

ski-doo®



Operator's Guide SUPPLEMENT



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MX Z™ X™

This Supplement must be used in conjunction with 2006 REV™ Series Operator's Guide (P/N 520 000 547).

WARNING

Read this guide thoroughly. It contains important safety information.
Minimum recommended operator's age: 16 years old. Do not remove this Operator's Guide from the vehicle.

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SAFETY WARNING

Disregarding any of the safety precautions and instructions contained in this *Operator's Guide*, *Safety Videocassette* or on-product warnings may result in injury, including the possibility of death.

This *Operator's Guide* and *Safety Videocassette* should remain with the unit at time of resale.



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ROTAX®*

REV®

MX-Z®

Dear 2006 MX Z X™ 440 owner, informations in the 2006 REV® Series Operator's Guide (P/N 520 000 547) also apply to your MX Z X 440 except for the following.

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WARRANTY

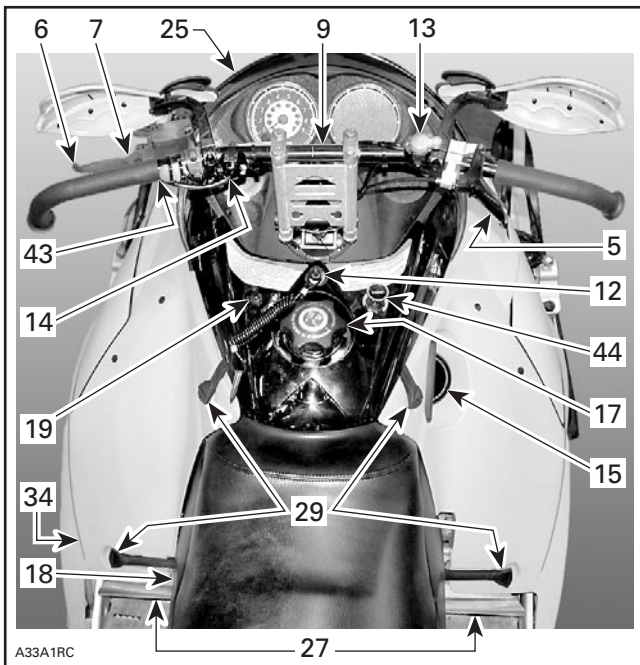
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VEHICLE INFORMATION

RACING APPLICATION

For racing application, the main jets have to be replaced according to the chart found on belt guard.

CONTROLS/INSTRUMENTS/EQUIPMENT



NOTE: See description of numbered items in *2006 REV Series Operator's Guide* (P/N 520 000 547) except for the following.

1) Brake/Parking Brake Pilot Lamp (Red)

This pilot lamp is disabled (does not light up) on the MX Z X 440.

WARNING

Make sure parking brake is fully disengaged before operating the snowmobile.

When you ride the vehicle, brake that are caused to drag by a continuous pressure on the lever may cause damage to the brake system and cause loss of braking capacity and/or fire.

12) Tether Cord Cut-Out System

General

The tether cord cut-out system prevents snowmobile to runaway, if the operator accidentally falls off, by shutting off the engine.

WARNING

Always disconnect tether cord when leaving vehicle unattended and keep in a secured location.

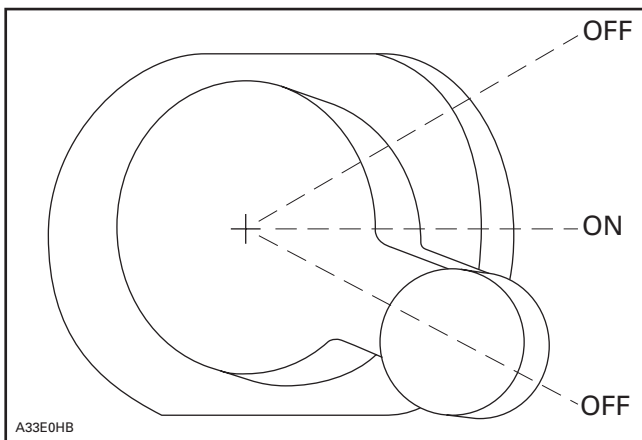
Operation

Attach tether cord to clothing eyelet then snap tether cord cap over post before starting engine.

To stop engine, completely pull cap from post.

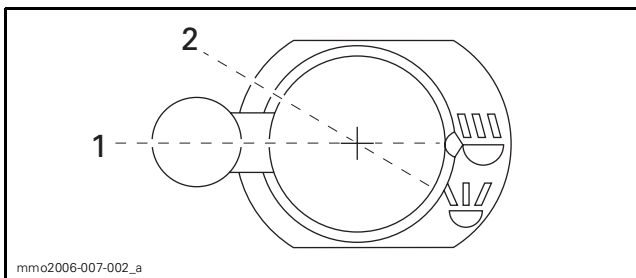
13) Engine Cut-Out Switch

Located on right side of handlebar this switch is used to stop the engine.



14) High Beam/Low Beam Switch

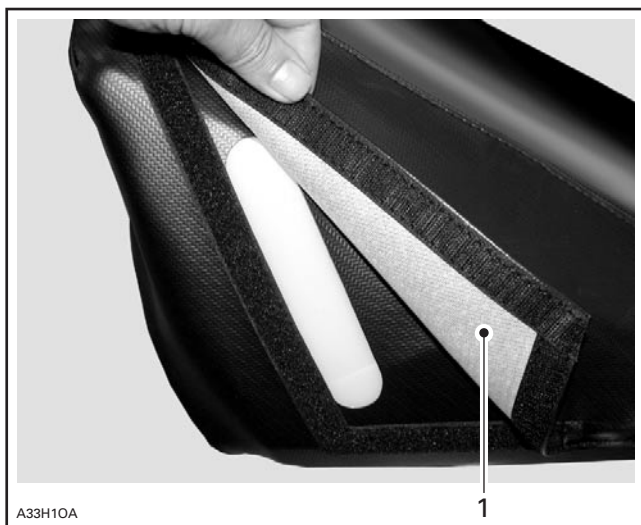
Allows selection of headlamp high beam or low beam.



1. *Low beam*
2. *High beam*

18) Fuel Level

Open fabric door to see the fuel level through the translucent fuel tank.

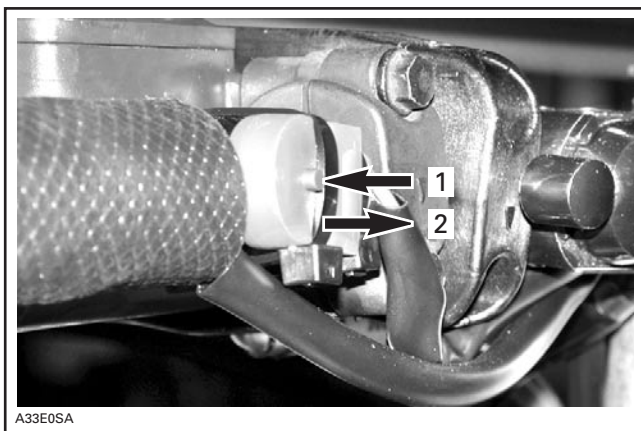


1. *Fabric door*

43) Pre-Heat Switch

Racing Application Only

NOTE: This switch is disabled (not operative) on vehicles modified for warranty validation. To run engine with 91 octane number fuel (R + M)/2 inside North America (95 RON outside North America), this switch must be disabled.



1. Button depressed: Pre-heat timing curve
2. Button released: 108 (R + M)/2+ octane timing curve for North America version (98 RON + Octane timing curve for outside North America)

After starting the engine, push and hold the pre-heat switch button in order to pre-heat the tuned pipe. Release pre-heat switch button once the tuned is pre-heated.

44) Primer Button

Pull and push button. It is not necessary when engine is warm.

To prime, activate button until a pumping resistance is felt. From this point, pump 2 or 3 times to inject fuel in intake manifold. After priming, ensure that primer button is pushed back.

NOTE: In very cold temperature, it is recommended to rotate primer button 3-4 turns prior to pull it. This will eliminate the possibility of sticking.

RECOMMENDED FUEL AND OIL

Fuel

Vehicles with Valid Warranty (Pre-Heat Switch Disabled)

Use premium unleaded gasoline, available from most service stations or oxygenated fuel containing a maximum total of 10% of ethanol or methanol or both. The gasoline used must have the following recommended minimum octane number.

LOCATION	OCTANE NUMBER
Inside North America	91 (RON + MON)/2
Outside North America	95 RON

Vehicles without Warranty (Pre-Heat Switch Enabled)

Use racing fuel with the following octane number.

MINIMUM	
LOCATION	OCTANE NUMBER
Inside North America	108 (RON + MON)/2
Outside North America	113 RON

RECOMMENDED	
LOCATION	OCTANE NUMBER
Inside North America	114 (RON + MON)/2
Outside North America	119 RON

NOTE: The fuel tank cap specifies an octane number of 91 as a minimum. A higher octane number is required in racing application.

All Vehicles

CAUTION: Never experiment with other fuels. The use of unrecommended fuel can result in snowmobile performance deterioration and damage to critical parts in the fuel system and engine components.

WARNING

Always stop engine before refueling. Open cap slowly. If a differential pressure condition is noticed (whistling sound heard when loosening fuel tank cap) have vehicle inspected and/or repaired before further operation. Fuel is flammable and explosive under certain conditions. Never use an open flame to check fuel level. Never smoke or allow flame or spark in vicinity. Always work in a well-ventilated area. Never top up the fuel tank before placing the vehicle in a warm area. As temperature increases, fuel expands and may overflow. Always wipe off any fuel spillage from the vehicle.

Fuel System Antifreeze

When using oxygenated fuel, additional gas line antifreeze or water absorbing additives are not required and should be not used.

When using non-oxygenated fuel, we highly recommend the use of isopropyl base gas line antifreeze in a proportion of 150 mL (5 U.S. oz) of gas line antifreeze added to 40 liters (10-1/2 U.S. gal) of gas.

This precaution is in order to reduce the risk of frozen carburetors which may lead, in certain cases, to high fuel consumption or severe damage to engine.

IMPORTANT: Use only **methyl hydrate free** gas line antifreeze.

Oil

NOTE: Premix fuel/oil ratio is **33:1**

CAUTION: Never experiment with other fuel/oil ratios. Use only oil that can flow at - 40°C (- 40°F).

Oil must be mixed with fuel at the ratio of **33:1** in a jerrycan then, be poured in the fuel tank. Refer to chart below as a guideline to properly premix oil with fuel.

Use only two-stroke engine injection oil, sold by authorized SKI-DOO dealers.

MODEL	OIL TYPE
MX Z X 440	XP-S synthetic 2-stroke oil ⁽¹⁾ (P/N 293 600 045) (12 x 1 L)

CAUTION: ⁽¹⁾ The XP-S synthetic 2-stroke oil is specially formulated and tested for the severe requirements of the 453 engine. Use of any other brand two-stroke oil may void the limited warranty. Use only XP-S synthetic 2-stroke oil. There is no known equivalent on the market for the moment. If a high quality equivalent were available, it could be used.

The XP-S synthetic 2-stroke oil provides superior lubrication, reduced engine component wear and oil deposit, thus maintaining maximum-level performance and antifriction properties. This synthetic injection oil meets the latest ASTM and JASO standards by ensuring high biodegradability and low exhaust smoke.

CAUTION: Never use four-stroke petroleum or synthetic motor oil and never mix these with outboard motor oil. Do not use NMMA TC-W, TC-W2 or TC-W3 outboard two-stroke engine oils or ashless two-stroke engine oils. Avoid mixing different brands of API TC oil as resulting chemical reactions may cause severe engine damage.

 **WARNING**

Wipe off any oil spills. Oil is highly flammable.

PREMIX FUEL/OIL RATIO
33:1

METRIC (SI): 1 L of oil + 33 L of fuel = 33/1

IMPERIAL: 35 imp. oz of oil + 7.2 imp. gal of fuel = 33/1
1 L of oil + 7.2 imp. gal of fuel = 33/1

UNITED STATES: 34 U.S. oz of oil + 8.8 U.S. gal of fuel = 33/1
1 L of oil + 8.8 U.S. of fuel = 33/1

OPERATING INSTRUCTIONS

Engine Starting Procedure

- Re-check throttle control lever operation.
- Ensure that the emergency cut-out switch is in the ON position.
- Ensure the tether cut-out cap is in position and that the cord is attached to your clothing.
- To prime, activate button until a pumping resistance is felt. From this point, pump 2 or 3 times to inject fuel in intake manifold. After priming, ensure that primer button is pushed back.

NOTE: In very cold temperature, it is recommended to rotate primer button 3 - 4 turns prior to pull it. This will eliminate the possibility of sticking.

NOTE: Priming is not necessary when engine is warm.

Suspensions Adjustments

NOTE: There is no rear shock motion ratio adjustment on the MX Z X 440.

In addition to all suspension adjustments described in *REV Series Operator's Guide*, take note of the 2 following points.

Shocks

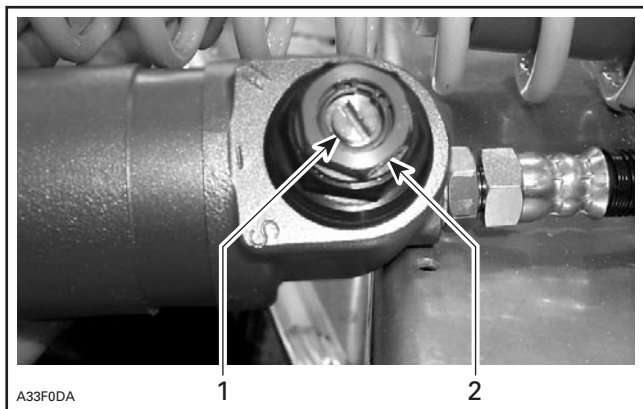
All 4 shocks feature 2 adjustments.

Low Speed Compression Adjuster

The low speed adjuster modifies the damping force for small suspension velocities — less than 0.75 m/s (2.5 ft/s). It tunes the vehicle for braking, cornering, hole shot and all the bumps that create low speed movement in the suspension. This adjuster has 4 turns of adjustment. Use a flat screwdriver to adjust it. Turning it clockwise increases shock damping action (stiffer) for these low compression speeds.

High Speed Compression Adjuster

The High speed adjuster modifies the damping force for high suspension velocities — more than 0.5 m/s (1.6 ft/s). It tunes the vehicle for hoops or bumps that create high speed movement in the suspension. This adjuster has 3 turns of adjustment. Use a 17 mm wrench to adjust it. Turning it clockwise increases shock damping action (stiffer) for these high compression speeds.



1. *Low speed compression adjuster (flat screwdriver)*
2. *High speed compression adjuster (17 mm wrench)*

Center and Front Springs

CAUTION: Make sure that center spring and both front springs are still preloaded when front of vehicle is off the ground. Maximum spring preload is 25 mm (1 in). Otherwise, spring will be coil bound when fully compressed.

SPECIFICATIONS

NOTE: Because of its ongoing commitment to product quality and innovation, BRP reserves the right, at any time, to make changes in design and specifications and/or to make additions to, or improvements in its products without imposing any obligation upon itself to install them on its products previously manufactured.

MODEL	MX Z X 440
ENGINE SYSTEM	
Engine type	453
Cylinders	2
Displacement	cc (in ³) 436.7 (26.6)
Bore	mm (in) 65.0 (2.56)
Stroke	mm (in) 65.8 (2.59)
Maximum power engine speed	± 100 RPM 8400
Carburetion	2 x TMX-34
Exhaust system	Single tuned pipe, baffle muffler
DRIVE SYSTEM	
Drive pulley type	TRA III light
Driven pulley type	Team rapid reaction
Engagement	5700 RPM
Small sprocket number of teeth	21
Large sprocket number of teeth	45
Drive sprocket number of teeth	9
Brake system	Hydraulic caliper, self adjusting
Track nominal width	381 mm (15 in)
Track nominal length	3074 mm (121 in)
Track profile height	44.5 mm (1.75 in)

MODEL		MX Z X 440
Track tension	Deflection	30 - 35 mm (1-3/16 - 1-3/8 in)
	Force ⁽¹⁾	7.3 kg (16 lb)
Track alignment		Equal distance between edges of track guides and slider shoes
Drive belt part number		417 300 297
Wear limit width mm (in)		34.7 (1-3/8)
SUSPENSION		
Front suspension		R.A.S. (A-Arm/sway bar)
Rear suspension		SC-4
ELECTRICAL		
Lightning system output		360 Watts
Headlamp bulb HI/LOW beam		2 x 60/55 Watts (H-4)
Spark plug	Type	NGK BR9ECS ⁽²⁾
	Gap	0.45 ± 0.05 mm (.018 ± .002 in)
DIMENSIONS		
Vehicle overall length mm (in)		2882 (113)
Vehicle overall width mm (in)		1217 47.9)
Vehicle overall height mm (in)		1022 (40)
Official dry weight kg (lb)		197 (435)
Ski stance mm (in)		1080 (42.5)
LIQUIDS		
Fuel	Type	See <i>RECOMMENDED FUEL</i>
	Minimum octane	
Mixing oil	Type	XP-S synthetic 2-stroke oil (P/N 293 600 045) (12 x 1 L)
	Premix ratio	33:1
Brake system fluid		SRF (DOT 4) or GTLMA (DOT 4)

MODEL		MX Z X 440
Chaincase oil type		XP-S synthetic chaincase oil (P/N 413 803 300) (12 x 355 mL)
Coolant	Mixture	Ethyl glycol/water mix (50% coolant, 50% distilled water) Use coolant specifically designed for aluminum engines
	Premix	(P/N 413 711 802) (16 x 1 L)
Coolant pump shaft oil		XP-S mineral injection oil (P/N 413 802 900) (12 x 1 L)
CAPACITIES		
Fuel tank	L (U.S. gal)	21 (5.5)
Chaincase	mL (U.S. oz)	250 (8.5)
Cooling system	L (U.S. oz)	3.5 (118)
(1) Measure gap between slider shoe and bottom inside of track when exerting a downward pull to the track.		
(2) CAUTION: Do not attempt to adjust gap on spark plug BR9ECS.		

MAINTENANCE INFORMATION

ENGINE SYSTEM

Coolant Pump Shaft Oil Reservoir

CAUTION: Vehicle must be on a level surface before checking any fluid levels.

Use XP-S mineral injection oil (P/N 413 802 900) (12 x 1 L).

Fill up to mark.

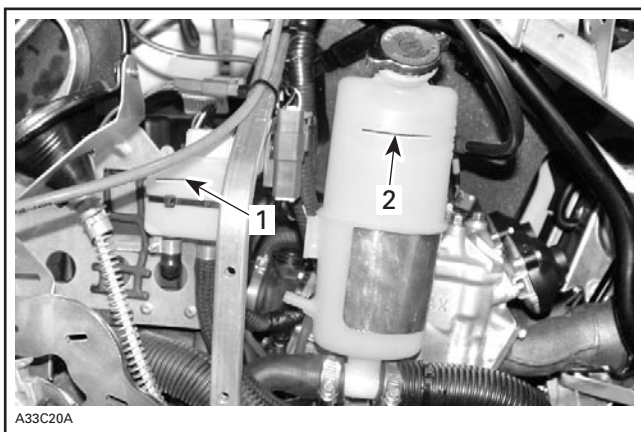
Cooling System

CAUTION: Vehicle must be on a level surface before checking any fluid levels.

Use a blend of 50/50 distilled water and ethylene-glycol. That blend will protect the system from freezing as low as - 37°C (- 35°F).

BRP sells premixed 50/50 water/antifreeze can (P/N 413 711 802 — 16 x 1 L).

Fill up to mark when engine is cold.



1. Coolant pump shaft oil filling mark
2. Coolant cold level mark

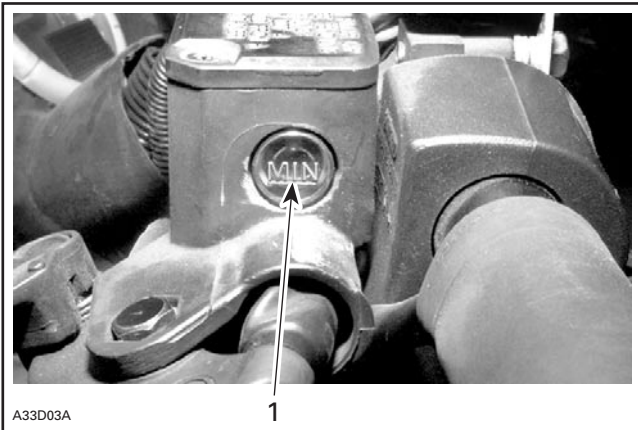
DRIVE SYSTEM

Brake Fluid Level

CAUTION: Vehicle must be on a level surface before checking any fluid levels.

Check brake fluid (DOT 4) in reservoir on handlebar for minimum level. Add recommended fluid (DOT 4) as required. Refer to *SPECIFICATIONS* for recommended fluid.

CAUTION: Use only (DOT 4) brake fluid from a sealed container. Never use any other types of fluid.



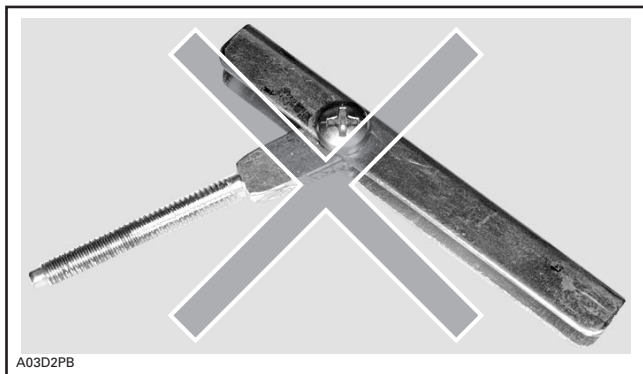
TYPICAL — BRAKE FLUID RESERVOIR

1. Minimum

Drive Belt Removal/Installation

Follow the procedure described in *2006 REV Series Operator's Guide* except for the following:

CAUTION: Two different drive belt installer/removers are included in the tool kit. Use the one piece installer/remover as shown in following photos.



A03D2PB

WRONG TOOL — DO NOT USE ON MX Z X 440



A33B0SA

PROPER TOOL TO BE USED ON MX Z X 440



A33D1AA

PROPER TOOL OPENING DRIVEN PULLEY OF MX Z X 440

WARRANTY

LIMITED WARRANTY VALIDATION

Because of its racing application, the 2006 MX Z X 440 is shipped from the factory with high compression ratio (CR) combustion chamber inserts installed.

To validate limited warranty coverage and to run engine with 91 octane number gasoline (R + M)/2 inside North America (95 RON outside North America), the following modifications must be done **at predelivery before using the vehicle**.

1. Low CR combustion chamber inserts must be installed on engine. The high CR combustion chamber inserts must be returned to BRP Warranty Department.
2. Replace the main jets with the ones recommended in the *PREDELIVERY BULLETIN*.
3. Replace the needle jets with the ones recommended in the *PREDELIVERY BULLETIN*.
4. Disconnect the pre-heat switch as explained in the *PREDELIVERY BULLETIN*.
5. Install Power Jet (jet 0) as explained in the *PREDELIVERY BULLETIN*.
6. Disconnect, remove and return to BRP Warranty Department the EGT pipe sensor.
7. Plug-in EGT pipe sensor hole as explained in the *PREDELIVERY BULLETIN*.