

ski-doo®



SUPPLEMENT

2007

Operator's
Guide

MX Z™ X

This Supplement must be used in conjunction with 2007 REV™ Series Operator's Guide (P/N 520 000 610).

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 Supplement, *SAFETY VIDEO* or on-product warnings may result in injury, including the possibility of death.

This Operator's Guide Supplement and *SAFETY VIDEO* should remain with the unit at time of resale.



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SKI-DOO®	MX Z®	REV™
DESS™	Pilot™	TRA™
SC-4™		

**Dear 2007 MX Z X™ 440 owner, informations in the 2007 REV™
SERIES OPERATOR'S GUIDE (P/N 520 000 610) also apply to
your MX Z X 440 except for the subjects covered in this Sup-
plement.**

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VEHICLE INFORMATION

RACING APPLICATION

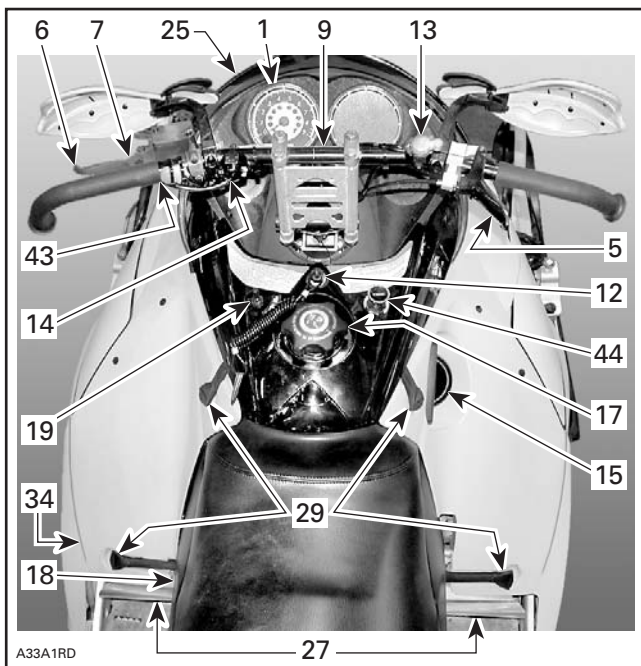
For racing application, the main jets have to be replaced according to the chart found on belt guard.

CAUTION		ATTENTION	
MAINJET - FUEL CHART*		GICLEUR PRINCIPAL- CARBURANT	
*Always refer to MAIN JET chart to select proper jetting. Jetting is based on compression ratio and temperature.		*Toujours se référer au tableau pour sélectionner les gicleurs. Le choix de gicleurs est basé sur le rapport de compression et la température.	
**The engine is factory built with a high compression rate; do not use fuel of an octane rating lower than 98 (RON + MON)/2.		**De série, le moteur a un taux de compression élevé; ne pas utiliser d'essence dont l'indice d'octane est moins de 98 (RON + MON)/2.	
***For trail use, please see your dealer to modify the engine in accordance with the warrant.		***Pour un utilisation en sentie voir votre concessionnaire pour les modifications au moteur en conformité avec la garantie.	
		CROSS-COUNTRY	SNO-CROSS
		Fuel octane-Indice d'octane 98**	Fuel octane-Indice d'octane 98**
Deg. C	Deg. F	pto-mag	pto-mag
-20	-4	330-330	320-320
-10	14	320-320	310-310
0	32	310-310	300-300
10	50	300-300	290-290

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CONTROLS/INSTRUMENTS/EQUIPMENT



NOTE: See description of numbered items in *2007 REV SERIES OPERATOR'S GUIDE* (P/N 520 000 610) except for the following.

1) Speedometer/Tachometer

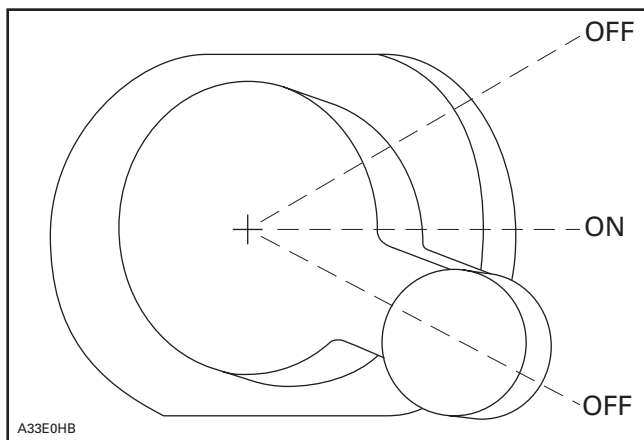
The MX Z X 440 uses the same combined speedometer/tachometer functions as a Summit liquid cooled model.

12) Tether Cut-Out Switch

There is no DESS™ (Digitally Encoded Security System) on this vehicle.

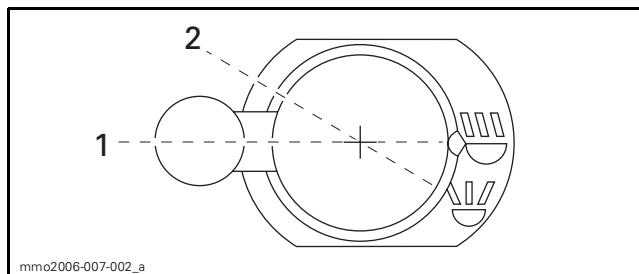
13) Engine Cut-Out Switch

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



14) High Beam/Low Beam Switch

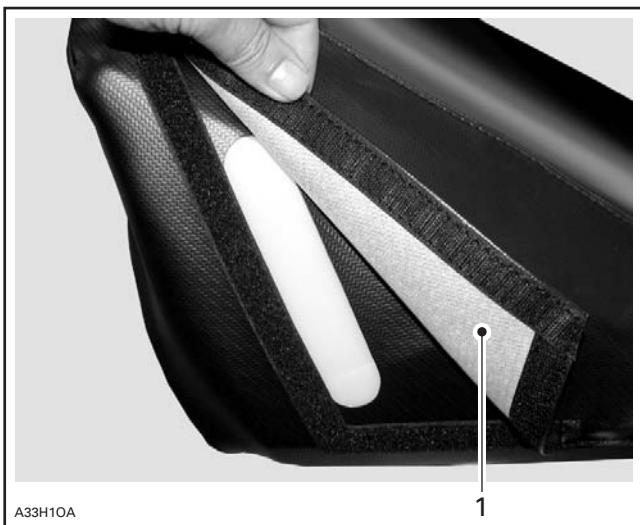
Allows selection of headlamp high beam or low beam.



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

30) Fuses (not shown)

There is no fuse on this vehicle.

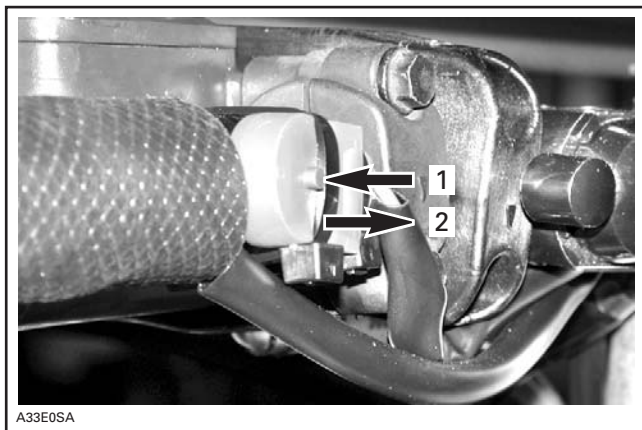
39) Spare Drive Belt Holder (not shown)

There is no spare drive belt holder on this vehicle.

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.

- Grab manual starter handle, pull handle slowly until a resistance is felt, then hold handle firmly and pull vigorously to start engine.

Suspensions Adjustments

In addition to all suspension adjustments described in *REV SERIES OPERATOR'S GUIDE*, take note of the 2 following points.

Shocks

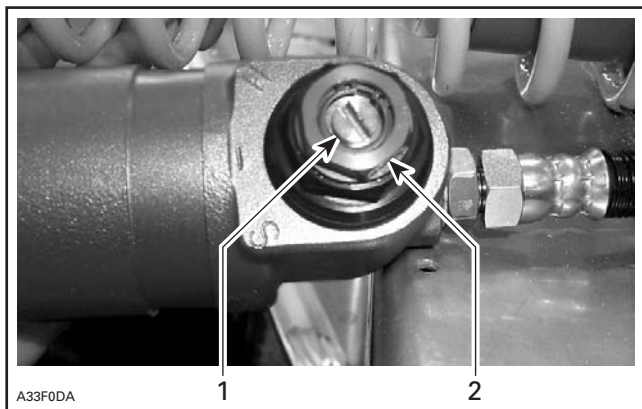
All 4 shocks feature 2 adjustments.

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.



TYPICAL

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	8
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
DRIVE SYSTEM (cont'd)		
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		417 300 288 ⁽³⁾
SUSPENSION		
Front suspension		Double A-Arm with sway bar
Front shock		C-36 racing clicker
Front suspension max. travel		254 mm (10 in)
Rear suspension		SC-4
Front arm shock		C-36 racing clicker
Rear arm shock		C-36 racing clicker
Rear suspension max. travel		406.4 mm (16 in)
ELECTRICAL		
Lightning system output		360 Watts @ 6000 RPM
Headlamp bulb HI/LOW beam		2 x 60/55 Watts (H-4)
Taillight bulb		8/27
Spark plug	Type	NGK BR9ECS ⁽²⁾
	Gap	0.45 ± 0.05 mm (.018 ± .002 in)
DIMENSIONS		
Vehicle overall length	mm (in)	2885 (114)
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)

MODEL		MX Z X 440
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)
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)
Water 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)
<p>(1) Measure gap between slider shoe and bottom inside of track when exerting a downward pull to the track.</p> <p>(2) CAUTION: Do not attempt to adjust gap on spark plug BR9ECS.</p> <p>(3) Drive belt height must be adjusted every time a new drive belt is installed. Confirm drive belt part number application with an authorized SKI-DOO dealer.</p>		

MAINTENANCE INFORMATION

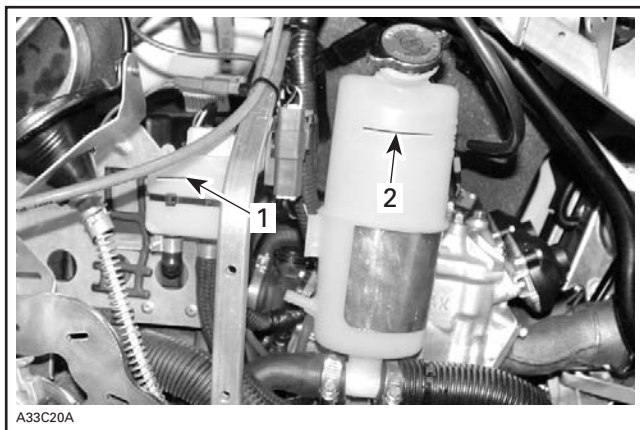
ENGINE SYSTEM

Water 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.



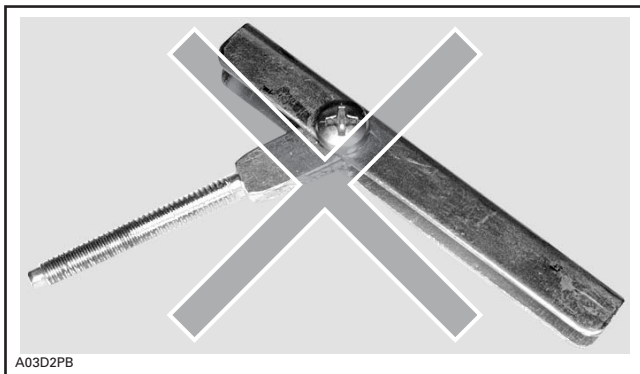
1. Water pump shaft oil filling mark
2. Coolant cold level mark

DRIVE SYSTEM

Drive Belt Removal/Installation

Follow the procedure described in *2007 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.



WRONG TOOL — DO NOT USE ON MX Z X 440



PROPER TOOL TO BE USED ON MX Z X 440



A33D1AA

PROPER TOOL OPENING DRIVEN PULLEY OF MX Z X 440

Drive Belt Height Adjustment

To obtain maximum vehicle performance and drive belt longevity, drive belt height adjustment must be performed every time a new drive belt is installed.

NOTE: If correct adjustment is unattainable, contact an authorized SKI-DOO dealer.

The drive belt cord should be flush with driven pulley edge. Adjust as required.



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TYPICAL

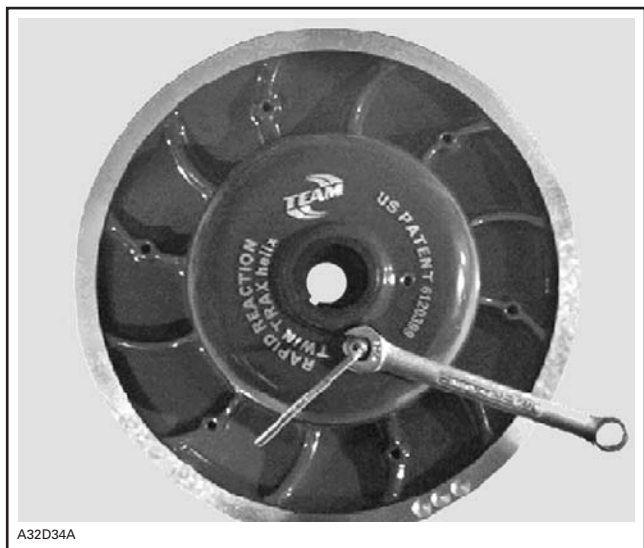
1. *Flush*

To adjust the sheaves, loosen the 7/16 in jam nut on the belt width adjuster.

Using a 1/8 in Allen wrench (P/N 920001), adjust the threaded set screw as needed.

NOTE: Turn the set screw in (clockwise) to increase the distance between the sheaves and out (counter-clockwise) to decrease the distance.

Tighten the jam nut after the belt adjustment has been made.



A32D34A

ELECTRICAL SYSTEM

Taillight Bulb Replacement

Pull on taillight housing to release it from seat plastic cover.

Turn bulb support counterclockwise and pull to expose the bulb.

Pull on bulb to remove.

WARRANTY

LIMITED WARRANTY VALIDATION

Because of its racing application, the 2007 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*.