then tighten nut to 14 N•m (124 lbf•in). More pre-load on stop bounding will result in a more aggressive steering. Adjust according to driver preferences.



PARTS INSTALLATION

BATTERY



During vehicle preparation, the battery can be activated as described in *Shop Manual*.

▼ CAUTION

Prior to charging the battery, always remove it from the vehicle to prevent electrolyte spillage. Do not charge an installed battery.

Battery Removal

Remove belt guard.

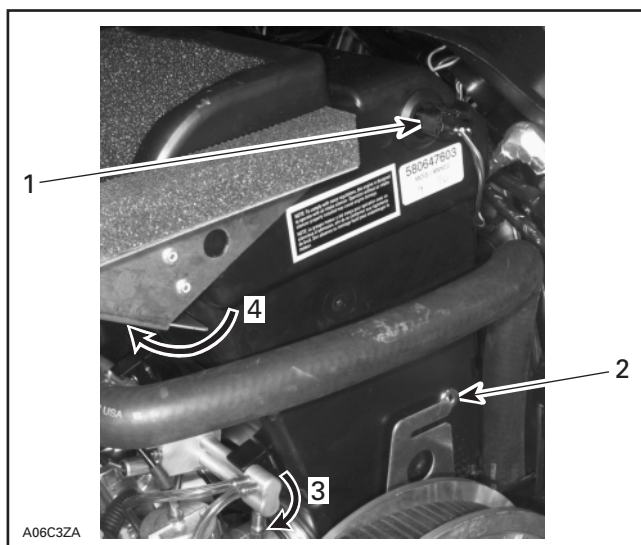
Air Intake Silencers Removal

Unplug air temperature sensor connector from air intake silencer.

Remove screw from left side air intake silencer.

From under air intake heat shield deflector (above carburetors) remove screw retaining left side air intake silencer to right side air intake silencer.

Twist DPM manifold and detach from air intake silencer.

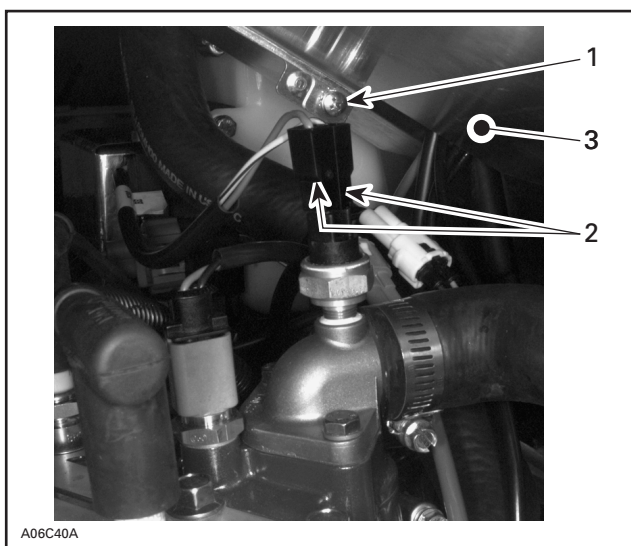


1. Unplug air temperature sensor
2. Remove left side screw
3. Twist DPM manifold and detach
4. Screw to be removed under heat shield deflector of air intake silencer

Remove left side air intake silencer.

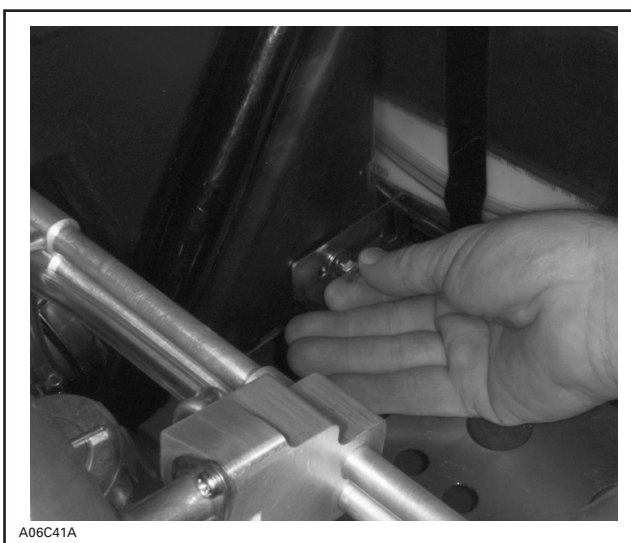
▼ CAUTION

When removing left side air intake silencer, ensure not to damage engine temperature sensor (gauge) connectors, as shown on the next photo.

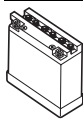


1. Remove screw under heat shield deflector
2. Engine temperature sensor (gauge) connectors
3. Heat shield deflector of air intake silencer

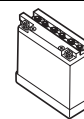
Remove screw retaining right side air intake silencer, as shown on the next photo.



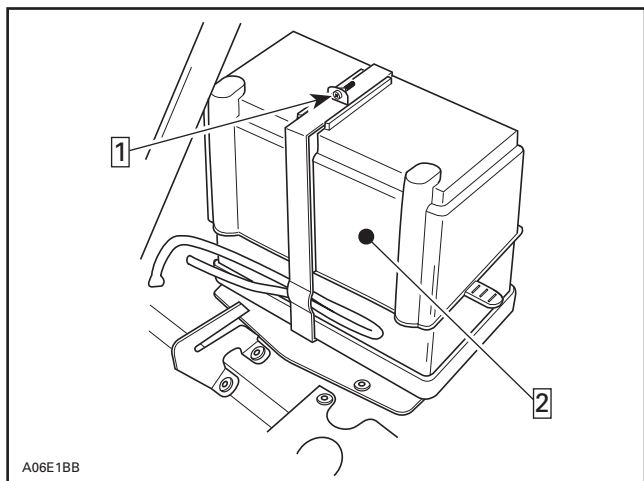
REMOVE SCREW



PARTS INSTALLATION BATTERY



Remove right side air intake silencer.
Unfasten battery retaining strips.
Open strips and lift battery protective boot.

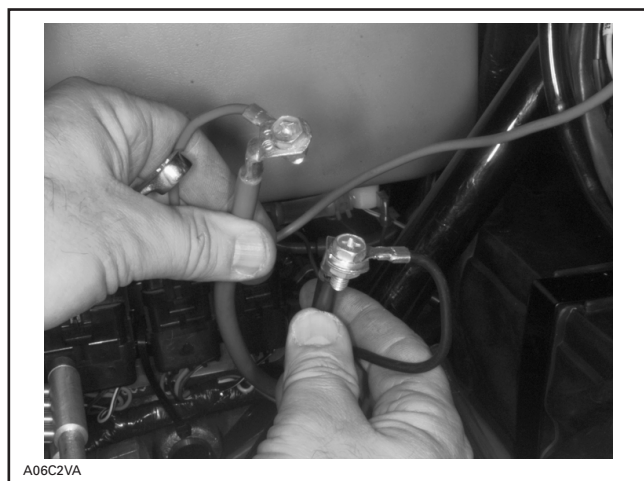


Step **1** : Unfasten and open
Step **2** : Lift protective boot

Withdraw battery from vehicle.

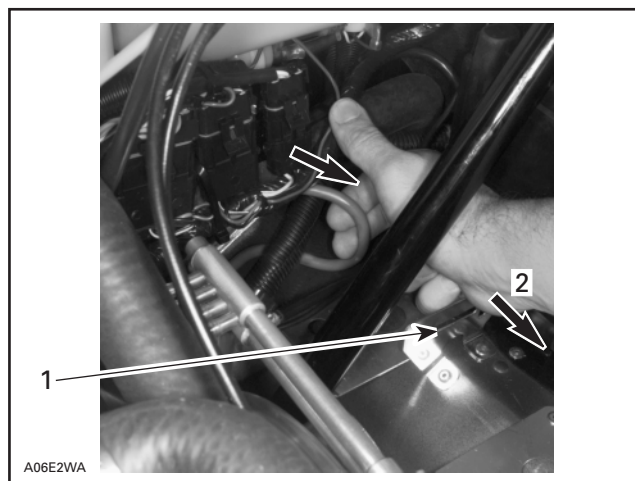
Red Positive Battery Cable Routing

NOTE: Before cable routing, remove screws and nuts from both RED and BLACK cables. **KEEP SCREWS AND NUTS FOR BATTERY CONNECTION.**



REMOVE SCREWS AND NUTS, KEEP THEM FOR BATTERY CONNECTION

Pull out RED positive battery cable and route cable behind air intake silencer support, as shown on the following photo.



PULL OUT RED POSITIVE BATTERY CABLE

1. Air intake silencer support
2. Route RED positive battery cable behind air intake silencer support

Battery Installation

Position battery onto battery support on vehicle.

Ensure that vent tube is properly connected to vehicle fitting on front frame.

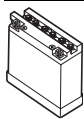
Install vent tube on battery.

NOTE: Ensure that vent tube is not kinked or blocked. Cut vent tube if necessary.

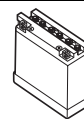
Connect RED positive cable and RED wire to positive battery terminal. Refer to the following photo for proper cable positioning.



RED POSITIVE (+) BATTERY CABLES POSITIONING



PARTS INSTALLATION BATTERY



Connect BLACK negative cable and BLACK wire LAST. Refer to the following photo for proper cable positioning.



BLACK NEGATIVE (-) BATTERY CABLES POSITIONING



WARNING

Always connect the battery cables exactly in the specified order. Connect RED positive cable first, then BLACK negative ground cable.

Apply silicone dielectric grease (P/N 413 7017 00) on battery posts and connectors.

Ensure vent tube is properly installed on battery elbow, then install protective boot over battery.

Close and fasten retaining strips and ensure that RED positive battery cable is routed into front retaining strip recess.

Reinstall air intake silencers.

Reinstall triangular air filter, as shown on the next photo.





PARTS INSTALLATION

STEERING PAD

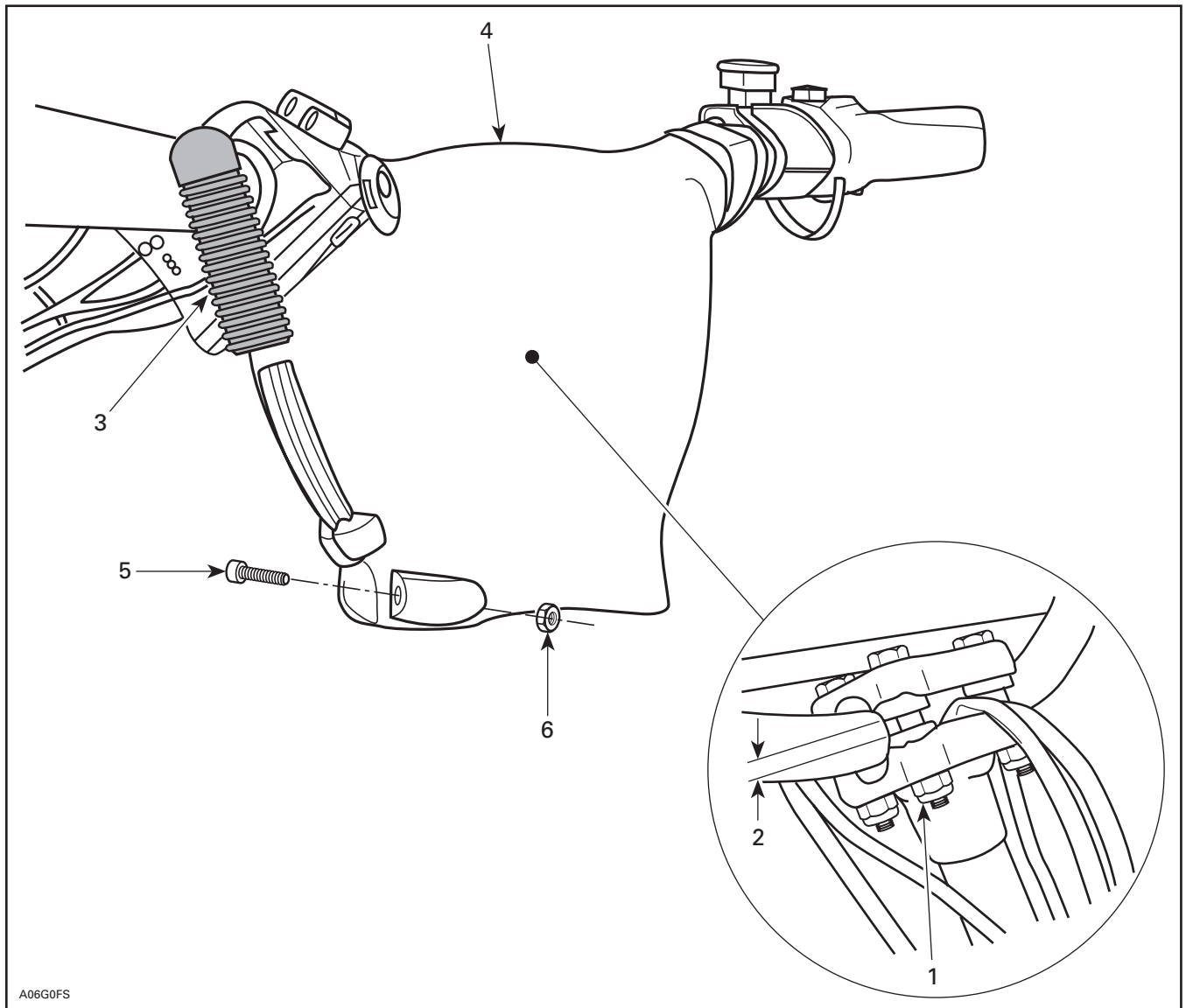


Adjust handlebar temporarily and tighten nuts loosely for now.

Install steering pad temporarily, and adjust for proper fit with console.

Remove steering pad and torque nuts to 26 N•m (19 lbf•ft).

Reinstall steering pad, adjust and tighten throttle and brake handle housings.



A06G0FS

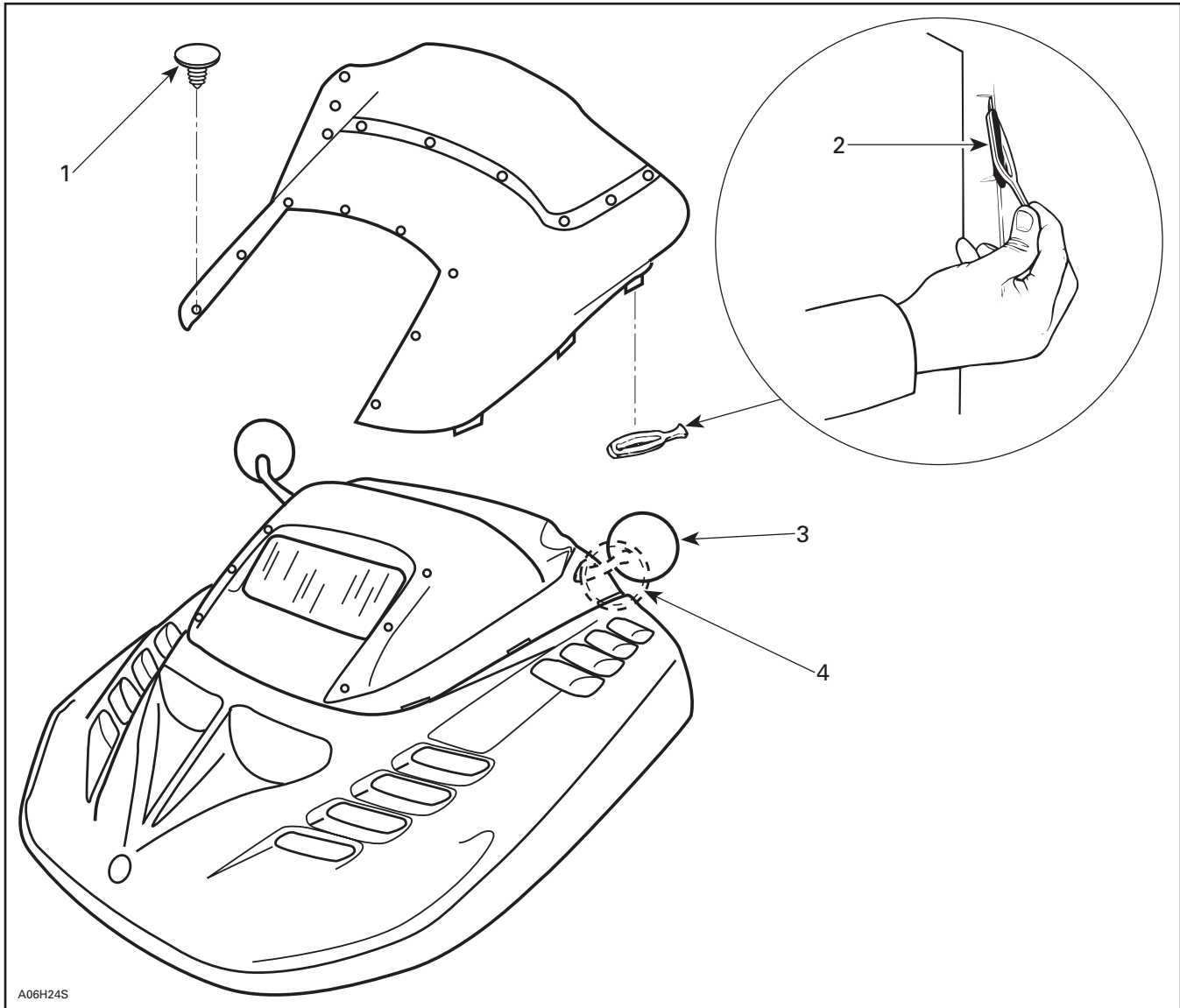
1. Torque to 26 N•m (19 lbf•ft)
2. Equal gap each side (both clamps)
3. Keyway (2) (section no. 3)
4. Steering pad (engine compartment)
5. Screw (2) (P/N 222 8520 65) (section no. 1)
6. Nut (2) (P/N 228 7510 45) (section no. 1) tighten loosely, do not deform rubber



PARTS INSTALLATION WINDSHIELD



Install windshield on dashboard.



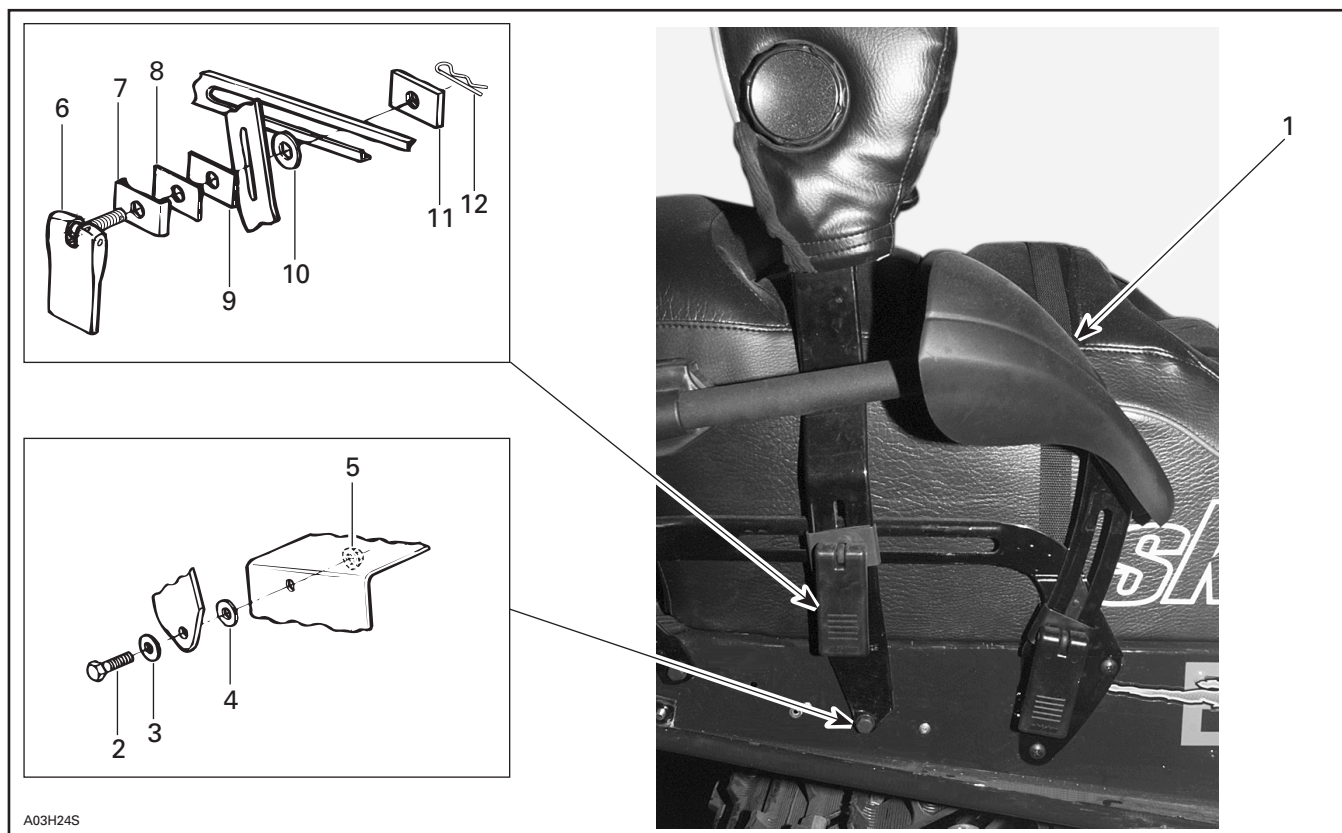
1. Dart (8) (section no. 5)
2. Latch (6) (section no. 5)
3. Normal use position: rotate mirror assy's half turn by hand
4. PDI position



PARTS INSTALLATION BACKREST



Secure backrest frame on tunnel then install lever assembly onto luggage rack rail.
Install hand protectors with rivets onto luggage rack handle.



A03H24S

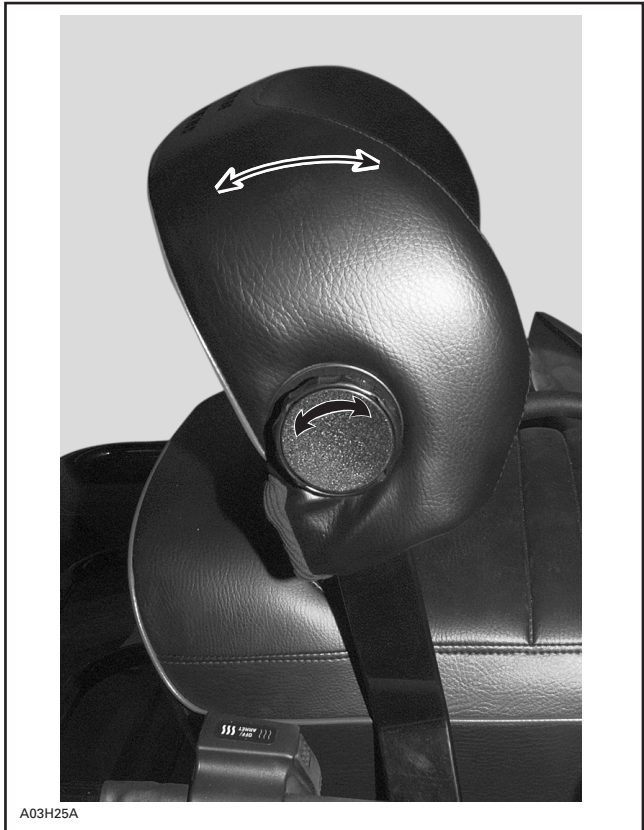
1. Handle protector (2) (seat storage compartment). Secure with rivets
2. Screw (2) (P/N 732 6011 75) (section no. 6)
3. Washer (2) (P/N 732 9000 30) (section no. 6)
4. Plastic washer (2) (P/N 414 8196 00) (section no. 6)
5. Elastic nut (2) (P/N 228 5810 45) (section no. 6). Torque to 8 N•m (73 lbf•in)
6. Lever assembly (2) (P/N 580 6110 00) (section no. 2)
7. Guide (2) (P/N 517 2573 00) (section no. 2)
8. Rubber shim (2) (P/N 570 0274 00) (section no. 6)
9. Spacer (2) (P/N 517 2513 00) (section no. 2)
10. Flanged washer (2) (P/N 414 8195 00) (section no. 6)
11. Threaded plate (2) (P/N 517 2500 00) (section no. 6)
12. Hair pin (2) (P/N 414 1083 00) (section no. 6)



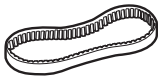
PARTS INSTALLATION BACKREST



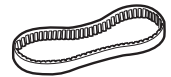
Turn adjustment knob left or right to adjust backrest cushion position.



A03H25A



PARTS INSTALLATION DRIVE BELT



Clean pulleys and disc brake with a suitable cleaner such as Loctite Cleaning Solvent (P/N 413 7082 00) before installing drive belt.



LIQUIDS

OIL INJECTION PUMP BLEEDING

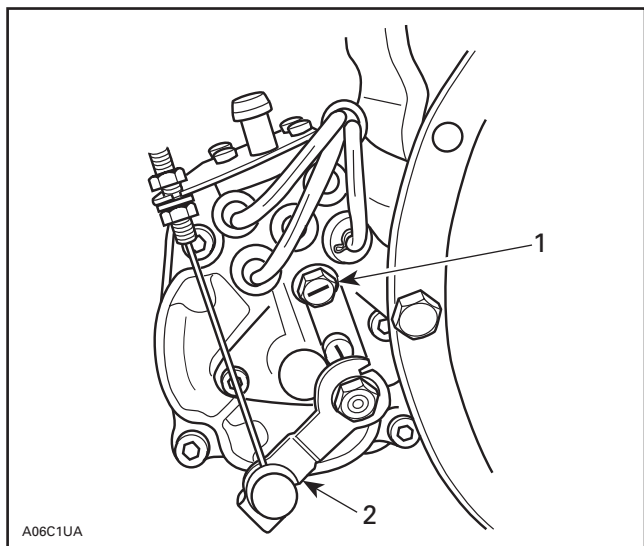


SUPPLEMENTAL OIL

To assure additional protection during the initial engine break-in, 500 mL (18 imp. oz) of BOMBARDIER ROTAX Mineral Injection Oil (P/N 413 8030 00) should be added to fuel for the first full filling of fuel tank. Always remove and clean spark plugs after engine break-in.

BLEEDING PROCEDURE

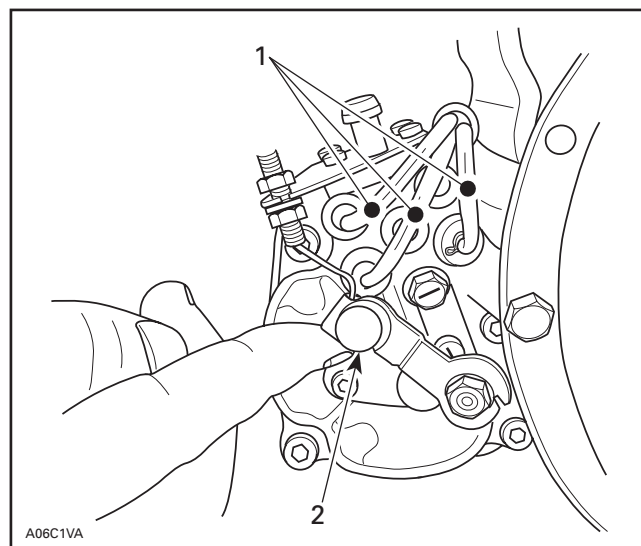
Bleed main oil line (between tank and pump) by loosening the bleeder screw until air has escaped from the line. Add injection oil as required.



1. Bleeder screw
2. Oil pump lever

Bleed the small oil lines between pump and engine crankcase by running engine at idle while holding the pump lever in fully open position.

NOTE: To ease pump lever holding, make a J hook out of mechanical wire to lift the lever.



1. Small oil line
2. Engine at idle (fully open position)



LIQUIDS

BRAKE FLUID LEVEL



Check brake fluid in reservoir for proper level. Add fluid (DOT) as required.

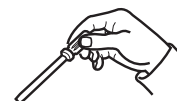


CAUTION

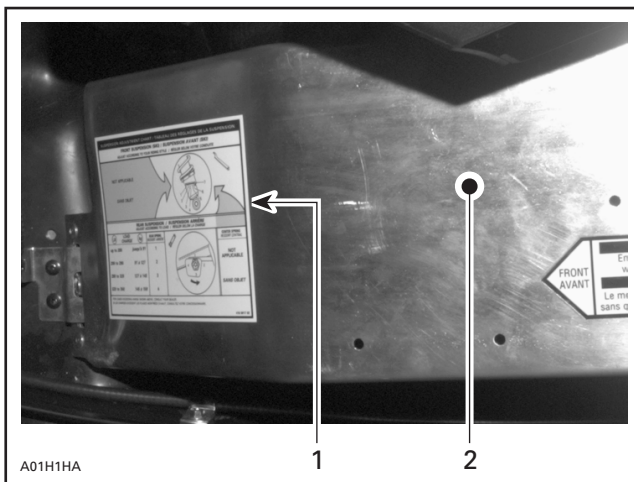
Use only (DOT 4) brake fluid from a sealed container. Do not store or use a partial bottle of brake fluid.



ADJUSTMENTS SUSPENSION



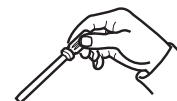
Rear suspension is calibrated at factory. At pre-delivery, mechanics should perform suspension adjustments according to customer riding style and vehicle load as described on suspension adjustment chart which is located on pulley guard.



1. Adjustment chart
2. Pulley guard



ADJUSTMENTS TRACK



Refer to *Shop Manual* to adjust track tension and alignment. See TECHNICAL DATA section at the end of this bulletin.



ADJUSTMENTS DRIVEN PULLEY



It is usual to experience spring settings during break-in period of a new spring. The factory spring preload is slightly higher to compensate for springs settings. Specifications in TECHNICAL DATA are applicable after break-in period (about 10 hours of use).



TECHNICAL DATA



The content of the TECHNICAL DATA pages should be used as necessary to fine-tune and perform additional adjustments required on the snowmobile. Vehicles used at high altitudes, above 600 m (2000 ft) should be fitted with a high altitude kit. Further inquiries should be directed to your distributor service representative.



TECHNICAL DATA



A dot (•) on right indicates changes from 1996 model.

	MODELS	GRAND TOURING SE
	Engine Type	699 •
	Maximum HP RPM ① ±100 RPM	8500 •
	Rotary valve P/N	N.A. •
	Opening (BTDC)/Closing (ATDC)	N.A. •
	Carburetor Type	PTO VM 38 - 372 • CTR VM 38 - 373 • MAG VM 38 - 372 •
	Main Jet	PTO 350 • CTR 350 • MAG 350 •
	Needle Jet	P-7 (480) •
	Pilot Jet	50 •
	Needle Identification — Clip Position	6DEY2 •
	Slide Cutaway	2.5 •
	Float Adjustment ±1 mm (in)	18.1 (.71) •
	Air Screw Adjustment ±1/16 Turn	2-1/4 •
	Idle Speed RPM ±200 RPM	1800 •
	Gas Grade/Octane Number (R + M)/2	Super Unleaded/91 •
	Gas/Oil Ratio	Mineral Oil Injection •
	Ignition Timing BTDC ② mm (in)	2.18 (.086) •
	Trigger Coil Air Gap mm (in)	0.55 - 1.45 (.022 - .057) •
	Gear Ratio Teeth	25/44 •
	Engagement Speed ±100 RPM	3600 •
	Drive Pulley Calibration Screw Position	3 •
	Pulley Distance Z (+0, -1) mm (+0, -1/32) in	16.5 (21/32) •
	Offset X ±0.4 mm (±1/64 in)	35.0 (1-3/8) •
	Y	Dimension Y must exceed X from 1 mm (1/32in) to 2 mm (5/64 in) •
	Drive Belt Adjustment Deflection mm (in)	32 (1-1/4) •
	Force ③ kg (lbf)	11.34 (25) •
	Driven Pulley Preload ±0.7 kg (lbf)	7.0 (15.43) •
	Drive Chain Tension	Fully tighten adjusting screw by hand then back OFF only far enough for hair pin installation •
	Track Adjustment Deflection mm (in)	35 to 40 (1-3/8 to 1-9/16) with a M7.3 kg (16 lb) downward pull •

① Engine speed at which maximum power is achieved

② At 6000 RPM (engine cold) with headlamp turned on

③ Force applied midway between pulleys to obtain specified deflection

BTDC: Before Top Dead Center

ATDC: After Top Dead Center

PTO: Power Take OFF side

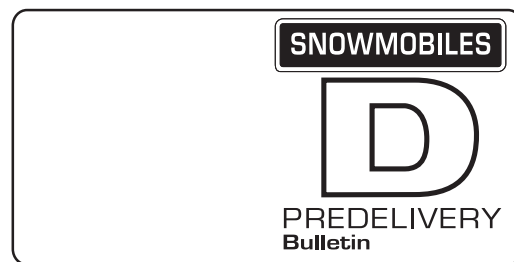
MAG: Magneto side

CTR: Center

N.A.: Not applicable

Please route to :

☐ Service	☐ Init.
☐ Sales	☐
☐ Parts	☐



No. **97-12**

Date: February 6, 1997

SUBJECT: Predelivery Procedures

YEAR	MODEL NAME	MODEL NUMBER	SERIAL NUMBER
1997	SKANDIC* SWT	1301	ALL

This bulletin must be used in conjunction with the check list enclosed in the *Operator's Guide* bag. Make sure that predelivery check list is completed and signed.

Please complete the Predelivery Check List for each snowmobile and return a customer signed copy. Make sure the customer receives the *Operator's Guide*, *Safety Handbook* and *video*.

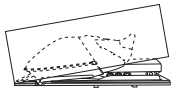
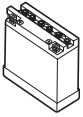
 WARNING
To obtain warranty coverage, predelivery procedures must be performed by an authorized Bombardier snowmobile dealer. Apply all necessary torques as indicated.

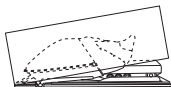
NOTE: The information and components/system descriptions in this document are correct at the time of publication. Bombardier Inc. however, maintains a policy of continuous improvement of its products without imposing upon itself any obligation to install them on products previously manufactured. Due to late changes, it may have some differences between the manufactured product and the descriptions and/or specifications in this document. Bombardier Inc. reserves the right at any time to discontinue or change specifications, designs, features, models or equipment without incurring obligation.

The illustrations in this document show the typical construction of the different assemblies and may not reproduce the full detail or exact shape of the parts. However, they represent parts that have the same or similar function.

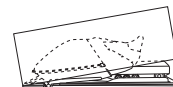
The contents of this bulletin is designed as a guideline only. All mechanics performing predelivery procedures should have attended the current model year service training. Further information or inquires should be directed to your distributor service representative or specific *Shop Manual* sections.

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	PARTS INSTALLATION 5 BATTERY		PARTS INSTALLATION 13 WIRE CUTTER
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	PARTS INSTALLATION 7 FRONT SUSPENSION		LIQUIDS 15 OIL INJECTION PUMP BLEEDING
	PARTS INSTALLATION 8 SKIS		LIQUIDS 15 BRAKE FLUID LEVEL
	PARTS INSTALLATION 10 STEERING PAD		ADJUSTMENT 16 TRACK
	PARTS INSTALLATION 11 WINDSHIELD		TECHNICAL DATA 16



UNCRATING



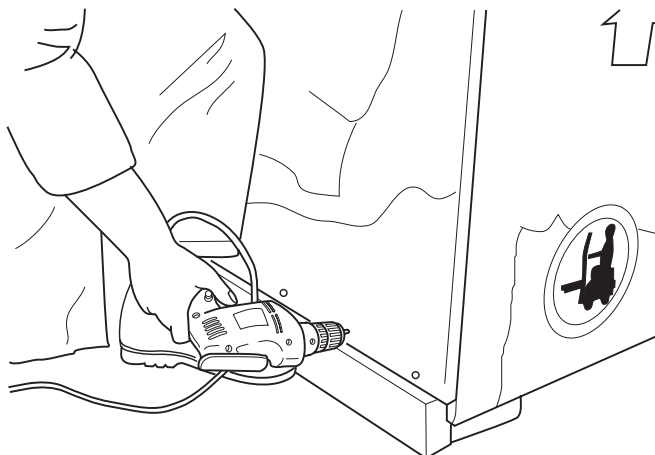
◆ WARNING

Torque wrench tightening specifications must be strictly adhere to. Locking devices (e.g. lock tabs, nylon stop nuts) must be installed or replaced by new one, where specified. If the efficiency of a locking device is impaired, it must be renewed.

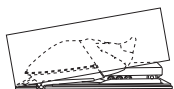
▼ CAUTION

Allowing the crate to drop may cause serious damage to the vehicle.

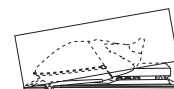
Using a screwdriver, remove all screws retaining crate to base.



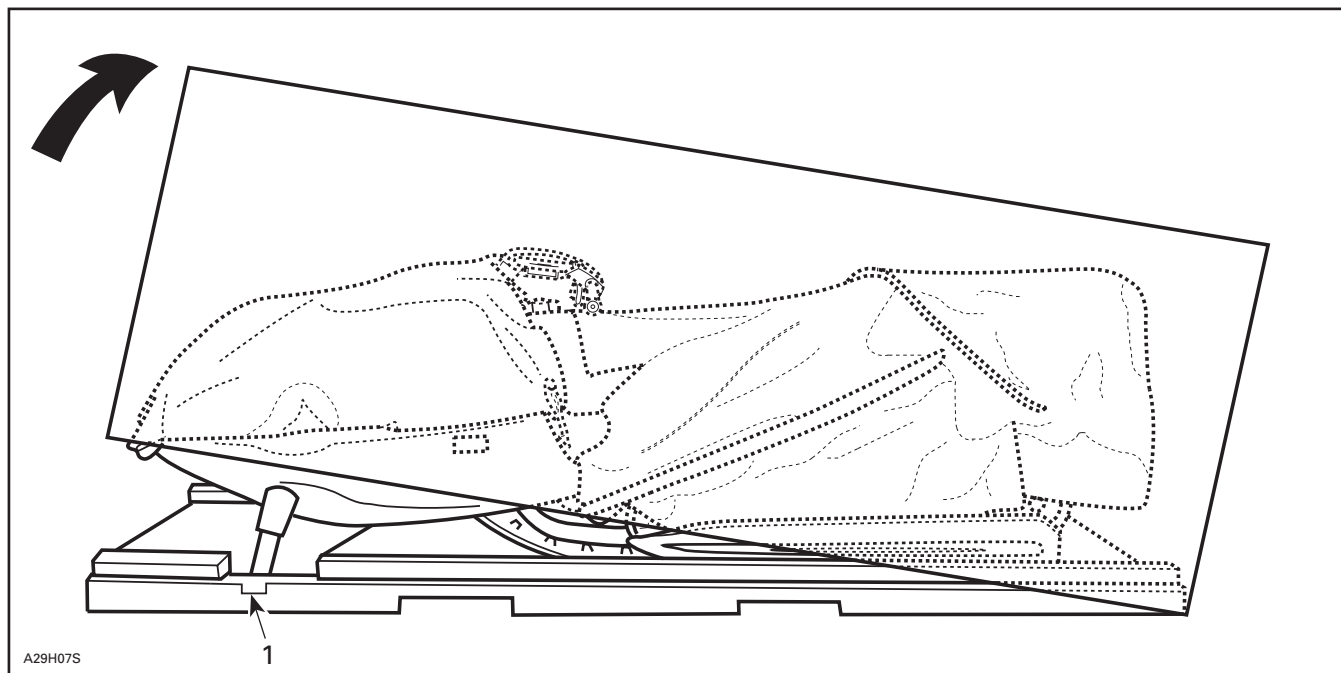
F02P04S



UNCRATING



Tip cover towards rear of vehicle. There is a notch in crate base at front.



1. Notch

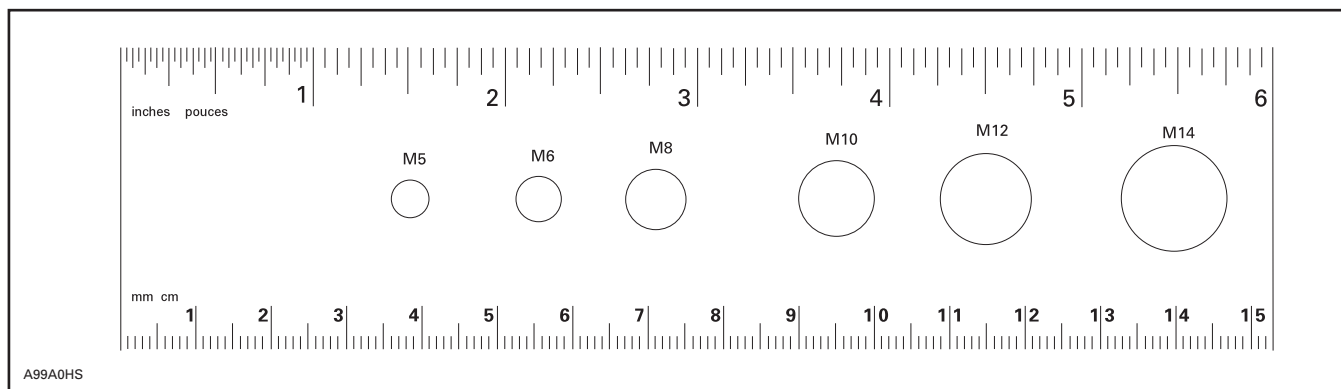
Detach parts to be installed (e.g. skis, windshield), from the vehicle and its base.

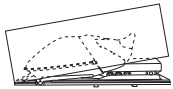
▼ CAUTION

Make sure vehicle is properly supported before removing ski legs and rear suspension from crate brackets.

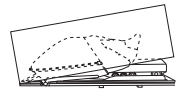
Remove predelivery kit and parts to be installed from under seat compartment.

NOTE: This rule can be helpful to identify fastener length/size.





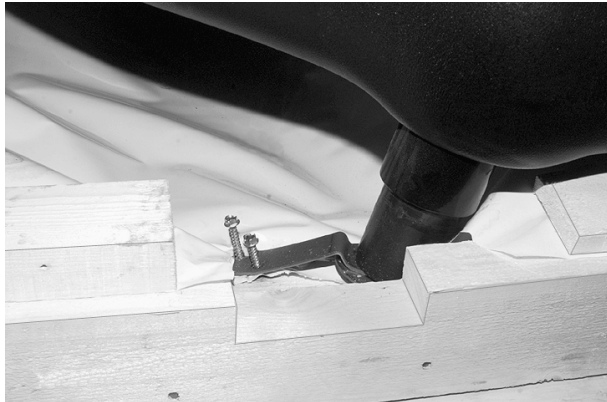
UNCRATING



▼ CAUTION

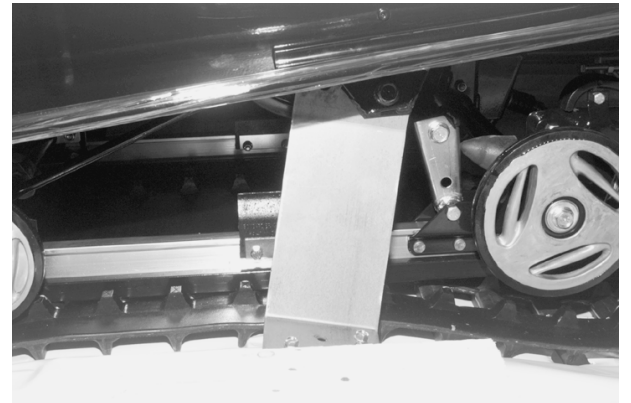
Make sure vehicle is properly supported.

Detach ski legs from crate. Discard nuts and bolts.



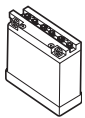
A29G0AA

Remove the rear retaining brackets from both sides of vehicle and retain bolts holding brackets to body.

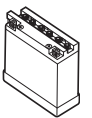


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Remove vehicle from base.



PARTS INSTALLATION BATTERY

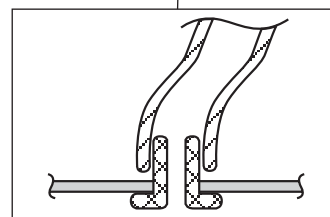
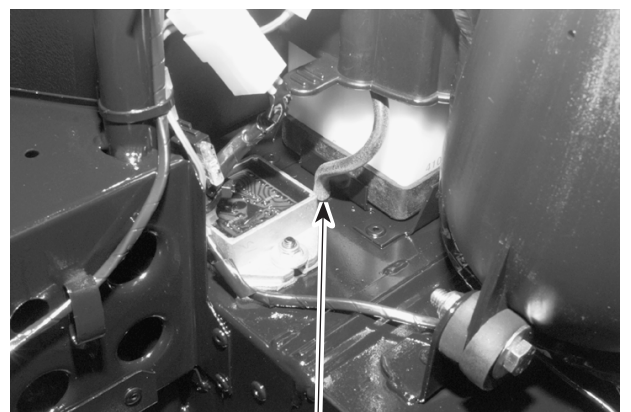


During preparation, the battery can be activated as described in 1997 *Ski-Doo Shop Manual*.

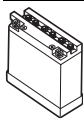
▼ CAUTION

Prior to charging, always remove the battery from the vehicle to prevent electrolyte spillage.

NOTE: A special vented rivet is fixed to the chassis in order to plug the vent tube from the battery.

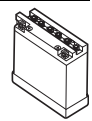


A29E0FA



PARTS INSTALLATION

BATTERY



Battery Removal

Remove battery bracket and remove battery from vehicle.



Battery Installation

Install battery in vehicle.

Connect battery cables.

◆ WARNING

Always connect the battery cables exactly in the specified order. Connect RED positive cable first, then BLACK negative ground cable.

Apply silicone dielectric grease (P/N 413 7017 00) on battery posts and connectors.

Install battery cover.

Secure battery with bracket and tighten wing screw.

Ensure vent tube is properly installed from battery to the plug provided on the frame.



PARTS INSTALLATION

REAR SUSPENSION

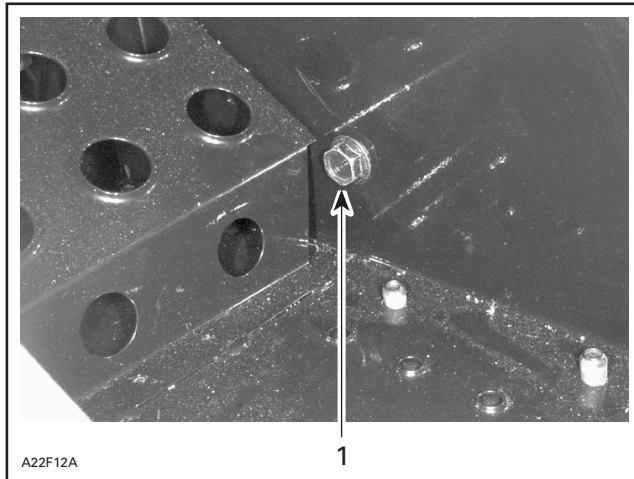


Secure front arm upper axle of rear suspension using 2 M10 x 30 screws in plastic bag under the seat.

Apply Loctite 242 on threads and torque screws to 58 N•m (43 lbf•ft).

Secure rear arm using previously removed screws.

Apply Loctite 242 on threads and torque screws to 58 N•m (43 lbf•ft).



1. Torque screw on each side to 58 N•m (43 lbf•ft)

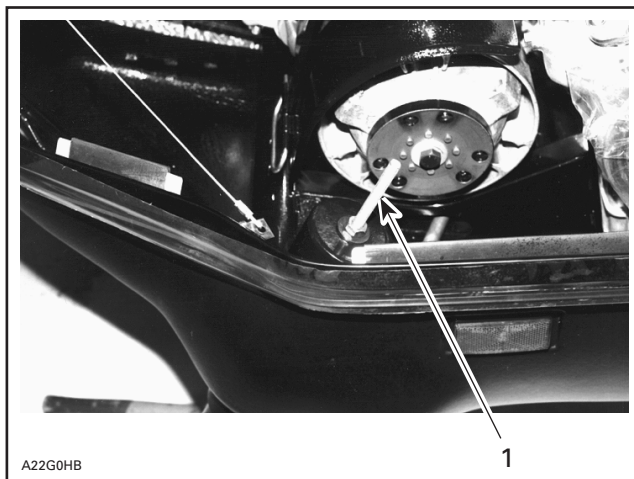


PARTS INSTALLATION

FRONT SUSPENSION



Remove long bolts that compresses front suspension on both sides.



1. Remove and discard long bolt

Install 2 plastic bushings into shock absorber eyelet.

Stretch shock to its maximum.

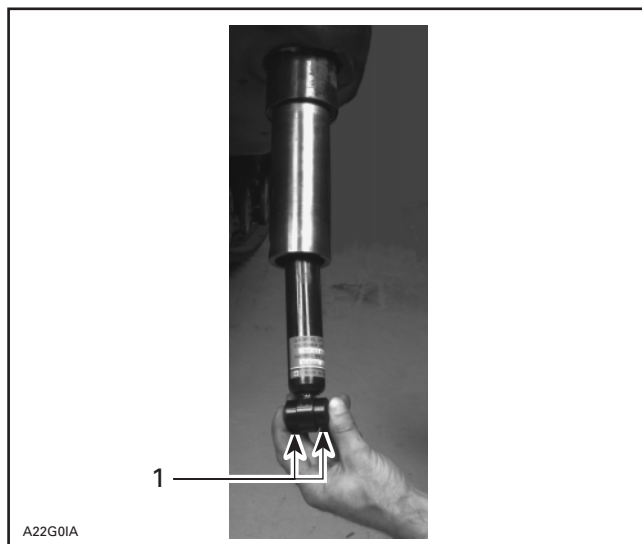
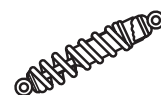
Slide shock absorber onto bottom of ski leg until shock rod goes through cap hole.

Loosely install washer and nut on shock rods, keeping at least 1/4 in (5 mm) of free play.



PARTS INSTALLATION

FRONT SUSPENSION



1. Plastic bushings

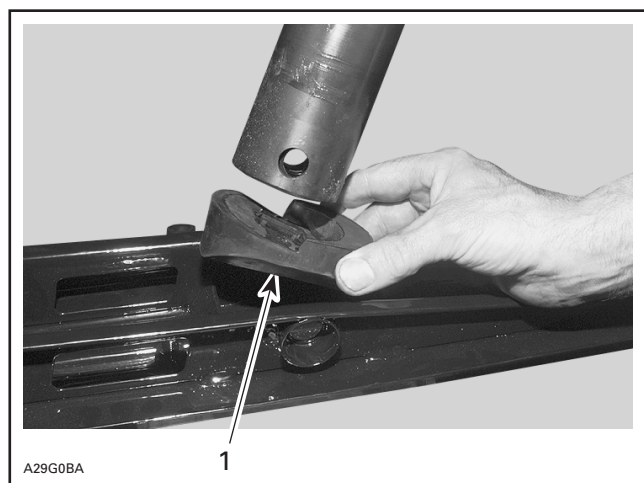


PARTS INSTALLATION

SKIS



Install stop bounding on skis with its highest portion toward front.

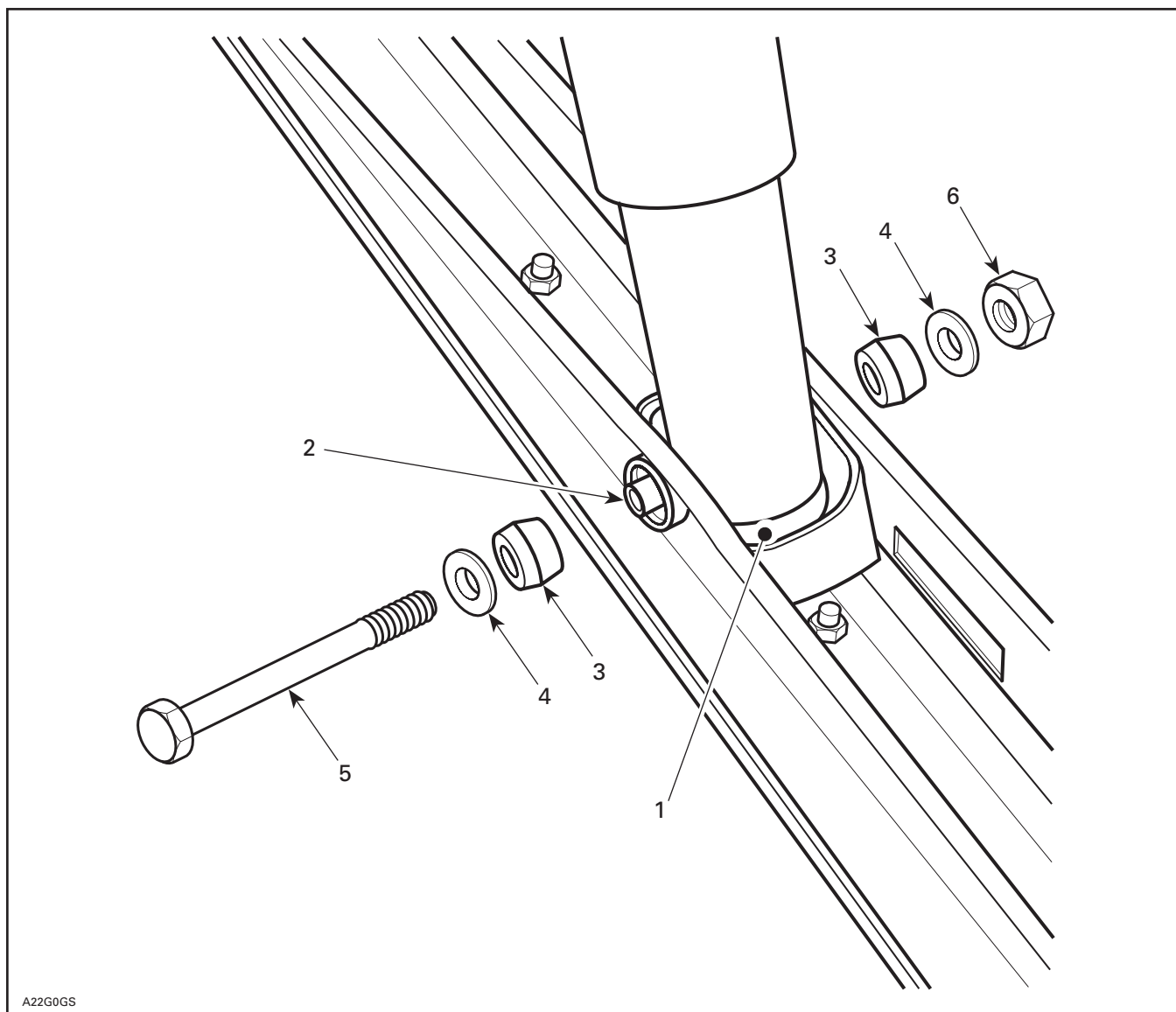


1. Stop bounding

Instal skis on vehicle using bolts, nuts, washers and rubber bushings supplied in the predelivery kit.



PARTS INSTALLATION SKIS



A22G0GS

1. Stop bounding
2. Sleeve
3. Rubber bushing (2)
4. Flat washer (2)
5. Bolt M10 x 120
6. M10 lock nut, tighten to 48 N•m (35 lbf•ft)

Tighten shock rod top nuts to 30 N•m (22 lbf•ft).



PARTS INSTALLATION

STEERING PAD



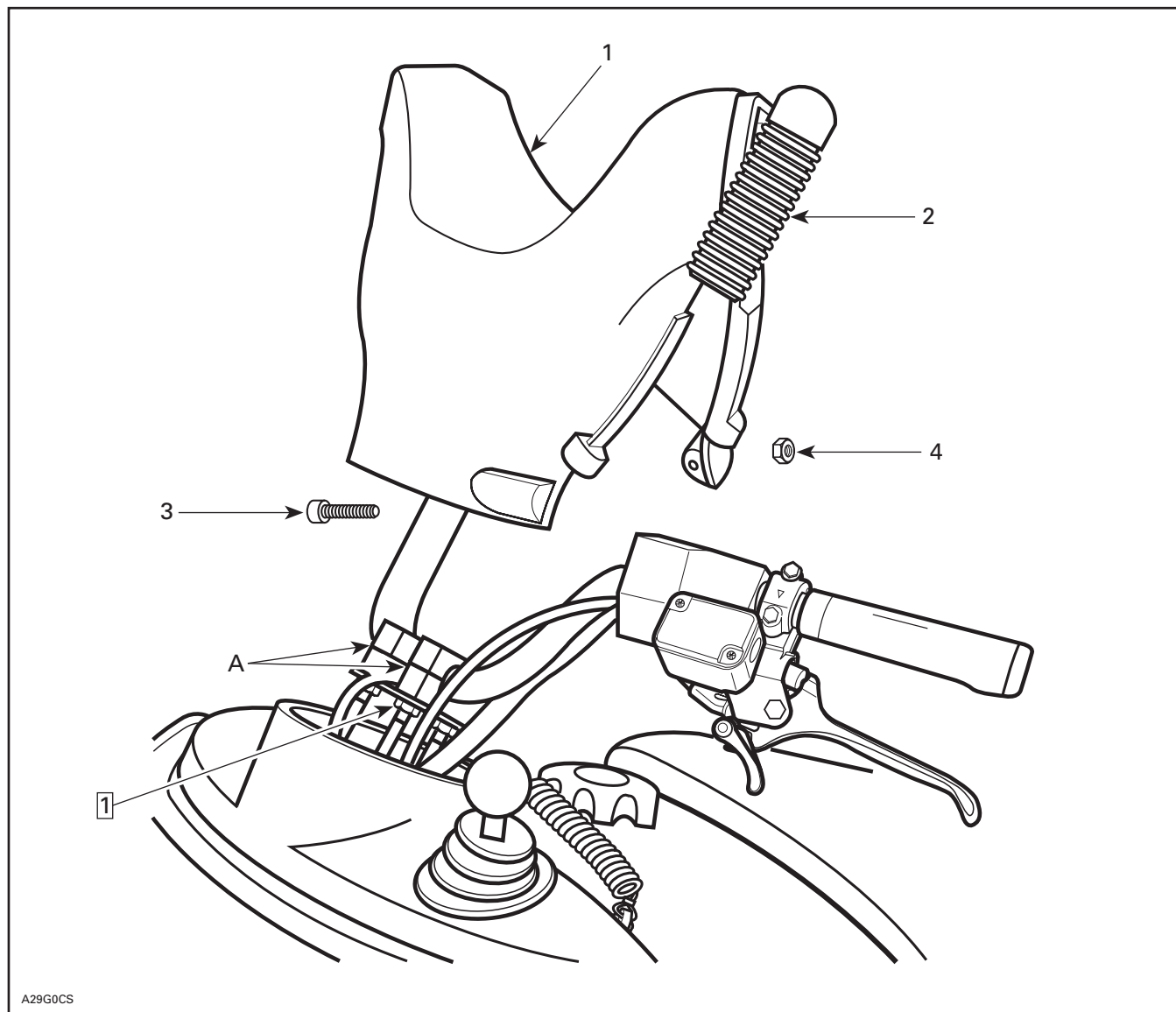
Adjust handle bar and set both clamps to have equal gap on each side. Torque nuts to 26 N•m (19 lbf•ft).

Loosen throttle and brake handle housings.

Install steering pad.

Secure steering column cover with steering pad before tightening bolts.

Adjust both throttle and brake handle housings to match steering pad.



A29G0CS

TYPICAL

Step 1 : Torque to 26 N•m (19 lbf•ft)

1. Steering pad

2. Keyway. Use liquid soap to ease installation

3. Screw M5 x 0.80 x 20 (2)

4. Nut M5 x 0.80 x 20 (2). Seat tighten only, no deformation of rubber

A. Equal gap on each side (both clamps)

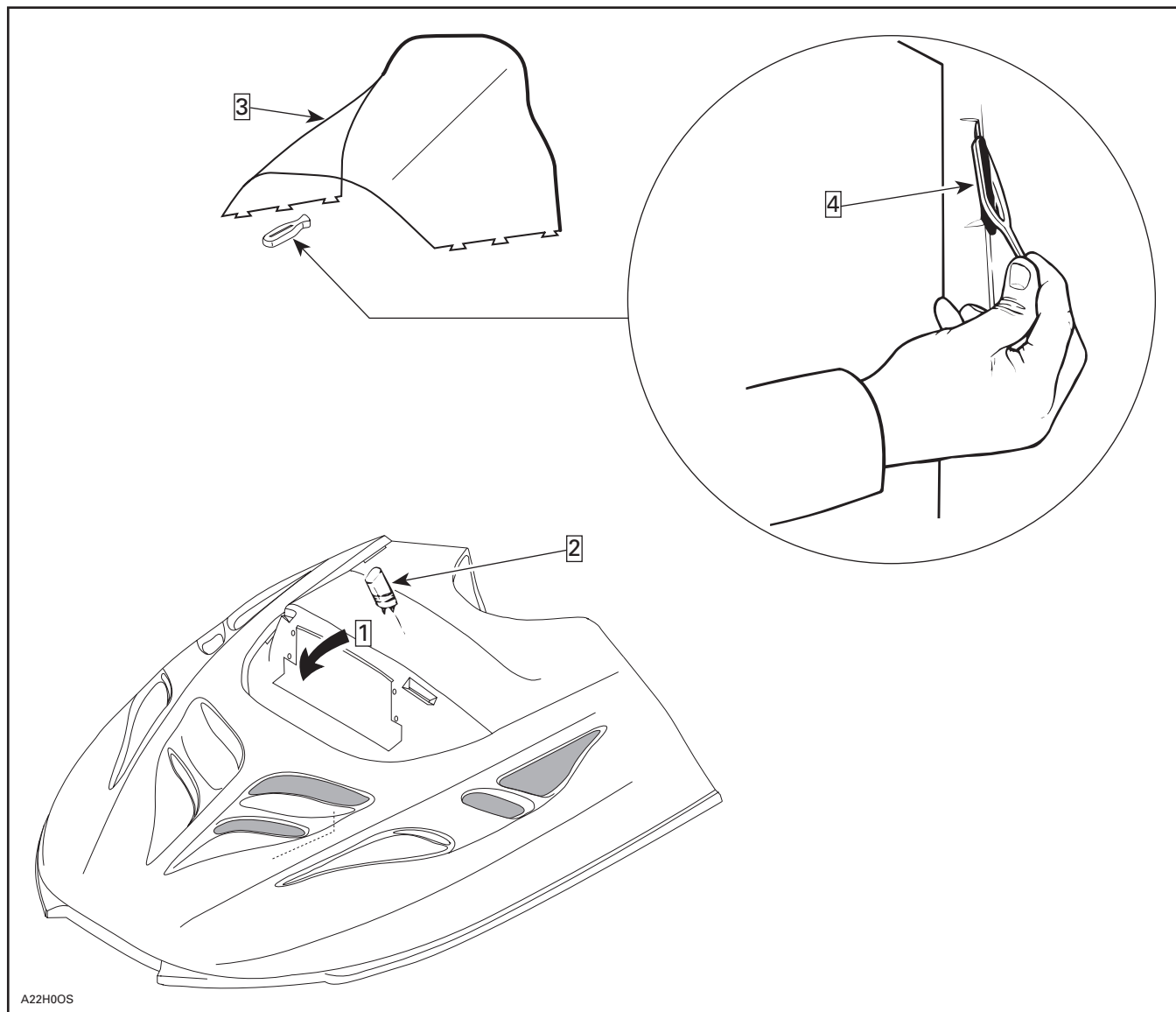


PARTS INSTALLATION WINDSHIELD



Remove headlamp molding.

Install rubber support in predrilled holes on the hood.



Step **1** : Pry out headlamp molding

Step **2** : Install support. Apply soap on tips to ease installation

Step **3** : Install windshield

Step **4** : Install latches (10)



PARTS INSTALLATION WINDSHIELD



Install windshield and secure with latches inside hood.

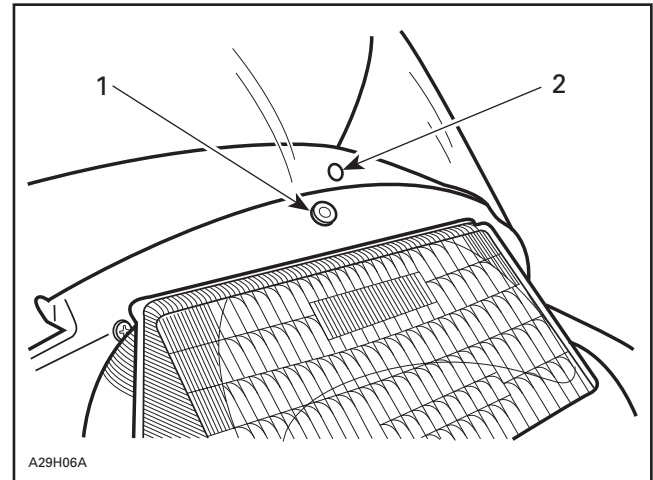
Install rubber expansion nut in hole above head light.

Line up hole in windshield with rubber expansion nut and install screw with cup.

Tighten slightly so that rubber expands inside hood.

Install rubber cap on screw and reinstall headlamp molding.

Make sure to properly position lower edge of plastic molding under head lamp.



1. Rubber expansion nut
2. Hole in windshield

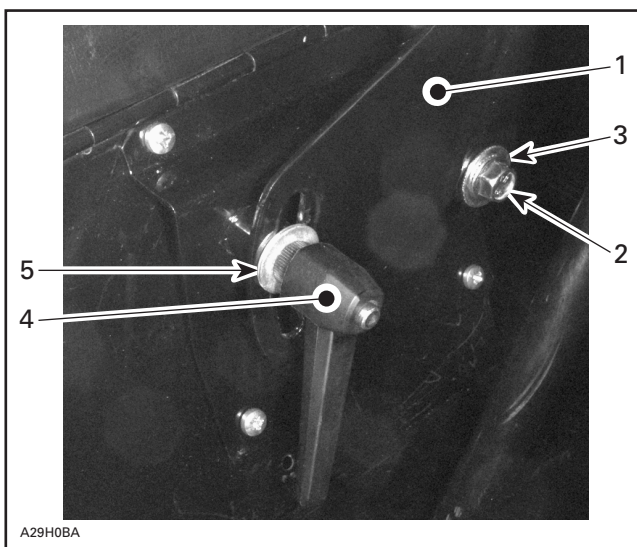


PARTS INSTALLATION BACKREST



Install backrest on vehicle and secure with screws, adjustment screws and washers. Refer to the following photo for proper positioning.

Adjust backrest and tighten. Refer to the last photo.



TYPICAL — LEFT SIDE SHOWN

1. Backrest frame
2. Screw M8
3. Washer
4. Adjustment screw
5. Washer



TYPICAL — BACKREST PROPERLY INSTALLED

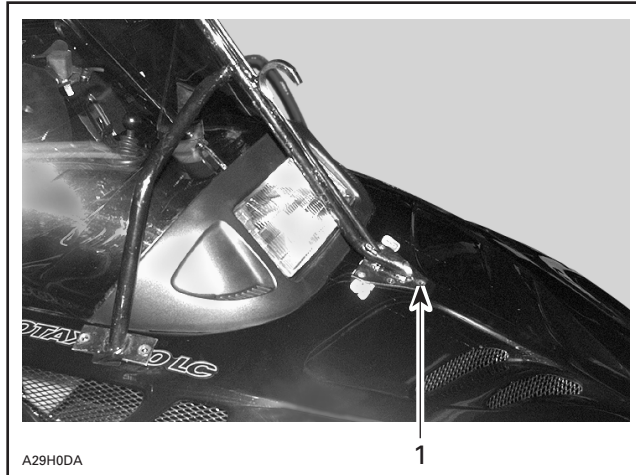


PARTS INSTALLATION

WIRE CUTTER

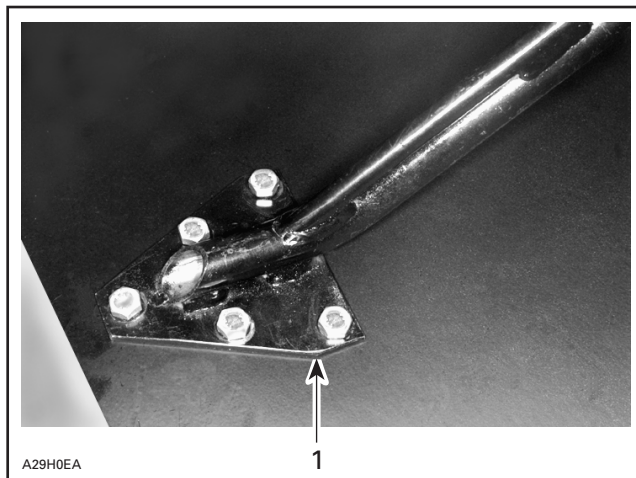


Position wire cutter on the hood.



1. Install M8 bolt in predrilled hole

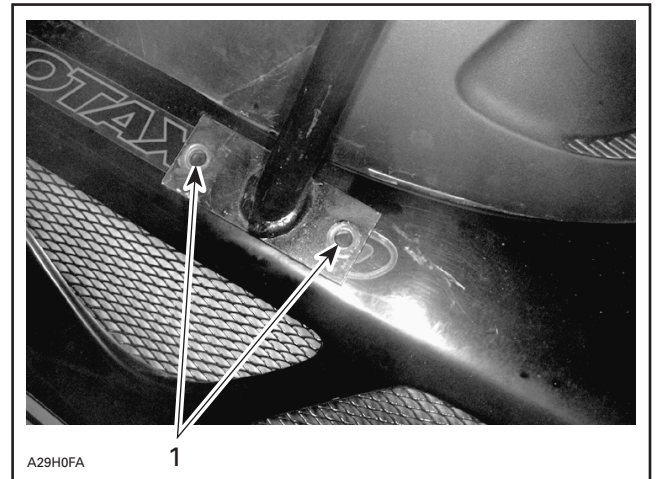
Line up the center hole of the center support plate with hole already drilled in hood and install bolt M8 x 20.



1. Center plate

Position side support plates to have equal distance from windshield on each side of hood.

Using holes in support plates as a template, drill 8 mm (5/16 in) holes through hood and install bolts M8 x 20.



1. Drill 8 mm (5/16 in) holes

Open hood.

From inside hood, install washers and lock nuts to secure side support plates.

Install backing support and secure with washers and lock nuts.

Torque to 20 N•m (15 lbf•ft).

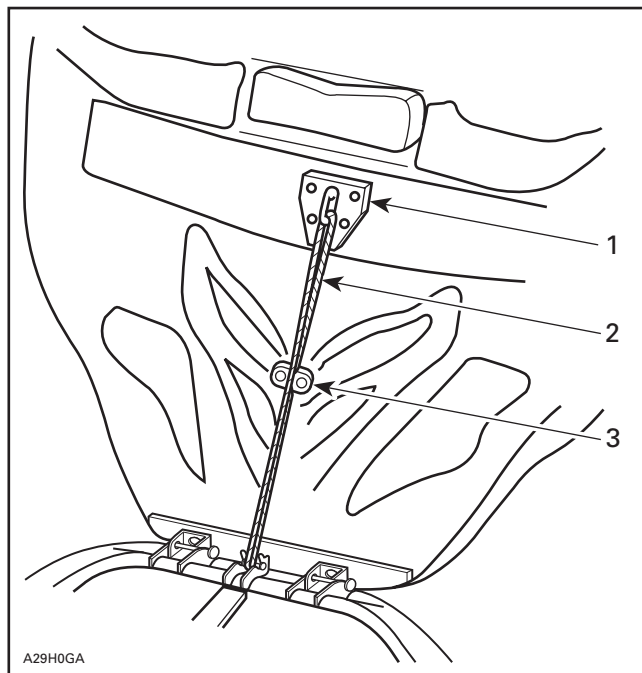
Install cable and cable lock.

Adjust cable tight with hood in fully open position and secure with cable lock.

Torque bolts on cable lock to 11 N•m (84 lbf•in).

PARTS INSTALLATION

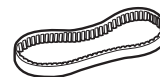
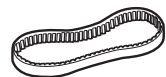
WIRE CUTTER



1. Backing support
2. Cable
3. Cable lock

PARTS INSTALLATION

DRIVE BELT



Clean pulleys and disk brake with a suitable cleaner such as Loctite Cleaning Solvent (P/N 413 7082 00) before installing drive belt.



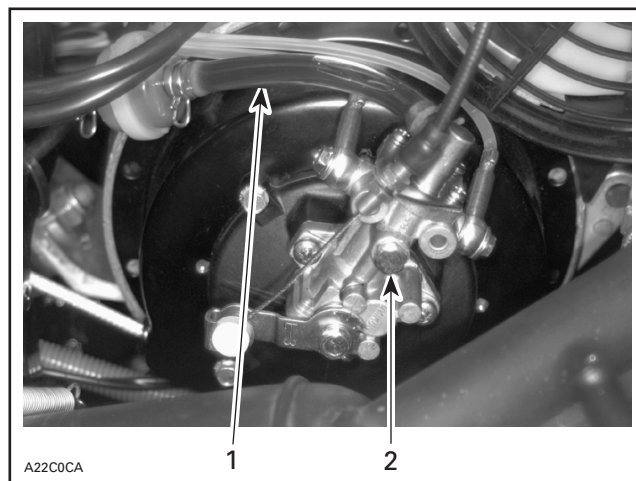
LIQUIDS

OIL INJECTION PUMP BLEEDING



To assure additional protection during the initial engine break-in, 500 ml (18 imp. oz) of BOMBARDIER ROTAX injection oil (P/N 413 8029 00) should be added to fuel for the first full filling of fuel tank.

Bleed main oil line (between tank and pump) by loosening the bleeder screw until all air has escaped from the line. Add injection oil as required.



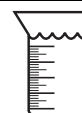
1. No air in main line
2. Bleeder screw

Bleed the small oil lines between pump and intake manifold by running engine at idle while holding the pump lever in fully open position.



LIQUIDS

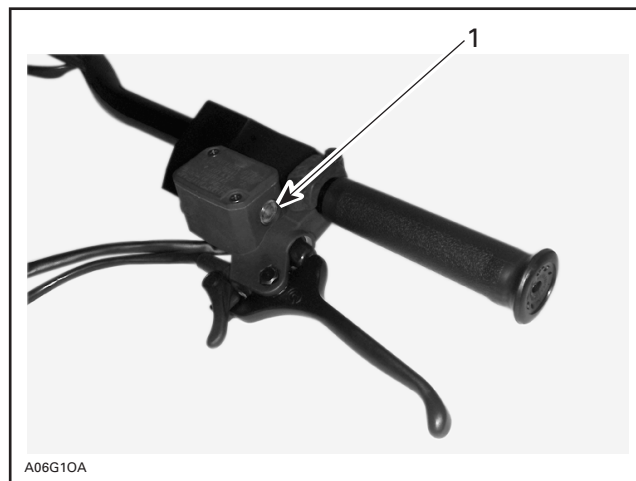
BRAKE FLUID LEVEL



Check brake fluid in reservoir for proper level.
Add recommended brake fluid as required.

▼ CAUTION

Use only (DOT 4) brake fluid from a sealed container. Do not store or use a partial bottle of brake fluid.



1. Fluid level window



ADJUSTMENT TRACK



Refer to *Shop Manual* to adjust track tension and alignment. See TECHNICAL DATA section at the end of this bulletin.



TECHNICAL DATA



The content of the TECHNICAL DATA pages should be used as necessary to fine-tune and perform additional adjustments required on the snowmobile. Vehicle used at high altitudes, above 600 m (2000 ft.) should be fitted with a high altitude kit (P/N 861 7581 00). Further inquiries should be directed to your distributor service representative.



TECHNICAL DATA



	MODEL	SKANDIC SWT
	Engine Type	ROTAX 503
	Maximum HP RPM ① ±100 RPM	6500
	Rotary Valve P/N	N.A.
	Carburetor Type	VM 32
	Main Jet	230
	Needle Jet	159 O-0
	Pilot Jet	25
	Needle Identification — Clip Position	6DH8-4
	Slide Cutaway	3.0
	Float Adjustment mm (in)	23.9 (.94)
	Air Screw Adjustment ±1/32 turn	1.5
	Idle Speed RPM	1650
	Gas Grade/Pump Octane Number (R + M)/2	Regular Unleaded/87
	Gas/Oil Ratio	Oil Injection
	Ignition Timing BTDC ② mm (in)	1.66 (.065)
	Trigger Coil Air Gap mm (in)	0.45 - 0.55 (.018 - .022)
	Gear Ratio	1st Gear 1:4.41 2nd Gear 1:3.19
	Engagement Speed ±100 RPM	2900
	Drive Pulley Calibration Screw Position	4
	Pulley Distance Z (+0, -1) mm (+0, -1/32) in	32.75 (1-9/32)
	Offset X ± 0.4 mm (± 1/64 in)	36.25 (1-27/64)
	Offset Y	Dimension Y must exceed X from 1 mm (1/32 in) to 2 mm (5/64)
	Drive Belt Adjustment Deflection mm (in)	32 (1-1/4)
	Force ③ kg (lbf)	11.34 (25)
	Driven Pulley Preload kg (lbf)	13.23
	Drive Chain Tension	N.A.
	Track Adjustment Deflection mm (in)	40 to 45 (1.5 to 1.7)
	Force Kg (lbf)	7.3 (16.1)
	Carrying Capacity (Passenger + Luggage)	1 Passenger + 125 kg or 2 Passengers + 50 kg
	Towing Capacity (on ice or snow)	200 kg

① Engine speed at which maximum power is achieved.

② At 6000 RPM (engine cold) with headlamp turned on.

③ Force applied midway between pulleys to obtain specified deflection.