

Please route to :

<input type="checkbox"/> Service	<input type="checkbox"/> Init.
<input type="checkbox"/> Sales	<input type="checkbox"/>
<input type="checkbox"/> Parts	<input type="checkbox"/>



**SAFETY**

**SNOWMOBILES**



Campaign nos. 98-002  
to 98-009 inclusively

No. **98-1**

**REVISION 2** ←

Date: October 17, 1997

**SUBJECT: Fixed Half Splines**

YEAR	MODEL	MODEL NUMBER	SERIAL NUMBER	PART IDENTIFICATION
1998	Formula Z 583 (Canada/United States)	1251/1252	ALL <u>except</u> vehicles with a Green Dot on TRA clutch	2
1998	Formula 583 Deluxe (Canada/United States)	1249/1250		2
1998	Formula 500 Deluxe (Canada/United States)	1246/1247		1
1998	Grand Touring 583 (Canada/United States)	1221/1222		2
1998	Grand Touring 500 (Canada/United States)	1218/1219		1
1998	MX Z 583 (Canada/United States)	1275/1276		2
1998	MX Z 500 (Canada/United States)	1272/1273		1
1998	Touring LE (Canada/United States)	1232/1233		2
1998	Skandic 500 (Canada/United States)	1237/1238		2
1998	Formula 500 (Canada/United States)	1243/1244		1
1998	MX Z 440 (Canada/United States)	1264/1265		2
1998	Summit 500 (Canada/United States)	1256/1257		1
1998	Summit 583 (Canada/United States)	1259/1260		2
1998	Skandic WT LC (Canada/United States)	1284/1285		1
1998	Skandic WT (Canada/United States)	1286/1287		2
1998	Skandic SWT (Canada/United States)	1288/1289		2

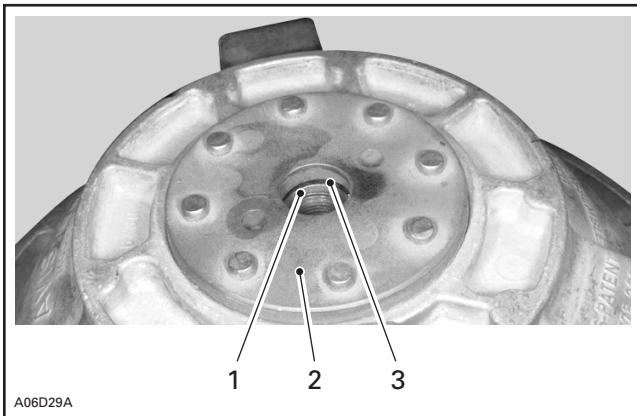
## PROBLEM

On some units, inner shaft splines may not have been machined deep enough (length wise) creating a gap between governor cup damper and inner shaft end; this may cause clutch fragmentation at high speeds.

## SOLUTION

Verify fit between inner shaft end and governor cup damper by removing retaining bolt.

- A visual inspection will tell if a gap is existing. Refer to following illustration.



- Inner shaft
- Governor cup
- Check gap here

- If **gap is existing**, replace inner half and verify pulley alignment.
- On vehicle equipped with an electric starter, removal and reinstallation of ring gear will be required.

## PROCEDURE

Remove retaining screw.

To remove drive pulley ass'y and/or fixed half from engine, use puller (P/N 529 0079 00) or (P/N 529 0224 00).

### ▼ CAUTION

These pulleys have metric threads. Do not use imperial threads puller. Always tighten puller by hand to ensure that the drive pulley have the same type of threads (metric vs imperial) prior to fully tightening.

## To Remove Drive Pulley Ass'y:

Retain drive pulley with clutch holder (P/N 529 0064 00).

Install puller (P/N 529 0224 00) or (P/N 529 0079 00) in pulley shaft then tighten.

## DISASSEMBLY

### Screw and Ring Gear

#### ▼ CAUTION

Retaining screws must be heated before disassembly.

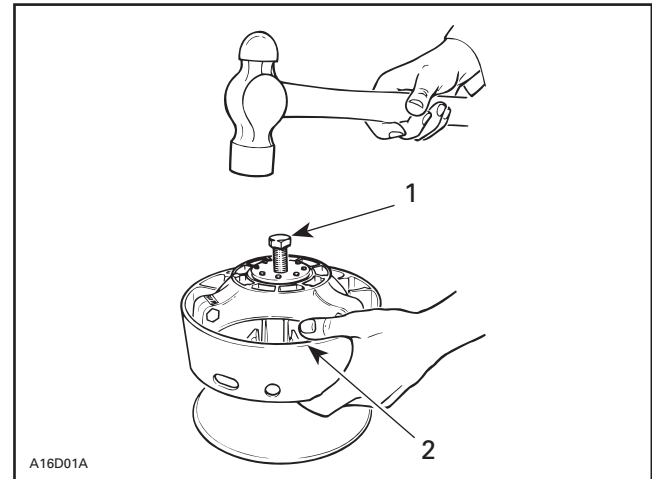
Torque specifications for ring gear retaining screws is 27 N•m (20 lbf•ft).

### Fixed and Sliding Half

#### ▼ CAUTION

Do not tap on governor cup.

Screw puller into fixed half shaft about 13 mm (1/2 in). Raise drive pulley and hold it by the sliding half while knocking on puller head **using a rubber mallet** to disengage fixed half.



#### TYPICAL

- Puller
- Holding sliding half

**NOTE:** Though sliding half, spring cover and governor cup are marked, no indexing is needed between fixed half and sliding half.

## PULLEY ALIGNMENT AND DISTANCE SPECIFICATIONS CHART

MODEL	PULLEY DISTANCE	OFFSET		ALIGNMENT TEMPLATE
	Z	X	Y-X	①
	+ 0, - 1 mm (+ 0, - .040 in)	± 0.50 mm (± .020 in)	± 0.5 mm (± .020 in)	P/N
TRA Equipped All involved vehicles except Skandic WT/SWT/WT LC	16.5 (.650)	35.0 (1.380)	1.5 (.060)	529 0267 00
Skandic SWT	32.75 (1.289)	36.50 ± 0.75 (1.437 ± .030)	1.5 ± 0.75 (.060 ± .030)	<u>529 0310 00</u>
<u>Skandic WT/WT LC</u>	<u>32.25 ± 0.5</u> ( <u>1.270 ± .020</u> )	<u>35.0 ± 0.5</u> ( <u>1.378 ± .020</u> )	<u>1.5 ± 0.5</u> ( <u>.060 ± .020</u> )	<u>529 0355 45</u>

① Alignment templates have been made according to pulley alignment nominal values. However, they do not take into account allowed tolerances for alignment specifications. They are used as GO/NO GO gauges for quick alignment and pulley distance check and as templates to reach alignment nominal values.



## INSTALLATION

### ◆ WARNING

Never use any type of impact wrench at drive pulley removal and installation.

### ◆ WARNING

Do not apply anti-seize or any lubricant on crankshaft and drive pulley tapers.

Clean mounting surfaces as described in CLEANING, section 04-03 in appropriate *Shop Manual*.

### Drive Pulley Ass'y

The installation procedure must be strictly adhered to as follows.

Lock crankshaft in position as explained in removal procedure.

Install drive pulley on crankshaft extension.

Install conical washer with its concave side toward drive pulley then install screw.

### ◆ WARNING

Never substitute lock washers and/or screws with jobber ones. Always use Bombardier genuine parts or approved equivalent.

Torque screw to 90 to 100 N•m (66 to 74 lbf•ft).

Install drive belt and belt guard.

Raise and block the rear of the vehicle and support it with a mechanical stand (P/N 529 0200 00).

### ◆ WARNING

Ensure that the track is free of particles which could be thrown out while track is rotating. Keep hands, tools, feet and clothing clear of track. Ensure nobody is standing near the vehicle.

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).

Following WARNING tends to be a reminder of the 10 hour inspection.

### ◆ WARNING

After 10 hours of operation the transmission system of the vehicle must be inspected to ensure the retaining screw is properly torqued.

## PART REQUIRED

Model Identification	Description	P/N	Qty
1	Inner Half Kit (includes 1 inner half ass'y and 6 screws)	590 1757 00	1
2	Inner Half Kit (includes 1 inner half ass'y and 6 screws)	590 1758 00	1

Order part(s), if needed, through normal channel.

## WARRANTY

Normal warranty applies. Please return inner half and screws (if applicable) and complete a warranty claim form, using the following information.

Note that claim acceptance is conditional to parts return.

A)

### **Touring LE/Formula 583DL/Grand Touring 583/Skandic WT/Skandic SWT**

Inspection only.

Campaign Number	98-002
Claim Type	07
Expiration Date	December 1, 1998
Flat Rate Time	0.3 hour

Inspection, inner half replacement (including removal and reinstallation of ring gear) and pulley alignment check.

Campaign Number	98-003
Claim Type	07
Expiration Date	December 1, 1998
Flat Rate Time	0.6 hour

B)

**Skandic 500/Formula Z 583/MX Z 583/  
MX Z 440/Summit 583**

Inspection only.

Campaign Number	98-006
Claim Type	07
Expiration Date	December 1, 1998
Flat Rate Time	0.3 hour

Inspection, inner half replacement and pulley alignment check.

Campaign Number	98-007
Claim Type	07
Expiration Date	December 1, 1998
Flat Rate Time	0.4 hour

C)

**Formula 500 DL/Grand Touring 500/  
Skandic WT LC**

Inspection only.

Campaign Number	98-004
Claim Type	07
Expiration Date	December 1, 1998
Flat Rate Time	0.3 hour

Inspection, inner half replacement (including removal and reinstallation of ring gear) and pulley alignment check.

Campaign Number	98-005
Claim Type	07
Expiration Date	December 1, 1998
Flat Rate Time	0.6 hour

D)

**Formula 500/MX Z 500/Summit 500**

Inspection only.

Campaign Number	98-008
Claim Type	07
Expiration Date	December 1, 1998
Flat Rate Time	0.3 hour

Inspection, inner half replacement and pulley alignment check.

Campaign Number	98-009
Claim Type	07
Expiration Date	December 1, 1998
Flat Rate Time	0.4 hour

For claiming procedure, refer to the *Dealer Warranty Guide*.

For government control, a claim must be submitted as soon as the procedure has been performed. Records are for your protection. This procedure is subject to a safety recall which has been reported to the D.O.T. (Department of Transport) and to the C.P.S.C. (Consumer Product Safety Commission). Strict compliance is therefore required for your customer's and your own protection.

**IMPORTANT:** Please find attached a copy of the registered letter mailed directly to registered owners. However, we also ask you to contact your customers to make sure that they have received this notice.

Please route to:

	Init.
<input type="checkbox"/> Service	<input type="checkbox"/>
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**SAFETY**

**SNOWMOBILES**



Campaign no. 98010

No. **98-2**

Date: October 17, 1997

**SUBJECT: Fuel Line Replacement**

YEAR	MODEL	MODEL NUMBER	SERIAL NUMBER
1998	Mini Z*	1213	All (except vehicles with a green dot on the head lamp)

## PROBLEM

The above mentioned snowmobiles may develop leaks at fuel line carburetor attachment.

## SOLUTION

Replace fuel line, spring clips and locking tie with new ones.

## PARTS REQUIRED

DESCRIPTION	P/N	QTY
Fuel Line Replacement Kit	590 1315 00	1

The fuel line replacement kit contains one molded line, one small spring clip, one large spring clip and one locking tie.

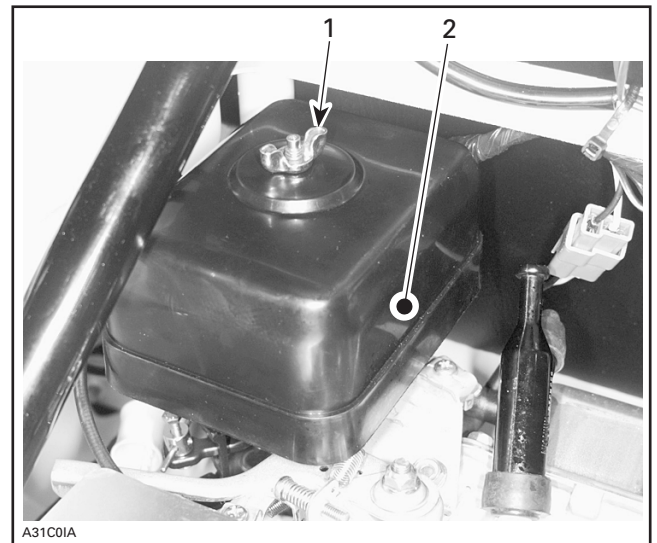
Kits will be automatically shipped to dealers according to the amount of vehicles received until October 3, 1997.

Do not order kits.

## FUEL LINE REPLACEMENT

### Procedure

Loosen wing nut and remove air intake cover, as shown in the next photo.



1. Loosen wing nut
2. Remove air intake cover

Remove screws and detach fuel tank from support.

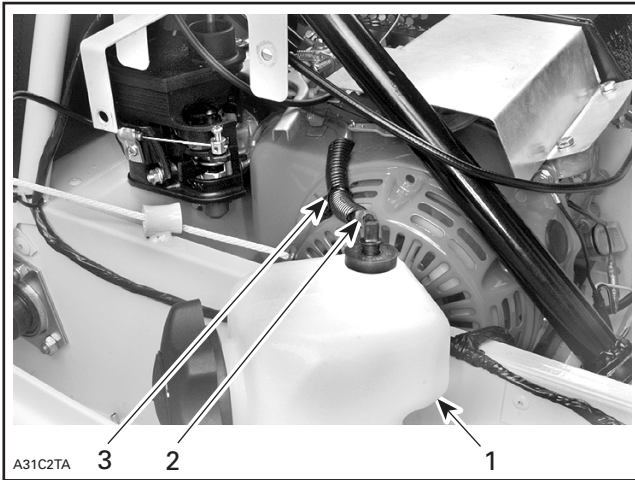
## ◆ WARNING

Fuel is flammable and explosive under certain conditions. Ensure work area is well ventilated. Do not smoke or allow open flames or sparks in the vicinity.

Once removed, position fuel tank upright so that fuel outlet is on top.

Detach line from fuel tank.

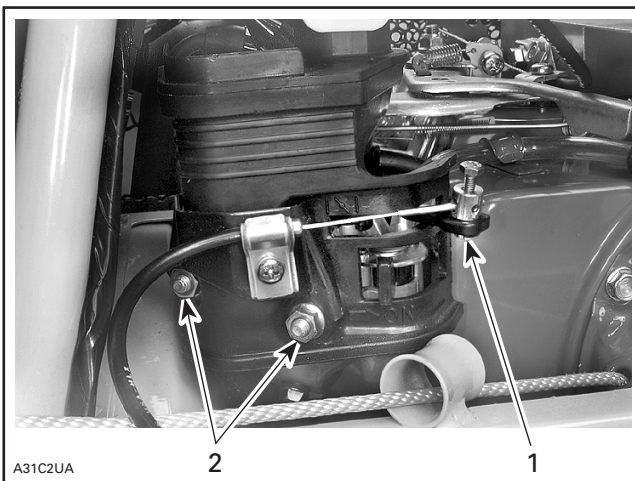
Cut locking tie retaining fuel line to starter housing



1. Fuel tank
2. Disconnect fuel line
3. Cut locking tie

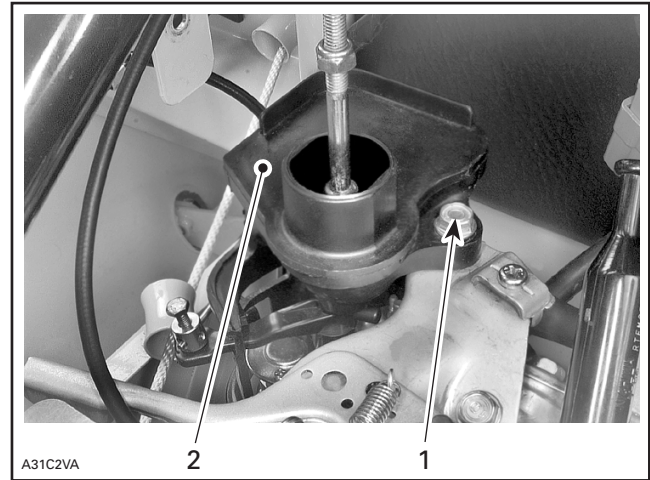
Remove clip and detach choke cable attachment from choke lever.

Remove 2 nuts retaining choke cable bracket to carburetor.



1. Remove clip
2. Nuts retaining bracket

Remove screw retaining air intake to engine housing and remove air intake.



1. Remove screw
2. Air intake

Pull carburetor to allow access to the fuel line attachment.

Detach fuel line from carburetor attachment and pull line out of engine cover clip.

Position small spring clip on carburetor attachment first.

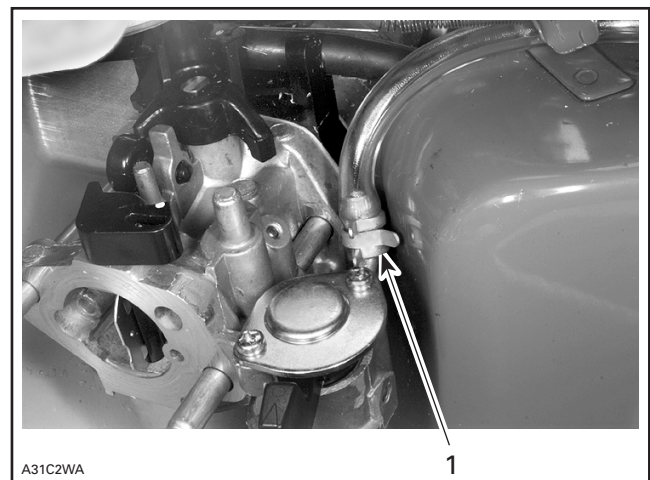
### ▼ CAUTION

To ensure maximum tightness, position and orientation of the spring clip is very important.

Install small end of new molded fuel line on carburetor attachment and secure line using small spring clip.

### ◆ WARNING

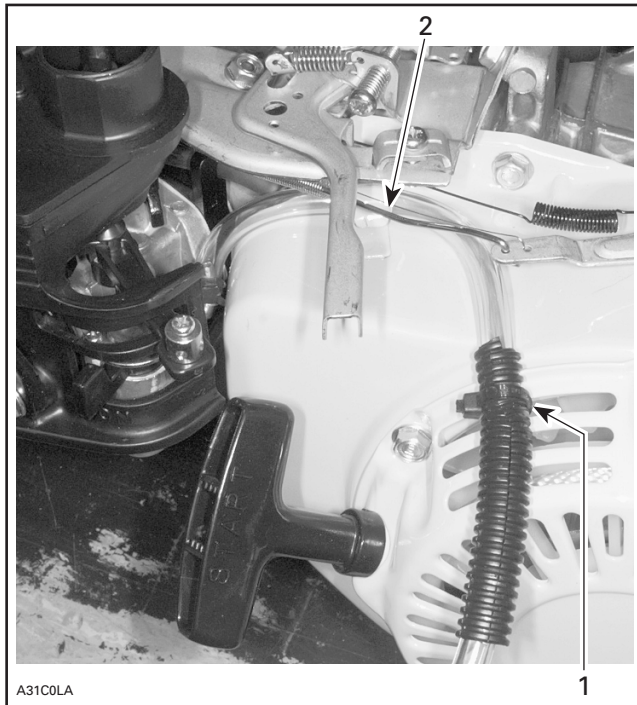
Ensure fuel line does not overlap on 90° fitting elbow.



1. Spring clip correctly installed

Route new fuel line into engine cover clip.  
 Insert original protector onto new fuel line and secure line with locking tie.

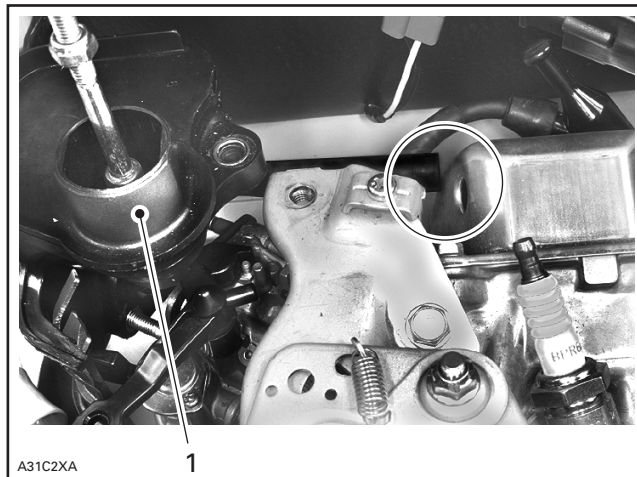
**NOTE:** Ensure that protector is properly positioned, as shown in the next photo.



1. Locking tie
2. Engine cover clip

Reinstall air intake.

**NOTE:** When reinstalling air intake, make sure to route breather hose into hole provided in valve cover.



1. Air intake

Reinstall choke cable bracket and attach choke cable to choke lever.

Finalize modification by connecting molded fuel line to fuel tank.

Secure line to fuel tank with large spring clip.

Verify free movement of throttle lever.

Perform fuel system pressure test.

## FUEL SYSTEM PRESSURE TEST

Turn off fuel shut-off valve (located on carburetor inside engine compartment).

From fuel tank vent, pressurize fuel system using engine leak tester kit (P/N 861 7491 00). A 5 PSI pressure must remain in fuel system, at least 3 to 4 minutes.

In the case that pressure does not remain in fuel system, locate leak location with a mix of water and soap verify the installation and repair accordingly.

## WARRANTY

Complete a warranty claim form using the following information:

Campaign Number	98010
Claim Type	07
Expiry Date	December 1st, 1998
Flat Rate Time	0.4 hr

For claiming procedure, refer to your *Dealer Warranty Guide*.





**Bombardier Inc.**  
**Sea-Doo®/Ski-Doo® Division**

Certified Mail

Date: October 17, 1997  
To: **All Ski-Doo Dealers**  
Subject: **Safety Recall - Fuel Line Replacement  
1998 Mini Z Model 1213**

Dear Dealer:

This notice is sent to you in accordance with the requirements of applicable Federal regulations. Bombardier Inc., acting on behalf of its Sea-Doo/Ski-Doo Division, has determined that a defect, which creates a substantial risk of personal injury to the public, may exist in some 1998 Mini Z models.

The component that may be defective is the fuel line carburetor attachment. We will be sending a Safety Recall letter, a copy of which is attached here to all known owners of the involved 1998 Mini Z Snowmobile asking them to contact their dealer in order to replace the fuel hose. However, it is strongly recommended that you also personally contact any owner to whom you have sold a 1998 Mini Z Snowmobile.

Please read and carry out all instructions contained in the enclosed Recall Safety bulletin.

Please advise all customers against using the 1998 Mini Z Snowmobile until the necessary modification has been performed.

We regret any inconvenience this may cause but trust you understand our safety concerns.

Thank you for your immediate attention to this matter.

After-Sales Service Department  
Sea-Doo/Ski-Doo Division



**Bombardier Inc.**  
**Sea-Doo®/Ski-Doo® Division**

Certified Mail

**SAFETY RECALL**  
**Fuel Line Replacement**  
**(1998 Mini Z Model 1213)**

Date: October 17, 1997

Dear Owner:

This notice is sent to you in accordance with the requirements of applicable Federal regulations. Bombardier Inc., acting on behalf of its Sea-Doo/Ski-Doo Division, has determined that a defect, which creates a substantial risk of personal injury to the public, may exist in some 1998 Mini Z models. Our records indicate you are the owner of a 1998 Mini Z Snowmobile, Model 1213.

The component that may be defective is the fuel line carburetor attachment. Do not allow the 1998 Mini Z Snowmobile to be operated, before it has been repaired, by your authorized Ski-Doo dealer.

Please contact your dealer at your earliest convenience to have the repairs performed on the fuel system. This work will be done at no charge to you.

We are sorry to cause you this inconvenience; however, we have taken this action in the interest of your safety and continued satisfaction with our products.

Sincerely,

Bombardier Inc.

After-Sales Service Department  
Sea-Doo/Ski-Doo Division

Please route to:

<input type="checkbox"/> Service	<input type="checkbox"/> Init.
<input type="checkbox"/> Sales	<input type="checkbox"/>
<input type="checkbox"/> Parts	<input type="checkbox"/>



Campaign no. 98011

No. **98-3**

Date: October 30, 1997

**SUBJECT: Ski Liner**

YEAR	MODEL	MODEL NUMBER	SERIAL NUMBER
1998	SKANDIC* WT LC	1284/1285	ALL

## PROBLEM

Some of the above mentioned models were shipped without the plastic ski liner installed on the skis.

## SOLUTION

A plastic ski liner kit will be automatically shipped to all dealers involved.

## PARTS REQUIRED

DESCRIPTION	P/N	QTY
Ski liner kit	590 1759 00	1

The ski liner kit contains:

- 2 ski liners
- 4 elastic stop nuts M10
- 2 carriage bolts
- 2 flanged elastic stop nuts
- 2 M6 bolts
- 4 flat washers
- 2 elastic stop nuts M6

Kits will be automatically shipped to dealers according to the amount of vehicles shipped from factory before October 24, 1997.

**DO NOT ORDER KITS**

All vehicles shipped with ski liner already installed will be identified with a painted dot at both ends of the crate.

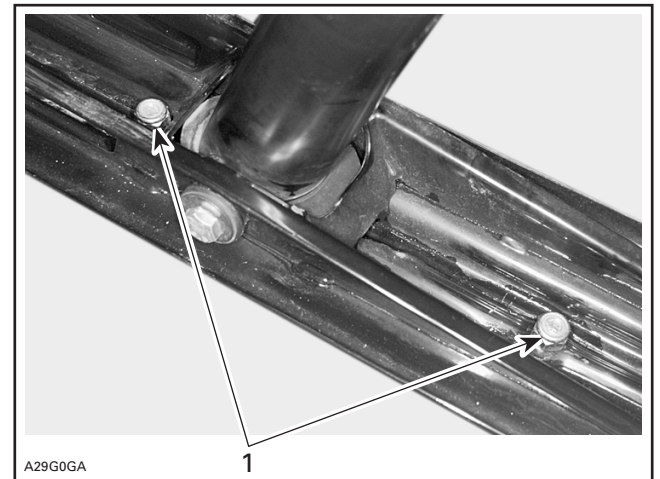
## INSTALLATION PROCEDURE

**NOTE:** Both ski liners can be installed without removing skis from vehicle.

Lift up front of vehicle.

Remove the two M10 elastic stop nuts retaining ski runner and detach ski runner from ski.

Discard M10 nuts.

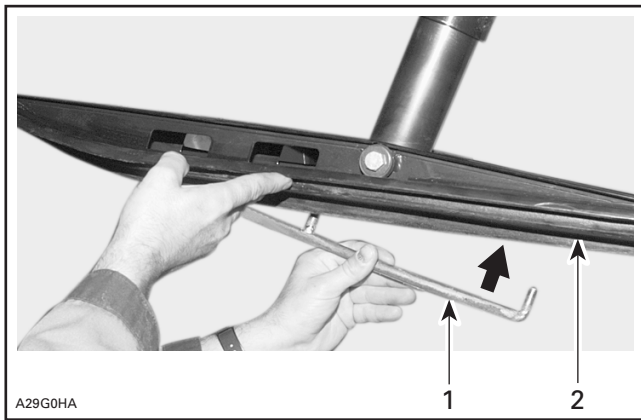


1. Remove nuts and discard

Position ski liner under the ski.

Insert front end of ski runner first then install ski runner on the ski.

Secure with new M10 elastic stop nuts.

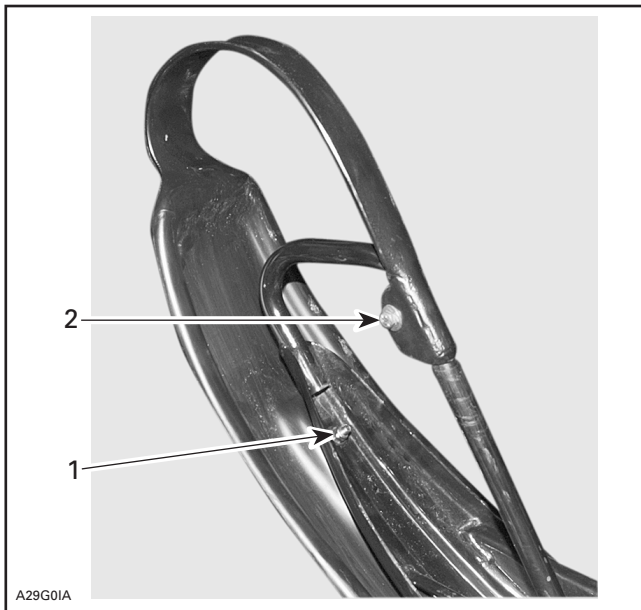


1. Reinstall ski runner
2. Plastic ski liner

Attach front end of ski liner to the ski and secure with carriage bolts and flanged elastic stop nuts included in the kit.

**NOTE:** Install carriage bolts from the outside of ski liner.

Attach plastic strap of ski liner to the ski handle and secure with M6 bolts, flat washers and elastic stop nuts M6.



1. Carriage bolt and flanged nut
2. M6 bolt, flat washer and nut

## WARRANTY

Complete a warranty claim form using the following information:

Campaign Number	98011
Claim Type	07
Expiry Date	December 1, 1998
Flat Rate Time	0.3 hr

For claiming procedure, refer to your *Dealer Warranty Guide*.

Please route to:

Init.

Service

Sales

Parts



Campaign no. 98012

No. **98-4**

Date: November 7, 1997

**SUBJECT: Air Screw Adjustment**

YEAR	MODEL	MODEL NUMBER	SERIAL NUMBER
1998	SUMMIT* 583	1259/1260	ALL

## PROBLEM

Carburetor adjustment is too lean at low altitude below 1800 meters (6000 ft) between 15% and 20% throttle opening.

## SOLUTION

Adjust air screw to **1.5 turns** on both carburetors.

**NOTE:** This adjustment can be performed only on vehicle being used at low altitude. For high altitude, this modification is not needed although it will not affect the performance of the vehicle.

## PROCEDURE

Remove High Altitude Compensator (HAC) from air silencer assembly.

Remove air silencer assembly.

Loosen rubber flange clamp on both carburetor and rotate carburetors counterclockwise to facilitate air screw adjustment.

Reposition carburetors and tighten flange clamps.

Reinstall air silencer assembly.

Reinstall High Altitude Compensator (HAC) on air silencer assembly.

Check for kinked or loose hoses.

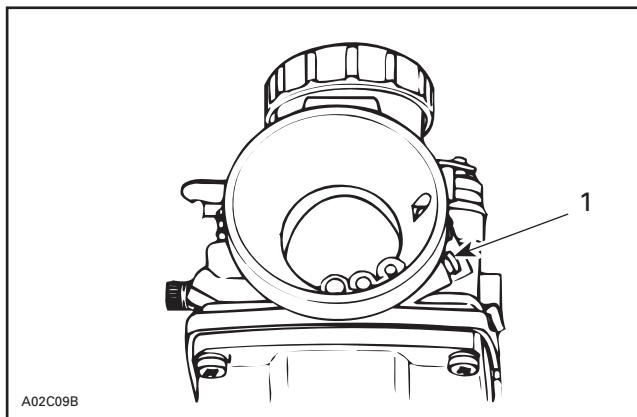
Please update the *1998 Ski-Doo Shop Manual, Volume 2*, (P/N 484 0682 00) with this bulletin.

## WARRANTY

Complete a warranty claim form using the following information.

Campaign Number	98012
Claim Type	07
Expiration Date	November 30, 1998
Flat Rate Time	0.3 hr

For claiming procedure, refer to the *Dealer Warranty Guide*.



VIEW FROM AIR SILENCER SIDE

1. Air screw

Please route to:

<input type="checkbox"/> Service	<input type="checkbox"/> Init.
<input type="checkbox"/> Sales	<input type="checkbox"/>
<input type="checkbox"/> Parts	<input type="checkbox"/>



Campaign no. 98013

No. **98-5**

Date: November 14, 1997

**SUBJECT: Idler Wheel Support Position**

YEAR	MODEL	MODEL NUMBER	SERIAL NUMBER
1998	GRAND TOURING* 500 (Canada/United States)	1218/1219	ALL (except those on attached list)
1998	GRAND TOURING* 500 (Europe)	1220	ALL
1998	GRAND TOURING* 583 (Canada/United States)	1221/1222	ALL (except those on attached list)
1998	GRAND TOURING* 583 (Europe)	1223	ALL

## PROBLEM

When suspension is compressed under normal riding conditions, the center support wheels may come in contact with upper track support wheels.

## SOLUTION

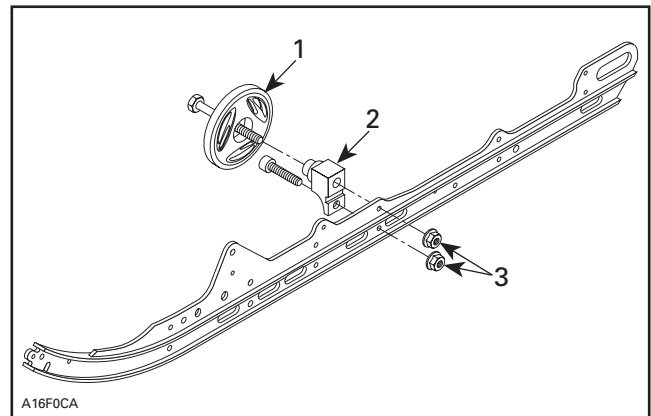
Remove center support wheels on both sides and reinstall in the next mounting hole to the rear on slide rails.

## PROCEDURE

Lift up and support rear of snowmobile.

Remove bolt and elastic flange nut retaining wheel to the support.

Remove support from rail and reinstall in the next hole to the rear on the rail.



**CORRECT POSITION OF SUPPORT WHEEL**

1. Idler wheel
2. Support
3. Elastic flange nut

Reinstall wheel on support and secure with bolt and elastic flange nut.

Use new elastic flange nuts (P/N 228 7810 45) and torque to 24 N•m (18 lbf•ft).

Repeat the procedure for the opposite side.

## PARTS

DESCRIPTION	P/N	QTY
Elastic flange nut M8	228 7810 45	4

Please order nuts from your regular parts channel.

## WARRANTY

Complete a warranty claim form using the following information.

Campaign Number	98013
Claim Type	07
Expiration Date	December 1, 1998
Flat Rate Time	0.4 hour

For claiming procedure, refer to the dealer warranty guide.

NOTE: DO NOT perform warranty work on vehicle listed below.

**MODEL 1218 (CAN)**

00023	00618	00704	00894	01100
00290	00681	00773	00975	01114
00379	00684	00859	00999	
00614	00696	00861	01028	

**MODEL 1219 (US)**

00006	01100	01169	01230	01254
00011	01102	01191	01231	01255
00012	01103	01200	01232	01256
00016	01105	01201	01234	01259
00019	01106	01202	01236	01260
00023	01109	01205	01238	01261
00255	01110	01206	01239	01262
00388	01111	01208	01240	01263
00401	01116	01210	01243	01264
00691	01118	01211	01244	01265
00766	01119	01213	01245	01267
01062	01121	01216	01246	01268
01066	01122	01217	01247	01269
01072	01123	01218	01249	01270
01073	01125	01221	01250	01271
01085	01126	01225	01251	01275
01090	01154	01226	01252	
01095	01156	01228	01253	

**MODEL 1221 (CAN)**

00341	00962	01114	01136	01154
00586	00990	01121	01138	01156
00679	00999	01122	01143	01157
00871	01036	01128	01144	01163
00934	01069	01134	01146	01180
00950	01111	01135	01149	

**MODEL 1222 (US)**

00170  
00526  
00531  
00536  
00594



Please route to:

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<input type="checkbox"/> Sales	<input type="checkbox"/>
<input type="checkbox"/> Parts	<input type="checkbox"/>



Campaign 98014

No. **98-6**

Date: December 1, 1997

**SUBJECT: Carburetion Too Rich**

YEAR	MODEL	MODEL NUMBER	SERIAL NUMBER
1998	Summit* x 670	1307/1310	ALL (Except those on attach list)

## PROBLEM

The carburetion is set too rich on the above mentioned models when vehicle is used at high altitude (above 1200 m (4000 ft)).

The information supplied to the DPM (Digital Performance Management) fuel system by the vehicle MPEM is incorrect.

## SOLUTION

Modify the information in the vehicle MPEM to obtain correct carburetion setting.

## PART REQUIRED

DESCRIPTION	P/N	QTY
Diskette Version 2.6	529 035 560	1

The update diskette will be automatically shipped to dealers, free of charge, starting November 24, 1997.

This new version 2.6 will replace version 2.5 previously received.

## PROCEDURE

### MPEM Programmer Update

Using a personal computer with the diskette Version 2.6, update the MPEM programmer.

Follow the installation instruction written on the diskette label to update the MPEM programmer.

The programmer will have to be turned off and re-activate to display the new 2.6 version.

**NOTE:** The update procedure will not affect the tether cord already programmed.

### Programming the Vehicle MPEM

Plug the MPEM programmer cable to vehicle DESS post.

Turn programmer ON, enter password.

Start the engine. Engine will have to run during entire operation.

**NOTE:** Before proceeding, it is recommended to bring the engine to normal operating temperature. Hold the throttle lever to raise engine speed to 2500 RPM minimum. **Do not exceed 3000 RPM.**

Scroll to VEHICLE INFO. from main menu.

Press ENTER.

At this point, the programmer will read the information stored in the vehicle MPEM and display a message stating that the MPEM needs to be updated. (This message will appear only when programming Summit x 670 model).

A possible ERROR display message might show and will indicate potential damage to vehicle. In this case, the vehicle MPEM is defective and must be replaced.

The programmer will download the information in the vehicle MPEM to modify the programming.

**NOTE:** While transfer is being performed, engine misfiring may be encountered. If engine stalls, re-start programming procedure from beginning.

When downloading procedure is completed, the programmer will return to VEHICLE INFO menu.

## WARRANTY

Complete a warranty claim form using the following information.

Campaign Number	98014
Claim Type	07
Expiration Date	December 1, 1998
Flat Rate Time	0.3 hr

For claiming procedure, refer to the *Dealer Warranty Guide*.

**NOTE:** Do not perform warranty work on vehicles listed below.

**MODEL 1307**

00012	00624	00690	00738	00837	00882	00927	00971	01016	01060
00013	00625	00691	00740	00838	00883	00928	00972	01017	01061
00015	00631	00692	00741	00839	00884	00929	00973	01018	01062
00016	00632	00693	00746	00840	00885	00930	00974	01019	01063
00028	00634	00694	00747	00841	00886	00931	00975	01020	01064
00256	00639	00695	00748	00842	00888	00932	00976	01021	01065
00277	00641	00696	00752	00843	00889	00933	00977	01022	01066
00314	00643	00697	00766	00844	00890	00934	00978	01023	01067
00326	00645	00698	00781	00845	00891	00935	00979	01024	01068
00372	00648	00699	00783	00846	00892	00936	00980	01025	01069
00401	00650	00700	00785	00847	00893	00937	00981	01026	01070
00418	00651	00701	00790	00848	00894	00938	00982	01027	01071
00500	00653	00702	00792	00849	00895	00939	00983	01028	01072
00534	00654	00703	00797	00850	00896	00940	00984	01029	01073
00547	00657	00704	00798	00851	00897	00941	00985	01030	01074
00554	00659	00705	00800	00852	00898	00942	00986	01031	01075
00555	00661	00706	00802	00853	00899	00943	00987	01032	01076
00556	00662	00707	00803	00854	00900	00944	00988	01033	01077
00558	00663	00708	00805	00855	00901	00945	00989	01034	01078
00559	00664	00709	00806	00856	00902	00946	00990	01035	01080
00560	00665	00710	00807	00858	00903	00947	00991	01036	01081
00563	00666	00711	00809	00859	00904	00948	00992	01037	01082
00564	00667	00712	00812	00860	00905	00949	00994	01038	01083
00566	00668	00713	00813	00861	00906	00950	00995	01039	01084
00572	00670	00714	00815	00862	00907	00951	00996	01040	01085
00579	00671	00715	00816	00863	00908	00952	00997	01041	01086
00580	00672	00716	00818	00864	00909	00953	00998	01042	01087
00581	00673	00717	00819	00865	00910	00954	00999	01043	01088
00582	00674	00719	00820	00866	00911	00955	01000	01044	01089
00585	00675	00720	00821	00867	00912	00956	01001	01045	01090
00587	00676	00721	00822	00868	00913	00957	01002	01046	01091
00588	00677	00722	00823	00869	00914	00958	01003	01047	01092
00591	00678	00723	00824	00870	00915	00959	01004	01048	01093
00592	00679	00724	00825	00871	00916	00960	01005	01049	01094
00593	00680	00725	00826	00872	00917	00961	01006	01050	01095
00594	00681	00726	00827	00873	00918	00962	01007	01051	01096
00596	00682	00727	00828	00874	00919	00963	01008	01052	01097
00597	00683	00728	00829	00875	00920	00964	01009	01053	01098
00598	00684	00729	00831	00876	00921	00965	01010	01054	01099
00604	00685	00730	00832	00877	00922	00966	01011	01055	01100
00609	00686	00731	00833	00878	00923	00967	01012	01056	01101
00619	00687	00734	00834	00879	00924	00968	01013	01057	01102
00622	00688	00736	00835	00880	00925	00969	01014	01058	01103
00623	00689	00737	00836	00881	00926	00970	01015	01059	01104

01105	01152	01200	01248	01299	01355
01106	01153	01201	01249	01300	01357
01107	01154	01202	01250	01301	01358
01108	01155	01203	01251	01302	01359
01109	01156	01204	01252	01304	01360
01110	01157	01205	01253	01305	01361
01111	01158	01206	01254	01307	01362
01112	01159	01208	01255	01308	01363
01113	01160	01209	01256	01309	01364
01114	01161	01210	01257	01310	01365
01115	01162	01211	01258	01311	01366
01116	01163	01212	01259	01312	01367
01117	01164	01213	01261	01314	01371
01118	01166	01214	01262	01315	01372
01119	01167	01215	01263	01316	01373
01120	01168	01216	01265	01317	01375
01121	01169	01217	01267	01318	01378
01122	01170	01218	01268	01319	
01123	01171	01219	01269	01320	
01124	01172	01220	01270	01321	
01125	01173	01221	01271	01322	
01126	01174	01222	01272	01323	
01127	01175	01223	01273	01325	
01128	01176	01224	01274	01326	
01129	01177	01225	01275	01327	
01130	01178	01226	01276	01329	
01131	01179	01227	01277	01330	
01132	01180	01228	01278	01332	
01133	01181	01229	01279	01333	
01134	01182	01230	01280	01334	
01135	01183	01231	01281	01335	
01136	01184	01232	01283	01336	
01137	01185	01233	01284	01338	
01138	01186	01234	01285	01339	
01139	01187	01235	01286	01340	
01140	01188	01236	01287	01341	
01141	01189	01237	01288	01342	
01142	01190	01238	01289	01343	
01143	01191	01239	01290	01344	
01144	01192	01240	01291	01345	
01145	01193	01241	01292	01346	
01146	01194	01242	01293	01348	
01147	01195	01243	01294	01349	
01148	01196	01244	01295	01350	
01149	01197	01245	01296	01352	
01150	01198	01246	01297	01353	
01151	01199	01247	01298	01354	

## MODEL 1310

00003	00196	00268	00333	00396	00475	02567	02648	02695	02745
00022	00198	00269	00335	00397	00476	02571	02649	02696	02746
00026	00199	00270	00336	00400	00477	02576	02650	02697	02748
00055	00202	00271	00337	00401	00478	02591	02651	02698	02749
00061	00203	00273	00338	00402	00480	02597	02652	02699	02752
00063	00204	00274	00339	00404	00482	02599	02653	02700	02753
00072	00205	00275	00340	00406	00483	02603	02654	02701	02755
00089	00207	00278	00341	00407	00484	02605	02655	02702	02756
00094	00208	00279	00342	00409	00487	02608	02656	02703	02757
00097	00211	00280	00343	00410	00488	02609	02657	02704	02758
00102	00213	00281	00344	00411	00489	02610	02658	02707	02760
00105	00214	00282	00346	00412	00492	02611	02659	02709	02761
00110	00220	00283	00347	00413	00493	02612	02660	02710	02762
00111	00221	00284	00348	00416	00494	02613	02661	02711	02763
00114	00222	00285	00349	00418	00495	02614	02662	02712	02764
00120	00223	00286	00350	00421	00496	02615	02663	02713	02767
00123	00226	00287	00351	00424	00497	02616	02664	02714	02772
00124	00228	00288	00352	00425	00499	02617	02665	02715	02774
00127	00230	00289	00354	00426	00501	02618	02666	02716	02775
00128	00232	00290	00356	00427	00504	02619	02667	02717	02776
00129	00233	00291	00357	00429	00505	02620	02668	02718	02777
00133	00234	00293	00358	00431	00507	02622	02669	02719	02780
00136	00235	00295	00362	00432	00617	02623	02670	02720	02923
00142	00236	00296	00363	00433	00960	02624	02671	02721	02930
00144	00237	00297	00364	00439	00978	02625	02672	02722	03022
00157	00238	00298	00365	00440	01007	02626	02673	02723	03028
00158	00239	00299	00366	00441	01009	02627	02674	02724	03096
00159	00240	00301	00367	00444	01069	02628	02675	02725	03098
00173	00243	00302	00369	00445	01094	02629	02676	02726	03100
00176	00244	00303	00370	00446	01098	02630	02677	02727	03107
00177	00245	00304	00371	00450	01122	02632	02678	02728	03122
00179	00246	00305	00372	00452	01160	02633	02679	02729	03123
00180	00247	00306	00373	00453	01167	02634	02680	02731	03127
00181	00248	00308	00374	00454	02060	02635	02681	02732	03132
00182	00249	00310	00376	00457	02075	02636	02682	02733	03133
00183	00250	00313	00379	00459	02081	02637	02683	02734	03134
00184	00253	00314	00381	00460	02127	02638	02684	02735	03135
00185	00254	00315	00382	00463	02394	02639	02685	02736	03144
00186	00255	00320	00383	00466	02425	02640	02686	02737	03152
00187	00258	00321	00384	00467	02462	02641	02687	02738	03158
00189	00259	00322	00385	00468	02542	02642	02689	02739	03161
00190	00263	00323	00387	00469	02552	02643	02690	02740	03175
00192	00264	00324	00388	00470	02554	02644	02691	02741	03183
00193	00265	00325	00391	00471	02555	02645	02692	02742	03191
00194	00266	00326	00392	00472	02556	02646	02693	02743	
00195	00267	00327	00395	00473	02563	02647	02694	02744	

Please route to :

<input type="checkbox"/> Service	<input type="checkbox"/> Init.
<input type="checkbox"/> Sales	<input type="checkbox"/>
<input type="checkbox"/> Parts	<input type="checkbox"/>



Campaign no. 98016

No. **98-7**

Date: December 12, 1997

**SUBJECT: Tunnel Rivets**

YEAR	MODEL	MODEL NUMBER	SERIAL NUMBER
1998	Skandic* WT	1286/1287	ALL (except those on attached list)
1998	Skandic* WT LC	1284/1285	ALL (except those on attached list)

## PROBLEM

The end of the rivets retaining the side snow flaps are exceeding inside the tunnel and may come in contact with the side of the track.

## SOLUTION

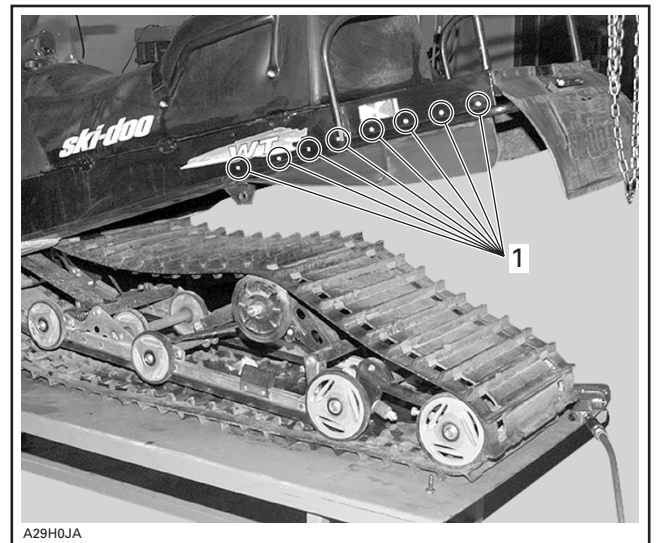
Flatten out the exceeding portion of the rivets inside the tunnel.

## PROCEDURE

Support rear of vehicle.

Remove bolts retaining rear suspension arm to tunnel bracket

Lift up rear of vehicle to have access under tunnel.

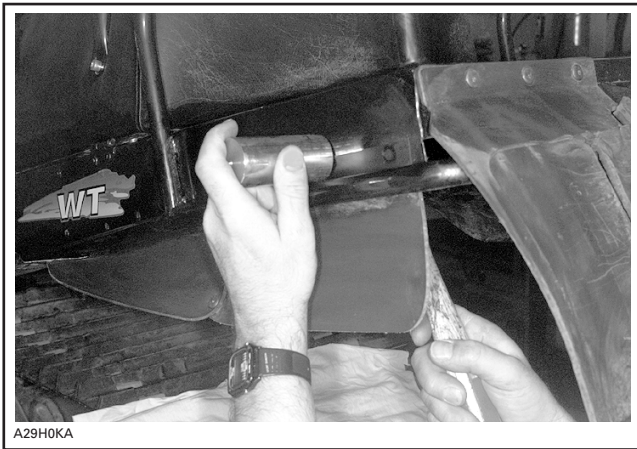


1. Rivets

Apply tape on the outside of the tunnel and over the heads of the rivets to protect the paint.

From the outside hold a metal stopper against the rivets.

With a hammer, tap on the rivets inside the tunnel, both sides, to flatten the exceeding part.



**SAME PROCEDURE BOTH SIDES**

Lower rear of vehicle and reinstall bolt holding suspension arm to bracket.

## WARRANTY

Complete a warranty claim form using the following information.

Campaign number	98016
Claim type	07
Expiration date	December 1, 1998
Flat rate time	0.4 hour

For claiming procedure, refer to the *Dealer Warranty Guide*.

**NOTE: DO NOT PERFORM warranty work on vehicle listed below.**

**MODEL 1284**

00068	00281	00286	00331	00458
00112	00285	00329	00442	

**MODEL 1285**

00001	00008	00018	00024	00030
00002	00010	00020	00026	00033
00003	00013	00022	00027	00040
00006	00014	00023	00029	00041

**MODEL 1286**

00009	00159	00246	00449	00600	00695
00024	00162	00264	00450	00601	00720
00028	00163	00284	00451	00606	00730
00029	00164	00301	00458	00607	00736
00032	00166	00307	00477	00618	00748
00034	00168	00327	00480	00640	00750
00037	00169	00329	00494	00645	00751
00045	00170	00335	00501	00647	00756
00048	00171	00341	00509	00648	00758
00051	00173	00344	00511	00653	00760
00062	00173	00351	00516	00657	00761
00063	00180	00358	00517	00660	00762
00072	00181	00361	00526	00666	00764
00077	00191	00365	00527	00667	00767
00094	00193	00367	00530	00669	00774
00104	00196	00370	00546	00677	00776
00118	00198	00372	00557	00679	00781
00128	00199	00274	00562	00681	00785
00130	00202	00385	00568	00687	00786
00143	00203	00388	00572	00688	00802
00150	00204	00393	00578	00689	00807
00151	00233	00409	00594	00691	
00154	00240	00434	00595	00692	
00155	00245	00435	00596	00694	



Please route to:

<input type="checkbox"/> Service	<input type="checkbox"/> Init.
<input type="checkbox"/> Sales	<input type="checkbox"/>
<input type="checkbox"/> Parts	<input type="checkbox"/>



Reference  
no. 98015 — 98021

No. **98-8**  
**REVISION 1** ←

Date: January 12, 1998

**SUBJECT: 494 Engine Performance**

YEAR	MODEL	MODEL NUMBER	SERIAL NUMBER
1998	Grand Touring* 500	1218/1219/1220	All
1998	Formula* 500	1243/1244/1245	All
1998	Formula* 500 DL	1246/1247/1248	All
1998	MX* Z 500	1272/1273/1274	All

## PROBLEM

Lack of acceleration when operating from mid range to full throttle.

Engine will not reach maximum RPM at full throttle.

## SOLUTION

Replace main jet and needle in both carburetors and change air screw adjustment as per specifications.

Replace RAVE springs.

Modify calibration screws setting on TRA drive pulley.

## PARTS REQUIRED

### *Formula 500/500 DL and MX Z 500 Models*

MODIFICATION KIT P/N 590 0303 00	
DESCRIPTION	QTY
Needle (6DGY9)	2
Main jet 280	1
RAVE spring	2

### *Grand Touring 500 Model*

MODIFICATION KIT P/N 590 0304 00	
DESCRIPTION	QTY
Needle (6DGY9)	2
Main jet 280	1
Main jet 300	1
RAVE spring	2

Modification kits will be available starting December 18, 1997.

Please order kits through regular parts channel.

## PROCEDURE

▼ <b>CAUTION</b>
Proceed to the complete modification and install all the parts listed in the kit. Replacing RAVE springs only may cause piston seizure at mid range.

## Main Jet Replacement

### All Models

Remove air silencer.

Unscrew carburetor cover then pull out throttle slide.

Loosen rubber flange clamps and remove carburetors.

Same procedure for both carburetors.

### **WARNING**

Handle throttle slides with care. Scratches incurred may cause throttle slides to stick open.

### Formula 500/500 DL and MX Z 500 Models

Remove main jet from carburetor on MAG side and replace with main jet 280 supplied in the kit.

Remove main jet from carburetor on PTO side and replace with main jet previously removed from carburetor on MAG side.

### Grand Touring 500 Model

Remove main jet from both carburetors and replace with main jets supplied in the kit.

Install main jet 300 on PTO side.

Install main jet 280 on MAG side.

## Needle Replacement and Air Screw Adjustment

Disconnect throttle cable from throttle slide.

Withdraw needle from throttle slide and remove E-clip.

### Formula 500/500 DL and Grand Touring 500

Install E-clip in position 2 on new needle.

Reinstall needle into throttle slide.

Reinstall throttle cable on throttle slide.

Insert throttle slide into carburetor and tighten cover.

Adjust air screw to 2.0 turns on both carburetors.

Reinstall carburetors and tighten rubber flange clamps.

Reinstall air silencer.

### MX Z 500

Install E-clip in position 3 on new needle.

Reinstall needle into throttle slide.

Reinstall throttle cable on throttle slide.

Insert throttle slide into carburetor and tighten cover.

Adjust air screw to 2.5 turns on both carburetors.

Reinstall carburetors and tighten rubber flange clamps.

Reinstall air silencer.

## RAVE Spring Replacement

### All Models

Remove spring clip retaining cover. Remove cover and replace RAVE springs.

Reinstall cover and secure with clip.

Adjust spring preload by turning adjustment screw clockwise until it is fully tightened.

## TRA Pulley Calibration

### **CAUTION**

Always set all 3 calibration screws to the same position.

### Models Formula 500/500 DL and MX Z 500

Set calibration screws at position 2 on TRA drive pulley.

### Grand Touring 500 Model

Set calibration screws at position 3 on TRA drive pulley.

Please update the technical data section in the *1998 Ski-Doo Shop Manual, Volume 2, Section 10, (P/N 484 0682 00)* with the following information.

	FORMULA 500/500 DL	GRAND TOURING 500	MX Z 500
Main jet	280 MAG 300 PTO	280 MAG 300 PTO	280 MAG 300 PTO
Needle	6DGY9	6DGY9	6DGY9
Needle position	2	2	3
Air screw	2.0 turns	2.0 turns	2.5 turns
TRA calibration	2	3	2
RAVE adjustment	Fully tightened	Fully tightened	Fully tightened

### Oil Injection Pump Adjustment

Check oil injection pump synchronization on all models.

Adjust according to specifications.

Refer to the *1998 Ski-Doo Shop Manual, Volume 2*, (P/N 484 0682 00) for complete procedure.

### WARRANTY

➔ Normal warranty applies. Use reference number as a campaign number.

➔ Please return parts with a completed warranty claim form using the following information.

➔ ***Formula 500/500 DL and MX Z 500 Models***

Campaign number	98015
Claim type	07
Expiration date	December 1, 1998
Flat rate time	0.6 hour

➔ ***Grand Touring 500 Model***

Campaign number	<u>98021</u>
Claim type	<u>07</u>
Expiration date	<u>December 1, 1998</u>
Flat rate time	<u>0.6 hour</u>

For claiming procedure, refer to the *Dealer Warranty Guide*.

Please route to:

<input type="checkbox"/> Service	<input type="checkbox"/> Init.
<input type="checkbox"/> Sales	<input type="checkbox"/>
<input type="checkbox"/> Parts	<input type="checkbox"/>



Campaign no. 98-017

No. **98-9**

Date: December 23, 1997

**SUBJECT: Formula III Engine Calibration**

YEAR	MODEL	MODEL NUMBER	SERIAL NUMBER
1998	Formula III 600 R	1332/1333	ALL
1998	Formula III 600	1334/1335/1255	ALL
1998	Formula III 600 LT	1206/1207	ALL

## PROBLEM

Some of the above mentioned snowmobiles may experience a lack of acceleration and top speed.

## SOLUTION

1. Change ignition timing from 2.18 mm (0.086 in) to 1.65 mm (0.065 in).
2. Adjust TRA calibrating screws to position 3 (original set-up being 4).
3. Replace TRA spring.

## PART REQUIRED

DESCRIPTION	P/N	QTY
TRA Spring (160/290) (violet/blue)	415 0349 00	1

**NOTE:** Part will be available on or after December 24, 1997.

## PROCEDURE

Refer to appropriate *Shop Manual* for procedure to perform above mentioned corrective actions.

## WARRANTY

Complete a warranty claim form using the following information.

Claim Type	07
Expiration Date	December 1, 1998
Flat Rate Time	1.0 hour

For claiming procedure, refer to the *Dealer Warranty Guide*.

Required part is to be ordered through normal channel.

**Dealers are requested to return defective part.**

Please route to:

<input type="checkbox"/> Service	<input type="checkbox"/> Init.
<input type="checkbox"/> Sales	<input type="checkbox"/>
<input type="checkbox"/> Parts	<input type="checkbox"/>



Reference no. 98-019

No. **98-10**

Date: December 22, 1997

**SUBJECT: Lack of Top Speed  
on Mach Z Models**

YEAR	MODEL	MODEL NUMBER	SERIAL NUMBER
1998	MACH Z	1200/1312/1290	ALL
1998	MACH Z R	1294/1313	ALL
1998	MACH Z LT	1302/1315/1308	ALL
1998	MACH Z LT (SV TRACK)	1303/1316	ALL
1998	MACH Z LT R	1304/1317	ALL

**PROBLEM**

In the event that any owners of the above mentioned snowmobiles have a concern with top end performance (high speed), the following modifications should be carried out in order to correct the situation.

**SOLUTION**

This condition requires the following:

- a. Adjust carburetor float level;
- b. Reset ignition timing;
- c. Change TRA spring;
- d. Change main jets;
- e. Increase the distance between pulleys outside diameter.

**Additional Note:** Make sure all exhaust joints are perfectly sealed.

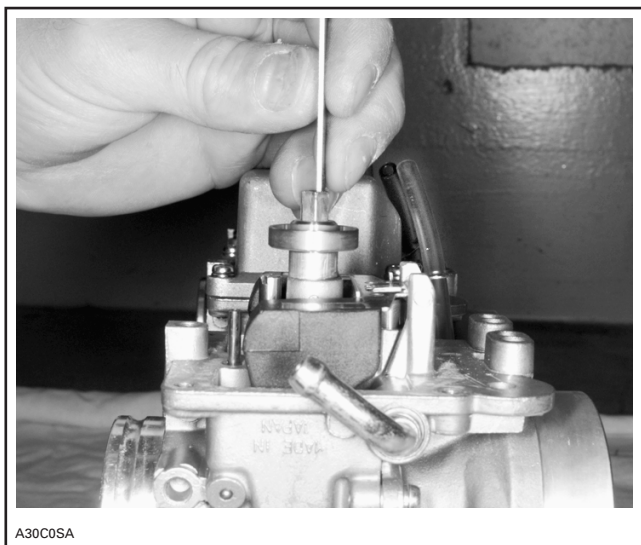
**PARTS REQUIRED**

DESCRIPTION	P/N	QTY	Ref.
TRA Spring (130/200) blue/orange	414 6390 00	1	c
Main Jet (310)	404 1078 00	2	d
Main Jet (320)	404 1013 00	1	d

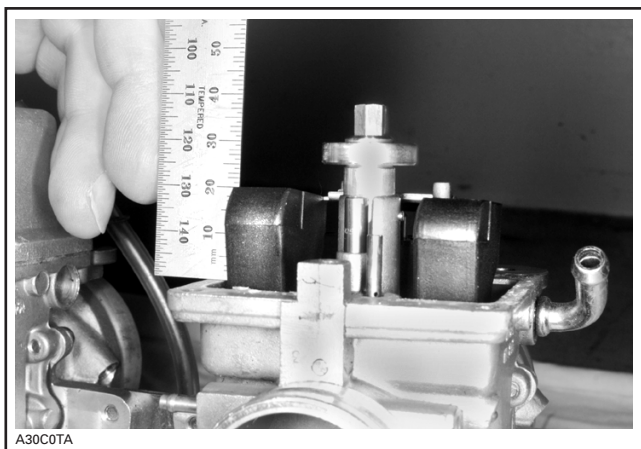
Parts will be available on or around December 29, 1997.

**PROCEDURE**

- a. With carburetor upside down on a level surface and a ruler in line with main jet hole, adjust float level at 21 mm (+0, -1) (0.827 in (+0, -0.039)). Refer to following photos.



RULER IN LINE WITH MAIN JET HOLE



ADJUST FLOAT HEIGHT TO NEW SPECS.

Please update the *1998 Shop Manual* with this new procedure.

- b. Timing is to be retarded to 1.65 mm (0.065 in). Refer to appropriate *Shop Manual* for proper procedure.

**▼ CAUTION**

Severe engine damage may occur if ignition timing is not retarded as specified when main jets are downsized.

- c. Replace TRA spring by new one. Refer to appropriate *Shop Manual* for proper procedure and to above table for new spring part number.
- d. PTO side and MAG side main jets are to be replaced with 310 type main jets; center main jet with 320 type main jet. Refer to above table for good part number and to appropriate *Shop Manual* for proper replacement procedure.

**NOTE:** For optimum performance and maximum engine reliability (sea level -20°C (-4°F)), please refer to *High Altitude and Sea Level Technical Data Booklet*.

- e. Increase pulley distance to 123 mm (+0, -1 mm) (4.844 in (+0, -0.040 in)). Refer to appropriate *Shop Manual* for proper pulley alignment procedures. Following chart gives alignment and distance specifications.

## PULLEY ALIGNMENT AND DISTANCE SPECIFICATIONS CHART

MODEL	PULLEY DISTANCE	OFFSET		ALIGNMENT TEMPLATE
	Z	X	Y-X	①
	+ 0, - 1 mm (+ 0, - 0.040 in)	± 0.50 mm (0.020 in)	± 0.5 mm (0.020 in)	P/N
All	123.0 (4.844)	35.5 (1.398)	1.5 (0.060)	529 0355 27

① Alignment templates have been made according to pulley alignment nominal values. However, they do not take into account allowed tolerances for alignment specifications. They are used as GO/NO GO gauges for quick alignment and pulley distance check and as templates to reach alignment nominal values.

## WARRANTY

Normal warranty applies, use the reference number as a campaign number.

Complete a warranty claim form using the following information.

Claim Type	07
Expiration Date	December 1, 1998
Flat Rate Time	1.9 hours

For claiming procedure, refer to the *Dealer Warranty Guide*.

Parts are to be ordered through normal channel.

**Dealers are requested to return TRA spring and three (3) main jets.**

Please route to:

<input type="checkbox"/> Service	<input type="checkbox"/> Init.
<input type="checkbox"/> Sales	<input type="checkbox"/>
<input type="checkbox"/> Parts	<input type="checkbox"/>



Reference no. 98-018

No. **98-11**

Date: January 12, 1998

**SUBJECT: Carburetor Adapters**

YEAR	MODEL	MODEL NUMBER	SERIAL NUMBER
1998	MX ZX 440 LC	1269/1270/1271	ALL

## PROBLEM

On above mentioned model, a gap between rotary valve cover and carburetor intake adapters, caused by a deformation due to screw position, may lead to air leakage.

## SOLUTION

Apply *Loctite 515 Gasket Eliminator* on intake adapter mating surfaces.

▼ <b>CAUTION</b>
Engine damage may result if this operation is not performed.

## PART REQUIRED

DESCRIPTION	P/N	QTY
Loctite 515 (50 ml tube)	413 7027 00	1

## PROCEDURE

Remove air silencer, carburetors and intake adapters.

Verify evenness of rotary valve cover surfaces.

Clean both cover and adapter mating surfaces.

Apply *Loctite 515 Gasket Eliminator* on intake adapter mating surfaces.

Reinstall adapters, torque bolts to 16 N•m (12 lbf•ft).

Reinstall carburetors and air silencer.

Refer to appropriate *Shop Manual* for proper procedure.

## WARRANTY

Normal warranty applies. Use reference number as a campaign number.

Complete a warranty claim form using the following information.

Claim Type	07
Expiration Date	December 1, 1998
Flat Rate Time	0.3

For claiming procedure, refer to the *Dealer Warranty Guide*.



Please route to :

<input type="checkbox"/> Service	<input type="checkbox"/> Init.
<input type="checkbox"/> Sales	<input type="checkbox"/>
<input type="checkbox"/> Parts	<input type="checkbox"/>



Reference no. 98-020

No. **98-12**

Date: January 12, 1998

**SUBJECT: Summit x 670  
Grand Touring SE  
Air Jet**

YEAR	MODEL	MODEL NUMBER	SERIAL NUMBER
1998	SUMMIT X 670	1307/1310	ALL
1998	GRAND TOURING SE	1210/1319/1217	ALL

## PROBLEM

Some of the above mentioned snowmobiles might experience a rich fuel mixture over 7000 RPM; this would be caused by a loose air jet in distribution gallery block adaptor.

## SOLUTION

Torque air jet in distribution gallery block adaptor.

## PROCEDURE

Unlatch distribution gallery from air intake.

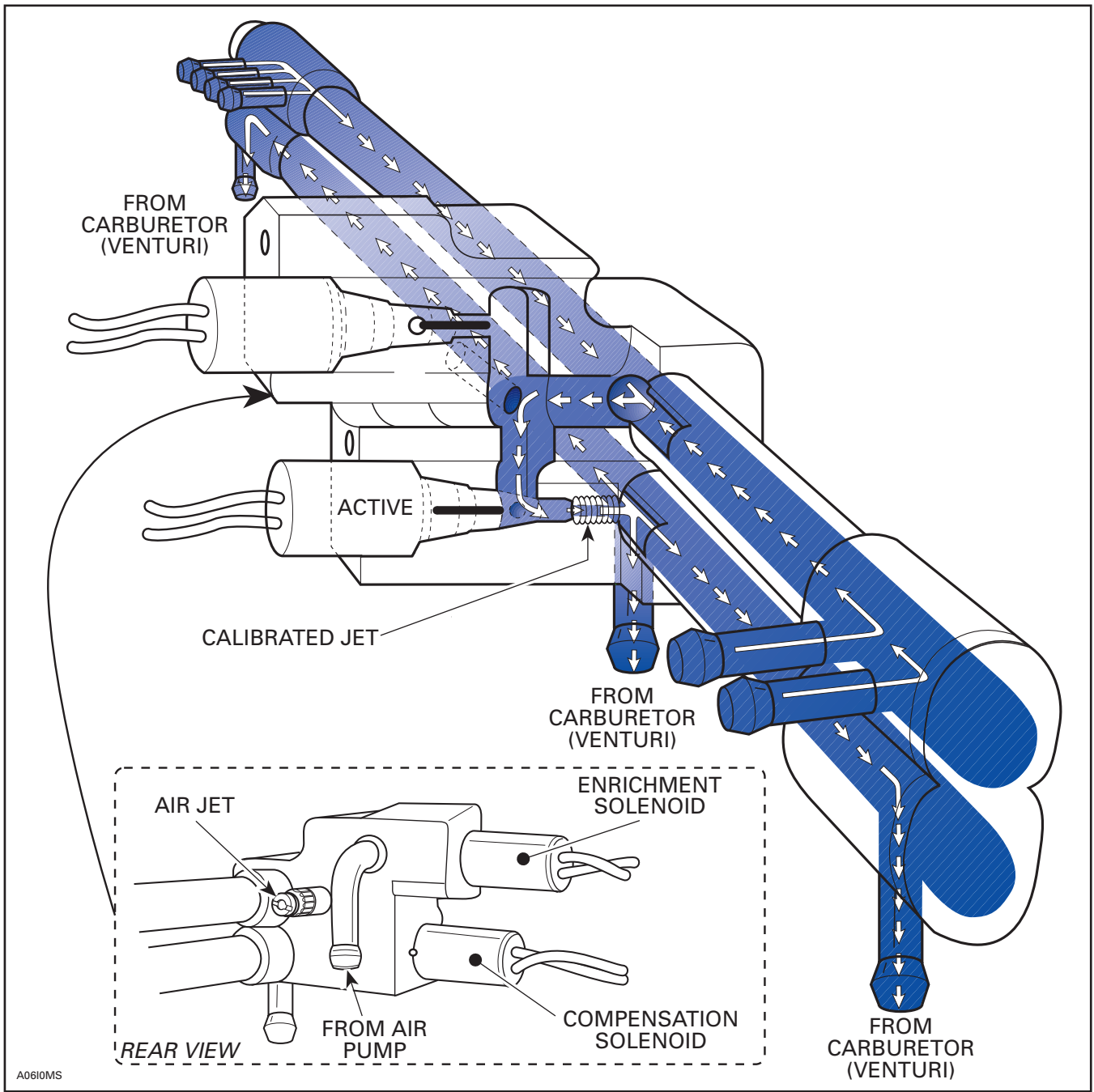
Remove air hose from air jet adaptor.

Using a small flat screwdriver, torque air jet 0.3 to 0.7 N•m (2.7 to 6.2 lbf•in).

Secure air hose to air jet adaptor.

Secure distribution gallery to air intake.

Refer to illustration on next page.



**WARRANTY**

Normal warranty applies; use the reference number as a campaign number.

Complete a warranty claim form using the following information.

Claim Type	07
Expiration Date	December 1, 1998
Flat Rate Time	0.3

For claiming procedure, refer to the *Dealer Warranty Guide*.

Please route to:

<input type="checkbox"/> Service	<input type="checkbox"/> Init.
<input type="checkbox"/> Sales	<input type="checkbox"/>
<input type="checkbox"/> Parts	<input type="checkbox"/>



Reference no.: 98022

No. **98-13**

Date: January 20, 1998

**SUBJECT: Heated Grips/Thumb Warmer/Headlights**

YEAR	MODEL	MODEL NUMBER	SERIAL NUMBER
1998	Grand Touring SE/700	1210/1217/1319 1211/1212/1318	ALL
1998	MACH Z/Z R/Z LT/Z LT SV Track/Z LT R	1200/1290/1312 1294/1313 1302/1315 1303/1316 1304/1317	ALL

**PROBLEM**

On some of the above mentioned snowmobiles, heated grips/thumb warmer might stay at maximum heat intensity when engine is started; also, it might be impossible to select high/low beam, other than the one already on.

A fluctuation of the electric current, when engine is started, is the cause.

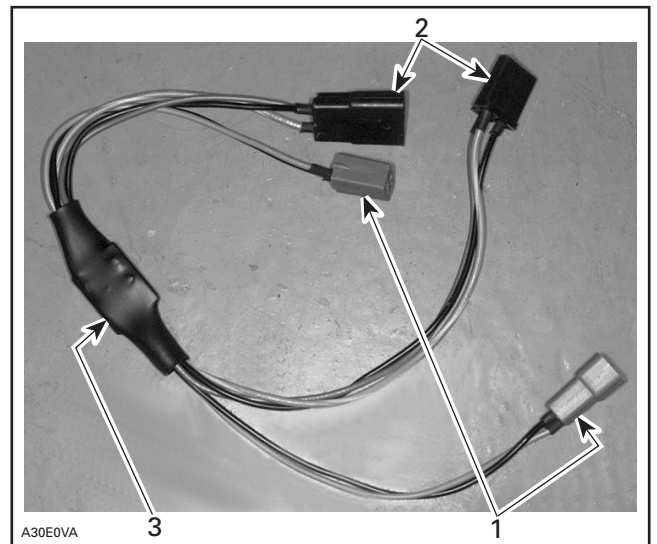
**SOLUTION**

If owner complains about this situation, install an electric filter between housing connectors of main wiring harness.

**PART REQUIRED**

DESCRIPTION	P/N	Qty
Electric filter harness	515 175 210	1

Refer to following photo.



**ELECTRIC FILTER HARNESS**

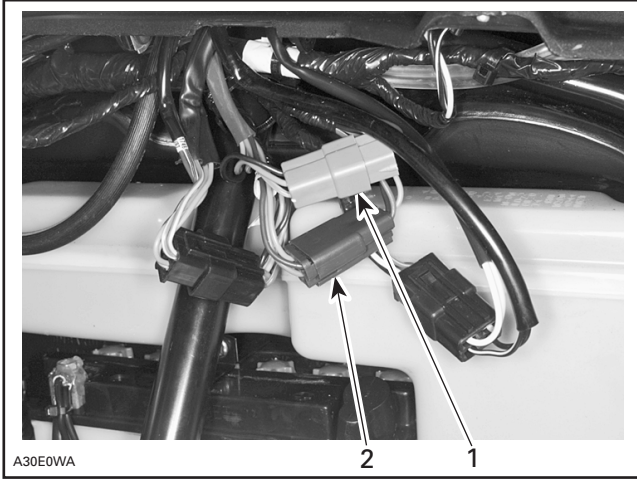
- 1. GRAY connector housings
- 2. BROWN connector housings
- 3. Integrated filter

Order part through normal channel.

## PROCEDURE

Remove air box to gain access to main wiring harness.

Unplug BROWN and GRAY connector housings, refer to following photo.



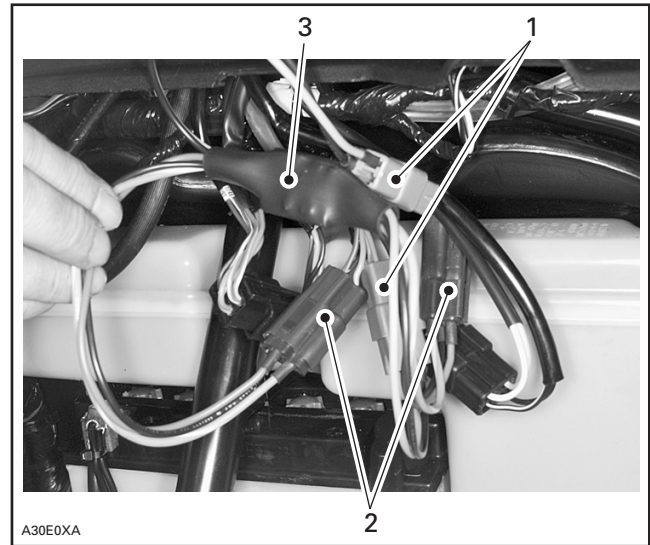
### MAIN WIRING HARNESS

1. GRAY connector housings
2. BROWN connector housings

Connect male GRAY connector housing of filter harness to female GRAY connector housing of main harness; and then female GRAY connector housing of filter harness to male GRAY connector housing of main harness.

Repeat same procedure with BROWN connector housings.

Secure filter harness with a locking tie.



### FILTER CONNECTED

1. GRAY connector housings
2. BROWN connector housings
3. Integrated filter

## WARRANTY

Normal warranty applies, use reference number as a campaign number.

Complete a warranty claim form using the following information.

Reference number	98022
Claim Type	07
Expiration Date	December 1, 1998
Flat Rate Time	0.3

For claiming procedure, refer to your *Dealer Warranty Guide*.

Please route to:

<input type="checkbox"/> Service	<input type="checkbox"/> Init.
<input type="checkbox"/> Sales	<input type="checkbox"/>
<input type="checkbox"/> Parts	<input type="checkbox"/>



Reference no. 98023

No. **98-14**

Date: January 30, 1998

**SUBJECT: New Oil Pump Calibration**

YEAR	MODEL	MODEL NUMBER	SERIAL NUMBER
1998	Grand Touring 500 Formula 500 Formula 500 De Luxe Summit 500 MX Z 500 Skandic WT LC	1218/1219/1220 1243/1244/1245 1246/1247/1248 1256/1257/1258 1272/1273/1274 1284/1285	ALL

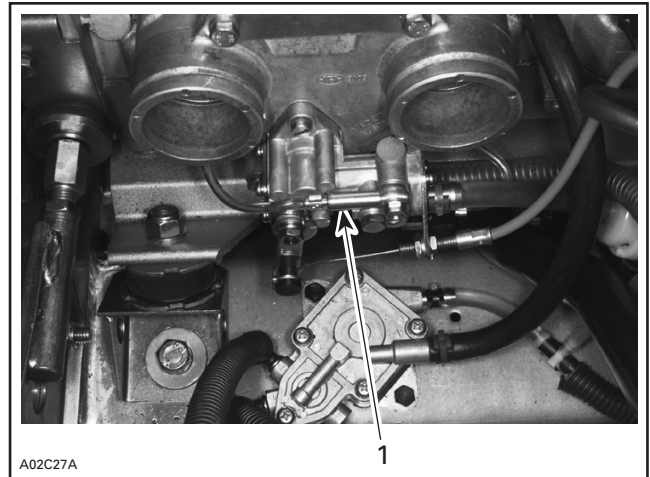
**NOTE:** Even though this *Bulletin* covers specifically the 494 engine, new specification will be applied to all 1998 engine models.

## PROBLEM

In some cases, oil pump with carburetor synchronization, when set by aligning both marks, might be too lean.

### ◆ WARNING

Under certain operating conditions, a too lean calibration may cause piston seizure and/or PTO bearing failure.



**CARBURETORS REMOVED**

1. Oil pump

## SOLUTION

To correct this situation, synchronization is obtained by adjusting pump cable as to obtain the lever mark +1.0 mm to +2.0 mm (+.040 in. to +.080 in.) above pump casting mark.

## PROCEDURE

Remove air silencer assembly.

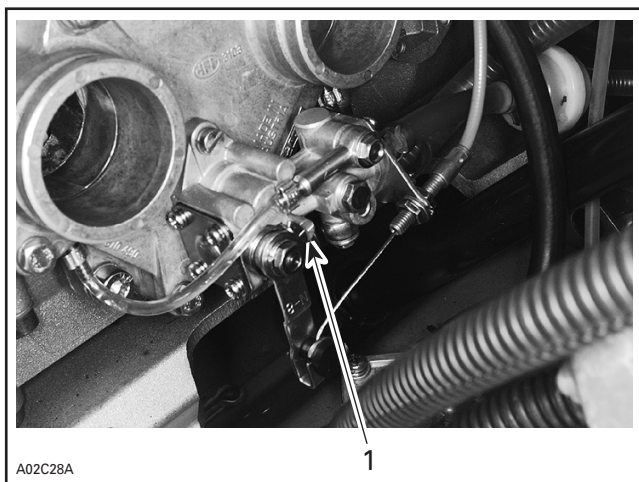
Loosen both clamps retaining carburetors to rotary valve cover adapters.

Remove both carburetors and set aside. Refer to following photo.

Prior to adjusting the pump, make sure all carburetor adjustments are completed.

Eliminate the throttle cable free-play by pressing the throttle lever until a light resistance is felt, then hold in place.

Loosen adjuster nut and set marks according to above mentioned tolerance. Refer to following photo.



1. Alignment marks under new specification

Tighten adjuster nut

Reinstall and secure both carburetors.

Reinstall air silencer assembly.

Ensure *Warranty Bulletin no. 98-8* has been updated with new specification.

Make sure to update the *1998 Ski-Doo Shop Manual, Volume 1, 2 and 3*, accordingly.

## WARRANTY

A letter will be sent to each registered owner asking them to return to their dealer to have this new oil pump calibration performed.

Use the reference number as a campaign number.

Complete a warranty campaign claim form using the following information.

Reference no.	98023
Claim Type	07
Expiration Date	March 1, 1999
Flat Rate Time	0.3

**NOTE: New unregistered vehicles sold after February 15, 1998 will not be included and new vehicle calibration will continue to be considered as normal predelivery inspection item.**

For claiming procedure, refer to the *Dealer Warranty Guide, section 04, page 06*.

Please route to:

<input type="checkbox"/> Service	<input type="checkbox"/> Init.
<input type="checkbox"/> Sales	<input type="checkbox"/>
<input type="checkbox"/> Parts	<input type="checkbox"/>



Reference no. 98024,  
98025 and 98026

No. **98-15**

Date: February 16, 1998

**SUBJECT: Fuel Consumption**

YEAR	MODEL	MODEL NUMBER	SERIAL NUMBER
1998	Grand Touring* SE	1210/1319/1217	All
1998	Mach* 1	1202/1311/1203	All
1998	Mach* 1 R	1295/1314	All
1998	Mach* Z	1200/1312/1290	All
1998	Mach* Z R	1294/1313	All
1998	Mach* Z LT	1302/1315/1308	All
1998	Mach* Z LT (SV TRACK)	1303/1316	All
1998	Mach* Z LT R	1304/1317	All

## PROBLEM

High fuel consumption on the above mentioned models.

## SOLUTION

### **Grand Touring SE**

Modify ignition timing adjustment.

Lower the jet needle position by moving E-clip from position 4 to position 3 in the throttle slide.

Adjust carburetor air screws to 2-1/2 turns open.

### **Mach 1**

Modify ignition timing adjustment.

Lower the jet needle position by moving E-clip from position 4 to position 3 in the throttle slide.

### **Mach Z**

Make sure that the modifications as per *Service Bulletin 98-10* have been done.

Lower the jet needle position by moving E-clip from position 3 to position 2 in the throttle slide.

## PROCEDURE

### Ignition Timing Adjustment

Remove exhaust system.

Remove recoil starter assembly.

Remove spark plugs and install a dial gauge on the MAG side cylinder head.

Determine the piston top dead center (TDC).

Set the piston at 1.65 mm (.065 in) before top dead center (BTDC).

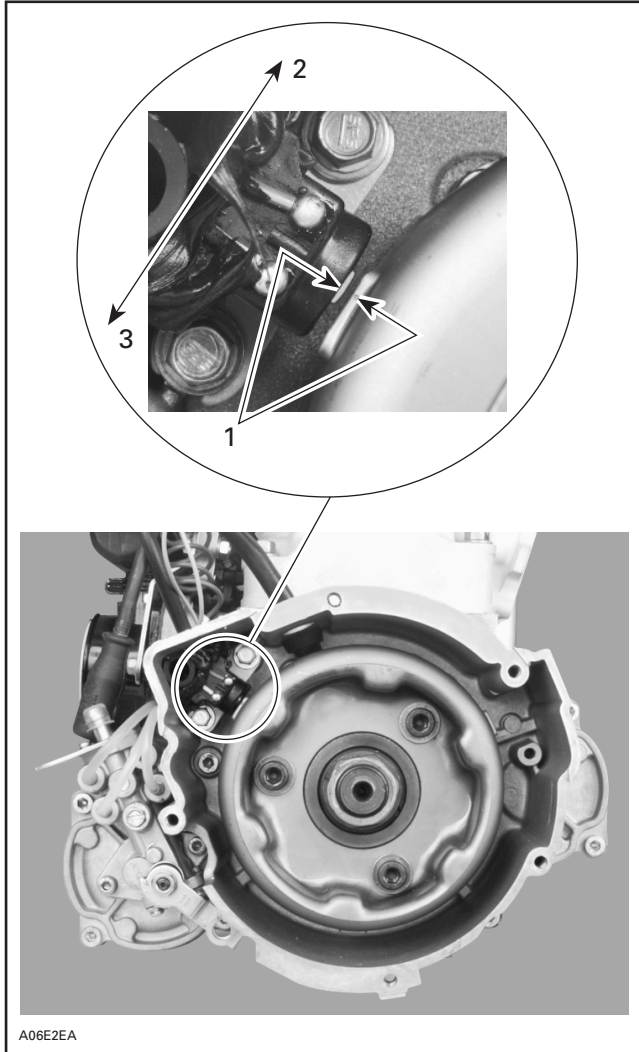
Align the dot located on the side of the magneto flywheel protrusion with center of trigger coil core.

**NOTE:** In some cases, it may be necessary to slot the holes on the trigger coil bracket and replace the upper bolt with by a M5 x 20 Allen head screw (P/N 420 941 540).

Refer to the illustration.

**▼ CAUTION**

Severe engine damage may occur if ignition timing is not retarded as specified when modifications to carburetor adjustments are performed.



1. Dot aligned with center of trigger coil core
2. Retard
3. Advance

Reinstall recoil starter assembly.

Reinstall exhaust system.

Refer to *1998 Ski-Doo Shop Manual, Volume 3, Section 6* (P/N 484 068 400) for complete timing adjustment procedure.

## Needle Position Adjustment

Remove air intake silencer from left hand side.

Unplug air temperature sensor connector from air intake silencer and remove DPM module, (Grand Touring SE only), and detach DPM manifold from air intake silencer.

Unscrew carburetor cover then pull out throttle slide from carburetors.

**◆ WARNING**

Exercise care when handling throttle slides. Scratches incurred may cause throttle slides to stick open during operation.

Disconnect throttle cable from throttle slide.

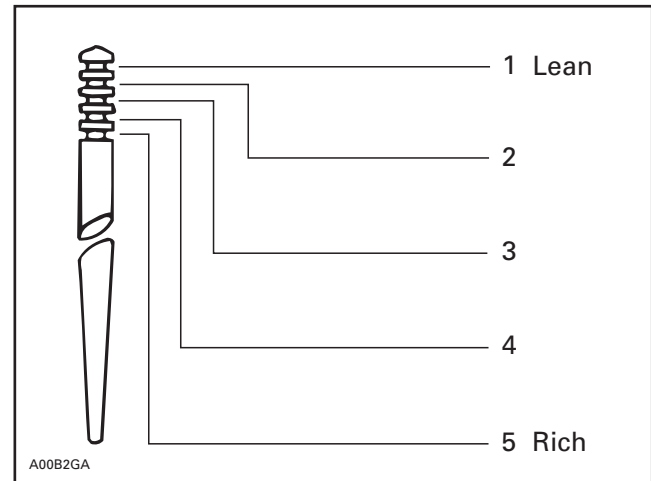
Remove screws from needle retaining plate to withdraw the needle.

### **Grand Touring SE and Mach 1**

Move E-clip from position 4 to position 3.

### **Mach z**

Move E-clip from position 3 to position 2.



**MOVE E-CLIP TO PROPER POSITION**

Reinstall needle into throttle slide.

Reinstall throttle cable then introduce throttle slide in carburetors.

Reinstall carburetor covers.

Check throttle operation and carburetor synchronization.



## Air Screw Adjustment

### **Grand Touring SE only**

Adjust carburetor air screw to 2-1/2 turns open.

Reinstall air intake silencer.

Refer to *1998 Ski-Doo Shop Manual, Volume 3, Section 04-08* (P/N 484 068 400) for complete carburetor adjustment procedure.

## WARRANTY

Complete a warranty claim form using the following information.

Use reference number as a campaign number.

### **Grand Touring SE**

Reference Number	98024
Claim Type	07
Expiration Date	December 1, 1999
Flat Rate Time	1.7 hour

### **Mach 1**

Reference Number	98025
Claim Type	07
Expiration Date	December 1, 1999
Flat Rate Time	1.2 hour

### **Mach Z**

Reference Number	98026
Claim Type	07
Expiration Date	December 1, 1999
Flat Rate Time	0.8 hour

For claiming procedure, refer to the *Dealer Warranty Guide*.

Please update the *1998 Ski-Doo Shop Manual, Volume 3*, (P/N 484 068 400) *Section 10-02, Technical Data*, with this bulletin.

Please route to:

Init.

Service

Sales

Parts



Campaign no. 98-027

No. **98-16**

Date: March 27, 1998

**SUBJECT: MPEM Module**

YEAR	MODEL	MODEL NUMBER	SERIAL NUMBER
1998	Tundra*R	3268/3269	All

## PROBLEM

In mild outside temperature, 0°C (32°F) and above, the MPEM module may modify the ignition timing curve.

Higher curve will raise combustion chamber temperature and will create pre-ignition, which may lead to serious engine damage.

## SOLUTION

Change the MPEM module.

<b>◆ WARNING</b>
Failure to do so might cause serious engine damage, pre-ignition may lead to engine seizure.

## PART REQUIRED

DESCRIPTION	P/N	QTY
MPEM Module	512 059 074*	1

\* When this P/N is ordered, a MPEM module, a box and a special return label will be shipped.

Dealer must order part through normal channel.

**Defective MPEM module must be returned, one per box, using new part's package and supplied special label for the return address.**

Ship defective part as soon as possible; returned MPEM module will be re-programmed at factory and used for an exchange program in order to accelerate problem solving in network and ensure adequate supply of MPEM modules.

**NOTE:** A white dot on top of MPEM module identifies a re-programmed one.

## PROCEDURE

Disconnect spark plug cable.

Disconnect ground cable.

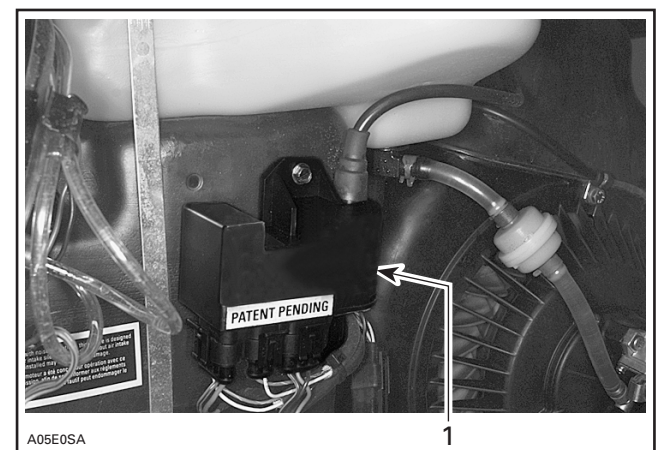
Disconnect all 3 connectors from MPEM module.

Remove both retaining screws.

Reverse procedure to install new MPEM module.

Refer to the *1998 Shop Manual Supplement*, (P/N 484 069 600) for procedure.

Following photo shows positioning of MPEM module.



1. MPEM module

## WARRANTY

Complete a warranty claim form using the following information.

Claim Type	07
Expiration Date	December 1, 1999
Flat Rate Time	0.4

For claiming procedure refer to the *Dealer Warranty Guide*.