



BOMBARDIER

RECREATIONAL PRODUCTS

MODEL NAME

SERIAL NUMBER

PREDELIVERY CHECK LIST

THIS CHECK LIST MUST BE USED IN CONJUNCTION WITH THE PREDELIVERY BULLETIN OF THE APPLICABLE SNOWMOBILE.

NOTE: Some items only apply to certain vehicles. For specific items refer to appropriate *Predelivery Bulletin*.

PARTS TO BE INSTALLED	~
Battery	
Steering pad/cover	
Skis	
Bumper, front/rear (w/molding)	
Front/rear suspension components	
Backrest	
Drive belt	
Windshield	
Snow guard	
Other	

OPTIONS/ACCESSORIES	✓
High/low altitude kit	
Other	

LIQUIDS	 Image: A start of the start of
Brake fluid	
Battery electrolyte	
Fuel	
Injection oil (fill and bleed)	
Coolant	
Chaincase/gearbox oil	
Grease/lubricant	

ADJUSTMENTS	>
Handlebar	
Ski toe-out/camber	
Track tension/alignment	
Chain deflection	
Driven pulley preload	
Carburetor(s)	
Front and rear suspensions	
Other	

GENERAL INSTRUCTIONS

	1
FINAL INSPECTION	✓
Inspect movement and operation of:	
Throttle/brake lever/parking brake	
Ignition/emergency stop/ tether cut-out switches	
Headlamp/taillight/brake light	
Dimmer switch/pilot lamps	
Accessories	
Test run snowmobile.	
Clean and polish snowmobile.	
AT SALE, EXPLAIN TO OWNER	1
The <i>Operator Guide, Video, Safety Handbook</i> and warranty and give same to customer.	
	✓
Complete and return warranty registration signed by owner.	

NOTE: File this document in vehicle file. Give a copy to owner.

PREPARED BY:	DATE month	day	year
DEALER NO.:			
INSPECTED BY:	DATE	day	year
DEALER SIGNATURE:			
×			

The dealer named on this docun me on the operation, maintenan and warranty policy, all of which also satisfied with the prede inspection of my snowmobile.	nent has instructed ce, safety features I understand. I am livery set-up and
OWNER SIGNATURE: DATE:	
×	month day year

PRINT:



No. 2000-4

Date: July 23, 1999

SUBJECT: Predelivery

YEAR	MODEL	MODEL NUMBER	SERIAL NUMBER
2000	Canada/United States: MX Z* 440 Formula* S Formula Deluxe 380 Formula Deluxe 500	1565/1566 1470 1495/1496 1497/1498	All
2000	Europe: Formula S	1491	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.

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 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, there might be some differences between the manufactured product and the descriptions and/or specifications in this document. Bombardier 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.





\land 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.

NOTE: On some models, snow guard may interfere with crate cover, as shown in the following photo. Push on snow guard when lifting cover.



FROM OUTSIDE CRATE PUSH ON SNOW GUARD TO ALLOW COVER TO LIFT WITHOUT DAMAGING SNOW GUARD 1. Snow guard interfering with crate cover



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 and discard.



1. Pull out and discard

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.

FRONT HOOK REMOVAL

Procedure

Apply parking brake.

Cut locking tie holding hook.

Lift rear of vehicle so that a block or a box can be positioned under front wheel, as shown on the next photo.



EDGE OF BOX ALIGNED WITH WHEEL AXIS

From left side of vehicle, apply pressure onto rear bumper with right hand, as shown on the following photo.



TYPICAL

Using left hand, remove hook from suspension, as shown on the following photo.

\land WARNING

Before removing hook always verify that vehicle is properly supported and that parking brake is applied.



TYPICAL — REMOVE HOOK

- 1. Front arm 2. Runner

REAR HOOK REMOVAL



1. Hook to be removed

Lift front of vehicle to position bumper around 1 m (35 to 40 in) 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.



Remove hook on the rear portion of the suspension.

\land WARNING

Both hooks must be removed to have snow-mobile suspension operational.

PREDELIVERY KIT P/N	MODEL
549 010 831	MX Z 440
549 010 828	Formula S
549 010 833	Formula Deluxe 380 Formula Deluxe 500

1. Remove hook on the rear portion of the suspension



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



PARTS INSTALLATION FRONT SUSPENSION



Cut locking tie retaining exhaust spring to exhaust support.

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 shock rod at top.

Formula Deluxe 500

Position top screw head toward front and bottom screw head toward rear of vehicle.

All Models Except Formula Deluxe 500

Position top and bottom screw heads toward front of vehicle.

All Models

Properly position exhaust support on chassis making sure that its lug rests in chassis recess, as shown in the following photo.



TYPICAL

1. Exhaust support

Hook up exhaust spring.



A15C2PA

1. Exhaust spring



TYPICAL — RH SIDE SHOWN

- Shock absorber (2) (Engine compartment) adjusting ring, if equipped, at bottom
 Screw M10 x 1.5 x 60 (2) (P/N 207 006 044) (On suspension)
 Screw M10 x 1.5 x 55 (2) (P/N 207 005 544) (On suspension)
 Elastic nut M10 x 1.5 (2) (P/N 233 601 416) (section no. 2 or 4). 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: Detach and open Step 2: Lift battery protective boot

Withdraw battery from vehicle.

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.



BATTERY CONNECTION

- 1. RED positive cable
- 2. RED positive wire
 3. BLACK negative cable
- 3.
- BLACK negative cable
 Ensure that vent tube is properly connected
 Secure retaining strips to 3 N•m (2 lbf•ft)

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

Apply silicone dielectric grease (P/N 293 500 004) 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 previous drawing.

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





Ensure ski leg slider cushions are still in ski leg. Install skis on vehicle.

Replace vehicle on ground.

MX Z 440 Model



LEFT SIDE SHOWN

- Ski stopper (2) (P/N 506 151 233) (section no. 8) higher side toward front
 Bolt M10 (2) (Ski leg)
 Washer (2) (P/N 732 900 049) (section no. 8)
 Elastic flanged nut M10 x 1.75 (2) (P/N 233 201 414) (section no. 8). Torque to 32 N•m (24 lbf•ft)

Formula S, Formula Deluxe 380 and Formula Deluxe 500 Models



Bolt M10 (2) (ski leg)
 Ski Stopper (2) (P/N 505 070 324) (section 3 or 8)
 Nut M10 (2) (section 1 or 8). Torque to 40 N•m (30 lbf•ft)



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 from 21 to 28 N•m (16 to 20 lbf•ft). Reinstall steering pad, adjust and tighten throttle and brake handle housings.



- Torque from 21 to 28 N•m (16 to 20 lbf•ft)
 Equal gap each side (Both clamps)
 Loosen Allen screw
 Steering pad (Engine compartment)
 Losen to accounce on the compartment

- Use liquid soap to ease installation
 Keyway (2) (P/N 572 072 400) (section no. 3 or 5)



BRAKE HANDLE HOUSING (ALL MODELS EXCEPT FORMULA DELUXE 500) 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)

Models Equipped with a Hydraulic Brake

Loosen master cylinder may be necessary. When securing it back in place, install upper clamp with its arrow pointing toward front of vehicle. Tighten front bolt before rear one. Secure to 8 N•m (71 lbf•in).



Arrow on upper clamp pointing at front of vehicle
 Tighten front screw first



PARTS INSTALLATION WINDSHIELD





Insert dart in hole over headlamp.



Reinstall headlamp molding.

NOTE: Make sure that headlamp is properly positioned on headlamp molding.

Install windshield and secure from underneath.



Headlamp
 Lip of headlamp molding behind headlamp



1. Latch (6 in kit and 4 on headlamp molding) (P/N 570 023 800) (section no. 4 or 6)

Formula Deluxe 380/500 Models Only

Lift cap on right side of handlebar and install heated visor extension cord, supplied in kit, (section no. 8).





PARTS INSTALLATION SPEEDOMETER SETTING

Formula S Model Only

According to the measure system in use in the country where the snowmobile is used, speedometer can be set to display speed in kilometers per hour or in miles per hours.

Procedure

Check for unit of measure shown on gauge.

To change setting, pull speedometer bulb, insert a small screwdriver into hole and slide tab.

Plug bulb back in place.

Unscrew speedometer cable and screw it on the other connector. To make sure cable is screwed at the right place, KMH and MPH letters are embossed beside connectors.



1. Gauge bulb

2. Speedometer cable 3. KMH connector

4. MPH connector



PARTS INSTALLATION DRIVE BELT



Clean pulleys and disc brake with a suitable cleaner such as Loctite Part Cleaner (P/N 413 708 400) before installing drive belt.

To ensure maximum drive belt life span, the new drive belt must be installed so that the Bombardier name can be read when facing pulleys.

The arrow is indicating the direction of rotation.



CORRECT INSTALLATION

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LIQUIDS OIL INJECTION PUMP BLEEDING

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To assure additional protection during the initial engine break-in, 500 mL (18 imp. oz) of BOMBAR-DIER injection oil (P/N 413 802 900 - 12 x 1 L) 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
- 3. Alignment marks

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

Fully open position
 Small lines

Check also for proper oil lever adjustment. Mark on lever should align with mark on pump body after taking all cable play.

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LIQUIDS BRAKE FLUID LEVEL

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MX Z 440 and Formula Deluxe 500 Models

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 predelivery, 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.



Adjustment chart
 Pulley guard



ADJUSTMENTS TRACK



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

On models equipped with idler wheel cap, install caps provided in Predelivery Kit (section 3 or 9).

NOTE: If lubricant is needed to help cap installation, use lens cleaner instead of soapy water to avoid cap to get out from its location due to soap residual.



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

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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.

A dot (•) on right indicates changes from 1999 model.

	MODEL			МХ	Z 440	FORMULA S
0	Engine Type			4	43	377
$\hat{\pi}$	Maximum HP RPM ①		± 100 RPM	7	000	6900
	Rotary Valve		P/N Opening (BTDC)/ Closing (ATDC)		N.A	u
	Carburetor Type			PTO VM 34 - 547	MAG VM 34 - 548	PTO VM MAG VM 30 - 200 30 - 200
	Main Jet			PTO 205	MAG 195	PTO 140 MAG 140
	Needle Jet				P-0 (1	59)
	Pilot Jet			:	35	40
	Needle Identification — Clip	Position		6DH	12 - 3	6DP9 - 3
╚┱╤╤┰┛	Slide Cut-away				2.5	5
	Float Adjustment		± 1 mm (in)		23.9 (.	94)
	Air Screw Adjustment		± 1/16 turn	1-	1/2	1-1/4
	Idle Speed RPM		± 200 RPM		165	0
	Gas Grade/Pump Octane Nu	mber	(R + M)/2		Regular Unl	eaded/87
	Gas/Oil Ratio				Oil Inje	ction
4	Ignition Timing BTDC		mm (in)	2.79 (0).110) ② •	1.38 (0.054) ③
	Trigger Coil Air Gap		mm (in)	0.5 (.020	- 0.7 022)	0.45 - 0.55 (0.018 - 0.022)
	Gear Ratio		Teeth	21	/44 •	18/44
	Engagement Speed		± 100 RPM	37	700	3500
	Drive Pulley Calibration Scre	w Position			3	_
	Pulley Distance	Z	(± 0.5) mm (± 1/64) in		26.0 (1-1/6) 54)
	Offset	х	± 0.5 mm (± 1/64 in)		33.4 (1-5/1	4 (6)
		Y		Di 0.5	mension Y must mm (1/64 in) to	exceed X from 1.5 mm (3/64 in)
	Drive Belt Adjustment	Deflection	± .5 mm (in)		32 (1-	1/4)
	Billio Bolt Adjustinoni	Force 3	kg (lbf)		11.34 ((25)
	Driven Pulley Preload		± 0.7 kg (± 1.5 lbf)	6 (13	5.1 3.45)	4.8 (10.58)
	Drive Chain Tension			Fully tight onl	ten adjusting scr y far enough for	ew by hand then back OFF hair pin installation
	Track Adjustment	Deflection	mm (in)	wi	35 to 40 (1-3/8 th a 7.3 kg (16 lb)	3 to 1-9/16)) downward pull

① Engine speed at which maximum power is achieved.

- ② 22° at 3500 RPM (engine cold) with headlamp turned on.
- ③ 15.4° at 6000 RPM (engine cold) with headlamp turned on.
- ④ 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

A dot (•) on right indicates changes from 1999 model.

	MODEL			FOF DELU	RMULA JXE 380	FORMULA DELUXE 500
6	Engine Type				377	503
ŵ	Maximum HP RPM ①		± 100 RPM		6900	7000
	Rotary Valve		P/N Opening (BTDC)/ Closing (ATDC)		N.A	
	Carburetor Type			PTO VM 30 - 200	MAG VM 30 - 200	PTO VM MAG VM 34 - 549 34 - 550
	Main Jet			PTO 140	MAG 140	PTO 180 MAG 170
	Needle Jet				P-0 (1	59)
	Pilot Jet				40	
	Needle Identification — Clip	Position		6DI	P9 - 3	6DH2 - 3
╘╙┱╤╤┲┙┚	Slide Cut-away				2.5	
	Float Adjustment		± 1 mm (in)		23.9 (.	94)
	Air Screw Adjustment		± 1/16 turn	1.	-1/4	1-7/8
	Idle Speed RPM		± 200 RPM		165	0
	Gas Grade/Pump Octane Nu	ımber	(R + M)/2		Regular Unl	eaded/87
	Gas/Oil Ratio			0	Oil Inje	
4	Ignition Timing BTDC 2		(in)	(0.	.79 110)	(0.109)
	Trigger Coil Air Gap		mm (in)		0.5 - ((0.020 - ().7).028)
	Gear Ratio		Teeth	18	3/44	21/44
	Engagement Speed		± 100 RPM	3	500	3300
	Drive Pulley Calibration Scr	ew Position		N	I.A.	3
	Pulley Distance	z	(± 0.5) mm (± 0.020) in	2 (1.	26.0 024)	17.0 (0.67)
		х	± 0.5 mm (± 1/64 in)	3 (1-)	33.4 5/16)	35.5 (1-25/64)
	Offset	Υ		Dimensi exceed 0.5 mm 1.5 mm	on Y must d X from (1/64 in) to n (1/16 in)	Dimension Y must exceed X from 1.0 mm (1/32 in) to 2.0 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)		0.0 (0	.0)
	Drive Chain Tension			Fully tigh on	ten adjusting scr ly far enough for	ew by hand then back OFF hair pin installation
	Track Adjustment	Deflection	mm (in)	wi	35 to 40 (1-3/8 th a 7.3 kg (16 lb	3 to 1-3/16)) downward pull

- ① Engine speed at which maximum power is achieved.
- ② 15.4° at 3500 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



No. 2000-3

Date: July 9, 1999

SUBJECT: Predelivery

YEAR	MODEL	MODEL NUMBER	SERIAL NUMBER
2000	Canada and United States: Touring 500 LC Formula Deluxe 500 LC Formula 500 LC	1485 - 1486 1544 - 1545 1551 - 1552	All
2000	Europe: Touring 500 LC Formula Deluxe 500 LC Formula 500 LC	1487 1546 1595	All

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A WARNING

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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.



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



UNCRATING



PREDELIVERY KIT P/N	MODELS
549 010 855	Touring 500 LC
549 010 852	Formula Deluxe 500 LC
549 010 894	Formula 500 LC

A 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. **NOTE:** On some models, snow guard may interfere with crate cover, as shown in the following photo. Push on snow guard when lifting cover.



FROM OUTSIDE CRATE PUSH ON SNOW GUARD TO ALLOW COVER TO LIFT WITHOUT DAMAGING SNOW GUARD 1. Snow guard interfering with crate cover



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.

FRONT HOOK REMOVAL

Procedure

Apply parking brake.

Lift rear of vehicle so that a block or a box can be positioned under front wheel, as shown on the next photo.



EDGE OF BOX ALIGNED WITH WHEEL AXIS

Cut locking tie retaining front hook.

From left side of vehicle, apply pressure onto rear bumper with right hand, as shown on the following photo.



TYPICAL

Using left hand, remove hook from suspension, as shown on the following photo.

Before removing hook always verify that vehicle is properly supported and that parking brake is applied.





1. Front arm 2. Runner

REAR HOOK REMOVAL

Touring 500 LC Model



1. Hook to be removed

Formula Deluxe 500 LC and Formula 500 LC Models



1. Hook to be removed

Procedure

Lift front of vehicle to position bumper around 1 m upward (35 to 40 in).

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

\land WARNING

Both hooks must be removed to have snow-mobile suspension operational.



PARTS INSTALLATION FRONT SUSPENSION



Cut locking tie retaining exhaust spring to exhaust support.



- Lug in recess
 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: Position screw heads toward front. A long socket may be needed to torque screws.

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 midhole.



TYPICAL - RH SIDE SHOWN

- Shock absorber (2) (engine compartment)

- Screw M10 x 1.5 x 60 (2) (P/N 207 006 044) (on suspension)
 Screw M10 x 1.5 x 55 (2) (P/N 207 005 544) (on suspension)
 Nut M10 x 1.5 (4) (P/N 233 601 416) (section no. 3 or 4). Torque to 48 N•m (35 lbf•ft)



PARTS INSTALLATION

SKIS



Ensure ski leg slider cushions are still in ski leg. Install skis on vehicle. Replace vehicle on ground.

Formula Deluxe 500 LC and Touring 500 LC Models



LEFT SIDE SHOWN

- 1. Ski stopper (2) (P/N 506 151 233) (section no. 3 or 8) higher side toward front

- Bolt M10 x 110 (2) (ski leg)
 Washer (2) (P/N 732 900 049) (section no. 1 or 8)
 Elastic flanged nut M10 x 1.75 (2) (P/N 233 201 414) (section no. 2 or 8). Torque to 32 N•m (24 lbf•ft)

Formula 500 LC Model



1.

2. 3.

Bolt M10 x 110 (2) (ski leg) Ski stopper (2) (P/N 505 070 324) (section 8) Nut M10 (2) (P/N 233 601 416) (section 8). Torque to 40 N•m (30 lbf•ft)



PARTS INSTALLATION BATTERY



Formula Deluxe 500 LC and Touring 500 LC 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. Do not charge an installed battery.

Battery Removal

Remove air intake silencer.

Unfasten battery retaining strips.

Open strips and withdraw battery from vehicle. Lift battery protective boot and charge battery.



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

Battery Installation

NOTE: Before reinstalling battery and air silencer check oil pump lever adjustment (see section LIQ-UIDS — Oil Injection Pump Bleeding).

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.



BATTERY CONNECTION

- RED positive cable
- 2. RED positive wire 3. BLACK negative cable
- 4. Vent tube

Apply silicone dielectric grease (P/N 293 550 004) on battery posts and connectors.

Install protective boot over battery and place battery on its stand.

Connect vent tube properly to vehicle fitting on front frame.

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 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 from 21 to 28 N•m (16 to 20 lbf•ft). Reinstall steering pad, adjust and tighten throttle and brake handle housings.



TYPICAL

- Torque from 21 to 28 N•m (16 to 20 lbf•ft)
 Equal gap each side (both clamps)
 Keyway (2) (section no. 3 or 5)
 Steering pad (engine compartment)



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)

Formula Deluxe 500 LC Model

Heated Visor Connector Extension

Section no. 9 of predelivery kit provides a connector extension for the heated visor.

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PARTS INSTALLATION WINDSHIELD



Install windshield on dashboard using latches provided in predelivery kit.

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





1. Latch (6) (P/N 570 023 800) (section no. 5)

Protective foam
 Install windshield on dashboard



WINDSHIELD INSTALLED ON DASHBOARD



PARTS INSTALLATION BACKREST



Touring 500 LC Model Only

Install handles on pivots and insert backrest in place.

Place backrest in place, adjust it to the preferred angle and height using the plastic knobs (see photos) to fix it in place.



1. Backrest angle knob 2. Backrest height knob

NOTE: Use flat washers (P/N 732 900 050) included in the box to help tighten backrest's lower knob, as shown below.



Backrest angle knob
 Flat washer
 Backrest arm

Adjust the cushion angle using the upper knob.



INSTALLED BACKREST 1. Backrest cushion angle knob



PARTS INSTALLATION DRIVE BELT



Clean pulleys and disc brake with a suitable cleaner such as Loctite Parts Cleaner (P/N 413 711 809) before installing drive belt.

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LIQUIDS **OIL INJECTION PUMP BLEEDING**

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SUPPLEMENTAL OIL

To assure additional protection during the initial engine break-in, 500 mL (18 imp. oz) of BOMBARDIER-ROTAX Injection Oil (P/N 413 802 900 — 12 x 1 L) 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. Mark on pump lever must be from 0 to 2 mm (0 to 1/16 in) higher than mark on pump body when throttle lever is activated just enough to take all cable play.



- Small oil line 1
- Main oil line
 Mark on lever
- 4. Mark on pump

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: Make a J hook out of mechanical wire to lift the lever.



TYPICAL — ENGINE AT IDLE Reinstall air silencer.

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LIQUIDS BRAKE FLUID LEVEL

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Check brake fluid in reservoir on handlebar 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.



Rear suspension is calibrated at factory. At predelivery, 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.



Adjustment chart
 Pulley guard

	ADJUSTMENTS	
The second se	TRACK	

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

When track adjustment is completed, place wheel caps provided in predelivery kit (section 4 or 9) on rear wheels.



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 inquires should be directed to your distributor service representative.

A dot (•) on right indicates changes from 1999 model.

	MODELS			TOURING 500 LC	FORMULA DELUXE 500 LC	FORMULA 500 LC
6	Engine Type			494		
	Maximum HP RPM ① ± 100 RPM			7800		
	Rotary valve	P/N		420 924 509		
		Opening (BTDC)/ Closing (ATDC)		135°/64°		
	Carburetor Type			PTO VM 38 - 431 MAG VM 38 - 432		
	Main Jet			PTO 300 MAG 280		
	Needle Jet			Q-3 (480)		
	Pilot Jet			50		
	Needle Identification — Clip Position			6DGY9 - 2		
	Slide Cut-Away			2.5		
	Float Adjustment ± 1 mm (in)		18.1 (.71)			
	Air Screw Adjustment ± 1/16 Turn		1			
	Idle Speed RPM ± 200 RPM			1800		
	Gas Grade/Octane	Number	(R + M)/2	Regular Unleaded/87		
	Gas/Oil Ratio			Oil Injection		
	Ignition Timing BTDC ⁽²⁾ mm (in)		1.81 (.071)			
7	Trigger Coil Air Gap (in)		0.55 - 1.45 (.022057)			
	Gear Ratio		Teeth	23/44 23/43		23/43
	Engagement Speed		± 100 RPM	3600	3800	4100
	Drive Pulley Calibration Screw Position			2		
	Pulley Distance	z	(+ 0, - 1) mm (+ 0, - 1/32) in	16.5 (21/32)		
\bigcirc	Offset	х	± 0.5 mm (± 1/64 in)	35.5 (1-25/64)		
		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 (Ibf)	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 (1.181 to 1.378) with a 7.3 kg (16 lb) downward pull		

- ① Engine speed at which maximum power is achieved.
- ② 17° 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



No. 2000-6

Date: September 10, 1999

SUBJECT: Predelivery Procedures

YEAR	MODEL	MODEL NUMBER	SERIAL NUMBER
2000	Canada: Mach* Z Mach Z R Mach Z R Millennium Mach 1 R Formula III 800 Formula III 700 R	1585 1587 1644 1617 1619 1590	All
2000	United States: Mach Z Mach Z R Mach Z R Millennium Mach 1 R Formula III 800 Formula III 700 R	1586 1588 1546 1618 1620 1591	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.

A WARNING

To obtain limited 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 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, there might be some differences between the manufactured product and the descriptions and/or specifications in this document. Bombardier 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 inquires 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.

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




UNCRATING



PREDELIVERY KIT P/N	MODELS	
549 010 877	MACH Z MACH Z R Mach Z R Millennium Mach 1 R Formula III 800 Formula III 700 R	

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 and ropes retaining windshield. Keep windsheld latches for further installation.

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 bushings to bolt skis to ski legs. Discard crating spacers and nuts.

Remove vehicle from base.

Take out parts to be installed (shocks, steering pad, snow guard and reinforcement, bumper and air intake deflector) and predelivery kit from box.

Take out drive belt from engine compartment.

FRONT HOOK REMOVAL

Procedure

Apply parking brake.

Lift rear of vehicle so that a block or a box can be positioned under front wheel, as shown on the next photo.



EDGE OF BOX ALIGNED WITH WHEEL AXIS

From left side of vehicle, cut locking tie retaining front hook, then apply pressure onto rear bumper with right hand, as shown on the following photo.



TYPICAL

Using left hand, remove hook from suspension, as shown on the following photo.

Before removing hook always verify that vehicle is properly supported and that parking brake is applied.



TYPICAL — REMOVE HOOK 1. Front arm

2. Runner

REAR HOOK REMOVAL



1. Hook to be removed

Lift front of vehicle to position bumper approximately 1 meter upward (35 to 40 inches).

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



TYPICAL

1. Remove hook on the rear portion of the suspension

\land WARNING

Both hooks must be removed to have snowmobile suspension operational.



PARTS INSTALLATION FRONT SUSPENSION



From inside engine compartment, remove caps as shown in the next photo.



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

ON AND MAD

Secure shock absorbers to suspension with their adjusting ring at bottom. Adjust them as per suspension adjustment chart on belt guard.

NOTE: Position bolt heads toward front. Reinstall caps.

INSIDE ENGINE COMPARTMENT Push and remove cap



TYPICAL — FORMULA III — RIGHT SIDE SHOWN

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



PARTS INSTALLATION

SKIS





LEFT SIDE SHOWN

- 1. 2. 3. 4.

- Ski stopper (2) (P/N 506 151 233) (section no. 3) Bolt M10 (2) (ski leg) Washer (2) (P/N 732 900 049) (section no. 2) Elastic flanged nut M10 (2) (P/N 233 201 414) (section no. 2) Torque to 32 N•m (24 lbf•ft)

Ensure ski leg bushings are still in ski leg.

Install skis on vehicle.

Replace vehicle on ground.



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 between 21 and 28 Nom (16 and 20 lbfoft) in a criss-cross sequence. Make sure gap is equal each side of clamps.

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

NOTE: While reinstalling handlebar and pad, make sure brake oil reservoir cover is level.



Torque nuts between 21 and 28 N•m (16 and 20 lbf•ft)

- 2. Equal gap each side (both clamps) 3. Keyway (2) (P/N 572 106 200) (section no. 3)
- Steering pad (box)
 Bolt (2) (P/N 208 652 044) (section no. 4)
- 6. Nut (2) (P/N 233 251 414) (section no. 4)



BRAKE HANDLE HOUSING 1. Torque Allen screw to 2 N•m (18 lbf•in)



THROTTLE HANDLE HOUSING 1. Torque Allen screw to 2 N•m (18 lbf•in)



PARTS INSTALLATION WINDSHIELD



NOTE: Air deflector with foam must be installed before windshield.

AIR DEFLECTOR

Position air intake deflector tabs (left and right side) into hood slots, as shown in the next photo.



1. Air intake deflector tabs (right side)

Holding air intake deflector, insert hand underneath hood, in gauges housing and attach air intake foam to hood Velcro.



FROM UNDERNEATH HOOD, GOING THROUGH GAUGES HOUSING, ATTACH FOAM TO VELCRO

NOTE: Ensure that air intake foam is properly attached to Velcro. See next photo.



AIR INTAKE DEFLECTOR HAS BEEN REMOVED TO SHOW WHERE AND HOW TO ATTACH AIR INTAKE FOAM TO HOOD

Secure air intake deflector using darts (one on each side), as shown in the next photo.



1. Dart (2) (P/N 414 745 900) (section no. 5). Push to set in place

Remove protective films and install windshield on hood dashboard. Secure with windshield latches.



WINDSHIELD INSTALLED ON DASHBOARD



1. Latch (6) (P/N 570 023 800) (4 in section no. 5 and 2 on windshield)



PARTS INSTALLATION SNOW GUARD

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Insert and position snow guard onto chassis, between rear moldings.

Slide and position snow guard protector pad between snow guard and chassis.



TYPICAL - VIEW FROM UNDER SNOW GUARD Snow guard (box)
 Snow guard protector pad (box)

Secure the two parts with rivets.

NOTE: Place washers inside tunnel.



TYPICAL

- 2. 3.
- 1. Rivet (4) (P/N 390 908 000) (section no. 3) 2. Snow guard (box) 3. Washer (4) (P/N 517 225 900) (section no. 3). Position washer inside tunnel

Finalize snow guard installation with caps, as shown in the next photo.



1. Cap (4) (P/N 415 073 300) (section no. 3)



PARTS INSTALLATION REAR BUMPER



Install rear bumper to chassis.



SLIDE BUMPER INSIDE REAR MOLDINGS 1. Rear bumper (box)

Secure bumper from inside of tunnel.



- TYPICAL VIEW FROM INSIDE OF TUNNEL
- Bolt M8 (4) (P/N 207 182 044) (section no. 1). Torque between 14 and 17 N•m (10 and 13 lbf•ft)
 Lock washer (4) (P/N 234 181 401) (section no. 3)
 Washer (4) (P/N 234 081 410) (section no. 3)



PARTS INSTALLATION DRIVE BELT



Clean pulleys and disc brake with a suitable cleaner such as Loctite Cleaning Solvent (P/N 413 711 809) before installing drive belt.

NOTE: Take care to install belt so that arrows show toward front of snowmobile.



1. Install belt with arrows toward front

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LIQUIDS OIL INJECTION PUMP BLEEDING

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BREAK-IN PERIOD SUPPLEMENTAL OIL

To assure additional protection during the initial engine break-in, 500 mL (18 imp. oz) of BOMBARDIER-ROTAX Injection Oil (P/N 413 802 900 - $12 \times 1 \text{ L}$) 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

Check for air bubbles in main line. If huge bubbles or if no oil is found, bleed main line as described in *Shop Manual*. Add injection oil in oil tank as required.

Small Oil Lines Bleeding

Bleed the small oil lines between pump and engine crankcase by running engine at idle while holding the pump lever in fully open position. The best way to hold pump lever is to make a hook with a steel wire and hang the lever up.



TYPICAL

Small oil lines
 Engine at idle (fully open position)

LIQUIDS BRAKE FLUID LEVEL

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

CAUTION: Use only (DOT 4) brake fluid from a sealed container.



TYPICAL

1. Minimum level window



ADJUSTMENTS SUSPENSION



Rear suspension is calibrated at factory. At predelivery, mechanics should perform suspension ad-justments according to customer riding style and vehicle load as described on suspension adjust-ment chart which is located on belt guard.



Adjustment chart
 Belt guard



ADJUSTMENTS TRACK



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

When track adjustment is completed, install wheel caps (P/N 570 063 600) provided in Predelivery kit (section no. 4).



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 inquires should be directed to your distributor service representative.

A dot (•) on right indicates changes from 1999 model.

	MODEL			MACH Z		MACH Z R/ MACH Z R MILLENNIUM	MACH 1 R
	Engine Type			809		809	699
$\hat{\pi}$	Maximum HP RF	0 M	± 100 RPM	8300		8300	8300
\bigcirc	P/N Rotary Valve Opening (BTDC)/ Closing (ATDC)		N.A.		N.A.	N.A.	
	Carburetor Type		PTO: TM 38-C27 CTR: TM 38-C27 MAG: TM 38-C27	2222	PTO: TM 38-C272 CTR: TM 38-C272 MAG: TM 38-C272	PTO: TM 38-C293 CTR: TM 38-C293 MAG: TM 38-C293	
	Main Jet			PTO: 310 CTR: 310 MAG: 310		PTO: 310 CTR: 310 MAG: 310	PTO: 290 CTR: 290 MAG: 290
	Needle Jet			O-2 (327)		O-2 (327)	N-7 (327)
	Pilot Jet			PTO: 50 CTR: 50 MAG: 50		PTO: 50 CTR: 50 MAG: 50	PTO: 50 CTR: 50 MAG: 50
	Needle Identifica	ation — Clip Posi	tion	8ADY1/41 - 3		8ADY1/41 - 3	8AGY1/41-4
	Slide Cut-Away			2.0		2.0	2.0
U	Float Adjustment		± 1 mm (± 0.04 in)	21.0 (.83)		21.0 (.83)	21.0 (0.83)
	Air Screw Adjustment ± 1/16 Turn		PTO: 4.5 CTR: 4.5 MAG: 4.5		PTO: 4.5 CTR: 4.5 MAG: 4.5	PTO: 4.0 CTR: 4.0 MAG: 4.0	
	Idle Speed RPM ± 200 RPM		1800		1800	1800	
	Gas Grade/Octane Number (R + M)/2		Super Unleaded/	91	Super Unleaded/91	Super Unleaded/91	
	Gas/Oil Ratio		Oil Injection		Oil Injection	Oil Injection	
	Ignition Timing BTDC 2 mm (in)		1.94 (0.076)	•	2.59 (0.102)	2.77 (0.109)	
7	Trigger Coil Air Gap mm (in)		0.50 - 1.20 (.020047)	•	0.50 - 1.20 (.020047)	0.50 - 1.20 (.020047)	
	Gear Ratio		Teeth	26/43		26/43	25/43
	Engagement Spe	eed	± 100 RPM	4200		4200	4200
	Drive Pulley Cali	bration Screw Po	osition	3		3	3
	Pulley Distance	Ζ 3	± 0.5 mm ± 0.02 in	120.0 (4.72)	•	121.0 (4.76)	121.0 (4.76)
	Offset	х	± 0.5 mm (± 1/64 in)	35.5 (1-13/32)		35.5 (1-13/32)	35.5 (1-13/32)
		Y		Dimension Y must exceed X from 1 mm (1/32 in) to 2 mm (5/64 in)		1 X 5/64 in)	
	Drive Belt	Deflection	± 5 mm (in)	38 (1-1/2)	•	38 (1-1/2)	38 (1-1/2) •
- A	Adjustment	Force ④	kg (lbf)	11.5 (25.35)		11.5 (25.35)	11.5 (25.35)
	Driven Pulley Pre	eload	± 0.7 kg (± 1.5 lbf)	7.0 0.0 0.0 (15.43) (0.0) (0.0)			0.0 (0.0)
	Drive Chain Tens	sion		Fully tighten adjusting screw by hand then back OFF only far enough for hair pin installation			
	Track Deflection mn Adjustment (in		mm (in)	30 to 35 (1-3/16 to 1-3/8) with a 7.3 kg (16 lb) downward pull) rd pull

① Engine speed at which maximum power is achieved.

- ^② At 3500 RPM (engine cold) with headlamp turned on.
- ③ Distance to be adjusted after a 10-hour break-in period.
- 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 1999 model.

	MODEL		FORMULA III 800	FORMULA III 700 R
	Engine Type		809	699
\mathring{T}	Maximum HP RP	M ① ± 100 RPM	8000	8000
	Rotary Valve	P/N Opening (BTDC)/ Closing (ATDC)	N.A.	N.A.
	Carburetor Type		PTO: TM 38 C297 CTR: TM 38 C297 MAG: TM 38 C297	PTO: VM 38 - 435 CTR: VM 38 - 440 MAG: VM 38 - 435
	Main Jet		PTO: 340 CTR: 360 MAG: 340	PTO: 270 CTR: 280 MAG: 270
	Needle Jet		O-2 (876)	P-4 (480)
	Pilot Jet		PTO: 15 CTR: 15 MAG: 15	PTO: 50 CTR: 50 MAG: 50
	Needle Identifica	tion — Clip Position	8BCY01/42 - 4	6DEY2 - 4
	Slide Cut-Away		2.0	2.5
	Float Adjustmen	t ± 1 mm (in)	21.0 (.83)	18.1 (.71)
	Air Screw Adjust	ment ± 1/16 turn	PTO: 0.0 CTR: 0.0 MAG: 0.0	PTO: 1.5 CTR: 1.5 MAG: 1.5
	Idle Speed	± 200 RPM	2000 •	1800
	Gas Grade/Octar	ne Number (R + M)/2	Super Unleaded/91	Super Unleaded/91
	Gas/Oil Ratio		Oil Injection	Oil Injection
	Ignition Timing E	BTDC ⁽²⁾ mm (in)	1.94 (0.076)	2.77 (0.109)
7	Trigger Coil Air (Gap mm (in)	0.50 - 1.20 (.020047)	0.50 - 1.20 (.020047)
	Gear Ratio	Teeth	26/43	25/43
	Engagement Spe	eed ± 100 RPM	3800	3800
	Drive Pulley Cali	bration Screw Position	2 •	3
	Pulley Distance	Z ③ ± 0.5 mm ± 0.02 in	120.0 (4.73)	121.0 (4.76)
		X ± 0.5 mm (± 1/64 in)	35.5 (1-13/32)	35.5 (1-13/32)
	Offset	Y	Dimension Y must exceed X from 1 mm (1/32 in) to 2 mm (5/64 in)	Dimension Y must exceed X from 1 mm (1/32 in) to 2 mm (5/64 in)
	Drive Belt	Deflection ± 5 mm (in)	38 (1-1/2)	38 (1-1/2)
Adjustment	Force ④ kg (lbf)	11.5 (25.35)	11.5 (25.35)	
	Driven Pulley Pre	eload ± 0.7 kg (± 1.5 lbf)	7.0 0.0 (15.43) (0.0)	
	Drive Chain Tens	sion	Fully tighten adjusting screw enough for hai	by hand then back OFF only far r pin installation
	Track Adjustment	Deflection mm (in)	30 to 35 (1-3/16 to 1-3/8) with a 7.3 kg (16 lb) downward pull	

① Engine speed at which maximum power is achieved.

2 At 3500 RPM (engine cold) with headlamp turned on.

③ Distance to be adjusted after a 10-hour break-in period.

④ 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



No. 2000-10

Date: October 1, 1999

SUBJECT: Predelivery Procedures

YEAR	MODEL	MODEL NUMBER	SERIAL NUMBER
2000	Canada/United States: Grand Touring SE Millennium Grand Touring SE Grand Touring 700	1648 1493 1641	All

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

A WARNING

To obtain limited warranty coverage, predelivery procedures must be performed by an authorized Ski-Doo[®] 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 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, there might be some differences between the manufactured product and the descriptions and/or specifications in this document. Bombardier 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.

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





UNCRATING



PREDELIVERY KIT P/N	MODEL
549 010 873	GRAND TOURING SE
549 010 929	GRAND TOURING 700

A 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, boxes) from the vehicle and its base.

Cut locking ties and ropes retaining windshield. Keep windshield latches for further installation.

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 bushings to bolt skis to ski legs. Discard crating spacers and nuts.

Remove vehicle from base.

Remove parts to be installed and predelivery kit from parts box (small one).

FRONT HOOK REMOVAL

Procedure

Apply parking brake.

Lift rear of vehicle so that a block or a box can be positioned under front wheel, as shown on the next photo.



EDGE OF BOX ALIGNED WITH WHEEL AXIS

From left side of vehicle, cut locking tie retaining front hook, then apply pressure onto rear bumper with right hand, as shown on the following photo.



TYPICAL

Using left hand, cut tie wrap and remove hook from suspension, as shown on the following photo.

Before removing hook always verify that vehicle is properly supported and that parking brake is applied.



TYPICAL — REMOVE HOOK

1. Front arm 2. Runner

REAR HOOK REMOVAL



1. Hook to be removed

Lift front of vehicle to position bumper approximately 1 meter upward (35 to 40 inches).

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



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

CAUTION: Both hooks must be removed to have snowmobile suspension operational.



PARTS INSTALLATION FRONT SUSPENSION



All Models

Lift front of vehicle and block safely.

From inside engine compartment, remove caps as shown in the next photo.



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

Secure shock absorbers to suspension with their adjusting ring at bottom. Adjust them as per suspension adjustment chart on belt guard.

NOTE: Position screw heads toward front. Reinstall caps.

INSIDE ENGINE COMPARTMENT 1. Push and remove cap

2-4 3-4 A06G0.IS

TYPICAL - RH SIDE SHOWN

- Shock absorber (2) (box) 1.

- Sinck absolue (2) (100x)
 Screw M10 x 1.5 x 55 (2) (P/N 222 005 565) (on suspension)
 Screw M10 x 1.5 x 55 (2) (P/N 222 005 565) (on suspension)
 Nut M10 x 1.5 (4) (P/N 228 501 045) (section no. 1). Torque to 48 N•m (35 lbf•ft)



PARTS INSTALLATION

SKIS





LEFT SIDE SHOWN

- Ski stopper (2) (P/N 506 151 233) (section no. 8) "AVANT" toward front
 Bolt M12 (2) (ski leg)
 Washer (4) (P/N 732 900 049) (section no. 8)
 Elastic flanged nut M12 x 1.75 (2) (P/N 233 201 414) (section no. 8). Torque between 28 and 35 N•m (21 and 26 lbf•ft)

Ensure ski leg bushings are still in ski legs.

Install skis on vehicle.

Replace vehicle on ground.



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 Air Intake Silencer Removal

Unplug air temperature sensor connector from air intake silencer, remove MPEM module and DPM manifold, as shown in the next photos.



TYPICAL

- 1. Air temperature sensor
- 2. Air intake silencer
- 3. MPEM module

Twist DPM manifold and detach from air intake silencer.



- A30C14A
- 1. Air intake silencer
- 2. Detach DPM manifold

Unscrew choke from air intake silencer.



1. Unscrew and remove choke

Remove air intake silencer.

Unfasten battery retaining strips.

Open strips and withdraw battery from vehicle.

BATTERY INSTALLATION

Position battery onto battery support on vehicle.

NOTE: To ease battery insertion, use soap with water.

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



VENT TUBE PROPERLY CONNECTED

Install vent tube on battery.

NOTE: Ensure that vent tube is not kinked or blocked. To ensure a good routing, cut vent tube if necessary.

Red Positive Cable and Wire

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



RED POSITIVE (+) BATTERY CABLE AND WIRE POSITIONING

Black Negative Cable and Wire

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



Black negative (-) battery cable
 Black negative (-) battery wire

\land 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 293 550 004) on battery posts and connectors.

Ensure vent tube is properly installed on battery elbow.

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

Reinstall air intake silencer, choke, DPM manifold, DPM module and air temperature sensor.



NOTE: It can be useful to coat carburetors intakes with oil to facilitate air silencer installation.



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 between 21 and 28 Nom (16 and 20 lbfoft) in a criss-cross sequence. Make sure gap is equal each side of clamps.

Reinstall steering pad, adjust and tighten throttle and brake handle housings (if needed).

NOTE: While installing handlebar and pad, make sure brake oil reservoir cover is level.



TYPICAL

- 1.
- Steering pad (box) Keyway (2) (P/N 572 106 200) (section no. 3). Use liquid soap to ease installation Screw (section no. 6) 2. 3.
- 4. Nut
- 6. Loosen Allen screw
 6. Torque between 21 and 28 N•m (16 and 20 lbf•ft)
 7. Equal gap each side (both clamps)

ADJUSTABLE STEERING

Grand Touring SE Only

CAUTION: Never hang snowmobile by handlebar. This can impair adjustable steering mechanism.

Adjust handlebar when the mechanism is in the middle position.

Adjust retaining tabs to $25^{\circ} \pm 10^{\circ}$ and tighten nuts between 21 and 28 Nom (16 and 20 lbfoft).



A. 25° ± 10°

Install steering foam properly to make it fit with console.

Cover steering foam with steering pad and zip it both sides.

Install lever (section no. 6) with screw (section no. 6) using an Allen key. Torque from 2.5 to 3.0 N•m (23 to 27 lbf•in).

Adjust and tighten throttle and brake handle housings (if needed).

Heating Visor Extension

Meanwhile installing steering pad, open heating visor plug and install extension provided in predeliverv kit.



TYPICAL — INSTALLED, THE CUSTOMER ISN'T LIKELY TO LOOSE THAT PART

1. Heating visor extension (P/N 515 175 161) (section no. 9)



PARTS INSTALLATION WINDSHIELD

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NOTE: Air deflector with foam must be installed before windshield.

AIR DEFLECTOR

Position air intake deflector tabs (left and right side) into hood slots, as shown in the next photo.



1. Air intake deflector tabs (right side)

Holding air intake deflector, insert one hand underneath hood, in gauges housing and attach air intake foam to hood Velcro.



FROM UNDERNEATH HOOD, GOING THROUGH GAUGES HOUSING, ATTACH FOAM TO VELCRO

NOTE: Ensure that air intake foam is properly attached to Velcro. See next photo.



AIR INTAKE DEFLECTOR HAS BEEN REMOVED TO SHOW WHERE AND HOW TO ATTACH AIR INTAKE FOAM TO HOOD

Secure air intake deflector using darts (one on each side), as shown in the next photo.



1. Dart (P/N 414 745 900) (section no. 5). Push to set in place

Remove protective films and install windshield on dashboard. Secure with windshield latches.



TYPICAL — WINDSHIELD INSTALLED ON DASHBOARD



1. Latch (6) (P/N 570 023 800) (section no. 5)

MIRRORS

Install right and left mirrors using washers and nuts provided in bag.



1. Washers and nuts. Torque to 1.0 N•m (9 lbf•in)



PARTS INSTALLATION BACKREST



Remove mouldings and secure backrest frame on tunnel then install lever assembly onto luggage rack rail as explained on following drawing.

Install hand protectors with rivets (P/N 390 907 700) onto luggage rack handle.

Reinstall mouldings.



- 1. Handle protector (2). Secure with rivets (section no. 6) 2. Screw (2) (P/N 207 182 584) (section no. 4) 3. Washer (2) (P/N 234 081 670) (section no. 5) 4. Plastic washer (2) (P/N 414 819 600) (section no. 3) 5. Elastic nut (2) (P/N 232 581 414) (section no. 4). Torque to 8 N•m (73 lbf•in) 6. Lever assembly (2) (P/N 580 611 000) (section no. 5) 7. Guide (2) (P/N 517 257 300) (section no. 3) 8. Rubber shim (2) (P/N 570 027 400) (section no. 4) 9. Spacer (2) (P/N 517 251 300) (section no. 5) 10. Flanged washer (2) (P/N 517 250 000) (section no. 2) 11. Threaded plate (2) (P/N 517 250 000) (section no. 2)

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





PARTS INSTALLATION DRIVE BELT



Clean pulleys and disc brake with a suitable cleaner such as Loctite Parts Cleaner (P/N 413 711 809) before installing drive belt.

NOTE: Take care to install belt so that arrows point toward front of snowmobile.



1. Arrows pointing toward front



LIQUIDS OIL INJECTION PUMP BLEEDING

BREA	AK-IN	PER	OD

Supplemental Oil

To assure additional protection during the initial engine break-in, 500 mL (18 imp. oz) of BOMBARDIER-ROTAX injection oil (P/N 413 802 900 — 12 x 1 L) 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

Check for air bubbles in main line. If huge bubbles or if no oil is found, bleed main line as described in *Shop Manual*. Add injection oil in oil tank as required.

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.



TYPICAL

1. Small oil line

2. Engine at idle (fully open position)



Check brake fluid in reservoir on handlebar 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 level window



ADJUSTMENTS SUSPENSION



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



Adjustment chart
 Belt guard



ADJUSTMENTS TRACK



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

When track adjustment is completed, install wheel caps provided in Predelivery kit (section no. 9).

NOTE: If lubricant is needed to help cap installation, use lens cleaner instead of soapy water to avoid cap to get out from its location due to soap residual.



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

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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.

	MODELS		GRAND TOURING SE	GRAND TOURING 700
	Engine Type		809	699
	Maximum HP RPM ① ± 100 RPM		8000	8000
	Rotary valve	P/N Opening (BTDC)/ Closing (ATDC)	Not Applicable	Not Applicable
	Carburetor Type		PTO TM 38 - C301 CTR TM 38 - C301 MAG TM 38 - C301	PTO VM 38 - 436 CTR VM 38 - 441 MAG VM 38 - 436
	Main Jet		PTO 340 CTR 360 MAG 340	PTO 270 CTR 280 MAG 270
	Needle Jet		O-2 (876) •	P-4 (480)
	Pilot Jet		15 •	50
	Needle Identification — Clip Position		8BCY01/42-4 •	6DEY2-4 •
	Slide Cut-Away		2.0	2.5
	Float Adjustment ± 1 mm (± 0.04 in)		21.0 (0.83)	18.1 (.71)
	Air Screw Adjustm	ent ± 1/16 turn	0.0 •	1.5 •
	Idle Speed RPM ± 200 RPM		2000 •	2000 •
	Gas Grade Octane Number (R + M)/2		Super unleaded 91	Super unleaded 91
	Gas/Oil Ratio		Injection	Injection
4	Ignition Timing BTDC 2 3 (in)		2.59 (.102)	2.77 (.109)
7	Trigger Coil Air Ga	p mm (in)	0.55 - 1.45 (.022057)	0.55 - 1.45 (.022057)
	Gear Ratio	Teeth	24/43	24/43
	Engagement Speed ± 100 RPM		3300	3300
	Drive Pulley Calibration Screw Position		3	3 •
	Pulley Distance	Z ④ (+ 0, - 0.5) mm ((+ 0, - 1/64) in)	121.0 (4-3/4)	121.0 (4-3/4)
	Offset	X ± 0.5 mm (± 1/64 in)	35.5 (1-13/32)	35.5 (1-13/32)
		Y	Dimension Y must exceed X from 1 mm (1/32 in) to 2 mm (5/64 in)	Dimension Y must exceed X from 1 mm (1/32 in) to 2 mm (5/64 in)
	Drive Belt Adjustment	Deflection mm (in)	38 (1-1/2)	38 (1-1/2)
		Force 5 kg (lbf)	11.50 (25.4)	11.50 (25.4)
	Driven Pulley Preload ± 0.7 kg (lbf)		0.0	0.0
	Drive Chain Tension		Fully tighten adjusting screw by hand then back OFF only far enough for hair pin installation	Fully tighten adjusting screw by hand then back OFF only far enough for hair pin installation
	Track Adjustment	Deflection	30 to 35 mm (1-3/16 to 1-3/8 in) with a 7.3 kg (16 lb) downward pull	30 to 35 mm (1-3/16 to 1-3/8 in) with a 7.3 kg (16 lb) downward null

A dot (•) on right indicates changes from 1999 model.

① Engine speed at which maximum power is achieved.

[®] At 3500 RPM (engine cold) with headlamp turned on.

- ③ During the first 8 hours, the timing curve is retarded by 2° between 4500 RPM and maximum RPM. Because checking ignition timing is done at lower RPM, this will not affect the 3500 RPM timing specification.
- ④ Distance to be adjusted after a 10-hours break-in period.
- ⑤ 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



No. 2000-11

Date: October 15, 1999

SUBJECT: Predelivery Procedures

YEAR	MODEL	MODEL NUMBER	SERIAL NUMBER
2000	Canada and United States: Grand Touring* 600 Formula* Deluxe 700 Formula Deluxe 600 Formula Z 700 Formula Z 600	1488/1489 1549/1550 1547/1548 1553/1554 1651/1652	All
2000	Europe: Grand Touring 600 Formula Deluxe 700	1490 1607	All

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

🕂 WARNING

To obtain limited warranty coverage, predelivery procedures must be performed by an authorized Ski-Doo[®] 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 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, there might be some differences between the manufactured product and the descriptions and/or specifications in this document. Bombardier 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.





🕂 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 crate base. Tip cover toward front or rear of vehicle. There is a notch at the front of crate. Lift cover slowly to avoid damaging any part of the snowmobile.

NOTE: On some models, snow guard may interfere with crate cover, as shown in the following photo. Push on snow guard when lifting cover.



FROM OUTSIDE CRATE PUSH ON SNOW GUARD TO ALLOW COVER TO LIFT WITHOUT DAMAGING SNOW GUARD 1. Snow guard interfering with crate cover



TYPICAL

1. Notch

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

Remove ropes and cut locking ties retaining windshield. Keep latches securing ropes on windshield for further use.

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

Keep ski leg bolts and bushings to bolt skis to ski legs. Discard crating spacers and nuts.

Remove vehicle from base.

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

FRONT HOOK REMOVAL

Procedure

Apply parking brake.

Lift rear of vehicle so that a block or a box can be positioned under front wheel, as shown on the next photo.



EDGE OF BOX ALIGNED WITH WHEEL AXIS

From left side of vehicle, cut locking tie, then apply pressure onto rear bumper with right hand, as shown on the following photo.



TYPICAL

Using left hand, remove hook from suspension, as shown on the following photo.

\land WARNING

Before removing hook always verify that vehicle is properly supported and that parking brake is applied.



TYPICAL — REMOVE HOOK

1. Front arm

2. Runner

REAR HOOK REMOVAL

Grand Touring 600 Only

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



TYPICAL

1. Remove hook

Shipping hooks must be removed to have snowmobile suspension operational.

PREDELIVERY KIT P/N	MODELS	
549 010 889	Grand Touring 600	
549 010 886	Formula Deluxe 700 Formula Deluxe 600	
549 010 932	Formula Z 700 Formula Z 600	



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



PARTS INSTALLATION FRONT SUSPENSION



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 top and bottom screw heads toward front of vehicle and secure with nuts provided in predelivery kit (section no. 4 or 8). It may be useful to compress shock a little to ease installation.



TYPICAL — RH SIDE SHOWN

- Shock absorber (2) (engine compartment) adjusting ring at bottom Screw $M10 \times 1.5 \times 55$ (2) (on suspension) Screw $M10 \times 1.5 \times 55$ (2) (on suspension) 1.
- 2. 3.
- 4. Flanged elastic nut M10 x 1.5 (4) (section no. 4 or 8). Torque to 48 N•m (35 lbf•ft)
Install caps, provided in predelivery kit, on bottom pan, each side of upper bolts.



SNAP PROVIDED CAPS (SECTION NO. 5 OR 6) EACH SIDE OF UPPER BOLTS



PARTS INSTALLATION BATTERY



Well located on its rack, in front of chaincase cover, battery is a gel type that could be charged, during vehicle preparation, as described in the Shop Manual.

CAUTION: Prior to charging the battery, always remove it from the vehicle. Do not charge an installed battery.

Battery Removal

Unhook retaining strap and then remove battery.

Battery Installation

Properly position battery on its rack.

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

Connect BLACK negative cable LAST.

\land WARNING

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

Secure battery with retaining strap.



BATTERY CONNECTION

- RED positive cable
 RED positive wire
 BLACK negative cable under battery strap

Apply silicone dielectric grease (P/N 413 701 700) on battery posts and connectors.



PARTS INSTALLATION SKIS



Install skis on vehicle.



LEFT SIDE SHOWN

- Ski stopper (2) (section no. 3 or 8) with higher side toward front
 Flanged nut M12 x 1.75 (2) (section no. 2 or 8). Torque to 32 N•m (24 lbf•ft)
 Bolt M12 (2) (ski leg)
 Washer (2) (section no. 1 or 8). Installed on bolt head side



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 from 21 to 28 N•m (16 to 20 lbf•ft). Reinstall steering pad, adjust and tighten throttle and brake handle housings.



TYPICAL

- Steering pad (engine compartment)
 Keyway (2) (section no. 3 or 6). Use liquid soap to ease installation
 Screw M5 x 20 (2) (section no. 3 or 6)
 Nut M5 (2) (section no. 3 or 6). Seat tighten only, no deformation of rubber
- 5.
- Loosen Allen screw Torque nuts from 21 to 28 N•m (16 to 20 lbf•ft) 6.
- 7. Equal gap each side



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

Hydraulic Brake Tightening

Loosen master cylinder may be necessary. When securing it back in place, install upper clamp with its arrow pointing toward front of vehicle. Tighten front bolt before rear one. Secure to 8 Nom (71 lbf**∙in**).



1. Arrow on upper clamp pointing at front of vehicle 2. Tighten front screw first



PARTS INSTALLATION WINDSHIELD

Unclip inner protector from headlamp protector. Insert tabs of headlamp protector in windshield square holes.

Clip inner protector in place.

Secure windshield assembly on hood using latches.



- Headlamp protector
 Windshield
- Windshield
 Inner protector



1. Latch (8) (P/N 570 023 800) (4 already on headlamp protector, 2 on windshield and 2 on section no. 1 or 3)



TYPICAL — WINDSHIELD INSTALLED

Formula Deluxe 600/700 and Grand Touring 600 Models Only

Lift cap on right side of handlebar and install heated visor extension cord, supplied in kit, (section no. 3 or 8).





PARTS INSTALLATION BACKREST



Grand Touring 600 Model Only

Remove mouldings and secure backrest frame on tunnel then install lever assembly onto luggage rack rail as explained on following drawing.

Install hand protectors with rivets (P/N 390 907 700) (section no. 9) onto luggage rack handle. Reinstall mouldings.



- 1. Handle protector (2). Secure with rivets (section no. 9) 2. Screw (2) (P/N 207 182 584) (section no. 4) 3. Washer (2) (P/N 234 081 670) (section no. 5) 4. Plastic washer (2) (P/N 414 819 600) (section no. 3) 5. Elastic nut (2) (P/N 232 581 414) (section no. 4). Torque to 8 N•m (73 lbf•in) 6. Lever assembly (2) (P/N 580 611 000) (section no. 5) 7. Guide (2) (P/N 517 257 300) (section no. 3) 8. Rubber shim (2) (P/N 570 027 400) (section no. 4) 9. Spacer (2) (P/N 517 251 300) (section no. 5) 10. Flanged washer (2) (P/N 414 819 500) (section no. 2) 11. Threaded plate (2) (P/N 517 250 000) (section no. 2)

- 11. Threaded plate (2) (P/N 517 250 000) (section no. 2)

Turn adjustment knob left or right to adjust back-rest cushion position.





PARTS INSTALLATION DRIVE BELT



Clean pulleys and disc brake with a suitable cleaner such as Loctite Parts Cleaner (P/N 413 711 809) before installing drive belt.

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LIQUIDS ENGINE OIL LEVEL

SUPPLEMENTAL OIL

To assure additional protection during the initial engine break-in, 500 mL (18 imp. oz.) of BOMBARDIER-ROTAX injection oil (P/N 413 803 000) 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 a carburetor aside.

Bleed main oil line by loosening the bleeder screw until air has escaped from the line. Add injection oil as required.



A32C08A

- 1. Bleeder screw
- Marks on lever
 Mark on pump body
- *4. Main oil line*

Check also for proper oil lever adjustment. Mark on pump body must be set between 0 and 1 mm (0 and .039 in) above second mark on lever when throttle lever is activated just enough to take all

Reinstall all parts.

cable play.

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

NOTE: Make a J hook out of mechanical wire to reach the lever from magneto side and pull it in full open position.

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LIQUIDS BRAKE FLUID LEVEL

Check brake fluid in	reservoir on	handlebar for	proper lev	vel. Add fluid	d (DOT 4)	as required.
						us required.

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



Rear suspension is calibrated at factory. At predelivery, 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.



Adjustment chart
 Pulley guard

A CONTRACTOR	ADJUSTMENTS TRACK	A CONTRACTOR
	MACK	

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

When operation is done, install wheel caps provided with the predelivery kit (section no. 4 or 9) on rearmost wheels.

NOTE: If lubricant is needed to help cap installation, use lens cleaner instead of soapy water to avoid cap to get out from its location due to soap residual.



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

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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.

	MODEL			FORMULA D	ELUXE 700	FORMULA D	DELUXE 600
6	Engine Type			69	3	59	93
$\hat{\mathcal{T}}$	Maximum HP RPM ①	± 10	0 RPM		80	000	
	Rotary Valve	Opening (E Closing (J	P/N BTDC)/ ATDC)		Ν	.A.	
	Carburetor Type			PTO VM 40 - 128	MAG VM 40 - 128	PTO VM 40 - 122	MAG VM 40 - 122
	Main Jet				PTO 280,	MAG 280	
	Needle Jet			Z-7 (2	224)	Z-9 (224)
	Pilot Jet			45	5	37	.5
	Needle Identification — C	lip Position		7DHY6	õ−3	7DFY	1 — 3
	Slide Cut-Away				2	2.5	
	Float Adjustment ± 1 mm (± 0.04 in)		22.9 (.90)				
	Air Screw Adjustment ± 1/16 turn		1		1/2		
	Idle Speed RPM ± 200 RPM			16	500		
	Gas Grade/Pump Octane Number (R + M)/2				Regular u	nleaded/87	
	Gas/Oil Ratio				Oil in	jection	
4	Ignition Timing BTDC 2 3 mm (in)		3.3 (.13	6 2)	3. (0.1	0 18)	
7	Trigger Coil Air-Gap (in)		0.55 - 1.45 (.022057)				
	Gear Ratio		Teeth	25/4	44	24/	/44
	Engagement Speed ± 100 RPM				38	300	
	Drive Pulley Calibration Screw Position			3			
	Pulley Distance	Z ± 0 (± .0	.5 mm 020 in)	16.5 (.650)			
6	Offect	X ± 0 (± .0	.5 mm 020 in)	35.5 (1.398)			
	Onset	Υ		C	Dimension Y mu 1 mm (1/32 in) t	ist exceed X from to 2 mm (5/64 in)	1
\bigcirc	Drive Belt Adjustment	Deflection (± 3)	5 mm /16 in)		(1-	32 1/4)	
		Force ④ k	(lbf)		11.3	4 (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)		ım (in)	30 to 35 (1-3/16 to 1-3/8) with a 7.3 kg (16 lb) downward pull			

① Engine speed at which maximum power is achieved.

② 22° at 3500 RPM (engine cold) with headlamp turned on.

⁽³⁾ During the first 8 hours, the timing curve is retarded by 3° between 4500 RPM and maximum RPM. Because checking ignition timing is done at lower RPM, this will not affect the 3500 RPM timing specification.

④ 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

	MODEL			FORMUL	A Z 700	FORMU	LA Z 600
6	Engine Type			69	3	5	93
$\hat{\mathcal{T}}$	Maximum HP RPM ① ± 100 RPM				80	000	
(Rotary Valve	Opening (BTI Closing (AT	P/N DC)/ DC)		Ν	.A.	
	Carburetor Type			PTO VM 40 - 134	MAG VM 40 - 134	PTO VM 40 - 122	MAG VM 40 - 122
	Main Jet			PTO 300	MAG 300	PTO 280	MAG 280
	Needle Jet			Z-7 (2	224)	Z-9	(224)
	Pilot Jet			40)	3	7.5
ፈሻሳ	Needle Identification —	Clip Position		7DHY6	õ−3	7DFY	′1 — 3
	Slide Cut-Away				2	2.5	
	Float Adjustment ± 1 mm (± 0.04 in)			22.9 (.90)			
	Air Screw Adjustment ± 1/16 turn		1		1	1/2	
	Idle Speed RPM ± 200 RPM		1600				
	Gas Grade/Pump Octane Number (R + M)/2				Regular u	nleaded/87	
	Gas/Oil Ratio			Oil injection			
	Ignition Timing BTDC [©] ^③ (in)			3.3 (.13	86 32)	3 (.1	:.0 18)
7	Trigger Coil Air-Gap	I	mm (in)	0.55 - 1.45 (.022057)			
	Gear Ratio	Te	eth	25/-	43	24	/43
	Engagement Speed ± 100 RPM				38	300	
	Drive Pulley Calibration	Screw Position		3			
	Pulley Distance	Z ± 0.5 (± .020	mm) in)	16.5 (.650)			
6	0#	X ± 0.5 (± .020	mm) in)	35.5 (1.398)			
	Oliset	Y		Dimension Y must exceed X from 1 mm (1/32 in) to 2 mm (5/64 in)		in)	
	Drive Belt Adjustment	Deflection ± 5 (± 3/16	mm 6 in)		; (1-	32 1/4)	
	,	Force ④ kg	(lbf)		11.3	4 (25)	
	Driven Pulley Preload	± 0. (± 1.5	7 kg Ibf)	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 to 1-3/8) with a 7.3 kg (16 lb) downward pull			lownward pull

- ① Engine speed at which maximum power is achieved.
- ② 22° at 3500 RPM (engine cold) with headlamp turned on.
- ⁽³⁾ During the first 8 hours, the timing curve is retarded by 3° between 4500 RPM and maximum RPM. Because checking ignition timing is done at lower RPM, this will not affect the 3500 RPM timing specification.
- ④ 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

	MODEL			GRAND TOU	JRING 600	
0	Engine Type			593	3	
$\hat{\mathcal{T}}$	Maximum HP RPM ① ± 100 RPM			800	0	
\bigcirc	P/N Rotary Valve Opening (BTDC)/ Closing (ATDC)			N.A.		
	Carburetor Type			PTO VM 40 - 122	MAG VM 40 - 122	
	Main Jet			PTO 280	MAG 280	
	Needle Jet			Z-9 (2	24)	
	Pilot Jet			37.5	5	
@	Needle Identification — C	Clip Position		7DFY1	— 3	
	Slide Cut-Away			2.5	5	
	Float Adjustment ± 1 mm (± 0.04 in)			22.9 (.90)		
	Air Screw Adjustment ± 1/16 turn			1/2		
	Idle Speed RPM ± 200 RPM			1600		
	Gas Grade/Pump Octane Number (R + M)/2			Regular unleaded/87		
	Gas/Oil Ratio			Oil injection		
4	Ignition Timing BTDC 2 3 mm (in)			3.0 (0.118)		
7	Trigger Coil Air-Gap mm (in)			0.55 - 1.45 (.022057)		
	Gear Ratio teeth			23/4	4	
	Engagement Speed ± 100 RPM			360	0	
	Drive Pulley Calibration Screw Position			3		
	Pulley Distance	Z ± 0.5 (± .020	mm 0 in)	16.5 (21/32)		
	Offect	X ± 0.5 (± .020	mm 0 in)	35. (1.39	5 98)	
	Onset	Y		Dimension Y must exceed X from 1 mm (1/32 in) to 2 mm (5/64 in)		
	Drive Belt Adjustment	Deflection ± 5 (± 3/16	mm 6 in)		4)	
		Force ④ kg	(lbf)	11.34	(25)	
	Driven Pulley Preload	± 0. (± 1.5	7 kg 5 lbf)	7.0 (15.4) 3)	
	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 to 1-3/8) with a 7.3 kg (16 lb) downward pull		

- ① Engine speed at which maximum power is achieved.
- 22° at 3500 RPM (engine cold) with headlamp turned on.
- ⁽³⁾ During the first 8 hours, the timing curve is retarded by 3° between 4500 RPM and maximum RPM. Because checking ignition timing is done at lower RPM, this will not affect the 3500 RPM timing specification.
- ④ 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





No. **2000-5**

Date: September 10, 1999

SUBJECT: Predelivery Procedures

YEAR	MODEL	MODEL NUMBER	SERIAL NUMBER
2000	Canada and United States: Mini Z*	1592	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.

\land WARNING

To obtain limited warranty coverage, predelivery procedures must be performed by an authorized Ski-Doo[®] 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 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, there might be some differences between the manufactured product and the descriptions and/or specifications in this document. Bombardier 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, Predelivery Check List* signed copy and *video*.





\land 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 crate base. Tip cover toward front of vehicle. Lift cover slowly to avoid damaging the snow guard or taillight.



TYPICAL

Remove predelivery bag from engine compartment.

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

Detach skis from the crate base.



1. Detach skis from crate

Detach ski legs from crate. Keep ski leg bolts and washers. Discard nuts.



1. Remove bolt, keep it

Remove vehicle from base.

Lean on vehicle seat to apply pressure on rear suspension and remove hook from rear portion of suspension.

\land WARNING

Hook must be removed to have snowmobile suspension operational.



PARTS INSTALLATION

SKIS



Lift front of vehicle to install skis.

Make sure that ski leg spacers are still on ski legs. Slide ski on ski leg as shown in the next photo.



A31G01A

SLIDE SKI 1. Ski leg spacer

Ensure that ski pin is properly centered into ski leg, as shown in the following photo.

Install ski bolt, washer, nut and cotter pin.



- Bolt head toward OUTSIDE of vehicle 1.
- Washer, nut and cotter pin (not shown) toward inside of vehicle
 Ski pin centered into ski leg

Replace vehicle on ground.



LEFT SIDE SHOWN

- Nut M10 (2) (P/N 232 201 414 in predelivery bag). Torque to 3 N•m (27 lbf•in)
 Spacer (2) (ski leg)
 Bolt M10 (2). Bolt head from outside vehicle
 Washer (4) (ski leg)
 Cotter pin (2) (P/N 371 800 200 in predelivery bag)
 Twist ski to ease bolt installation



PARTS INSTALLATION WINDSHIELD



Peel off protective film from windshield.

Yuu	LIQUIDS	Jum
	ENGINE OIL LEVEL	

Check engine oil level. Add SAE 5W/30 recommended oil as required. Refer to the following photos.



ADD OIL UNTIL IT REACHES THE TOP OF THE OIL FILLER NECK 1. Top of the oil filler neck **CAUTION:** When checking engine oil level in crankcase, ensure vehicle is on level ground.



1. Proper oil level



ADJUSTMENTS TRACK



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





The content of the TECHNICAL DATA pages should be used as necessary to fine-tune and perform additional adjustments required on the snowmobile. Further inquires should be directed to your dealer distributor service representative.

	MODEL		MINI Z	
	Engine Type		4-stroke, overhead valves single cylinder, inclined at 25°, QB26, Model GX120K1 by Honda	
	Maximum HP/RPM (Engine speed at which maximum power is achieved)		4.0 HP at 4000 RPM	
	Lubricating System/Oil Capacity		Splash Type (Oil Bath)/0.6 L	
	Carburetor Type		Horizontal Type, Butterfly Valve	
	Main Jet		# 68 (Externally vented carb. bowl)	
	Float Height		13.7 mm (.539 in)	
	Pilot Screw Opening		2 turns out (Externally vented carb. bowl)	
	Idle Speed RPM ± 150 RPM		1400 (RPM)	
	Gas Grade/Pump Octane Number	(R + M)/2	Regular Unleaded/87	
	Ignition Timing		25° (Fixed)	
7	Spark Plug Type/Gap		NGK BPR6 ES/ 0.7-0.8 mm .028031 (in)	
	Drive Sprocket/Driven Sprocket	teeth	10/48	
	Drive Sprocket Diameter	mm/in	101.6/4.0	
	Clutch Type		Automatic Centrifugal	
\bigcirc	Chain Type		Standard Rollers Type 40/78	
	Chain Pitch	mm/in	12.7/0.5	
	Track Alignment		Equal distance between edges of track guides and slider shoes	
	Track Deflection		35 mm 1-3/8 (in) Measure gap between slider shoe and bottom inside of track when exerting a downward pull of 7.3 kg (16 lb) to the track	





No. 2000-9

Date: October 1, 1999

SUBJECT: Predelivery Procedures

YEAR	MODEL	MODEL NUMBER	SERIAL NUMBER
2000	Canada Skandic* WT Skandic WT LC Skandic SWT	1598 1596 1600	All
2000	United States Skandic WT Skandic WT LC Skandic SWT	1599 1597 1601	All

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

To obtain warranty coverage, predelivery procedures must be performed by an authorized Ski-Doo[®] 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 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, there might be some differences between the manufactured product and the descriptions and/or specifications in this document. Bombardier 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 procedures should have attended the current model year service training. Further information or inquiries 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*.





🕂 WARNING

Torque wrench tightening specifications must be strictly adhered to. Locking devices (e.g. lock tabs, nylon 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 damages to the vehicle.

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



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.

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 before removing ski legs and rear suspension from crate brackets.

Detach ski legs from crate. Discard screws.



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



Remove vehicle from base.



PARTS INSTALLATION BATTERY

During preparation, the battery can be activated as described in *2000 Ski-Doo Shop Manual.*

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

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

Battery Removal

Remove air silencer.

Undo steel strips nut and screw holding battery and remove battery.

Battery Installation

Deposit battery on its rack.

Connect battery cables.

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

Reinstall battery cover and secure battery with steel strips. Apply silicone dielectric grease (P/N 293 550 004) on battery posts and connectors.

Ensure that battery vent tube is properly installed from battery to the plug provided on the frame and that it is not kinked.

Reinstall air silencer.



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 243 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)

Secure rear arm using previously removed screws.

NOTE: For single driving condition use upper hole and for two person driving condition or load in rack, use lower hole.

Apply Loctite 243 on threads and torque screws to 58 N•m (43 lbf•ft).

NOTE: Also in shrink pack are 4 horse shoe type washers that are used to adjust rear suspension for trail riding according to load (refer to the *2000 Shop Manual* for proper procedure); they are to be put in the tool box for further use.



PARTS INSTALLATION FRONT SUSPENSION



Remove long bolts that compress front suspension on both sides.



Install 2 plastic bushings into shock absorber eyelets. Stretch shock to its maximum.

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

Loosely install conical spring washer, concave surface inside, and M10 nut on shock rods, keeping at least 1/4 in (5 mm) of free play.



1. Plastic bushings



PARTS INSTALLATION SKIS



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



LEFT SIDE SHOWN 1. Stop bounding

Install skis on vehicle using bolts, nuts, conical spring washers (concave surface inside) and rubber bush-ings supplied in the predelivery kit.



- Stop bounding
 Sleeve
 Rubber bushing (2)
 Conical spring washer (2)
 Bolt M10 x 125
 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 from 21 to 28 N•m (16 to 21 lbf•ft).

Loosen throttle and brake handle housings.

Install steering pad.

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



TYPICAL

Step 1: Torque from 21 to 28 N•m (16 to 21 lbf•ft)

- Steering pad
 Steering pad
 Keyway. Use liquid soap to ease installation
 Screw M5 x 0.80 x 20 (2)
 Nut M5 x 0.80 x 20 (2). Seat tighten only, no deformation of rubber
 Steering column cover (Skandic SWT only)
 Clamp bracket
 Equal gap on each side (both clamps)



PARTS INSTALLATION WINDSHIELD



Remove headlamp molding.

Install air intake cover with filter and rubber support assembly in predrilled holes on the hood. Retain with 4 supplied push nuts, using 2 end pins on each side.



Step 1: Pry out headlamp moldingStep 2: Install air intake cover with filter, rubber support and push nuts

Step 3: Install windshield

Step 4: Install latches (10)

Install rubber expansion nut in hole above head light.

Install windshield and secure with latches inside hood.

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

Tighten slightly so that rubber expands inside hood. Reinstall headlamp molding.

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

Secure inside hood plastic with supplied green clips (if not already secured).



Rubber expansion nut
 Hole in windshield

ALUMINUM FOIL HEATSHIELD

Skandic SWT Only

Found in seat compartment, an aluminum foil heatshield has to be installed on hood inner surface.

Remove backing from heatshield, align inside hood above braking mechanism (disc), and stick in place, as per following illustration.

NOTE: This heatshield has to be installed over the duct in order to protect both the duct and the hood from heat. Do not remove duct since this heatshield goes over it.



TYPICAL

1. Heatshield



PARTS INSTALLATION BACKREST



SEAT BELT

Skandic SWT Only

A seat belt can be found in luggage compartment. Install it on seat using belt lugs each side of seat base.

BACKREST

Skandic WT and Skandic WT LC Only

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

Install backrest in its proper position.

Secure rear arm of backrest using 2 M8 \times 30 screws found in shrink pack.

Align front arm of backrest and secure with M8 x 20 screws included in the shrink pack.



1. Spacer



PARTS INSTALLATION DRIVE BELT



Clean pulleys and disk brake with a suitable cleaner such as Loctite Parts Cleaner (P/N 413 711 809) before installing drive belt.

Install drive belt in its proper rotation direction, arrow pointing at front.

1	μ

LIQUIDS OIL INJECTION PUMP BLEEDING

_	
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	μ
	=

All Models

To assure additional protection during the initial engine break-in, 500 mL (18 imp. oz.) of BOMBARDIER-ROTAX injection oil (P/N 413 802 900) should be added to fuel for the first full filling of fuel tank.

Skandic WT/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.



- No air in main line
- 2. Bleeder screw

Check also for proper oil lever adjustment; mark on lever must be from 0 to 2 mm (0 to 0.080 in) over mark on pump body when throttle lever is activated just enough to take all cable free-play.

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



Small oil line

1. 2. Mark on lever must be from 1 to 2 mm (0.040 to 0.080 in) 3. Main oil line

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 pump lever adjustment; mark on lever must align 1 to 2 mm (0.040 to 0.080 in) over mark on pump body when throttle lever is activated just enough to take all cable freeplay.

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

SNOW GUARD

Install snow guard with extra plastic support (in luggage compartment) using rivets supplied in its packaging.



1. Snow Guard 2. Protector Pad



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 partially filled bottle of brake fluid.



1. Fluid level window

μ

LIQUIDS ENGINE OIL LEVEL

7	
	μ

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 ethylene glycol antifreeze containing corrosion inhibitors specially recommended for aluminum engines. Always use 50% antifreeze and 50% water for this particular type of snowmobile.

Reinstall pressure cap.

Run engine until thermostat opens then stop engine.

Check hoses for leaks.

When engine has completely cooled down, recheck coolant level and top up if necessary.



ADJUSTMENTS TRACK

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

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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.

A dot (•) on right indicates changes from 1999 model.

	M	IODEL	SKANDIC SWT	SKANDIC WT
6	Engine Type		ROTAX 503	ROTAX 503
$\mathring{\mathcal{T}}$	Maximum HP RPM ①	± 100 RPM	6800	6800
	Rotary Valve	P/N Opening (BTDC)/ Closing (ATDC)	Not Applicable	Not Applicable
	Carburetor Type		2 x VM 34-19034	2 x VM 34-19034
	Main Jet		185	185 •
	Needle Jet		P-1 (159)	P-1 (159)
	Pilot Jet		40	40
	Needle Identification —	Clip Position	6DH2-3	6DH2-3
	Slide Cut-Away		2.5	2.5
	Float Adjustment	mm (in)	36.5 (1.43)	36.5 (1.43)
	Air Screw Adjustment	± 1/16 turn	1.25	1.25 •
	Idle Speed	± 200 RPM	1650 •	1650 •
	Gas Grade/Pump Octane Number (R + M)/2		Regular Unleaded 87	Regular Unleaded/87
	Gas/Oil Ratio		Oil Injection	Oil Injection
4	Ignition Timing BTDC 2	mm (in)	1.66 (.065)	1.66 (.065)
7	Trigger Coil Air Gap	mm (in)	0.45 - 0.55 (.018022)	0.45 - 0.55 (.018022)
	Gear Ratio		1 st gear 1:3.80 2 nd gear 1:2.29 R gear 1:4.63	1 st gear 1:3.38 2 nd gear 1:2.04 ● R gear 1:3.88
	Engagement Speed	± 100 RPM	3000	3000 •
	Drive Pulley Calibration	Screw Position	2	4 •
	Pulley Distance	Z (+ 0, - 1) mm (+ 0, - 1/32) in	32.3 (1-17/64)	32.3 (1-17/64)
		X ± 0.4 mm (± 1/64 in)	35.0 (1-3/8)	35.0 (1-3/8)
	Offset	Υ	Dimension Y must exceed X from .75 mm (.03 in) to 2.25 mm (.09 in)	Dimension Y must exceed X from 0.75 mm (.03 in) to 2.25 mm (.09 in)
	Deflection n	Deflection mm (in)	32 (1-1/4)	32 (1-1/4)
		Force ③ kg (lbf)	11.3 (25)	11.3 (25)
	Driven Pulley Preload		7.0 + 1/- 0 (15.4 ± 1.5)	7.0 + 1/- 0 (15.4 ± 1.5)
	Drive Chain Tension		Not Applicable	Not Applicable
	Track Adjustment	Deflection mm (in)	40 to 50 (1.6 to 2.0)	40 to 50 (1.6 to 2.0)
		Force kg (lbf)	7.3 (16.1)	7.3 (16.1)

NOTE: See end of specifications for footnotes.

	MODEL		SKANDIC WT LC	
	Engine Type		494	
$\hat{\mathcal{T}}$	Maximum HP RPM ①	RPM ± 100	7000	
	Rotary Valve	P/N Opening (BTDC)/ Closing (ATDC)	420 924 509 148° 52°	
	Carburetor Type		PTO VM 34-19106 MAG VM 34-19105	
	Main Jet		PTO 250 MAG 240	
	Needle Jet		P-2 (159)	
	Pilot Jet		40	
<u> ~_</u>	Needle Identification — 0	Clip Position	J8 - 6DGH10 - 2 •	
	Slide Cut-Away		2.5	
\bigcirc	Float Adjustment ± 1 mm (± .040 in)		36.5 (1.437)	
	Air Screw Adjustment ± 1/16 turn		0.75 •	
	Idle Speed RPM ± 200 RPM		1900	
	Gas Grade/Octane Number (R + M)/2		Regular Unleaded/87	
	Gas/Oil Ratio		Oil Injection	
Ignition Timing BTDC ⁽²⁾ mm (in)		mm (in)	1.81 (.071)	
7	Trigger Coil Air Gap mm (in)		0.55 - 1.45 (.022057)	
	Gear Ratio		1 st gear 1:3.38 2 nd gear 1:1.89 R gear 1:3.88	
	Engagement Speed	± 100 RPM	3000	
	Drive Pulley Calibration S	Screw Position	4	
	Pulley Distance	Z (+ 0, - 1) mm (+ 0, - 1/32) in	32.3 (1-17/64)	
	0#	X ± 0.4 mm (± 1/64 in)	35.0 (1-3/8)	
	Onset	Y	Dimension Y must exceed X from .75 mm (.03 in) to 2.25 mm (.09 in)	
	Drive Belt Adjustment	Deflection mm (in)	32 (1-1/4)	
	Drive beit Aujustment	Force ③ kg (lbf)	11.3 (25)	
	Driven Pulley Preload	kg (Ibf)	7.0 + 1/- 0 (15.4 ± 1.5)	
	Drive Chain Tension		Not Applicable	
	Track Adjustment	Deflection mm (in)	40 to 50 (1.6 to 2.0) with a 7.3 kg (16 lb) downward pull	

 $\textcircled{\sc 0}$ 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.





No. 2000-1 <u>REVISION 1</u>

Date: September 10, 1999

SUBJECT: Predelivery Procedures

YEAR	MODEL	MODEL NUMBER	SERIAL NUMBER
2000	Tundra* R	3276	All

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

A WARNING

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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.





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 drill or 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 and front bumper) from the vehicle and crate's base.

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	MODEL
549 010 807	Tundra* R

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




PARTS INSTALLATION STEERING PAD



Pull handle bar up and tighten bolts. Torque to 26 N•m (19 lbf•ft). Install steering cover.



- Steering cover (P/N 572 066 900) (on handlebar)
 Equal gap all around
 26 N•m (19 lbf•ft)



PARTS INSTALLATION **FRONT BUMPER**



Unwrap front bumper.

Install bumper using bushings and elastic nuts provided in predelivery kit.

NOTE: Take care to install bumper with plastic ends pointing downward as per photo.



- Bumper end downward
 Groove on top



- Elastic nut M8 x 1.25 (4) (P/N 232 581 414) (section no. 2). Torque to 15 N•m (11 lbf•ft)
 Bushing (long) (2) (P/N 517 250 600) (section no. 3)
 Bushing (short) (2) (P/N 517 250 700) (section no. 3)
 Groove on top
 A. 55 mm (2-1/8 in)



PARTS INSTALLATION SKIS





Upward Curve at rear
 Stopper already installed

Use bolt to secure ski to ski leg with elastic stop nut M10 (P/N 233 601 416) provided in section no. 1 of predelivery kit.

Torque to 30 N•m (22 lbf•ft).



Stopper already installed
 Align on stopper
 Secure with bolt



PARTS INSTALLATION WINDSHIELD

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Remove plastic films protecting windshield and secure with latches provided in predelivery kit.



1. Latch (9) (P/N 570 023 800) (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 degreaser (P/N 413 708 400) before installing drive belt.

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

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



LIQUIDS OIL INJECTION PUMP BLEEDING

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OIL

To assure additional protection during the initial engine break-in, 500 mL (18 imp. oz) of BOMBARDIER-ROTAX injection oil (P/N 413 802 900 — 12 x 1 L) 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 all air has escaped from the line.

CAUTION: If air remains in conduits, oil may not route in lines and thus damages will occur to engine.



1. Main oil line

- 2. Bleeder screw
- 3. Alignment marks
- 4. Small oil line

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

Check also for proper oil level adjustment. Mark on oil pump lever must align 0 to 2 mm (0 to 1/16 in) higher above mark on pump body when throttle lever is activated just enough to take all cable play.



TYPICAL — ENGINE AT IDLE 1. Fully open position

ABOUT THE ELECTRONIC REVERSE

Driving in reverse is obtained by changing the direction of rotation of the engine.

Shifting in reverse is an electronic operation consisting of a control module that will modify the ignition timing of the engine.

When depressing the reverse button, a signal will slow down the engine RPM enough to modify the ignition timing advance in order to reverse the rotation of the crankshaft.

No mechanical action and gear change is involved. No adjustment is needed.

Forward to Reverse Shifting Procedure

With the snowmobile completely stopped and engine running at idle, press and release the electronic reverse button. The engine RPM will decrease for a few seconds then the engine will start rotating in the opposite direction and return to its normal idle speed.

NOTE: A reverse indicator lamp will illuminate and a warning buzzer will sound when the snowmobile is engaged in reverse.



TUNDRA R

- 1. Reverse button
- 2. Reverse indicator lamp

These snowmobiles are capable of fast reverse. Always remain seated and apply the brake before shifting. Come to a complete stop before pressing the reverse button. Ensure the path behind is clear of obstacles or bystanders. Fast reverse while turning could result in loss of stability.

Apply throttle slowly and evenly. Allow drive pulley to engage then accelerate carefully.

CAUTION: Do not rev the engine when driving in reverse. This may cause the clutch system to operate erratically.

It is recommended to warm up the engine to its normal operating temperature before shifting.

Shifting procedure will take place only when the engine is running.

Engine will automatically shift into forward when starting after stopping or stalling.





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.

	MODEL			TUNDRA R
	Engine Type		277	
\bigotimes	Maximum HP RPM ①		± 100 RPM	6900
	Carburetor Type			VM 34 - 551
	Main Jet			190
	Needle Jet			O-8 (159)
	Pilot Jet			40
	Needle Identification — Clip Position			6DH4-2
	Slide Cut-Away			2.5
	Float Adjustment		± 1 mm (± .04 in)	23.9 (.94)
	Air Screw Adjustment ± 1/16 turn		1	
	Idle Speed ± 200 RPM			1650
	Gas Grade Octane Number ⁽²⁾ (R + M)/2		Regular unleaded 87	
	Gas/Oil Ratio			Oil injection
	Ignition Timing BTDC 3)	mm (in)	3.61 (0.142)
7	Trigger Coil Air-Gap mm (in)		<u>0.5 - 0.7</u> (0.20 - 0.28)	
	Engagement Speed		± 100 RPM	3100
	Pulley Distance	Z	(+ 0, - 1.5) mm ((+ 0, - 1/16) in)	37.0 (1-29/64)
	Offset	х	± 1.0 mm (± 1/32 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	± 5 mm (± 13/64 in)	32 (1-1/4)
		Force ④	kg (lbf)	6.8 (15)
	Driven Pulley Preload ± 0.7 kg (± 1.5 lbf)		0.00	
	Drive Chain Tension			Automatic (spring loaded)
	Track Adjustment	Deflection 6	mm (in)	35 - 40 (1.378 - 1.575)

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 3500 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.





No. 2000-2 REVISION 1

Date: September 10, 1999

SUBJECT: Predelivery Procedures

YEAR	MODEL	MODEL NUMBER	SERIAL NUMBER
2000	Canada and United States: Touring SLE Touring LE Touring E Skandic 500 Skandic 380	1472/1473 1475/1476 1477/1478 1480/1481 1483/1484	All
2000	Europe: Touring SLE Touring E	1474 1479	All

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

To obtain limited 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 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, there might be some differences between the manufactured product and the descriptions and/or specifications in this document. Bombardier 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.





\land 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. 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.

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.

SUSPENSION HOOK REMOVAL

Procedure

Apply parking brake.

Lift rear of vehicle so that a block or a box can be positioned under front wheel, as shown on the next photo.



EDGE OF BOX ALIGNED WITH WHEEL AXIS

Cut locking tie retaining front hook and from left side of vehicle, apply pressure onto rear bumper with right hand, as shown on the following photo.



TYPICAL

Using left hand, remove hook from suspension, as shown on the following photo.

Before removing hook always verify that vehicle is properly supported and that parking brake is applied.



TYPICAL

- 1. Front arm
- 2. Runner

\land WARNING

Shipping hook must be removed to have snowmobile suspension operational.

PREDELIVERY KIT P/N	MODEL	
549 010 844	Touring SLE	
549 010 839	Touring LE Touring E Skandic 500 Skandic 380	



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



PARTS INSTALLATION FRONT SUSPENSION



Cut locking tie retaining exhaust spring to exhaust support.



Lift front of vehicle and block safely.

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

Secure shock absorbers to suspension as shown on next drawing.

NOTE: On Touring SLE and Touring LE models, position both screw heads toward front. On other models, position lower screw head toward rear.

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



Lug in recess
 Locking tie



TYPICAL - RIGHT SIDE SHOWN

- Shock absorber (2) (engine compartment) 1.

- Screw M10 x 1.5 x 60 (2) (P/N 207 006 544) (on suspension)
 Screw M10 x 1.5 x 55 (2) (P/N 207 005 544) (on suspension)
 Flanged elastic nut (4) (P/N 233 601 416) (section no. 4) torqued to 48 N•m (35 lbf•ft)



PARTS INSTALLATION



BATTERY

Touring SLE, Touring LE and Touring E Models

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.

Untie plastic clip retaining throttle cable and choke cable to air silencer.

Loosen collar on carburetor adaptors. Remove air silencer.

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.

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
- 2. Positive RED cable 3. Negative BLACK cable

Apply silicone dielectric grease (P/N 413 701 700) 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.

Reinstall throttle cable and choke cable with plastic clip to air silencer.

Reinstall belt guard.



PARTS INSTALLATION SKIS



Install skis on vehicle.

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

Replace vehicle on ground.



TYPICAL — LEFT SIDE SHOWN

- Bolt M10 (2) (ski leg)
 Ski Stopper (2) (P/N 505 070 324)
 Nut M10 x 1.5 (2) (P/N 233 601 416) (section no. 4) torqued to 40 N•m (30 lbf•ft)



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 temporarily, and adjust for proper fit with console. Remove steering pad and torque nuts to 21 to 28 N•m (16 to 20 lbf•ft). Reinstall steering pad, adjust and tighten throttle and brake handle housings.



- Steering pad (P/N 572 023 800) (engine compartment)
 Keyway (2) (P/N 572 023 900) (section no. 2) use liquid soap to ease installation
 Screw M5 x 20 (2) (P/N 208 652 044) (section no. 3)
 Nut M5 (2) (P/N 233 251 414) (section no. 3) seat tighten only, no deformation of rubber
 Loosen Allen screw
 Torque nuts from 21 to 28 N•m (16 to 20 lbf•ft)
 Feruid can pach side
- Loosen Allen surev.
 Torque nuts from 21
 Equal gap each side

Models Equipped with a Hydraulic Brake

Loosen master cylinder may be necessary. When securing it back in place, screw front bolt before rear one. Secure to 8 N•m (6 lbf•ft).



ARROW ON BRACKET SHOWING WHICH BOLT TO SECURE FIRST



PARTS INSTALLATION WINDSHIELD





Lodge dart (section no. 6) in hole over headlamp.



DART (1) (P/N 414 644 300) (SECTION NO. 6) Secure windshield using latches.



TYPICAL

1. Latch (10) (P/N 570 023 800) (6 in section no. 6 and 4 on headlamp molding)

Reinstall headlamp molding.

NOTE: When reinstalling headlamp molding make sure lip is behind headlamp.



1. Headlamp

2. Lip of headlamp molding behind headlamp



PARTS INSTALLATION BACKREST



All Models Except Touring SLE

Remove backrest from its box and slip off plastic bag.

Place backrest each side of the bench and slide on mounting bracket as shown on next photo.

Screw in place using black Torx screws M8 x 20 (P/N 236 282 084) and lock washers M8 (P/N 234 181 601) (section no. 2).



 Slide backrest on mounting bracket and install with screws. Torque to 15 N•m (11 lbf•ft)

Touring SLE Only

Install arms in place and insert backrest in arms. Adjust it to the preferred angle and height using the plastic knobs (see photos) to fix it in place.



1. Backrest angle knob

2. Backrest height knob

NOTE: Use flat washers (P/N 732 900 050) included in the box to help tighten backrest's lower knob, as shown below.



- 1. Backrest angle knob
- 2. Flat washer
 3. Backrest arm

Adjust the cushion angle using the upper knob.



INSTALLED BACKREST
1. Backrest cushion angle knob



PARTS INSTALLATION





Clean pulleys and disc brake with a suitable cleaner such as Loctite Part Cleaner (P/N 413 708 400) before installing drive belt.

To ensure maximum drive belt life span, the new drive belt must be installed so that the Bombardier name can be read when facing pulleys.

CAUTION: The arrow indicates the direction of rotation.



CORRECT INSTALLATION



LIQUIDS **OIL INJECTION PUMP BLEEDING**

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	μ
	E

To assure additional protection during the initial engine break-in, 500 mL (18 imp. oz) of BOMBAR-DIER injection oil (P/N 413 802 900 — 12 x 1 L) 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.



- Main oil line 1
- Bleeder screw
 Alignment marks

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



 Fully open
 Small lines Fully open position

Check also for proper oil lever adjustment. Mark on pump lever must align to mark on pump body when throttle lever is activated just enough to take all cable play.

LIQUIDS **BRAKE FLUID LEVEL**

7	
	μ

Skandic 500 and Touring SLE Models Only

Check brake fluid in reservoir on handlebar for proper level. Add fluid (DOT 4) as required. **CAUTION:** Use only (DOT 4) brake fluid from a sealed container.



ADJUSTMENTS SUSPENSION



Rear suspension is calibrated at factory. At predelivery, 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.



Adjustment chart
 Pulley guard



ADJUSTMENTS TRACK



Refer to *Shop Manual* to adjust track tension and alignment. See Technical Data section at the end of this bulletin. When track is adjusted, install caps provided in Predelivery Kit (section no. 5).

NOTE: If lubricant is needed to help cap installation, use lens cleaner instead of soapy water to avoid cap to get out from its location due to soap residual.

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 spring settings. Specifications in Technical Data are applicable after break-in period (about 10 hours of use).

TECHNICAL DATA		
		•
	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.

The dot (•) indicates changes from 1999 model.

	MODELS		TOURING SLE	TOURING LE	TOURING E
(Engine Type		503	443	377
$\hat{\mathcal{T}}$	Maximum HP RPM ①	± 100 RPM	7000	7000	6900
\bigcirc	Rotary Valve	P/N Opening (BTDC)/ Closing (ATDC)		Not Applicable	
	Carburetor Type		PTO VM 34-549 MAG VM 34-550	PTO VM 34-547 MAG VM 34-548	PTO VM 30-200 MAG VM 30-200
	Main Jet		PTO 180 MAG 170	PTO 205 MAG 195	PTO 140 MAG 140
	Needle Jet		P-0 (159)	P-0 (159)	P-0 (159)
	Pilot Jet		40	35	40
	Needle Identification — Clip Position		6DH2-3	6DH2-3	6DP9-3
\bigcirc	Slide Cut-Away		2.5	2.5	2.5
	Float Adjustment ± 1 mm (± .040 in) .040 in)		23.9 (.94)	23.9 (.94)	23.9 (.94)
	Air Screw Adjustment ± 1/16 turn		1-7/8	1-1/2	1-1/4
	Idle Speed RPM ± 200 RPM		1650	1650	1650
	Gas Grade Octane Number (R + M)/2		Regular Unleaded 87		
	Gas/Oil Ratio		Oil Injection		
4	Ignition Timing BTDC 2	mm (in)	2.76 (0.109)	2.79 (0.110)	2.79 (0.110) •
	Trigger Coil Air-Gap	mm (in)	<u>0.5 - 0.7</u> (0.020 - 0.028)	<u>0.5 - 0.7</u> (0.020 - 0.028)	<u>0.5 - 0.7</u> (0.020 - 0.028)
	Gear Ratio	teeth	21/44	21/44	18/44
	Engagement Speed	± 100 RPM	2900	2900	2500
	Drive Pulley Calibration	Screw Position	3	2	N.A.
	Pulley Distance	Z ± 0.5 mm (± 0.020 in)	17.0 (0.669)	17.0 (0.669)	26.0 (1.02)
	Offset	X ± 0.5 mm (± 0.20 in)	35.5 (1.40)	35.5 (1.40)	33.4 (1.31)
	•	Y	Dimension Y must exceed X from 1 mm (1/32 in) to 2 mm (5/64 in)		X from /64 in)
	Drive Belt Adjustment	Deflection mm (in)	32 (1-1/4)	32 (1-1/4)	32 (1-1/4)
		Force ③ kg (Ibf)	11.34 (25)	11.34 (25)	11.34 (25)
	Driven Pulley Preload kg (lbf)		0.0	0.0	0.0
	Drive Chain Tension		Fully tighten adjusting screw by hand then back OFF only far enough for hair pin installation		
	Track Adjustment Deflection		35 to 40 mm (1-3/8 to 1-9/16 in) with a 7.3 kg (16 lb) downward pull		

① Engine speed at which maximum power is achieved.

^② At 3500 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 The dot (•) indicates changes from 1999 model.

	MODELS		SKANDIC 500	SKANDIC 380	
	Engine Type		503	377	
$\hat{\pi}$	Maximum HP RPM ①	± 100 RPM	7000	6900	
\bigcirc	Rotary Valve	P/N Opening (BTDC)/ Closing (ATDC)	Not Ap	plicable	
	Carburetor Type		PTO VM 34-549 MAG VM 34-550	PTO VM 30-200 MAG VM 30-200	
	Main Jet		PTO 180 MAG 170	PTO 140 MAG 140	
	Needle Jet		P-0 (159)	P-0 (159)	
	Pilot Jet		40	40	
	Needle Identification —	Clip Position	6DH2-3	6DP9-3	
╚╬╤╤┲┛	Slide Cut-Away		2.5	2.5	
\bigcirc	Float Adjustment	± 1 mm (± .040 in)	23.9 (.94)	23.9 (.94)	
	Air Screw Adjustment ± 1/16 turn		1-7/8	1-1/4	
	Idle Speed RPM ± 200 RPM		1650	1650	
	Gas Grade Octane Number (R + M)/2		Regular unleaded 87		
	Gas/Oil Ratio		Oil injection		
4	Ignition Timing BTDC @	mm (in)	2.76 (0.109)	2.79 (0.110)	
7	Trigger Coil Air-Gap	mm (in)	<u>0.5 - 0.7</u> (0.020 - 0.028)	<u>0.5 - 0.7</u> (0.020 - 0.028)	
	Gear Ratio	teeth	18/44	18/44	
	Engagement Speed	± 100 RPM	2900	2500	
	Drive Pulley Calibration	Screw Position	3	N.A.	
	Pulley Distance	Z ± 0.5 mm (± 0.020 in)	17.0 (0.669)	26.0 (1.02)	
	Offset	X ± 0.5 mm (± 0.20 in)	35.5 (1.40)	33.4 (1.31)	
\bigcirc		Υ	Dimension Y must exceed X from 0.5 mm (0.020 in) to 1.5 mm (0.059 in)		
		Deflection mm (in)	32 (1-1/4)	32 (1-1/4)	
	Drive Beit Adjustment	Force ③ kg (Ibf)	11.34 (25)	11.34 (25)	
	Driven Pulley Preload (lbf)		0.0	0.0	
	Drive Chain Tension		Fully tighten adjusting screw by hand then back OFF only far enough for hair pin installation		
	Track Adjustment Deflection		35 to 40 mm (1-3/8 to 1-9/16 in) with a 7.3 kg (16 lb) downward pull		

① Engine speed at which maximum power is achieved.

2 At 3500 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



No. 2000-12

Date: October 15, 1999

SUBJECT: Predelivery Procedures

YEAR	MODEL	MODEL NUMBER	SERIAL NUMBER
2000	Canada: MX Zx* 440 LC	1568	All
2000	United States: MX Zx* 440 LC	1569	All
2000	Europe: MX Zx* 440 LC	1570	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.

A WARNING

To obtain warranty coverage, predelivery procedures must be performed by an authorized Ski-Doo[®] 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 33:1.

NOTE: The information and components/system descriptions contained in this document are correct at the time of publication. Bombardier 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, there might be some differences between the manufactured product and the descriptions and/or specifications in this document. Bombardier 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*.



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





PREDELIVERY KIT P/N	MODELS
549 010 939	MX Zx 440 LC

A 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 or rear of vehicle. There is a notch at the front of crate. Lift cover slowly to avoid damaging any part of the snowmobile.

NOTE: If cover is tilted toward front of vehicle, snow guard may interfere with crate cover, as shown in the following photo. Push on snow guard when lifting cover.



IF CRATE COVER IS TILTED TOWARD FRONT OF VEHICLE, FROM OUTSIDE CRATE PUSH ON SNOW GUARD TO ALLOW COVER TO LIFT WITHOUT DAMAGING SNOW GUARD

1. Snow guard interfering with crate cover



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. Keep ski leg bolts for reinstallation. Discard crating spacers and nuts.

Remove vehicle from base.

Remove drive belt from engine compartment and accessories, such as predelivery kit, steering pad and shocks from the box.

FRONT HOOKS REMOVAL

NOTE: That model is equipped with two front hooks and no rear one.

Procedure

Apply parking brake.

Lift rear of vehicle so that a block or a box can be positioned under front wheel, as shown on the next photo.



EDGE OF BOX ALIGNED WITH WHEEL AXIS

From left side of vehicle, apply pressure onto rear bumper with right hand, as shown on the following photo.



TYPICAL

Using left hand, remove hook from suspension, as shown on the following photo.

Before removing hook always verify that vehicle is properly supported and that parking brake is applied.

From right side of vehicle, remove the second hook using the same procedure.



TYPICAL — RIGHT SIDE

Hook to be removed
 Stopper Strap
 Runner



PARTS INSTALLATION FRONT SUSPENSION



Lift front of vehicle and block safely.

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

Cut locking tie retaining bushing on lower end of shock.

Secure shock absorbers to suspension with their adjusting ring at top. Take care to do not mix left and right shocks. A label stuck on the shock indicates the side it should be installed.

Position screw heads toward front of vehicle and secure with nuts provided in predelivery kit (section no 3). Torque to 48 N•m (35 lbf•ft).

WARNING

Always turn the adjusting ring of both shocks the same number of turns. Otherwise, the behavior of front suspension will be impaired.



RH SIDE SHOWN

- Shock absorber (2) (box) 1.
- Adjusting ring
 Nut M10 x 1.5 (4) not shown on photo (section no. 3).
- Torque to 48 N•m (35 lbf=ft) 4. Screw M10 x 1.5 x 55 (4) (P/N 222 005 565) (on suspension)

Install caps provided in Predelivery Kit on bottom pan, each side of upper bolt.



SNAP PROVIDED CAP (SECTION NO. 5) EACH SIDE OF MOLDING

If maintenance has to be done on shock absorbers, proceed as per following:

Reservoir Disassembly and Reassembly

Remove air valve cap from air valve on reservoir.

Using air valve cap, release pressure from reservoir as shown on the next photo.



RELEASING PRESSURE FROM RESERVOIR

Damper Disassembly

\land WARNING

Never perform any maintenance onto damper and reservoir assemblies until pressure is completely released from reservoir.

Remove seal carrier assembly from damper body.

Slide out the damper rod assembly. Refer to Shop Manual or Racing Handbook to change damper valving.



Seal carrier assembly Damper rod assembly 2

Discard used oil into storage container. Never reuse old oil during damper rework.

Reservoir Disassembly

Remove air valve from reservoir cap assembly on the remote reservoir.

Using both thumbs, press on the reservoir cap assembly.

Remove circlip with Snap-on 3ASH special tool.

CAUTION: Ensure not to scratch any inner parts of the cylinder.



Reservoir cap assembly

Circlip
 Snap-on 3ASH special tool

Using a M8 (pitch 1.0 mm) bolt, pull out reservoir cap assembly.

Hold reservoir in hand, then use compressed air pressure and carefully remove floating piston from reservoir body.

NOTE: Shock oil will leak from reservoir. Use shop cloth to catch excess oil.

A WARNING

Use extreme caution when removing piston with compressed air. Protective eye wear should be used.



TYPICAL

- Compressea and
 Floating piston Compressed air

Reservoir Assembly

Fill reservoir with 150 mL of Bombardier HPG shock oil (P/N 413 711 806).

Reinstall floating piston into reservoir body. Concave side of piston must be facing outside. Use oil to ease O-ring pass reservoir body groove.

Invert reservoir. Using both thumbs apply pressure on floating piston to position floating piston to a depth of 44.5 ± 1 mm (1-3/4 ± 1/32 in). Measure from the top edge of reservoir body.

CAUTION: When positioning floating piston turn damper with reservoir facing down. This will allow air to exit from reservoir. Oil transferring from reservoir to damper body indicates that no more air remains in reservoir.

NOTE: If the floating piston is installed too far into reservoir body, wait for damper rod assembly installation to adjust floating piston position.



RESERVOIR TURNED UPSIDE DOWN TO SHOW HOW TO MEASURE

- 1. Concave side of piston facing upward
- A. $44.5 \pm 1 \text{ mm} (1-3/4 \pm 1/32 \text{ in})$

Damper Assembly

Refill damper with Bombardier HPG shock oil (P/N 413 711 806) up to lowest threads of damper seal carrier



- Damper rod assembly
- 2. Damper body 3. Oil level

Install damper rod assembly into the damper body. Lightly oil damper piston seal ring with shock oil to ease installation.

NOTE: Some shock oil may overflow when installing damper rod assembly. Wrap damper with shop cloth to catch possible oil overflow.

CAUTION: Use care when passing piston into damper body at damper body threads.

Slight oscillation of damper rod may be required to allow piston to enter damper body bore.

Slowly push piston into damper body. Slight up and down movement may be required to allow all air to pass through piston assembly.



NOTE: Fast installation of the damper rod may displace the floating piston from its original position. Do not allow this to occur.

Reservoir Floating Piston Final Check (before damper seal carrier installation)

Perform a final check of the floating piston position $(44.5 \pm 1 \text{ mm} (1-3/4 \pm 1/32 \text{ in}))$:

- If floating piston is positioned 43 mm and less, apply pressure on floating piston to position floating piston to a depth of 44.5 mm (1-3/4 in).
- If floating piston is too far (45 mm and more). Move damper rod with fast movement to allow oil to transfer from damper body to reservoir. Floating piston will move back.

Damper Final Assembly

With damper rod piston into oil volume, re-top damper oil volume. Oil level should be to damper body thread base.

Seal carrier assembly can now be threaded into damper body. This should be done slowly to allow weepage of shock oil from body while installing.

NOTE: When reinstalling seal carrier, oil must overflow. This overflow indicates that damper is full of oil.

Reservoir Final Assembly

NOTE: If all previous procedures have been properly performed, final floating piston position must be 41 ± 2 mm (1-5/8 ± 5/64 in). Final floating piston position must be measured after damper seal carrier assembly has been completely threaded.

Reinstall reservoir cap assembly with circlip then install air valve.

Gas Pressure Adjustment

Nitrogen (N₂) can now be added to reservoir body.

Preset pressure regulator to 2070 kPa (300 PSI), this gas pressure will restore the correct pressure for the damper.



1. Valve tip (Nitrogen) 2. Reservoir cap assemb

pressure value.

2. Reservoir cap assembly CAUTION: Do not exceed the recommended

Whenever working with high pressure gas, use eyewear protection. Never direct gas pressure toward anybody.

NOTE: Carefully inspect damper for gas or oil leaks. Any leaks must be corrected before continuing.

Damper gas pressure can be confirmed by using a pressure gauge available through your local industrial gas supplier.



- 1. Automotive type air pressure hose
- Two stage regulator, delivery pressure range 2070 kPa (300 PSI)
 High pressure cylinder filled with industrial grade nitrogen
- 4. Valve tip

Front Suspension Springs Preload Adjustment

Lift snowmobile to remove tension from front springs.

NOTE: Always set preload to the same value (or the same number of turns) on both shocks.

Perform preload adjustment on HPG shock absorber by setting adjusting nut upward (remove preload) or downward (add preload) by hand.

CAUTION: Ensure that shock absorber is extended when adjusting preload and make sure that tension remains on spring when removing preload.



TYPICAL — FRONT HPG SHOCK ABSORBER

- 1. Adjusting nut
- 2. Add preload

^{3.} Remove preload



PARTS INSTALLATION SKIS





RIGHT SIDE SHOWN

- Ski stopper (2) (section no. 3) with higher side toward front
 Flanged nut M12 x 1.75 (2) (section no. 3). Torque to 32 N•m (24 lbf•ft)
 Bolt M12 (2)
 Washer (2) (section no. 3) installed on bolt head side



PARTS INSTALLATION COMBUSTION CHAMBER INSERTS

	/	ß
	/	
6⁄		

CAUTION: Installation of these inserts (P/N 420 923 870) validates the limited warranty coverage.

IMPORTANT NOTICE

The 2000 MX Zx 440 LC snowmobile is shipped with a set of high CR combustion chamber inserts.

CAUTION: These high compression inserts are installed in the vehicle and require fuel with a minimum octane rating of 91.

To validate warranty, order (no charge) and install standard combustion chambers (P/N 420 923 870).

NOTE: Order preceding parts through normal channel.

It is also of the utmost importance to proceed with the following setting and/or replacement if standard inserts are installed.

- Main jets have to be changed from 300 to 280.
- Calibration screw on TRA pulley must be set to position no. 5 (instead of position 4).

PARTS SUPPLIED

(no charge)

DESCRIPTION	PART NUMBER	QTY
Standard Combustion Chamber Insert	420 923 870	2
Main Jet 280	404 100 500	2

PROCEDURE

NOTE: Installation of these inserts validates the limited warranty coverage.

Disassembly

Cylinder

Remove spark plugs, coolant outlet. Unscrew cylinder head cover then cylinder head.

Assembly

Cylinder Head Cover, Cylinder Head and Cylinder

Check flatness of part sealing surfaces.

Refer to LEAK TEST AND ENGINE DIMENSION MEASUREMENT of Ski-Doo *Shop Manual* and look for **Checking Surface Flatness**.

At assembly, torque cylinder head screws to 29 N•m (21 lbf•ft) in the following illustrated sequence.



Install socket outlet and tighten screws to 12 N•m (106 lbf•in). Note position of longer screw.



PARTS INSTALLATION STEERING PAD



Adjust handlebar and tighten nuts between 21 and 28 N•m (16 and 20 lbf•ft).

Turn brake housing to level brake oil reservoir. Secure front screw first, then rear screw. See photo.



Step 1: Screw this bolt first to a torque between 7 and 10 N•m (5.25 and 7.5 lbf•ft)

Step 2: Secure housing with this bolt (same torque)

Install steering foam and adjust for proper fit with console. Fit steering padding and set in place with velcros.

NOTE: Take care to install foam properly.



INSTALLATION COMPLETED



PARTS INSTALLATION OPTIONAL ACCESSORIES



NOTE: The speedometer may be installed or not at the convenience of the driver.

Using the template provided on last page, punch the center point of the speedometer location on gauge support.

Drill speedometer location with a 11 cm (4-3/8 in) hole saw.

Insert speedometer gauge in place on dashboard with gauge packing in place around speedometer gauge.

Underneath dash, install ring and gauge holder. Secure with provided fastening devices.

Screw speedometer cable on km/h (KMH) or MPH stud on drive angle according to your preferences.



Screw cable here for MPH
 Screw cable here for km/h (KMH)

Route the speedometer cable under electrical wire, through frame support (see photo) and alongside bottom pan.



SPEEDOMETER WIRE ROUTING 1. Electrical strand 2. Speedometer wire under electrical strand

Remove pulley guard.

Insert clear plastic bushing onto wire and insert wire in place on drive axle (under driven pulley).



1. Plastic bushing around speedometer wire

Ensure wire will not touch transmission pulleys securing it with clips screwed on black marks as per illustration below.



1. Install clips on these points

With locking ties (not included), attach speedometer cable to electrical strand.

Reinstall pulley guard.

HOOD LATCHES

Hood latches are provided for owner who whish to have a supplemental hood fixture. Install rubber latch on hood and studs on bottom pan near from shocks as per following photos.



Drill and rivet stud
 Drill and rivet latch



SECURE HOOD WITH LATCH Make sure to install both latches symmetrically.



PARTS INSTALLATION WINDSHIELD



Remove headlamp protector from hood.

Unclip inner protector from headlamp protector.

Insert tabs of headlamp protector in windshield square holes.

Clip inner protector in place.

Secure windshield assembly on hood using latches.



- Headlamp protector
 Windshield
 Inner protector



Latch (8) (P/N 570 023 800) (4 already on headlamp protector, 2 on windshield and 2 on section no. 2) 1.



Clean pulleys and disc brake with a suitable cleaner such as Loctite Cleaning Solvent (P/N 413 711 809) before installing drive belt.
1	μ
	<u> </u>

LIQUIDS OIL RESERVOIR LEVEL

Remove sticker on oil reservoir cap to free vent
hole. This sticker was installed to avoid oil spilling
during transportation. Check also oil level in the
reservoir. Add oil as required. Refer to the follow-
ing photo.



TYPICAL — OIL RESERVOIR 1. Sticker installed for transportation

CAUTION: Use only BOMBARDIER-ROTAX synthetic injection oil (P/N 413 710 500) (12 x 1 L).

7			
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		-	
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LIQUIDS BRAKE FLUID LEVEL



Check brake fluid in reservoir on handlebar 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.



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



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).



DRIVEN PULLEY

1. Machined surface

2. Cam bearing

Disassembly

Use spring compressor/TRA clutch flare tool (P/N 529 035 524).



1. Spring compressor/TRA clutch flare tool (P/N 529 035 524)

Remove snap ring and washer to disassemble the outer cam and both pulley halves.

Hold bearing sleeve from inside then remove Allen screw from outside, see next photo.



A15D37A

TO REMOVE BEARING

Cleaning

During break-in period (about 10 hours of use), teflon from bushing moves to cam or shaft surface.

A teflon over teflon running condition occurs, leading to low friction. So it is normal to see gray teflon deposit on cam shaft. Do not remove that deposit, it is not dust.

When a dust deposit has to be removed from the cam or the shaft, use dry cloth to avoid removing transferred teflon.

Inspection

Inspect bearings every 75 hours.

Check for cracks, for scratches and for free movement when assembled to fixed half.

Assembly

When replacing bearings, always install a new set of 3 bearings to maintain equal pressure on the cam.



1. Inside driven pulley

Assemble driven pulley components by reversing the disassembly procedure. Pay special attention to the following:



1. Ensure that both keys are in place

BRAKE

Fixed brake disc with racing type brake pad. Brake hoses are reinforced.



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.

	VEHICLE MODEL			MX ZX 440 LC	
	ENGINE	ТҮРЕ			453
	Number	of Cylinders			2
	Bore mm (in)				65.0 (2.56)
	Stroke	oke mm (in)			65.8 (2.59)
	Displace	ement		cm³ (in³)	436.6 (26.6)
	Compres	ssion Ratio (corrected)			7.7
	Maximu	m Power Engine Speed ①		± 100 RPM	8400
	Piston Ring Type 1st/2nd				ST/-
$\hat{\mathcal{T}}$	Ring End	d Gap	new wear limit	mm (in) mm (in)	0.2 (.008) 1.0 (.040)
	Ring/Pist	ton Groove Clearance	new wear limit	mm (in) mm (in)	0.04 (.0016) 0.2 (.0079)
	Piston/C	ylinder Wall Clearance	new wear limit	mm (in) mm (in)	0.11 (.0031) 0.18 (.0071)
	Connect	ing Rod Big End Axial Play	new wear limit	mm (in) mm (in)	0.39 (.0154) 1.2 (.0472)
	Maximu	m Crankshaft End-play 2		mm (in)	0.3 (.0118)
	Maximu	m Crankshaft Deflection		mm (in)	0.08 (.0031)
	Rotary V	alve Timing and P/N		Opening – Closing P/N	N.A.
	Magneto	o Generator Output		W	290
	Ignition [•]	Туре			CDI
	Spark Pl	ug Make and Type	NGK BR9ES		
	Spark Plug Gap mm (in)				0.45 (.018)
	Ignition [·]	Timing BTDC 3		mm (in)	3.14 (.124)
	Trigger (Coil ④		Ω	190 – 300
	Generati	ing Coil ④		Ω	12 - 22
/	Lighting	Coil ④		Ω	0.1 - 0.4
	High Tension Coil				
	Carburet	tor Type	occondary	PTO/MAG	TMX 34-7
	Main Jet	t	300		
	Needle	let	0-6		
	Pilot .let		25		
@ _	Needle le	dentification	6F1Y4-59		
	Slide Cu	t-away			4.0
└╙┱╤╤┲┙	Float Ad	iustment			
	Air Screy	w Adjustment	1		
	Idle Snee	ed RPM	1600		
	Gas Type/Pump Octane Number				Unleaded/91
	Gas/Oil F Mixing C	s/Oil Ratio			Premix 33: 1 BOMBARDIER Synthetic
	Туре				Liquid
			Deflection 6	mm (in)	N.A.
	Axial Fan Belt Adjustment Force		kg (lbf)	N.A.	
	Thermostat Opening Temperature °C (°F)			42 (108)	
	Radiator	Cap Opening Pressure		kPa (PSI)	90 (13)
	Drive Pulley Retaining Screw				6
		Exhaust Manifold Nuts or Bolts			23 (17)
_	<u>،</u> د	Magneto Ring Nut			125 (92)
	IE CO	Crankcase Nuts or Screws		M6 M8	9 (6.5) 29 (21)
	S E E	Crankcase/Engine Support Nuts or So	crews		35 (26)
	Cylinder Head Nuts		29 (21)		
		Crankcase/Cylinder Nuts or Screws			29 (21)
		Axial Fan Shaft Nut			N.A.

	VEHICLE MODEL			MX ZX 440 LC	
	ENGINE TYPE				453
	Chain Drive Ratio			21/43	
	Pitch mm (in)			9.525 (.375)	
	Chain	Type/Links Qty/Plat	es Qty		Silent 74 - 15
		Type of Drive Pulle	У		TRAC
		Ramp Identification	1		296 (5)
		Calibration Screw Position or Calibration Disc Quantity ⁽⁵⁾			4
	Drive Pulley	Spring Color			Pink/White
		Spring Length		± 1.5 mm (± 0.060 in)	124.5 (4.90)
		Clutch Engagemen	t	± 200 RPM	5000
	Driven Pulley Spring Cam Angle	Preload		± 0.7 kg (± 1.5 lb) degree	8.0 (17.64) 44°
\bigcirc	Pulley Distance Z			(± 0.5) mm ((+ 0, - 1/32) in)	16.5 (21/32)
		Х		± 0.5 mm (± 1/64 in)	35.0 (1-3/8)
	Offset	Y – X	MIN. – MAX.	mm (in)	1.0 – 2.0 (0.039 – 0.079)
	Drive Belt Part Numb	er (P/N)			414 860 700
	Drive Belt Width (new	/) ①		mm (in)	35.3 (1-25/64)
	Drive Belt Adjustmen	t	Deflection	± 5 mm (± 13/64 in)	32 (1-1/4)
		-	Force 2	kg (lbf)	11.3 (25)
		Width cm (in)		38.1 (15.0)	
		Length cm (in)		307 (121)	
	Track	Adjustment	Deflection	mm (in)	30 — 35 (1-11/64 — 1-3/8)
			Force 3	kg (lbf)	7.3 (16)
	Suspension Type		Track		SC10 II
			Ski		Advanced DSA
	Length			cm (in)	275.0 (108.3)
	Width			cm (in)	121.2 (47.7)
	Height			cm (in)	100 (39.4)
	Ski Stance			cm (in)	108.0 (42.5)
Jr.	Mass (dry)			kg (lb)	210 (462)
	Ground Contact Area			cm² (in²)	6670 (1034)
	Ground Contact Press	Ground Contact Pressure kPa (PSI)			3.09 (0.448)
	Frame Material	Aluminum			
	Bottom Pan Material				Impact Copolymer
	Cab Material			N//A 1 \	KKIM Polyurethane
∡⊫÷	Battery V (A•h)			N.A.	
	Headlight W			H4 0U/55	
	Tashamatar and Stoplight W			0/21	
7	Fuel and Temperature	Gauge Bulk		VV \\/	2 χ 3
	rueranu remperature	Starter Solenoid		N A	
	Fuse	Tachometer A		Δ	N.A
	Fuel Tank			 (U.S. gal) ا	37.3 (9.9)
Jun	Chaincase/Gearbox			mL (U.S. 07)	250 (8.5)
	Cooling System			L (U.S. 07)	3.8 (128.5)
E	Rotary Valve Reservoir mL (U.S. oz)			N.A.	

ENGINE LEGEND

BTDC: Before Top Dead Center

- CDI: Capacitor Discharge Ignition
- CTR: Center
- K: Kilo (× 1000)
- MAG: Magneto Side
- N.A.: Not Applicable
- PTO: Power Take Off Side
- ST: Semi-trapez
- The maximum horsepower RPM applicable on the vehicle. It may be different under certain circumstances and BOMBARDIER INC. reserves the right to modify it without obligation.
- ⁽²⁾ Crankshaft end-play is not adjustable on these models. Specification is given for verification purposes only.
- ⁽³⁾ At 3500 RPM (engine cold) with headlamp turned on.
- ④ All resistance measurements must be performed with parts at room temperature (approx. 20°C (68°F)). Temperature greatly affects resistance measurements.
- ⑤ Force applied midway between pulleys to obtain specified tension deflection.
- ⑥ Drive pulley retaining screw: torque to 90 to 100 N•m (66 to 74 lbf•ft), install drive belt, accelerate the vehicle at low speed (maximum 30 km/h (20 MPH)) and apply the brake; repeat 5 times. Recheck the torque of 90 to 100 N•m (66 to 74 lbf•ft).

VEHICLE LEGEND

- DSA: Direct Shock Action
- RRIM: Reinforced Reaction Injection Molding
- TRA: Total Range Adjustable
- N.A.: Not Applicable
- ① Minimum allowable width may not be less than 3.0 mm (1/8 in) of new drive belt.
- ② Force applied midway between pulleys to obtain specified tension deflection.
- ③ Force or downward pull applied to track to obtain specified tension deflection.
- ④ Coolant mixture: 60% antifreeze/40% water.
- ⑤ Lever with roller pin (P/N 417 003 900).

WIRING DIAGRAM

Wiring Diagram Legend

\land WARNING

Ensure all terminals are properly crimped on the wires and all connector housings are properly fastened.



- 1. Wire colors
- 2. Housing area
- Housing number per area
 Wire connector location in housing

Wire Colors and Circuit



COLOR CODE			
BK – BLACK	GN – GREEN		
WH – WHITE	GY – GREY		
RD – RED	VI – VIOLET		
BL – BLUE	OR – ORANGE		
YL – YELLOW	BR – BROWN		

Following table shows wire colors related to electrical circuits.

WIRE COLOR	ELECTRICAL CIRCUIT	ADDITIONAL INFORMATION
BLACK/YELLOW	ENGINE SHUT OFF – Tether cord switch – Emergency switch	Must be grounded to stop engine.
BLACK (small)	Ground for shut off	
YELLOW YELLOW/BLACK	12 volts (AC)	If shorted, magneto stops producing electricity.
RED/BLUE	12 volts (DC) (+) Rectifier output	
GREY	12 volts (AC) High beam	Current returns by YELLOW/BLACK wire connected to headlamp.
VIOLET/GREY	12 volts (AC) Low beam]
WHITE	12 volts (AC) Brake light	Current returns by YELLOW/BLACK wire connected to taillight.
WHITE/RED	12 volts (AC) Low oil level	Current returns by YELLOW/BLACK wire connected to oil level sensor.
ORANGE	12 volts (AC) Heated grips (max.)	Current returns by YELLOW/BLACK wire connected to heating elements.
ORANGE/VIOLET	12 volts (AC) Heated grips (min.)	
BROWN	12 volts (AC) Heated throttle lever (max.)	
BROWN/YELLOW	12 volts (AC) Heated throttle lever (min.)	
VIOLET	12 volts (AC) Engine overheating light	

Connector Housing Area





AREA	LOCATION
1	Frame and hood junction
2	Magneto
3	Carburetors
4	Rear of intake silencer
5	Near driven pulley
6	Under handlebar
7	Under hood
8	Near fuel tank
9	Rear of seat

Connector Location in Housing



Symbols Description

Beam and tail light	Female terminal	Male terminal	Electronic module
		\longrightarrow	
Meter	Electric motor	Low level sensor	Buzzer
\checkmark			
Ignition coil	Normally close switch	Normally open switch	Male terminal on instrument
Engine ground	Frame ground	Spark plug	Meter movement
	 Frame		
Bulb	Pilot lamp	Analog sensor	Solenoid valve
Magneto (Delta)	3 position switch	Heating element	Fuse
Trigger coil	Bat	tery	Diode
A005525			

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BOMBARDIER

RECREATIONAL PRODUCTS

MODEL NAME



SERIAL NUMBER

PREDELIVERY CHECK LIST

THIS CHECK LIST MUST BE USED IN CONJUNCTION WITH THE PREDELIVERY BULLETIN OF THE APPLICABLE SNOWMOBILE.

WARRANTY VALIDATION ON MX Zx 440 LC ONLY: I, the undersigned owner, declare and agree to have low compression ratio engine cylinder head inserts installed in order to benefit from the limited warranty coverage. Failing such installation I declare that this snowmobile will be used for racing.

NOTE: Some items only apply to certain vehicles. For specific items refer to appropriate *Predelivery Bulletin*.

PARTS TO BE INSTALLED	~
Battery	
Steering pad/cover	
Skis	
Bumper, front/rear (w/molding)	
Front/rear suspension components	
Backrest	
Drive belt	
Windshield	
Snow guard	
Other	

~

ADJUSTMENTS	1
Handlebar	
Ski toe-out/camber	
Track tension/alignment	
Chain deflection	
Driven pulley preload	
Carburetor(s)	
Front and rear suspensions	
Other	

OPTIONS/ACCESSORIES	1
High/low altitude kit	
Other	

GENERAL INSTRUCTIONS

FINAL INSPECTION	~
Inspect movement and operation of:	
Throttle/brake lever/parking brake	
Ignition/emergency stop/ tether cut-out switches	
Headlamp/taillight/brake light	
Dimmer switch/pilot lamps	
Accessories	
Test run snowmobile.	
Clean and polish snowmobile.	

AT SALE, EXPLAIN TO OWNER	~
The <i>Operator's Guide, Video, Safety Handbook</i> and warranty and give same to customer.	

AT DELIVERY	✓
Complete and return warranty registration	
signed by owner.	

NOTE: File this document in vehicle file. Give a copy to owner.

PREPARED BY:	DATE	:	
	month	day	year
DEALER NO.:			
INSPECTED BY:	DATE	•	
	month	day	year
DEALER SIGNATURE:			
^			
The dealer named on this docur	nent ha	as instr	ructed

me on the operation, maintenance, safety features and warranty policy, all of which I understand. I am also satisfied with the predelivery set-up and inspection of my snowmobile. OWNER SIGNATURE: DATE:

month

day

year

SIGNATORE.	

PRINT:

Х





No. 2000-7 <u>REVISION 1</u>

Date: November 12, 1999

SUBJECT: Predelivery Procedures

YEAR	MODEL	MODEL NUMBER	SERIAL NUMBER
2000	Canada and United States: Summit* 600 Summit 700 Summit 700 Millennium Edition	1559/1560/1631/1632 1562/1563 1604/1605	All
2000	Europe: Summit* 600	1561	All

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

MARNING

To obtain limited warranty coverage, predelivery procedures must be performed by an authorized Ski-Doo[®] 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 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, there might be some differences between the manufactured product and the descriptions and/or specifications in this document. Bombardier 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.





🕂 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 crate base. Tip cover toward front or rear of vehicle. There is a notch at the front of crate. Lift cover slowly to avoid damaging any part of the snowmobile.



TYPICAL

1. Notch

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

Remove ropes and cut locking ties retaining wind-shield.

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

Keep ski leg bolts and spacers to bolt skis to ski legs. Discard crating spacers and nuts.

Remove vehicle from base.

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

FRONT HOOK REMOVAL

Procedure

Apply parking brake.

Lift rear of vehicle so that a block or a box can be positioned under front wheel, as shown on the next photo.



EDGE OF BOX ALIGNED WITH WHEEL AXIS

On both sides, cut locking ties holding stopper straps.



1. Cut locking ties on both sides

From left side of vehicle, cut locking tie, then apply pressure onto rear bumper with right hand, as shown on the following photo.



TYPICAL

Using left hand, remove hook from suspension, as shown on the following photo.

WARNING

Before removing hook always verify that vehicle is properly supported and that parking brake is applied.



TYPICAL — REMOVE HOOK

1. Front arm 2. Runner

REAR HOOK REMOVAL

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



TYPICAL

1. Remove hook

WARNING

Shipping hooks must be removed to have snowmobile suspension operational.

PREDELIVERY KIT P/N	MODELS			
549 010 883	Summit 600 Summit 700 Summit 700 Millennium Edition			



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



PARTS INSTALLATION FRONT SUSPENSION



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 top and bottom screw heads toward front of vehicle and secure with nuts provided in predelivery kit (section no. 3).



TYPICAL - RH SIDE SHOWN

- 1
- Shock absorber (2) (engine compartment) adjusting ring at bottom Screw M10 x 1.5 x 55 (2) (P/N 207 005 544) (on suspension) Elastic flanged nut M10 x 1.5 (4) (P/N 233 601 416) (section no. 3). 2. З.

Torque to 48 N•m (35 lbf•ft)

Install caps provided in predelivery kit on bottom pan, each side of upper bolts.



SNAP PROVIDED CAPS (SECTION NO. 4) EACH SIDE OF MOLDING



PARTS INSTALLATION SKIS





LEFT SIDE SHOWN

- Ski stopper (2) (P/N 506 151 233) (section no. 3) with higher side toward front
 Flanged nut M10 (2) (section no. 2). Torque to 32 N•m (24 lbf•ft)
 Bolt M10 (2) (ski leg)
 Washer (2) (section no. 1). Installed on bolt head side



PARTS INSTALLATION STEERING PAD



Adjust handlebar and torque nuts between 21 and 28 N•m (16 and 20 lbf•ft).



TYPICAL

Torque between 21 and 28 N•m (16 and 20 lbf•ft)
 Equal gap each side (both clamps)

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

STEERING HOLDING STRAP

Cut locking tie retaining right side strap end. Insert strap through holes provided in steering padding, as shown in the next photo.



TYPICAL

1. Strap inserted through both steering pad cover holes

Secure right side strap end with retaining clip and tighten firmly using bolt, nut and washers (section no. 3) in the sequence shown on drawing below. Torque to 10 - 12 N•m (89 - 106 lbf•in).

NOTE: A wire route along handlebar. To avoid pinching it, take care to keep wire out of retaining clip.



- Bolt 1.
- Washer
- 2. 3. 4. Retaining clip Washers
- Washer
- 5. 6 Nut

Properly position foam and padding in place, as shown in the next photo.



MAKE SURE FOAM AND PADDING WRAP STEERING PROPERLY

Fasten padding with velcro strips to complete installation.



TYPICAL — FINAL INSTALLATION



PARTS INSTALLATION WINDSHIELD



Remove headlamp protector from hood.

Unclip inner protector from headlamp protector.

Insert tabs of headlamp protector in windshield square holes.

Clip inner protector in place.

Secure windshield assembly on hood using latches.



Headlamp protector
 Windshield
 Inner protector



Latch (8) (P/N 570 023 800) (4 already on headlamp protector, 2 on windshield and 2 on section no. 5) 1.



TYPICAL — WINDSHIELD INSTALLED



PARTS INSTALLATION DRIVE BELT



Clean pulleys and disc brake with a suitable cleaner such as Loctite Parts Cleaner (P/N 413 711 809) before installing drive belt.

LIQUIDS OIL INJECTION PUMP BLEEDING

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SUPPLEMENTAL OIL

To assure additional protection during the initial engine break-in, 500 mL (18 imp. oz.) of BOMBARDIER-ROTAX injection oil (P/N 413 803 000) 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

NOTE: Oil pump has been located under carburetors.

Remove air silencer, DPM and temperature sensor. Move carburetors aside.

Bleed main oil line by loosening the bleeder screw until air has escaped from the line. Add injection oil as required. Check also for proper oil lever adjustment. Mark on pump body must be set between 0 to 1 mm (0 to 1/32 in) over second mark on lever when throttle lever is activated just enough to take all cable play.

Reinstall all parts.

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

NOTE: Make a J hook out of mechanical wire to reach the lever from magneto side and pull it in full open position.



- 1. Bleeder screw
- 2. Marks on lever
- 3. Mark on pump body
- 4. Main oil line

LIQUIDS BRAKE FLUID LEVEL

Check brake fluid in reservoir on handlebar 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 partially filled bottle of brake fluid.



ADJUSTMENTS SUSPENSION



Rear suspension is calibrated at factory. At predelivery, 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.



Adjustment chart
 Pulley guard



ADJUSTMENTS TRACK



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

When operation is done, install wheel caps provided with the predelivery kit (section no. 4) on rearmost wheels.

NOTE: If lubricant is needed to help cap installation, use lens cleaner instead of soapy water to avoid cap to get out from its location due to soap residual.



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).





The content of the TECHNICAL DATA pages should be used as necessary to fine-tune and perform additional adjustments required on the snowmobile. Further inquiries should be directed to your distributor service representative.

When Summit 600/700 snowmobiles are to be used at sea level, at an altitude of 600 m (2000 ft) or less, it is of the utmost importance to install the appropriate sea level kit.

CAUTION: To avoid severe engine damage, the sea level kit must be installed when the vehicle is used at sea level, at an altitude of 600 m (2000 ft) or less.

<u>Summit 600</u>

DRIVE PULLEY

Altitude Clutching	Sea Level	600 m 2000 ft	1200 m 4000 ft	1800 m 6000 ft	2400 m 8000 ft	3000 m 10000 ft
Calibration screw position	4	5	3	4	5	6
Pin	÷	Qty 3 x 1 417 004 308	÷	÷	Qty 3 x 1 417 004 309	÷
Engagement RPM ± 100	÷	4000	÷	÷	4200	÷

Summit 700/700 H.M.

DRIVE PULLEY

Altitude Clutching	Sea Level	600 m 2000 ft	1200 m 4000 ft	1300 ft m 0009	2400 m 8000 ft	3000 m 10000 ft
Calibration screw position	3	4	2	3	4	5
Pin	÷	Qty 3 x 1 417 004 308	÷	÷	Qty 3 x 1 417 004 309	÷

CARBURATION

Calibration	Altitude	Sea Level	600 m 2000 ft	1200 m 4000 ft	1800 m 6000 ft	2400 m 8000 ft	3000 m 10000 ft
Idle throttle valve position	mm	1.5	1.6	1.7	1.8	1.9	2.2

NOTE: Shaded columns give factory settings.

A dot (•) on right indicates changes from 1999 model.

	MODEL		SUMMIT 600	SUMMIT 700/ SUMMIT 700 MILLENNIUM EDITION
6	Engine Type		593	693
$\hat{\mathcal{m}}$	Maximum HP RPM ①	± 100 RPM	80	00
(\mathcal{S})	Rotary Valve	P/N Opening (BTDC) Closing (ATDC	, N	А.
	Carburetor Type		PTO - MAG VM 40 - 126 Hybrid DPM	PTO - MAG VM 40 - 132 ② Hybrid DPM
	Main Jet		PTC MAG	280 5 280
	Needle Jet		Z-9 (224)	Z-7 (224)
	Pilot Jet		37.5	45
רא ^ר בין	Needle Identification — C	lip Position	7DFY1 - 3	7DFY6 - 3
╙╦╤┰┛	Slide Cut-Away		2	2.5
\bigcirc	Float Adjustment	± 1 mm (± 0.04 in	22	2.9 90)
	Air Screw Adjustment	± 1/16 turr	0.5 •	1.0
	Idle Speed RPM	± 200 RPN	16	600
	Gas Grade/Pump Octane	Number (R + M)/2	Regular u	nleaded/87
	Gas/Oil Ratio		Oil injection	
4	Ignition Timing BTDC 3	mm (in	3.0 (0.118)	3.36 (0.132)
7	Trigger Coil Air-Gap mm (in)		0.55 - 1.45 (.022057)	
	Gear Ratio	Teeth	21/43	22/43
	Engagement Speed	± 100 RPN	4200	4100
	Drive Pulley Calibration S	Screw Position	5	4
	Pulley Distance	Z (± 0.5) mm (± 1/64) ir	1 (21	6.5 /32)
	Offect	X ± 0.5 mm (± 0.02 in	35.5 (1.398)	
\bigcirc	Onset	Υ	Dimension Y mu 1 mm (1/32 in) t	st exceed X from o 2 mm (5/64 in)
	Drive Belt Adjustment	Deflection mm (in	32 (1-1/4)	32 (1-1/4)
	Drive Beit Adjustment	Force ④ kg	11 (2	.34 (5)
	Driven Pulley Preload	± 0.7 kg (± 1.5 lbf	7.0 (15.43)	8.0 (17.6)
	Drive Chain Tension		Fully tighten adjusting screw I far enough for hai	by hand then back OFF only r pin installation
	Track Adjustment	Deflection mm (in	30 to 35 (1-3/ with a 7.3 kg (16 lb	16 to 1-3/8)) downward pull

① Engine speed at which maximum power is achieved.

- ② On Summit 700 (model 1562) carburetor identification is 133 and main jet is 300.
- ③ At 3500 RPM (engine cold) with headlamp turned on.
- ④ 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 N.A.: Not applicable





No. 2000-13 <u>REVISION 1</u>

Date: November 12, 1999

SUBJECT: Predelivery Procedures

YEAR	MODEL	MODEL NUMBER	SERIAL NUMBER
2000	Canada and United States: Summit* 700 H.M.	1649/1650	All

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

A WARNING

To obtain limited warranty coverage, predelivery procedures must be performed by an authorized Ski-Doo[®] 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 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, there might be some differences between the manufactured product and the descriptions and/or specifications in this document. Bombardier 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.





A 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 crate base. Tip cover toward front or rear of vehicle. There is a notch at the front of crate. Lift cover slowly to avoid damaging any part of the snowmobile.





1. Notch

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

Remove ropes and cut locking ties retaining wind-shield.

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

Keep ski leg bolts and spacers to bolt skis to ski legs. Discard crating spacers and nuts.

Remove vehicle from base.

Remove steering pad, drive belt, predelivery kit and shock absorbers from parts box.

FRONT HOOK REMOVAL

Procedure

Apply parking brake.

Lift rear of vehicle so that a block or a box can be positioned under front wheel, as shown on the next photo.



EDGE OF BOX ALIGNED WITH WHEEL AXIS

On both sides, cut locking ties holding stopper straps.



1. Cut locking ties on both sides

From left side of vehicle, cut locking tie, then apply pressure onto rear bumper with right hand, as shown on the following photo.



TYPICAL

Using left hand, remove hook from suspension, as shown on the following photo.

WARNING

Before removing hook always verify that vehicle is properly supported and that parking brake is applied.



TYPICAL - REMOVE HOOK

1. Front arm 2. Runner

REAR HOOK REMOVAL

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



TYPICAL

1. Remove hook

WARNING

Shipping hooks must be removed to have snowmobile suspension operational.

PREDELIVERY KIT P/N	MODELS	
549 010 926	Summit 700 H.M.	



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



PARTS INSTALLATION FRONT SUSPENSION



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 top and bottom screw heads toward front of vehicle and secure with nuts provided in predelivery kit (section no. 2).



TYPICAL — RH SIDE SHOWN

- 1.
- Shock absorber (2) (engine compartment) adjusting ring at bottom Screw M10 x 1.5 x 55 (2) (P/N 207 005 544) (on suspension) Elastic flanged nut M10 x 1.5 (4) (P/N 233 601 416) (section no. 2). 2. З.
- Torque to 48 N•m (35 lbf•ft)

Install caps provided in predelivery kit on bottom pan, each side of upper bolts.



SNAP PROVIDED CAPS (SECTION NO. 3) EACH SIDE OF MOLDING



PARTS INSTALLATION SKIS





LEFT SIDE SHOWN

- Ski stopper (2) (P/N 506 151 233) (section no. 3) with higher side toward front
 Flanged nut M10 (2) (section no. 1). Torque to 32 N•m (24 lbf•ft)
 Bolt M10 (2) (ski leg)
 Washer (2) (section no. 1). Installed on bolt head side



PARTS INSTALLATION STEERING PAD



Adjust handlebar and torque nuts between 21 and 28 N•m (16 and 20 lbf•ft).



TYPICAL

Torque between 21 and 28 N•m (16 and 20 lbf•ft)
 Equal gap each side (both clamps)

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

STEERING HOLDING STRAP

Cut locking tie retaining right side strap end. Insert strap through holes provided in steering padding, as shown in the next photo.



TYPICAL

1. Strap inserted through both steering pad cover holes

Secure right side strap end with retaining clip and tighten firmly using bolt, nut and washers (section no. 3) in the sequence shown on drawing below. Torque to 10 - 12 N•m (89 - 106 lbf•in).

NOTE: A wire route along handlebar. To avoid pinching it, take care to keep wire out of retaining clip.



- Bolt Washer
- Retaining clip Washers
- 1. 2. 3. 4. 5. 6 Washer
- Nut

Properly position foam and padding in place, as shown in the next photo.



MAKE SURE FOAM AND PADDING WRAP STEERING PROPERLY

Fasten padding with velcro strips to complete installation.



TYPICAL — FINAL INSTALLATION



PARTS INSTALLATION

WINDSHIELD



Remove headlamp protector from hood.

Unclip inner protector from headlamp protector. Remove blue protector films from windshield.

Insert tabs of headlamp protector in windshield square holes.

Clip inner protector in place.

Secure windshield assembly on hood using latches.



- Headlamp protector
 Windshield
 Inner protector



1. Latch (8) (P/N 570 023 800) (4 already on headlamp protector, 2 on windshield and 2 on section no. 5)



TYPICAL — WINDSHIELD INSTALLED



PARTS INSTALLATION SNOW GUARD

0
0
0

Insert and position snow guard onto chassis, between rear moldings.

Slide and position snow guard protector pad between snow guard and chassis.



Finalize snow guard installation with caps, as shown in the next photo.



1. Cap (4) (P/N 415 073 300) (section no. 3)

TYPICAL - VIEW FROM UNDER SNOW GUARD

Snow guard (box)
 Snow guard protector pad (box)

Secure the two parts with rivets.

NOTE: Place washers inside tunnel.



TYPICAL

- 1. Rivet (4) (P/N 390 908 000) (section no. 3)
- Snow guard (box)
 Washer (4) (P/N 517 225 900) (section no. 3). Position washer inside tunnel


PARTS INSTALLATION REAR BUMPER



Slide rear bumper on tunnel.



- SLIDE BUMPER ON TUNNEL
- 1. Rear bumper (box) 2. Studs

Secure bumper from inside of tunnel.



VIEW FROM INSIDE TUNNEL 1. Bolt M8 x 20 (6) (P/N 207 682 044) (section no. 3)



PARTS INSTALLATION DRIVE BELT



Clean pulleys and disc brake with a suitable cleaner such as Loctite Parts Cleaner (P/N 413 711 809) before installing drive belt.

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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 413 803 000) 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

NOTE: Oil pump has been located under carburetors.

Remove air silencer, DPM and temperature sensor. Move carburetors aside.

Bleed main oil line by loosening the bleeder screw until air has escaped from the line. Add injection oil as required.



- 1. Bleeder screw
- 2. Marks on lever
- Mark on pump body
 Main oil line

4. IVIain oli line

Check also for proper oil lever adjustment. Mark on pump body must be set between 0 to 1 mm (0 to 1/32 in) over second mark on lever when throttle lever is activated just enough to take all cable play.

Reinstall all parts.

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

NOTE: Make a J hook out of mechanical wire to reach the lever from magneto side and pull it in full open position.

LIQUIDS BRAKE FLUID LEVEL

Check brake fluid in reservoir on handlebar 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 partially filled bottle of brake fluid.



Rear suspension is calibrated at factory. At predelivery, 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.



TYPICAL 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.

When operation is done, install wheel caps provided with the predelivery kit (section no. 4) on rearmost wheels.

NOTE: If lubricant is needed to help cap installation, use lens cleaner instead of soapy water to avoid cap to get out from its location due to soap residual.



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. Further inquiries should be directed to your distributor service representative.

When Summit 700 H.M. snowmobiles are to be used at sea level, at an altitude of 600 m (2000 ft) or less, it is of the utmost importance to install the appropriate sea level kits.

CAUTION: To avoid severe engine damage, the sea level kit must be installed when the vehicle is used at sea level, at an altitude of 600 m (2000 ft) or less.

SUMMIT 700 H.M.

Altitude Clutching	Sea Level	600 m 2000 ft	1200 m 4000 ft	1800 m 6000 ft	2400 m 8000 ft	3000 m 10000 ft
Calibration screw position	3	4	2	3	4	5
Pin	÷	Oty 3 x 1 417 004 308	÷	÷	Qty 3 x 1 417 004 309	÷

DRIVE PULLEY

CARBURATION

Calibration	Altitude	Sea Level	600 m 2000 ft	1200 m 4000 ft	1800 m 6000 ft	2400 m 8000 ft	3000 m 10000 ft
Idle throttle valve position	mm	1.5	1.6	1.7	1.8	1.9	2.2

NOTE: Shaded columns give factory settings.

	MODEL			SUMMIT 700 H.M.	
	Engine Type			693	
π	Maximum HP RPM ① ± 100 RPM		8000		
\bigotimes	Rotary Valve	Opening (B Closing (A	P/N TDC)/ ATDC)	N.A.	
	Carburetor Type			PTO - MAG VM 40 - 132 Hybrid DPM	
	Main Jet			PTO 280 MAG 280	
	Needle Jet			Z-7 (224)	
	Pilot Jet			45	
<u> </u>	Needle Identification — 0	Clip Position		7DFY6 - 3	
	Slide Cut-Away			2.5	
\bigcirc	Float Adjustment	± . (± 0.	1 mm 04 in)	22.9 (.90)	
	Air Screw Adjustment	± 1/16	6 turn	1.0	
	Idle Speed RPM	± 200	RPM	1600	
	Gas Grade/Pump Octane	Number (R +	- M)/2	Regular unleaded/87	
	Gas/Oil Ratio			Oil injection	
4	Ignition Timing BTDC ⁽²⁾ (in)		3.36 (0.132)		
7	Trigger Coil Air-Gap mm (in)		0.55 - 1.45 (.022057)		
	Gear Ratio Teeth		Teeth	21/43	
	Engagement Speed	± 100	RPM	4100	
	Drive Pulley Calibration	Screw Position		4	
	Pulley Distance	Z (± 0.5 (± 1/	64) in	16.5 (21/32)	
	Offect	X ± 0.9 (± 0.1	5 mm 02 in)	35.5 (1.398)	
\bigcirc	Unset	Y		Dimension Y must exceed X from 1 mm (1/32 in) to 2 mm (5/64 in)	
		Deflection	mm (in)	32 (1-1/4)	
	Drive Beit Adjustment	Force 3	kg (Ibf)	11.34 (25)	
	Driven Pulley Preload ± 0.7 kg (± 1.5 lbf)		8.0 (17.6)		
	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 to 1-3/8) with a 7.3 kg (16 lb) downward pull	

 $\textcircled{0}\$ Engine speed at which maximum power is achieved.

② At 3500 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 N.A.: Not applicable





No. 2000-8 REVISION 1

Date: January 21, 2000

SUBJECT: Predelivery Bulletin

YEAR	MODEL	MODEL NUMBER	SERIAL NUMBER
2000	Canada: MX Z 700 Millennium Edition MX Z 700 MX Z 600 MX Z 500	1646 1577/1602/1621 1574/1623/1625 1571/1627	All
2000	United States: MX Z 700 Millennium Edition MX Z 700 MX Z 600 MX Z 500	1647 1578/1603/1622 1575/1624/1626 1572/1628	All
2000	Europe: MX Z 700 MX Z 600 MX Z 500	1579 1576 1573	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 limited warranty coverage, predelivery procedures must be performed by an authorized Ski-Doo® 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 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, there might be some differences between the manufactured product and the descriptions and/or specifications in this document. Bombardier 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.



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





PREDELIVERY KIT P/N	MODELS
549 010 880	MX Z 700 Millennium Edition MX Z 700 MX Z 600 MX Z 500

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 or rear of vehicle. There is a notch at the front of crate. Lift cover slowly to avoid damaging any part of the snowmobile.

NOTE: If cover is tilted toward front of vehicle, snow guard may interfere with crate cover, as shown in the following photo. Push on snow guard when lifting cover.



IF CRATE COVER IS TILTED TOWARD FRONT OF VEHICLE, FROM OUTSIDE CRATE PUSH ON SNOW GUARD TO ALLOW COVER TO LIFT WITHOUT DAMAGING SNOW GUARD

1. Snow guard interfering with crate cover



1. Notch

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

Remove ropes and cut locking ties retaining wind-shield.

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 in order to bolt skis to ski legs. Discard crating spacers and nuts.

Remove vehicle from base.

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

HOOK REMOVAL

Procedure

Apply parking brake.

Lift rear of vehicle so that a block or a box can be positioned under front wheel, as shown on the next photo.



EDGE OF BOX ALIGNED WITH WHEEL AXIS

From left side of vehicle, cut locking tie retaining hook, then apply pressure onto rear bumper with right hand, as shown on the following photo.



TYPICAL

Using left hand, remove hook from suspension, as shown on the following photo.

\land WARNING

Before removing hook always verify that vehicle is properly supported and that parking brake is applied.



TYPICAL — REMOVE HOOK

1. Front arm 2. Runner

Hook must be 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 screws.

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

NOTE: Position screw heads toward front of vehicle and secure with nuts provided in Predelivery Kit (section no. 3). Make sure decal edges are toward inside vehicle.



TYPICAL - LH SIDE SHOWN

- 1.
- 2.
- Shock absorber (2) (predelivery box) adjusting ring at top Screw M10 x 1.5 x 55 (2) (P/N 207 005 544) (on suspension) Screw M10 x 1.5 x 55 (2) (P/N 207 005 544) (on suspension) Elastic nut M10 x 1.5 (4) (P/N 233 601 416) (section no. 3). З. 4. Torque to 48 N•m (35 lbf•ft)

Install caps provided in predelivery kit on bottom pan, each side of upper bolt.



SNAP PROVIDED CAP (SECTION NO. 5) (P/N 414 916 600) EACH SIDE OF MOLDING



PARTS INSTALLATION SKIS



Install skis on vehicle.



RIGHT SIDE SHOWN

- Ski stopper (2) (section no. 3) (P/N 506 151 233) with higher side toward front
 Flanged Nut M10 (2) (P/N 732 610 084). Torque to 32 N•m (27 lbf•ft)
 Bolt M10 (2) (ski leg)
 Washer (2) (P/N 732 900 049) installed on bolt head side



PARTS INSTALLATION STEERING PAD



Turn brake housing to level brake oil reservoir. Secure front screw first, then rear screw. See photo.



Step 1: Screw this bolt first to a torque between 7 and 10 N•m (5.25 and 7.5 lbf•ft)

Step 2: Secure housing with this bolt (same torque)

Install steering foam and adjust for proper fit with console. Fit steering padding and set in place with velcros.

NOTE: Take care to install foam in the proper side.



1. Driver's side

2. Engine side



PARTS INSTALLATION WINDSHIELD



Remove headlamp protector from hood.

Unclip inner protector from headlamp protector.

Insert tabs of headlamp protector in windshield square holes.

Clip inner protector in place.

Secure windshield assembly on hood using latches.



Headlamp Protector 1.

 Windshield
 Inner Protector Windshield



Latch (8) (P/N 570 023 800) (4 already on headlamp protector, 2 on windshield and 2 on section no. 2) 1.



WINDSHIELD INSTALLED



PARTS INSTALLATION DRIVE BELT



Clean pulleys and disc brake with a suitable cleaner such as Loctite Parts Cleaner (P/N 413 711 809) before installing drive belt.



LIQUIDS **OIL INJECTION PUMP BLEEDING**

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BREAK-IN PERIOD SUPPLEMENTAL OIL

To assure additional protection during the initial engine break-in, 500 mL (18 imp. oz) of BOMBARDIER injection oil (P/N 413 802 900 - 12 x 1 L) 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.

NOTE: Place carburetors on top of intake boots to keep cable routing near original location.

Lightly depress throttle lever to remove free play from cable.

Using a small round or oblong mirror, look if mark on oil pump body is aligned with second mark (0, + 1 mm or 0, + 1/32 in) on oil pump lever (mark on dot side).



VIEW WITH AIR BOX, CARBURETORS AND FUEL PUMP REMOVED Oil pump

- 2. Mirror
- 3. Lever 4. Adjustment Screw

NOTE: Fuel pump was removed to make a clear photo. There is no need for fuel pump removal while adjusting oil pump.

Make sure that view in mirror is straight ahead, without parallax problem.

Protrusion with fixed mark on pump must look like a full circle. See next photo.



VIEW FROM MIRROR SHOULD LOOK LIKE THIS

- Mark on pump body 1.
- Becond mark on lever
 Dot
 Pump protrusion as a circle, not a cylinder

If marks do not align, loosen jam nut from oil pump cable, adjust cable with adjusting nut to make sure mark on pump body align with mark on pump lever (from mark to mark to + 1 mm (+ 1/32 in) over) and secure with jam nut to 5 N•m (3.7 lbf•ft).

\land WARNING

Torque wrench tightening specifications must be strictly adhered to. Locking devices (ex.: locking tab, elastic stop nut, self-locking fasteners, etc.) must be installed or replaced with new ones where specified. If the efficiency of a locking device is impaired, it must be renewed.



- Adjuster housing of oil pump cable
 Jam nut and adjusting nut

Make sure cable is free to swivel in lever end.

Reinstall carburetors (if formerly removed) and air box as per 2000 Ski-Doo Shop Manual.

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

NOTE: Make a J hook out of mechanical wire to reach the lever from magneto side and pull it in open position.

LIQUIDS BRAKE FLUID LEVEL

Check brake fluid in reservoir on handlebar 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.



ADJUSTMENTS SUSPENSION



Rear suspension is calibrated at factory. At predelivery, 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.



TYPICAL 1 Adjustr

Adjustment chart
 Pulley guard



ADJUSTMENTS TRACK



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

When completed, install wheel caps (P/N 570 063 600) provided in predelivery kit (section no. 4).

NOTE: If lubricant is needed to help cap installation, use lens cleaner instead of soapy water to avoid cap to get out from its location due to soap residual.



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.

A dot (•) on right indicates changes from 1999 model.

	MODELS		MX Z 500	MX Z 600	MX Z 700/ MX Z 700 MILLENNIUM EDITION
	Engine Type		493 •	593	693
$\hat{\mathcal{T}}$	Maximum HP RPM ①	± 100 RPM	8000 •	8000	8000
	Rotary Valve	P/N Opening (BTDC)/ Closing (ATDC)	N.A. •	N.A.	N.A.
	Carburetor Type		PTO VM 38 - 429 MAG VM 38 - 429	PTO VM 40-122 ② MAG VM 40-122	PTO VM 40 - 128 2 MAG VM 40 - 128
	Main Jet		PTO 280 MAG 280	PTO 280 MAG 280	PTO 280 MAG 280
	Needle Jet		P-8 (480) •	Z-9 (224)	Z-7 (224) •
	Pilot Jet		40 •	37.5	45 •
╏┙╺┓	Needle Identification -	 Clip Position 	6DEY10 •	7DFY1-3	7DHY6-3 •
╹╙┲═┰┙	Slide Cut-Away		2.5	2.5	2.5
	Float Adjustment	± 1 mm (in)	22.9 (.902) •	22.9 (.902)	22.9 (.902)
	Air Screw Adjustment	± 1/16 turn	1.25 •	0.5	1.0
	Idle Speed RPM	± 200 RPM	1700 •	1600	1600
	Gas Grade/ Octane Number	(R + M)/2	Regular unleaded/87	Regular unleaded/87	Regular unleaded/87
	Gas/Oil Ratio		Oil injection	Oil injection	Oil injection
4	Ignition Timing BTDC	3 4 mm (in)	3.0 (0.118)	3.0 (0.118)	3.36 (0.132)
7	Trigger Coil Air Gap	mm (in)	0.55 - 1.45 (.022057)	0.55 - 1.45 (.022057)	0.55 - 1.45 (.022057)
	Gear Ratio	Teeth	22/43 •	24/43	25/43
	Engagement Speed	± 100 RPM	4100	3800	3800
	Drive Pulley Calibration	on Screw Position	3•	3	3
	Pulley Distance	Z ± 0.5 mm (± 0.020) in	16.5 (21/32)	16.5 (21/32)	16.5 (21/32)
6	Offset	X ± 0.5 mm (± 1/64 in)	35.5 (1-13/32)	35.5 (1-13/32)	35.5 (1-13/32)
	Y		Dimension Y must exceed X from 1 mm (1/32 in) to 2 mm (5/64 in)		from 4 in)
K K	Drive Belt	Deflection mm (in)	32 (1-1/4)	32 (1-1/4)	32 (1-1/4)
	Adjustment	Force 5 kg (lbf)	11.34 (25)	11.34 (25)	11.34 (25)
	Driven Pulley Preload	± 0.7 kg (± 1.5 lbf)	7.0 (15.43)	7.0 (15.43)	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 to 1-3/8) with a 7.3 kg (16 lb) downward pull		

① Engine speed at which maximum power is achieved.

② SB models have a hybrid DPM. Carburetors identification number is 128 on MX Z 600 (all models except 1574, 1575 and 1576) and identification number is 130 on MX Z 700 (all models except 1577, 1578 and 1579).

③ At 3500 RPM (engine cold) with headlamp turned on.

During the first 8 hours, the timing curve is retarded by 3° between 4500 RPM and maximum RPM. Because checking ignition timing is done at lower RPM, this will not affect the 3500 RPM timing specification.

⑤ 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 N.A.: Not Applicable



No. 2000-14

Date: February 11, 2000

SUBJECT: Oil Pump Adjustment

YEAR	MODEL	MODEL NUMBER	SERIAL NUMBER
2000	Canada and United States: Summit* 700 Millennium Edition Summit 700 H.M. Summit 700 Grand Touring* 600 Formula* Deluxe 700 Formula Deluxe 600 Formula Z 700 Formula Z 600	1649/1650 1604/1605 1562/1563 1559/1560/1631/1632 1488/1489 1549/1550 1547/1548 1553/1554 1651/1554	All
2000	Europe: Summit 600 Grand Touring 600 Formula Deluxe 700	1561 1490 1607	All

On the above mentioned snowmobiles, the following oil pump adjustment must supersede the one described in the **Oil Injection Pump Bleeding** in Predelivery bulletins:

2000-7 revision 1 2000-11 2000-13 revision 1.

Parallax Problem

When adjusting pump lever, since the mechanic can not view the pump perpendicularly, the adjustment will not be accurate. The following photos show three different views of a properly adjusted pump.



VIEW TOO HIGH — ADJUSTMENT SEEMS TO BE TOO RICH WHEN TOP OF BODY'S PROTRUSION CAN BE SEEN



VIEW STRAIGHT AHEAD — BODY'S PROTRUSION LOOKS LIKE A CIRCLE, MARK ON PUMP ALIGNS WITH SECOND MARK ON LEVER (MARK ON DOT SIDE)

1. Minimum setting

2. Maximum setting



VIEW TOO LOW — ADJUSTMENT SEEMS TO BE TOO LEAN WHEN BOTTOM OF BODY'S PROTRUSION CAN BE SEEN

Because the oil pump is mounted low on engine and hidden behind fuel pump, it is very difficult to avoid parallax problem and set a good adjustment.

Procedure for Oil Pump Adjustment

Ensure carburetors are synchronized according to the technical specifications.

Remove air box. Carburetors may also be removed to improve visibility and ease adjustment of oil pump cable.

NOTE: Place carburetors on top of intake boots to keep cable routing near original location.

Lightly depress throttle lever to remove free play from cable.

Using a small round or oblong mirror, look if mark on oil pump body is aligned with second mark (0, + 1 mm or 0, + 1/32 in) on oil pump lever (mark on dot side).



VIEW WITH AIR BOX, CARBURETORS AND FUEL PUMP REMOVED

- 1. Oil pump
- 2. Mirror 3. Lever
- 4. Adjustment Screw

NOTE: Fuel pump was removed to make a clear photo. There is no need for fuel pump removal while adjusting oil pump.

Make sure that view in mirror is straight ahead, without parallax problem.

Protrusion with fixed mark on pump must look like a full circle. See next photo.



VIEW FROM MIRROR SHOULD LOOK LIKE THIS

- 1. Mark on pump body
- Second mark on lever
 Dot
- *4. Pump protrusion as a circle, not a cylinder*

If marks do not align, loosen jam nut from oil pump cable, adjust cable with adjusting nut to make sure mark on pump body align with mark on pump lever (from mark to mark to + 1 mm (+ 1/32 in) over) and secure with jam nut to 5 N•m (3.7 lbf•ft).

\land WARNING

Torque wrench tightening specifications must be strictly adhered to. Locking devices (ex.: locking tab, elastic stop nut, self-locking fasteners, etc.) must be installed or replaced with new ones where specified. If the efficiency of a locking device is impaired, it must be renewed.



Adjuster housing of oil pump cable
 Jam nut and adjusting nut

\land WARNING

Make sure cable is free to swivel in lever end.

Reinstall carburetors (if formerly removed) and air box as per 2000 Ski-Doo Shop Manual Volume 3.





No. 2000-15 <u>REVISION 1</u>

Date: March 10, 2000

SUBJECT: Predelivery Procedures

YEAR	MODEL	MODEL NUMBER	SERIAL NUMBER
2000	MX Z* 800	1635	All
2000	Summit* 800 H.M.	1581	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.

Refer to *Predelivery Bulletins* 2000-8 (for MX Z 800) and 2000-13 (for Summit 800 H.M.) for procedures and predelivery adjustments, which are the same. A special care should also be taken for oil pump bleeding and adjustment. Otherwise, only technical data are different.

For maintenance and repairs, refer to the 2000 Ski-Doo Shop Manual, Volume 3.

MARNING

To obtain limited warranty coverage, predelivery procedures must be performed by an authorized Ski-Doo[®] 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 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, there might be some differences between the manufactured product and the descriptions and/or specifications in this document. Bombardier 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 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.

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LIQUIDS OIL INJECTION PUMP BLEEDING

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BREAK-IN PERIOD SUPPLEMENTAL OIL

To assure additional protection during the initial engine break-in, 500 mL (18 imp. oz) of BOMBARDIER-ROTAX injection oil (P/N <u>413 803 000</u>) 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.

NOTE: Place carburetors on top of intake boots to keep cable routing near original location.

Lightly depress throttle lever to remove free play from cable.

Using a small round or oblong mirror, look if mark on oil pump body is aligned with second mark (0, +1 mm or 0, +1/32 in) on oil pump lever (mark on dot side).





- 1. Oil pump 2. Mirror
- 3. Lever
- 4. Adjustment Screw

NOTE: Fuel pump was removed to make a clear photo. There is no need for fuel pump removal while adjusting oil pump.

Make sure that view in mirror is straight ahead, without parallax problem.

Protrusion with fixed mark on pump must look like a full circle. See next photo.



VIEW FROM MIRROR SHOULD LOOK LIKE THIS

- 1. Mark on pump body
- 2. Second mark on lever 3. Dot
- 4. Pump protrusion as a circle, not a cylinder

If marks do not align, loosen jam nut from oil pump cable, adjust cable with adjusting nut to make sure mark on pump body aligns with mark on pump lever (from mark to mark to + 1 mm (+ 1/32 in) over) and secure with jam nut to 5 N•m (3.7 lbf•ft).

Torque wrench tightening specifications must be strictly adhered to. Locking devices (ex.: locking tab, elastic stop nut, self-locking fasteners, etc.) must be installed or replaced with new ones where specified. If the efficiency of a locking device is impaired, it must be renewed.



Adjuster housing of oil pump cable
 Jam nut and adjusting nut

WARNING A

Make sure cable is free to swivel in lever end.

Reinstall carburetors (if formerly removed) and air box as per the 2000 Ski-Doo Shop Manual, Volume 3.

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

NOTE: Make a J hook out of mechanical wire to reach the lever from magneto side and pull it in open position.





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.

	MODEL			MX Z 800	SUMMIT 800 H.M.
(Engine Type		793	793	
	Maximum HP RPM ①		± 100 RPM	7750	7750
	P/N Rotary Valve Opening (BTDC)/ Closing (ATDC)		N.A.	N.A.	
	Carburetor Type		PTO TM 40 - B67 MAG TM 40 - B67 (hybrid DPM)	PTO TM 40 - B43 MAG TM 40 - B43 (hybrid DPM)	
	Main Jet			PTO 460 MAG 460	
	Needle Jet			P-0	
	Pilot Jet			17.5	
	Needle Identification — Clip Position			9HIY1-52 - 3	
	Slide Cut-Away			2	
	Float Adjustment ± 1 mm (± 0.04 in)				
	Air Screw Adjustment ± 1/16 turn		1.0		
	Idle Speed RPM ± 200 RPM		1500		
	Gas Grade/Octane Number (R + M)/2		Regular unleaded/87		
	Gas/Oil Ratio		Oil Injection		
	Ignition Timing BTDC 2 mm (in)		3.52 (0.139)		
7	Trigger Coil Air-Gap mm (in)		0.55 - 1.45 (.022057)		
	Gear Ratio teeth		27/43	21/43	
	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	х	± 0.5 mm (± 1/64 in)	35.5 (1-13/32)	
		Υ		Dimension Y must exceed X from 1 mm (1/32 in) to 2 mm (5/64 in)	
	Drive Belt Adjustment	Deflection	± 5 mm (± 3/16 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)	8.0 (17.64)	
	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 to 1-3/8) with a 7.3 kg (16 lb) downward pull	

1 Engine speed at which maximum power is achieved.

② At 3500 RPM (engine cold) with headlamp turned on.

 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 N.A.: Not Applicable