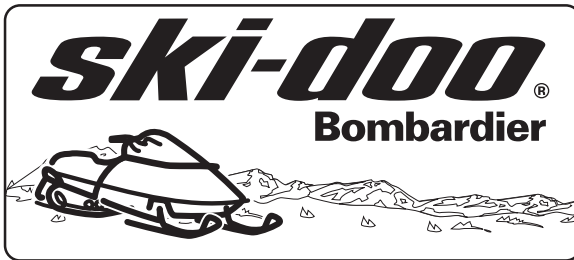


Please route to:

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



Campaign no. 97001  
(670 Engine)

No. **97-1**

Campaign no. 97005  
(494 Engine)

**UPDATE**

Date: October 30, 1996

**SUBJECT: Needle Bearing Replacement**

YEAR	MODEL	MODEL NUMBER	SERIAL NUMBER
1997	SUMMIT* 500/670	1157	00001 to 00349 (except those on attached list)
		1158	00001 to 00745 (except those on attached list)
		1162	00001 to 00959 (except those on attached list)
		1163	00001 to 00841 (except those on attached list)
1997	MX Z* 670	1193	00001 to 00974 (except those on attached list)
		1194	00001 to 01972 (except those on attached list)
		1195	00001 to 00135 (except those on attached list)
1997	FORMULA* 500/500 DE LUXE	1138	00001 to 00685 (except those on attached list)
		1139	00001 to 01788 (except those on attached list)
		1140	00001 to 00289 (except those on attached list)
		1191	00001 to 01020 (except those on attached list)
		1192	00001 to 01031 (except those on attached list)

The above listed snowmobiles must not be delivered to customers before modifications have been performed.

Spring break promotion discount will not be affected by this additional delay procedure.

Refer to attached letter for details.

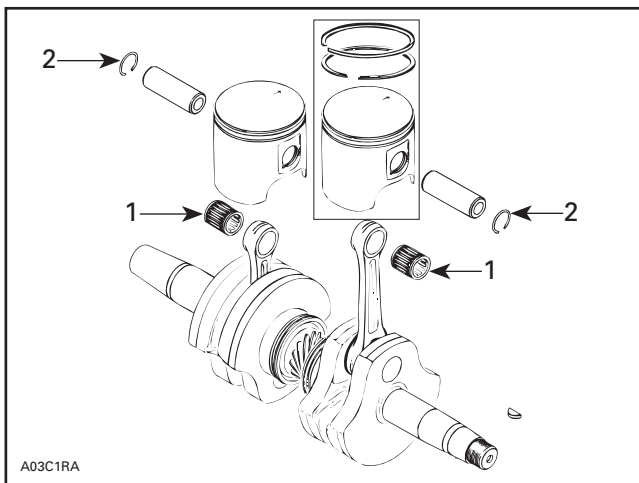
➡ **NOTE:** All vehicles shipped after September first have been already modified at factory.

## PROBLEM

Improper heat-treatment applied to piston needle bearings.

## SOLUTION

Replace existing needle bearings with new ones.



1. Needle bearing
2. Circlip

## KITS REQUIRED

A special kit is available for each engine.

**DO NOT ORDER KITS**, the proper quantity will be auto shipped based on the number of vehicles shipped to each dealer and distributor.

Delivery will be as follows;

### **494 and 670 Engines**

Autoshipments of the kits to all dealers and distributors will begin October 4<sup>th</sup> and be completed by October 18<sup>th</sup>.

Partial shipments will be made regularly during this period.

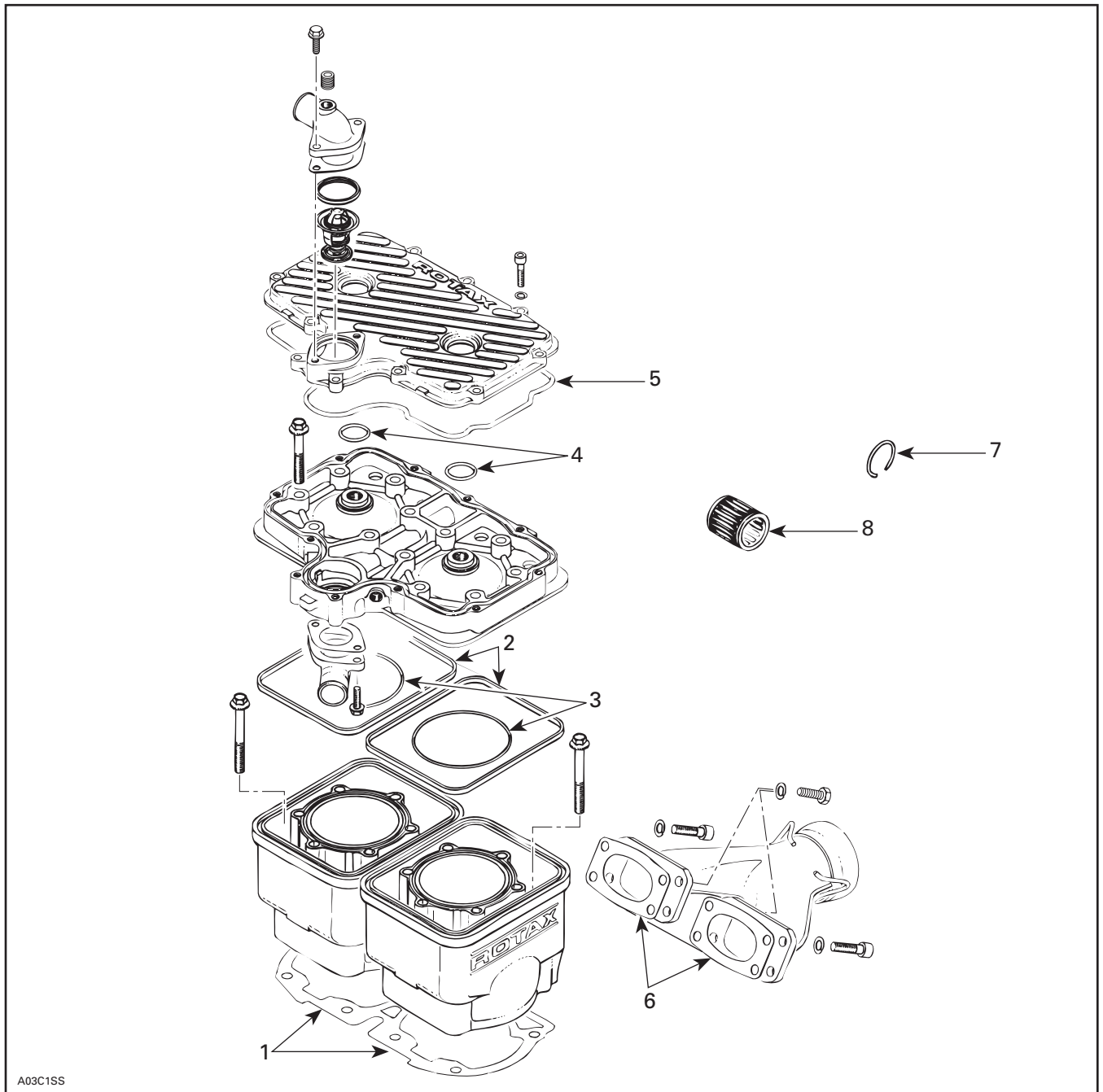
### **670 Engines only**

➡ A cageless bearing decal (P/N 420 8972 80) has been added to the kit. All dealers will receive auto shipped decals for the previously delivered kits.

494 ENGINE – KIT # 590 1217 00	
DESCRIPTION	QTY
Piston Needle Bearings	2
Circlip	4
Double Gasket	1
Rubber Gasket	2

Continued	
DESCRIPTION	QTY
O-ring	2
O-ring	2
O-ring	1
Gasket	2

**NOTE:** The flat rate time has been adjusted in order to compensate for the cost of antifreeze.



A03C1SS

1. Double gasket (P/N 420 9313 61)
2. Rubber gasket (2) (P/N 420 8500 40)
3. O-ring (2) (P/N 420 8317 92)
4. O-ring (2) (P/N 420 4307 82)

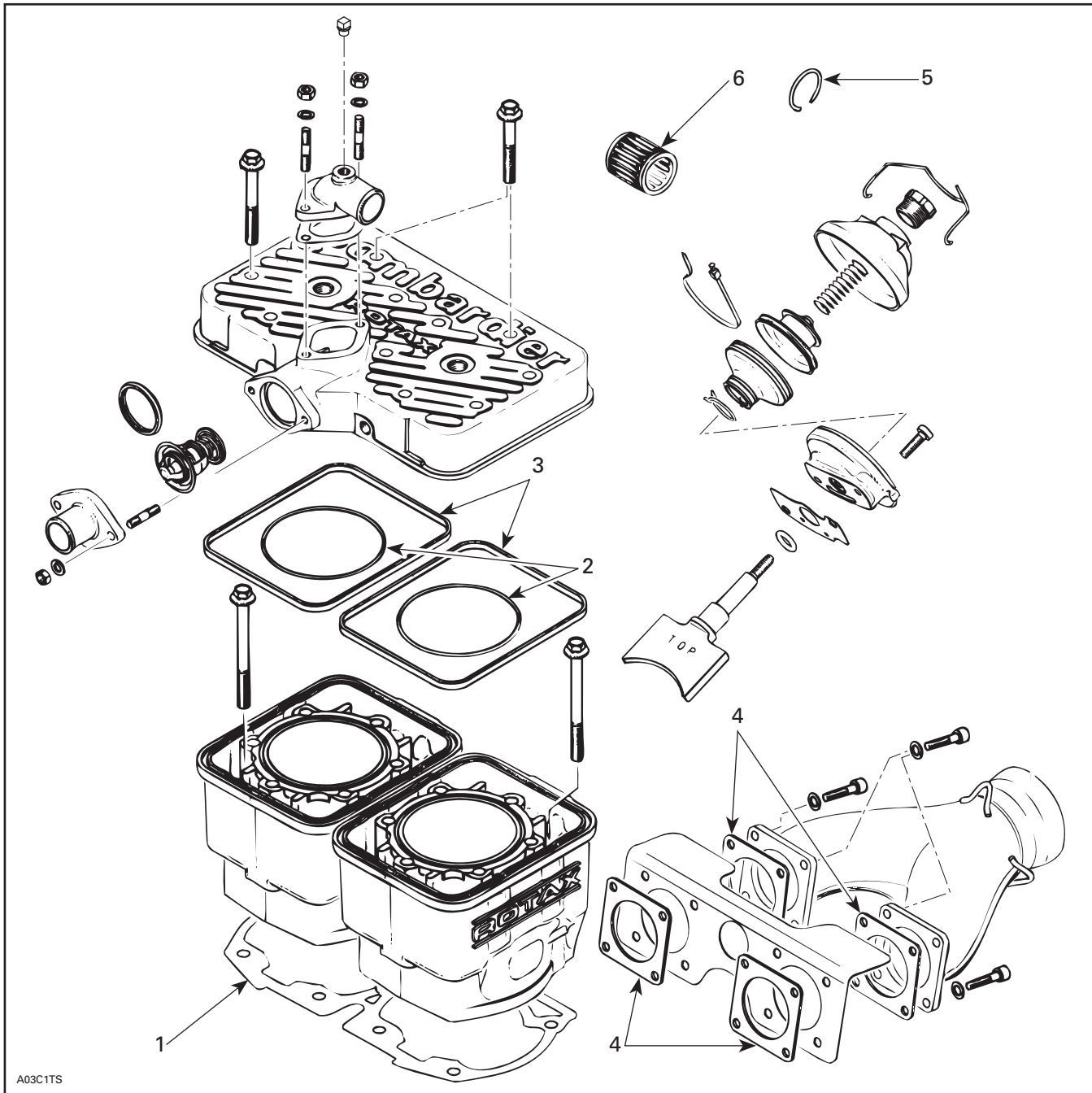
5. O-ring (P/N 420 9312 60)
6. Gasket (P/N 420 8505 35)
7. Circlip
8. Needle bearing

670 ENGINE – KIT # 590 1216 00	
DESCRIPTION	QTY
Piston Needle Bearings (Cageless)	2
Circlip	4
Double Gasket	1
O-ring	2

Continued	
DESCRIPTION	QTY
Rubber Gasket	2
Gasket	4
Decal (P/N 420 8972 80)	1



**NOTE:** The flat rate time has been adjusted in order to compensate for the cost of antifreeze.



- 1. Double gasket (P/N 420 9312 33)
- 2. O-ring (2) (P/N 420 9312 20)
- 3. Rubber gasket (2) (P/N 420 8500 40)

- 4. Gasket (4) (P/N 420 8505 52)
- 5. Circlip
- 6. Needle bearing

## PROCEDURE


Refer to *Shop Manual*, section ENGINE for proper removal and installation procedures.

The 670 engine kit includes **cageless bearings**.

➡ Use the following tools for bearing removal and replacement:

- ➡ – **expansion sleeve** tool (P/N 290 8770 41)
  - reusable outer plastic **locating sleeve** (included with new cageless bearing) will be available as a tool soon
- ➡ – **piston pin puller** (P/N 529 0290 00)
  - **washer** (P/N 503 1259 00) must be used with expansion sleeve to prevent incorrect tool positioning.

➡ **NOTE:** Expansion sleeve and locating sleeve will be auto-shipped to all dealers/distributors soon.

 <b>CAUTION</b>
Ensure to install the same cylinder base gasket thickness.

➡ Apply decal onto magneto housing.

## WARRANTY

**NOTE: Procedure must be done at predelivery inspection. Failure to complete this procedure may result in future charge-backs.**

Return the following parts:

- old needle bearings (2)
- cylinder base gaskets which include;
  - old double gasket
  - 2 new double gaskets for 494 engine or
  - 4 new double gaskets for 670 engine
- all O-rings

Complete a warranty claim form using the following information.

Campaign Number	97005 (494 engine) 97001 (670 engine)
Claim Type	07
Expiry Date	December 1, 1997
Flat Rate Time	494 engine (3.1 hours) 670 engine (2.8 hours)

The flat rate time has been adjusted in order to compensate for the cost of antifreeze.

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

Please update the *Shop Manual* and the *Parts Catalog* with this bulletin.

► NOTE: DO NOT perform warranty work on the vehicles listed below.

## MODEL 1162

293	381	402	414	432
305	382	403	416	433
319	383	404	417	435
349	386	405	418	437
359	393	406	422	439
365	394	409	424	441
366	395	410	425	450
368	397	411	428	457
370	399	412	429	463
374	401	413	430	464
550	716	737	764	796
557	719	738	768	797
582	720	743	771	799
657	721	747	772	801
684	723	749	774	802
697	724	755	776	803
704	726	757	784	805
705	727	758	787	808
708	728	759	790	809
710	732	760	794	811
813	837	860	881	918
814	838	861	883	919
815	839	864	892	921
816	842	867	894	928
817	844	868	901	931
818	847	874	905	932
819	848	875	914	934
823	849	878	915	936
828	851	879	916	941
836	856	880	917	942
944				

# MODEL 1193

115	459	543	566	577
124	463	544	567	578
156	474	550	568	579
288	501	556	569	580
291	519	557	570	581
293	527	558	571	584
296	530	561	573	585
301	532	563	574	586
360	533	564	575	587
363	542	565	576	588
589	601	614	630	656
590	602	615	632	658
591	603	617	633	659
592	606	618	634	661
594	607	623	637	662
595	608	624	640	665
596	609	625	643	666
598	610	626	646	667
599	611	627	648	668
600	613	629	655	669
670	682	692	702	712
671	683	693	703	713
672	684	694	704	714
673	685	695	705	715
674	686	696	706	716
677	687	697	707	717
678	688	698	708	718
679	689	699	709	719
680	690	700	710	720
681	691	701	711	721
722	735	746	758	775
724	736	747	759	780
725	737	748	760	782
726	738	749	763	783
727	739	750	764	786
728	741	751	765	788
729	742	752	766	791
730	743	754	767	793
731	744	755	769	795
734	745	756	774	800
801				
803				
805				
940				
967				
968				

## MODEL 1194

1	1218	1236	1246	1259
287	1222	1237	1247	1260
630	1223	1238	1248	1261
951	1225	1239	1249	1262
1175	1230	1240	1250	1263
1187	1231	1241	1252	1264
1189	1232	1242	1254	1265
1196	1233	1243	1255	1266
1201	1234	1244	1256	1267
1203	1235	1245	1258	1268
1269	1281	1300	1432	
1270	1282	1301	1439	
1271	1283	1368	1440	
1272	1284	1378	1443	
1273	1285	1381	1448	
1274	1287	1386	1463	
1275	1293	1415	1574	
1278	1297	1420		
1279	1298	1421		
1280	1299	1424		

## MODEL 1192

396



## MODEL 1191

9	200	228	267	288
20	201	232	268	293
22	202	238	270	295
36	206	241	274	297
59	208	243	276	298
130	216	244	277	299
135	218	252	279	300
186	225	253	282	301
189	226	254	283	306
199	227	264	287	308
312	407	449	462	476
316	408	451	463	477
328	411	452	464	478
386	413	453	465	479
391	414	454	466	480
392	420	456	467	481
393	422	458	468	482
398	427	459	469	485
399	438	460	471	486
403	442	461	472	489
490	507			
494	509			
497	510			
499	518			
501	525			
502	526			
503	534			
504				
505				
506				

## MODEL 1138

359  
383  
402

## MODEL 1139

8  
97

## MODEL 1157

4	94	239	270	281
6	95	243	271	282
7	111	257	272	283
8	171	260	273	284
9	180	261	275	285
13	186	262	276	286
30	206	263	277	287
32	209	267	278	288
80	210	268	279	289
86	233	269	280	292
293	305	324		
294	306	327		
295	307	328		
296	308	329		
298	310	331		
299	312	334		
301	313	341		
302	314	344		
303	315	345		
304	319	349		

## MODEL 1158

4	29	471	531	560
5	31	484	538	561
6	33	489	543	562
7	35	491	547	570
11	37	492	548	573
12	72	500	549	576
14	109	502	552	580
15	306	512	556	581
19	324	520	557	582
27	468	527	559	584
586	606	644	672	703
588	607	658	674	705
589	620	659	677	706
590	624	662	682	707
591	628	663	685	708
592	632	664	686	712
593	638	667	687	714
595	639	668	693	722
596	640	670	694	723
597	642	671	697	724
727				
729				
733				
734				
736				
738				
742				
743				

## MODEL 1163

468  
485

## MODEL 1195

40

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. 97004

No. **97-2**

Date: September 20, 1996

**SUBJECT: Carburetor Flange Clamps**

YEAR	MODEL	MODEL NUMBER	SERIAL NUMBER
1997	FORMULA* III (CDN)	1148	See attached list
1997	FORMULA* III (USA)	1149	See attached list

## PROBLEM

The clamps retaining carburetors to the rubber flanges may slide out of place when tightening. This situation may lead to air leak and engine failure.

## SOLUTION

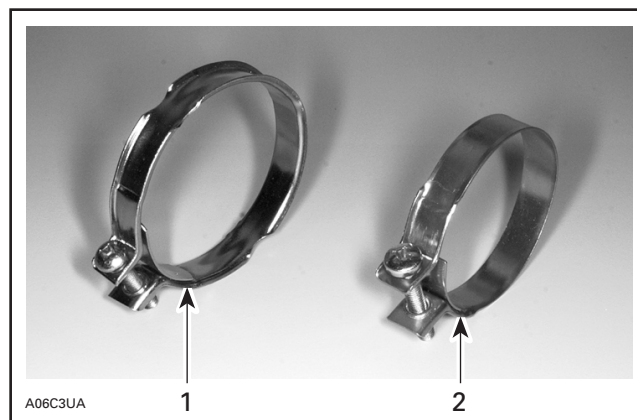
Replace existing clamps with new ones.

## PARTS REQUIRED

DESCRIPTION	P/N	QTY
Clamp	415 0859 00	3

## PROCEDURE

- Remove air intake silencer assembly.
- Loosen clamps retaining carburetors to flange and slide carburetors out of flanges.
- Remove clamps from carburetor flanges and replace with new ones.
- Reinstall carburetors in rubber flanges.
- Tighten new clamps to secure carburetors.
- Torque to 0.5 N•m to 0.8 N•m (4.5 lbf•in to 7.3 lbf•in).
- Reinstall air intake silencer assembly.



1. Existing clamp
2. New clamp

## WARRANTY

Complete a warranty claim form using the following information:

Campaign number	97004
Claim type	07
Expiration date	December 1, 1997
Flat rate time	.3 hour

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

## MODELS 1148

00003	00179	00222	00447
00023	00180	00223	00448
00030	00181	00225	00449
00049	00182	00227	00454
00053	00185	00228	00457
00070	00187	00229	00458
00078	00188	00230	00460
00087	00189	00231	00465
00108	00190	00232	00466
00116	00191	00233	00467
00121	00192	00234	00468
00130	00193	00235	00469
00132	00194	00236	00470
00135	00195	00237	00471
00138	00196	00238	00472
00139	00197	00239	00473
00140	00198	00240	00474
00143	00199	00241	00475
00144	00200	00242	00476
00147	00201	00243	00477
00148	00202	00244	00478
00150	00203	00245	00479
00151	00204	00246	00480
00152	00205	00248	00486
00154	00206	00249	00490
00158	00207	00251	00491
00159	00208	00252	00492
00160	00210	00254	00495
00161	00211	00255	00497
00166	00212	00256	00500
00167	00213	00257	00507
00168	00215	00258	00526
00171	00216	00265	00614
00173	00217	00387	00632
00174	00218	00421	00635
00175	00219	00431	00639
00176	00220	00442	00648
00178	00221	00446	00655

## MODELS 1149

00022	00184	00251	00310	00364	00411
00025	00186	00252	00311	00365	00412
00050	00188	00254	00312	00366	00413
00056	00189	00255	00314	00367	00414
00077	00190	00257	00315	00368	00415
00078	00193	00259	00316	00369	00416
00080	00195	00261	00318	00370	00417
00082	00198	00263	00319	00371	00418
00095	00200	00266	00320	00372	00419
00109	00201	00269	00321	00373	00420
00113	00204	00270	00322	00374	00421
00121	00206	00271	00325	00375	00422
00122	00208	00272	00326	00376	00423
00126	00209	00273	00327	00377	00424
00132	00210	00274	00328	00378	00425
00134	00212	00276	00329	00379	00427
00135	00213	00277	00330	00380	00428
00138	00214	00278	00331	00382	00429
00139	00215	00279	00335	00383	00430
00142	00216	00280	00336	00384	00431
00148	00217	00281	00337	00385	00432
00151	00220	00282	00338	00387	00433
00153	00221	00283	00339	00388	00434
00157	00225	00285	00340	00389	00436
00158	00227	00287	00341	00390	00437
00160	00229	00288	00343	00391	00438
00161	00230	00289	00344	00392	00439
00162	00232	00290	00346	00393	00440
00164	00233	00291	00347	00394	00441
00165	00235	00292	00348	00395	00442
00166	00236	00294	00349	00396	00443
00168	00237	00295	00350	00397	00444
00169	00238	00297	00351	00398	00445
00170	00239	00298	00352	00400	00446
00171	00240	00299	00354	00401	00447
00172	00241	00300	00355	00402	00449
00173	00242	00302	00356	00404	00450
00174	00243	00303	00357	00405	00451
00177	00244	00304	00358	00406	00452
00179	00245	00305	00359	00407	00453
00180	00248	00306	00361	00408	00454
00181	00249	00308	00362	00409	00456
00182	00250	00309	00363	00410	00457

00459	00469	00658	00893	01000	01104
00461	00470	00669	00895	01001	01112
00462	00471	00678	00901	01002	01113
00464	00472	00684	00905	01003	01114
00467	00474	00707	00912	01005	01115
00469	00475	00710	00917	01006	01120
00470	00479	00712	00918	01008	01123
00471	00483	00713	00927	01009	01130
00472	00484	00716	00928	01010	01131
00474	00485	00728	00934	01012	01133
00475	00486	00742	00938	01013	01135
00479	00488	00744	00939	01014	01137
00483	00489	00745	00951	01015	01139
00484	00493	00747	00952	01016	01141
00485	00495	00773	00953	01017	01142
00486	00496	00775	00958	01019	01143
00488	00497	00789	00962	01020	01145
00489	00499	00796	00963	01021	01148
00493	00500	00799	00964	01022	01149
00495	00504	00805	00965	01023	01152
00496	00507	00808	00966	01025	01153
00497	00508	00818	00968	01027	01161
00499	00509	00834	00971	01028	01162
00500	00513	00839	00974	01029	01163
00504	00517	00840	00975	01030	01169
00507	00520	00842	00976	01031	01170
00508	00521	00843	00979	01032	01172
00509	00527	00845	00982	01033	01175
00513	00528	00847	00983	01034	01177
00517	00530	00848	00984	01035	01183
00520	00531	00861	00985	01036	01186
00521	00533	00864	00986	01038	01224
00527	00535	00865	00987	01039	01242
00528	00536	00866	00988	01043	01252
00530	00538	00866	00988	01044	01259
00531	00539	00869	00989	01047	01261
00533	00539	00870	00990	01066	01262
00533	00540	00871	00991	01069	01264
00535	00542	00872	00992	01072	01265
00536	00543	00873	00993	01073	01266
00538	00547	00874	00994	01077	01288
00539	00548	00876	00995	01085	01315
00540	00552	00877	00996	01087	01342
00462	00555	00888	00997	01093	01347
00464	00563	00889	00998	01100	01367
00467	00647	00891	00999	01101	01374

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"/>



No. **97-3**

Date: October 9, 1996

**SUBJECT: Double Air Silencer Assembly Filter**

YEAR	MODEL	MODEL NUMBER	SERIAL NUMBER
1997	Formula III	1149	Refer to attached list

## PROBLEM

The foam used for the air filter which is located on top of the double air silencer assembly has too low of density.

## SOLUTION

Replace existing air filter with new part that has higher density foam.

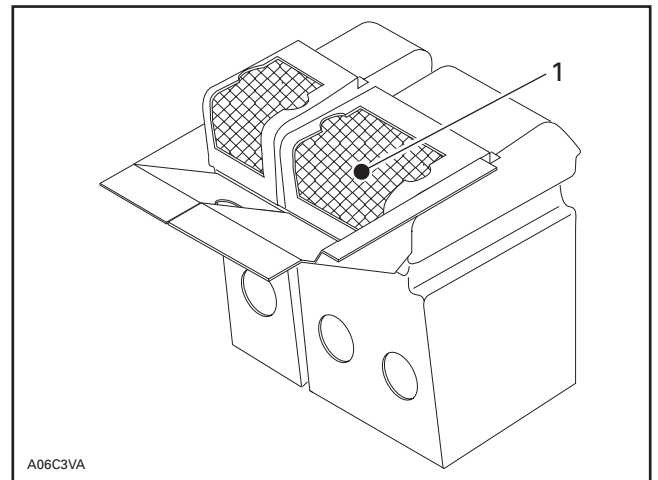
<b>▼ CAUTION</b>
Failure to replace the air filter will result in severe engine damage.

## PART REQUIRED

Description	Part Number
Air Filter	572 0290 07

## PROCEDURE

- Open hood.
- Remove triangular shaped foam filter from top of air silencers.
- Remove air filter from double air silencer assembly.



1. Double air silencer assembly

- Install new air filter on double air silencer assembly.
- Reinstall triangular shaped foam.
- Close hood.

## WARRANTY

Please return part and complete a warranty claim form using the following information:

Campaign Number	97008
Claim Type	07
Expiry Date	December 1 <sup>st</sup> , 1998
Flat Rate Time	0.3 hour

For claiming procedure, refer to the *Dealer Warranty Guide*, section 4.



## SERIAL NUMBERS/NUMÉROS DE SÉRIE

1	263	331
22	266	335
56	269	336
109	270	337
113	271	338
122	273	339
132	274	340
134	276	341
135	281	343
138	285	344
142	287	346
148	289	348
157	291	349
166	292	350
169	294	351
170	295	352
181	296	354
186	297	356
188	298	357
189	300	358
198	302	359
200	303	361
209	304	362
210	305	363
214	306	364
215	309	365
216	310	366
220	311	367
221	312	369
225	314	370
227	315	371
233	316	372
235	318	373
238	319	374
241	320	376
242	321	377
243	325	378
244	326	380
248	327	382
252	328	383
255	329	384
257	330	385

## SERIAL NUMBERS/NUMÉROS DE SÉRIE

387	445
388	449
389	452
390	454
391	456
392	457
393	461
394	462
395	470
396	471
397	472
398	475
400	479
401	
402	
406	
407	
408	
410	
412	
413	
414	
416	
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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"/>



No. **97-4**  
**UPDATE** ←

Date: November 27, 1996

**SUBJECT: Drive Pulley, Sliding Half  
Spring Cover and Screws**

YEAR	MODELS	MODEL NUMBERS	SERIAL NUMBERS
1997	Summit* 500	1158	00001 to 00745 except those on attached list ←
1997	MX* Z 583	1174	00001 to 00540 except those on attached list ←
1997	MX* Z 583	1175	00001 to 02002 except those on attached list ←
1997	MX* Z 583	1176	00001 to 00180 except those on attached list ←

### PROBLEM

The 3 Allen screws retaining the spring cover on the sliding half of the drive pulley may be insufficiently torqued.

### SOLUTION

Re-torque the 3 Allen screws to 13 N•m (9.5 lbf•ft).

If threads on the sliding half have become damaged, replace the sliding half with new part.

### PART REQUIRED

Description	Part Number
Sliding Half	417 0037 02

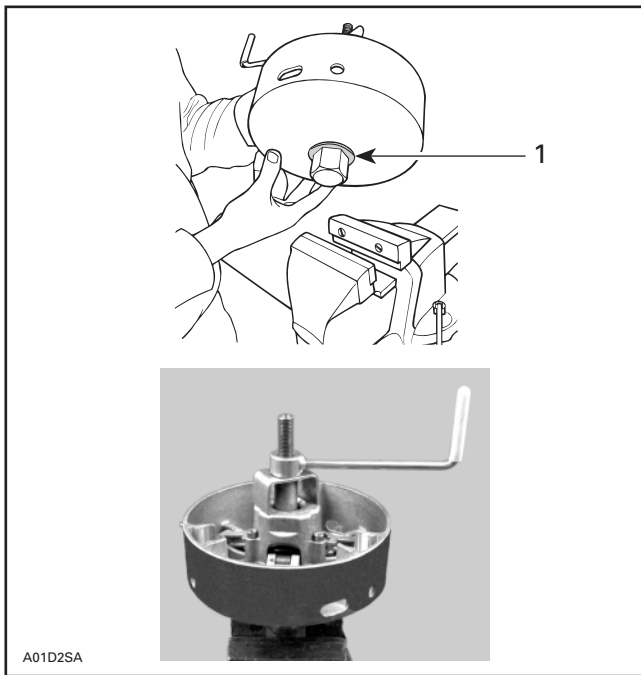
### PROCEDURE (IF PART MUST BE REPLACED)

Remove drive pulley assembly.

Remove spring cover assembly as follows:

<b>◆ WARNING</b>
<b>Clutch spring is very strong. Never attempt to remove spring cover without the recommended tools.</b>

Use spring compressor (P/N 529 0151 00).



A01D2SA

1. Washer must be here

Install tools as shown.

Remove 3 Allen screws retaining spring cover then unscrew compressor.

Assembly procedure is reverse of removal.

Refer to *1997 Ski-Doo Shop Manual, Volume 2*, (P/N 484 0647 01) section 04 TRANSMISSION, Sub-Section 03 (DRIVE PULLEY) for complete procedure.

## WARRANTY

### Inspection

Complete a warranty claim form using the following information:

Campaign Number	97006
Claim Type	07
Expiry Date	January 12, 1998
Flat Rate Time	0.4 hour

## Replacement

Return defective part with a completed warranty claim form using the following information:

Campaign Number	97007
Claim Type	07
Expiry Date	January 12, 1998
Flat Rate Time	0.7 hour

For claiming procedure, refer to the *Dealer Warranty Guide*, section 4.

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

**MXZ 583 CAN (1174)**

**SUMMIT 500 US (1158)**

00001	00001	00514
00105	00016	00515
00173	00017	00517
00228	00018	00519
00251	00196	00521
00255	00273	00522
00260	00282	00524
00261	00344	00525
00262	00389	00529
00263	00422	00532
00265	00423	00534
00266	00427	00536
00271	00429	00539
00272	00462	00541
00277	00466	00551
00282	00467	
00283	00468	
00285	00470	
00286	00472	
00287	00484	
00289	00485	
00290	00487	
00291	00488	
00292	00490	
00296	00491	
00300	00493	

**MXZ 583 US (1175)**

00001	00494
	00495
	00496
	00497
	00499
	00501
	00504
	00505
	00506
	00507
	00509
	00510
	00511
	00513

Please route to :

Init.

Service

Sales

Parts



No. **97-5**  
**UPDATE** ←

Date: November 6, 1996

**SUBJECT: Windshield Tabs**

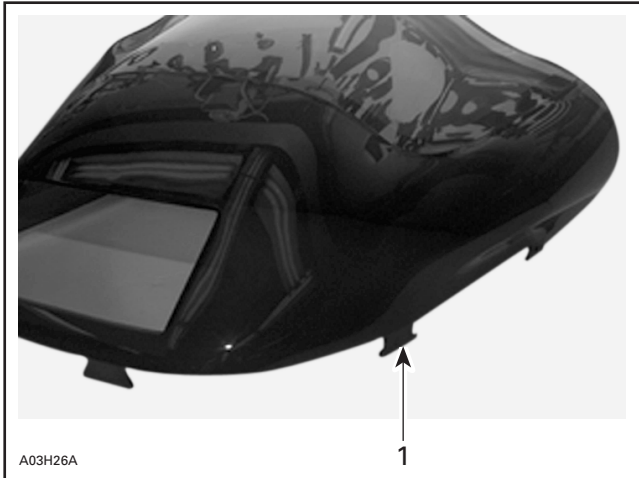
YEAR	MODEL	MODEL NUMBER	SERIAL NUMBER
1997	Formula* 500	CDN/1138 U.S./1139 Europe/1140	00002 to 00687 00002 to 01786 00002 to 00289
1997	Formula* 500 DeLuxe	CDN/1191 U.S./1192	00002 to 01020 00002 to 01029
1997	Formula* 583	CDN/1141 U.S./1142	00002 to 00641 00002 to 00559
1997	Formula* Z	CDN/1145 U.S./1146	00002 to 01168 00002 to 03566
1997	Summit* 500	CDN/1157 U.S./1158	00002 to 00349 00002 to 00743
1997	Summit* 583	CDN/1159 U.S./1160 Europe/1161	00002 to 00637 00002 to 00763 00002 to 00065
1997	Summit* 670	CDN/1162 U.S./1163	00002 to 00959 00002 to 01978
1997	MX Z* 440 F	CDN/1171 U.S./1172 Europe/1173	00002 to 00771 00002 to 02480 00002 to 00064
1997	MX Z* 583	CDN/1174 U.S./1175 Europe/1176	00002 to 00540 00002 to 02000 00002 to 00180
1997	MX Z* 670	CDN/1193 U.S. 1194 Europe/1195	00002 to 00974 00002 to 01972 00002 to 00135
1997	Grand Touring* 500	CDN/1123 U.S./1124 Europe/1125	00002 to 01089 00002 to 00966 00002 to 00216
1997	Grand Touring* 583	CDN/1126 U.S./1127 Europe/1128	00002 to 01777 00002 to 00971 00002 to 00375

## PROBLEM

Windshield may become loose due to rubber straps sliding off of the 2 tabs that are located on the sides nearest to the front on windshield base.

## SOLUTION

Modify the 2 tabs located on the sides, nearest to the front as shown on the following photo.



1. Modify this tab (one on each side)

## PROCEDURE

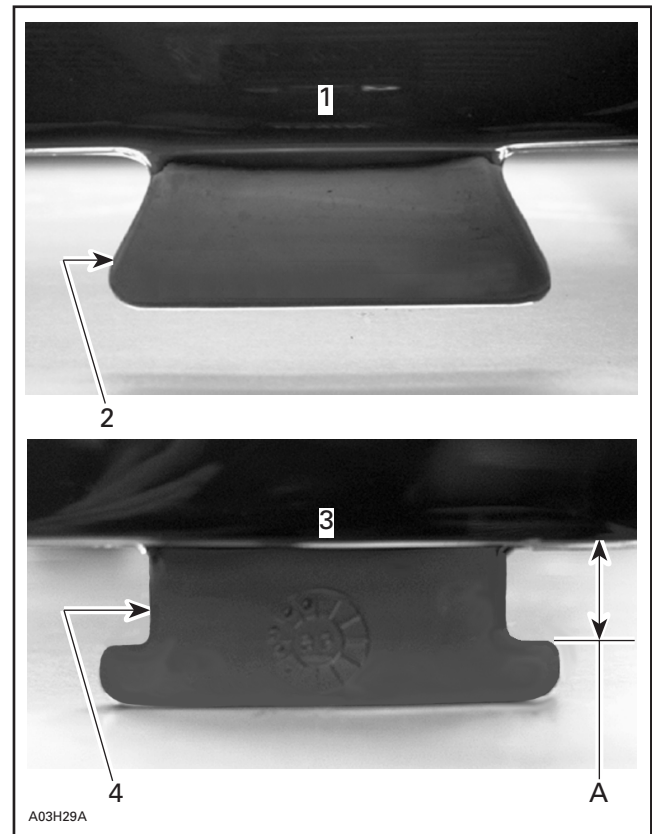
Ensure engine is turned off.

Open hood.

Remove 6 rubber straps from windshield base.

Remove windshield.

Modify tabs using a file or cutters as indicated in the following photo.



1. Before
2. Existing shape
3. After
4. Modify to look like this
- A. 19 mm (3/4 in)

Reinstall windshield.

Reinstall 6 rubber straps.

Close hood.

**NOTE:** Spare part windshields have already been modified.

## WARRANTY

Complete a warranty claim form using the following information:

Campaign Number U.S. Models	97009	←
Campaign Number European models	97010	←
Campaign Number CAN. Models	97011	←
Claim Type	07	
Expiry Date	December 1 <sup>st</sup> , 1998	
Flat Rate Time	0.3 hour	

For claiming procedure, refer to the *Dealer Warranty Guide*, section 4.

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. 97012

No. **97-6**

Date: December 12, 1996

**SUBJECT: Driven Pulley Cam**

YEAR	MODEL	MODEL NUMBER	SERIAL NUMBER
1997	MX Zx 440 LC (Canada)	1214	From 00001 to 00085
1997	MX Zx 440 LC (U.S.A.)	1215	From 00001 to 00377
1997	MX Zx 440 LC (Sweden)	1216	From 00001 to 00050

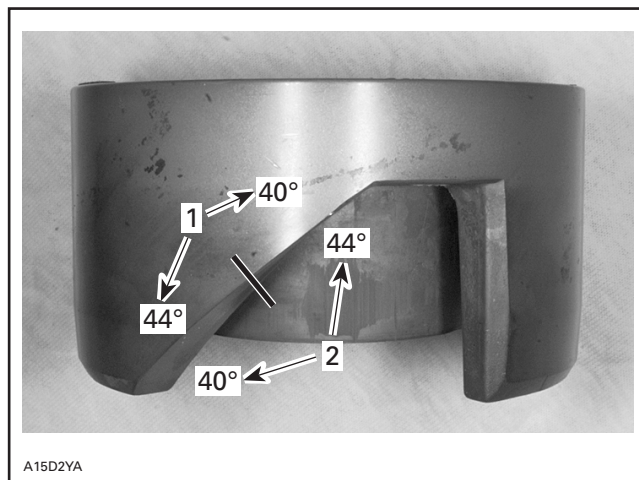
## PROBLEM

On the above mentioned snowmobiles, the driven pulley cam has incorrect cam angles. This results in poor performance at low revolution and over revving at mid range.

## PART REQUIRED

DESCRIPTION	P/N
Driven pulley cam	417 1222 00

DO NOT ORDER PART. Part will be autoshipped to all involved dealers.



1. Actual cam pulley angles (44/40)
2. New cam pulley angles (40/44)

## PROCEDURE

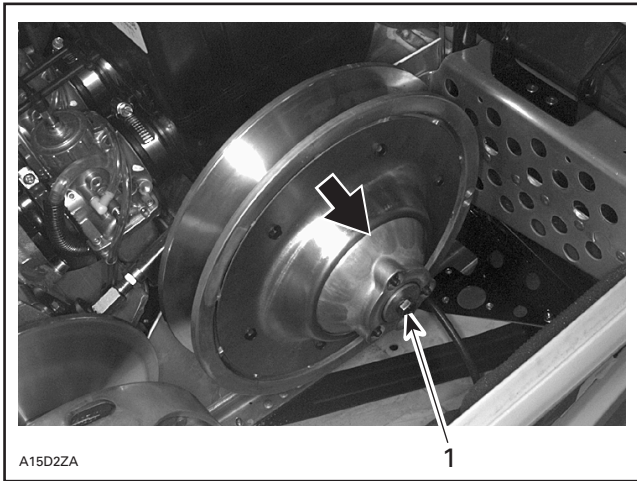
### Driven Pulley Cam Removal

Remove belt guard and drive belt from vehicle.  
Remove the cap screw, lock washer and washer then pull the driven pulley from the splined countershaft.

## SOLUTION

Replace driven pulley cam with new one. In order to obtain optimum engine performance, the new cam angles match the stock pulley calibration from factory.





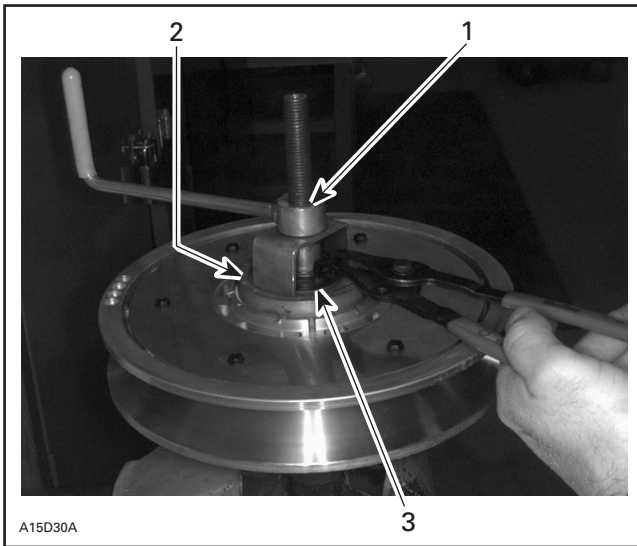
**REMOVE DRIVEN PULLEY**

1. Remove cap screw

Using spring compressor tool (P/N 529 0151 00) hold the driven pulley in a bench vise.

Remove circlip.

**NOTE:** Before driven pulley cam removal, note spring position.



1. Spring compressor tool (P/N 529 0151 00)
2. Driven pulley cam
3. Circlip

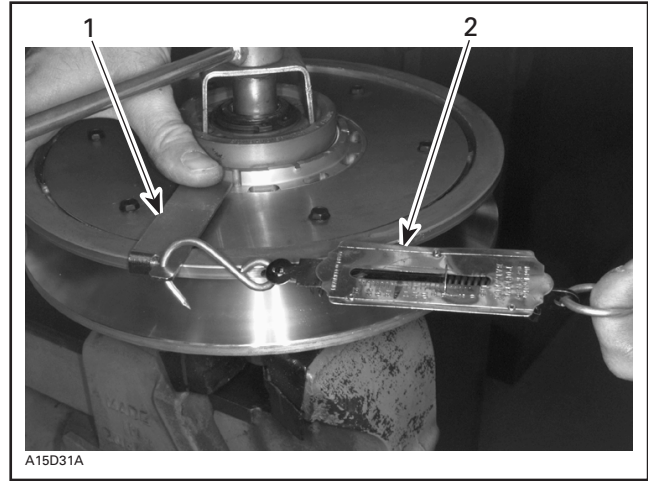
Remove actual driven pulley cam and replace with new one.

Secure with original circlip.

**Spring Preload Adjustment**

Perform spring preload adjustment with spring scale hook (P/N 529 0309 00) and a spring scale.

Adjust spring preload to 7.0 kg ± 0.7 (15.43 ± 1.5 lbf).



1. Spring scale hook (P/N 529 0309 00)
2. Spring scale

Refer to TRANSMISSION (DRIVEN PULLEY) section from Ski-Doo *Shop Manual* for spring preload measurement procedure.

**Pulley Alignment and Drive Belt Deflection**

Refer to PULLEY DISTANCE AND ALIGNMENT from Ski-Doo *Shop Manual* to perform adjustments.

<b>▼ CAUTION</b>
Drive belt and pulley adjustments must always be checked whenever pulleys have been removed, replaced or disassembled.

**WARRANTY**

Return defective part.

Complete a warranty claim form using the following information.

Campaign Number	97012
Claim Type	07
Expiry Date	December 1 <sup>st</sup> , 1997
Flat Rate Time	0.3 hour

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. 97013

No. **97-7**

Date: February 13, 1997

**SUBJECT: Bottom Pan Protector**

YEAR	MODEL	MODEL NUMBER	SERIAL NUMBER
1997	FORMULA* III	(Canada) 1148 (United States) 1149 (Sweden) 1150	from 00001 to 01263 from 00001 to 02745 from 00001 to 00249
1997	FORMULA III LT	(Canada) 1151 (United States) 1152 (Sweden) 1153	from 00001 to 00309 from 00001 to 00184 from 00001 to 00143
1996	FORMULA III	(Canada) 1076 (United States) 1077 (Sweden) 1093	from 00001 to 02859 from 00001 to 05682 from 00001 to 00238
1996	FORMULA III LT	(Canada) 1100 (United States) 1101 (Sweden) 1102	from 00001 to 00573 from 00001 to 00443 from 00001 to 00050

## PROBLEM

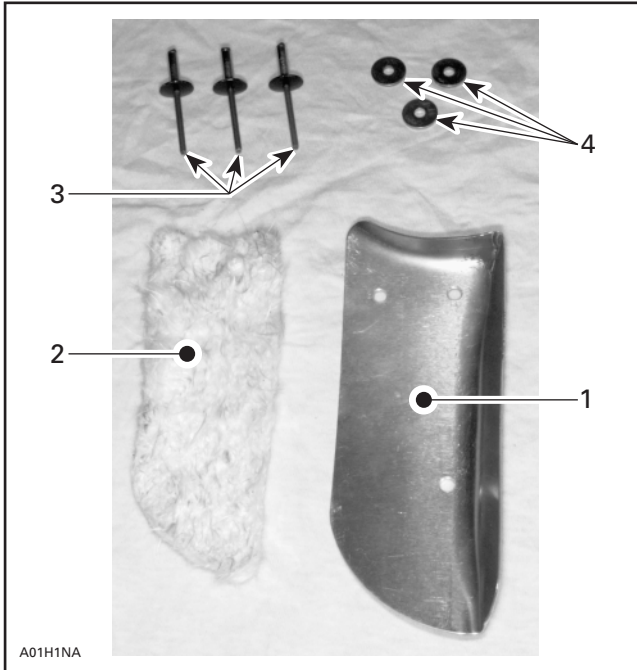
Bottom pan material may be damaged by high temperature exhaust gas at exhaust outlet location, beside right hand swing arm attachment.

## SOLUTION

Install an insulator pad and a protective plate, then secure with rivets.

## KIT REQUIRED

Kit (590 1755 00) must be ordered by dealer. Kit includes:



1. Protective plate
2. Insulator
3. Rivets (3)
4. Washers (3)

## PROCEDURE

Lift hood and remove muffler from vehicle.

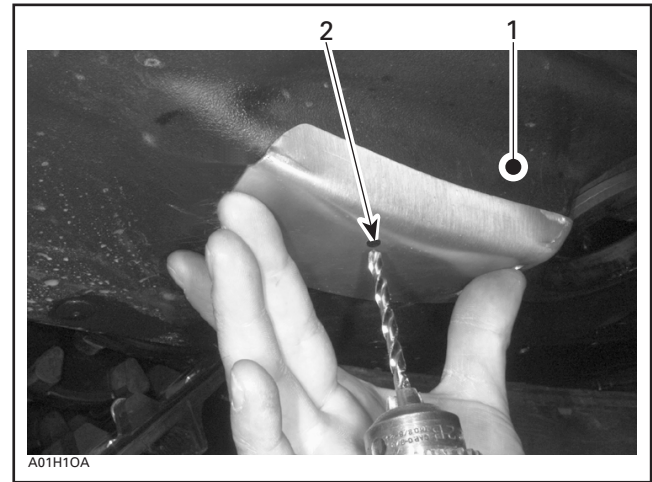
Position protective plate on the bottom pan and drill 5 mm (3/16 in) holes.

### ▼ CAUTION

Do not install insulator at this point, to avoid insulator damage, when drilling.

### ▼ CAUTION

Ensure not to damage chaincase when drilling.



1. Bottom pan
2. Drill 5 mm (3/16 in)

Remove protective plate.

Position insulator on protective plate, then install on the bottom pan, as shown on the following photo.



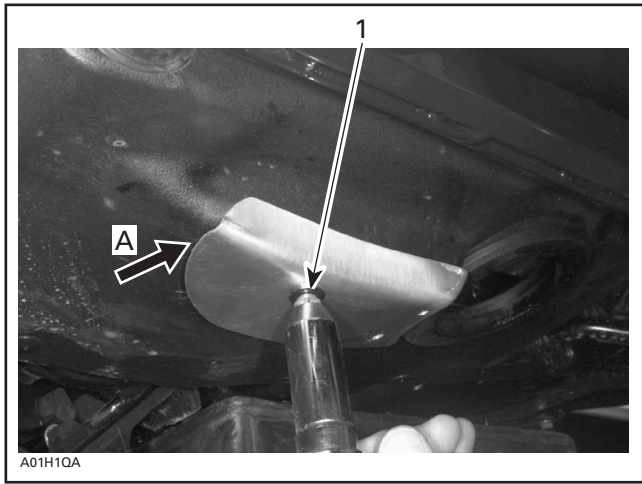
*POSITION INSULATOR BETWEEN PROTECTIVE PLATE AND BOTTOM PAN*

Using a sharp tool, pierce insulator at hole locations.

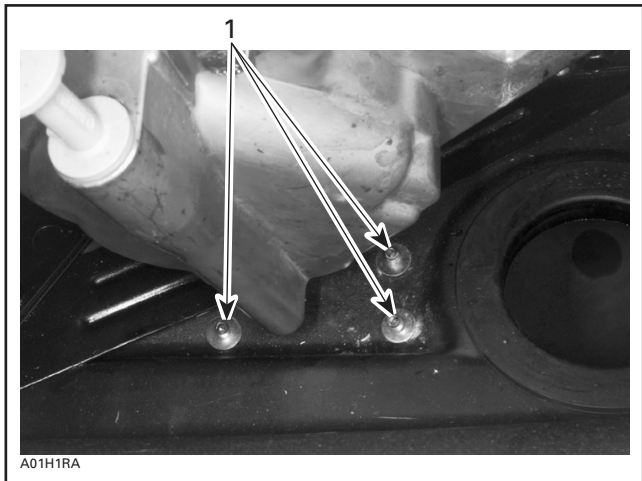
Secure protective plate with rivets and washers. Washers must be installed from inside engine compartment.

### ▼ CAUTION

Always install protective plate with central rivet first to ensure minimum gap between protective plate and bottom pan. Refer to the next photo.



- 1. Secure with central rivet first
- A. Minimum gap between protective plate and bottom pan



- VIEW FROM INSIDE ENGINE COMPARTMENT**
- 1. Rivets properly installed with washers



**TYPICAL — FINAL INSTALLATION**

Reinstall muffler with Dow Corning sealant no. 736 RTV (P/N 413 7092 00).

## WARRANTY

Complete a warranty claim form using the following information.

Campaign Number	97013
Claim Type	07
Expiry Date	December 31, 1998
Flat Rate Time	0.3 hour

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. 97001  
(670 Engine)  
Campaign no. 97005  
(494 Engine)

**No. 97-8  
UPDATE  
(additional  
information)** ←

Date: January 20, 1997

**SUBJECT: Needle Bearing Replacement**

YEAR	MODEL	MODEL NUMBER	SERIAL NUMBER
1997	SUMMIT* 500/670	1157	00001 to 00349 (except those on attached list)
		1158	00001 to 00745 (except those on attached list) ←
		1162	00001 to 00959 (except those on attached list)
		1163	00001 to 00841 (except those on attached list)
1997	MX Z* 670	1193	00001 to 00974 (except those on attached list)
		1194	00001 to 01972 (except those on attached list) ←
		1195	00001 to 00135 (except those on attached list)
1997	FORMULA* 500/500 DE LUXE	1138	00001 to 00685 (except those on attached list)
		1139	00001 to 01788 (except those on attached list)
		1140	00001 to 00289 ←
		1191	00001 to 01020 (except those on attached list)
		1192	00001 to 01031 (except those on attached list)

The above listed snowmobiles must not be delivered to customers before modifications have been performed.

Spring break promotion discount will not be affected by this additional delay procedure.

Refer to attached letter for details.

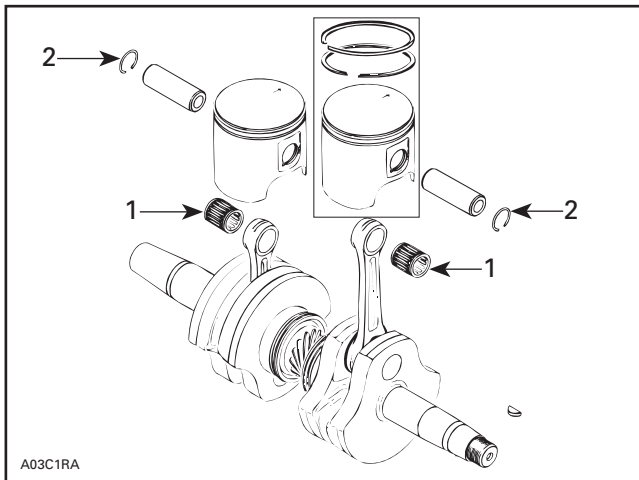
**NOTE:** All vehicles shipped after September first have been already modified at factory.

## PROBLEM

Improper heat-treatment applied to piston needle bearings.

## SOLUTION

Replace existing needle bearings with new ones.



1. Needle bearing
2. Circlip

## KITS REQUIRED

A special kit is available for each engine.

**DO NOT ORDER KITS**, the proper quantity will be auto shipped based on the number of vehicles shipped to each dealer and distributor.

Delivery will be as follows:

### **494 and 670 Engines**

Autoshipments of the kits to all dealers and distributors will begin October 4<sup>th</sup> and be completed by October 18<sup>th</sup>.

Partial shipments will be made regularly during this period.

### **670 Engines Only**

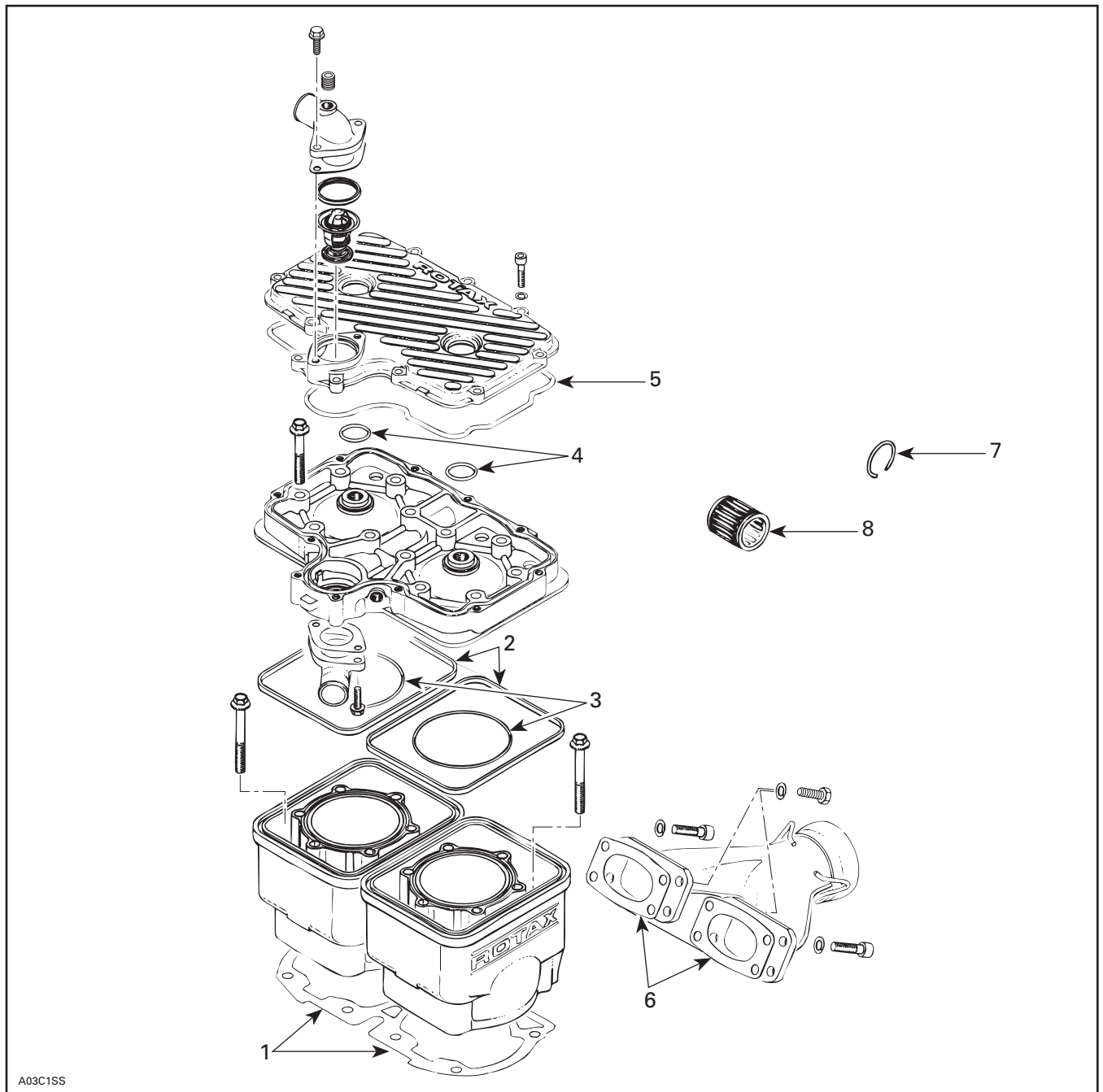
A cageless bearing decal (P/N 420 8972 80) has been added to the kit. All dealers will receive auto shipped decals for the previously delivered kits.

➡ **NOTE:** Each cageless bearing contains 28 needles.

494 ENGINE — KIT # 590 1217 00	
DESCRIPTION	QTY
Piston Needle Bearings	2
Circlip	4
Double Gasket	1
Rubber Gasket	2

Continued	
DESCRIPTION	QTY
O-ring	2
O-ring	2
O-ring	1
Gasket	2

**NOTE:** The flat rate time has been adjusted in order to compensate for the cost of antifreeze.



A03C1SS

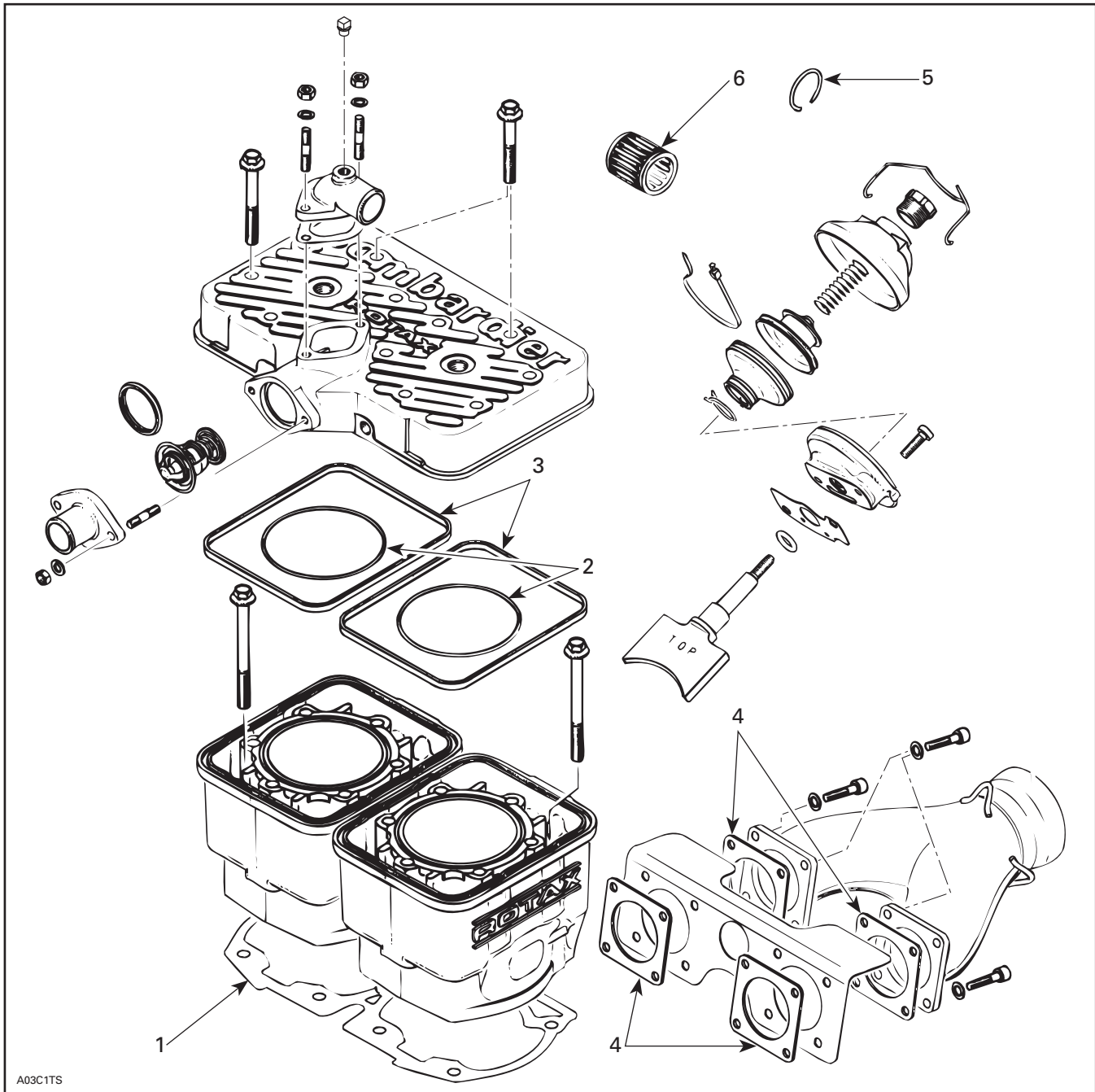
1. Double gasket (P/N 420 9313 61)
2. Rubber gasket (2) (P/N 420 8500 40)
3. O-ring (2) (P/N 420 8317 92)
4. O-ring (2) (P/N 420 4307 82)

5. O-ring (P/N 420 9312 60)
6. Gasket (P/N 420 8505 35)
7. Circlip
8. Needle bearing

670 ENGINE — KIT # 590 1216 00	
DESCRIPTION	QTY
Piston Needle Bearings (Cageless)	2
Circlip	4
Double Gasket	1
O-ring	2

Continued	
DESCRIPTION	QTY
Rubber Gasket	2
Gasket	4
Decal (P/N 420 8972 80)	1

**NOTE:** The flat rate time has been adjusted in order to compensate for the cost of antifreeze.



1. Double gasket (P/N 420 9312 33)
2. O-ring (2) (P/N 420 9312 20)
3. Rubber gasket (2) (P/N 420 8500 40)

4. Gasket (4) (P/N 420 8505 52)
5. Circlip
6. Needle bearing



## PROCEDURE

Refer to *Shop Manual*, section ENGINE for proper removal and installation procedures.

The 670 engine kit includes **cageless bearings**. Use the following tools for bearing removal and replacement:

- **expansion sleeve** tool (P/N 290 8770 41)
- reusable outer plastic **locating sleeve** (included with new cageless bearing) will be available as a tool soon
- **piston pin puller** (P/N 529 0290 00)
- **washer** (P/N 503 1259 00) must be used with expansion sleeve to prevent incorrect tool positioning.

**NOTE:** Expansion sleeve and locating sleeve will be auto-shipped to all dealers/distributors soon.

### ▼ CAUTION

When reinstalling cylinders, make sure to install longer cylinder screws on the exhaust side. Failure to follow this procedure will lead to cylinder base gasket leaking.

### ▼ CAUTION

Ensure to install the same cylinder base gasket thickness.

Apply decal onto magneto housing.

## WARRANTY

**NOTE: Procedure must be done at predelivery inspection. Failure to complete this procedure may result in future charge-backs.**

Return the following parts:

- old needle bearings (2)
- cylinder base gaskets which include;
  - old double gasket
  - 2 new double gaskets for 494 engine or
  - 4 new double gaskets for 670 engine
- all O-rings

Complete a warranty claim form using the following information.

Campaign Number	97005 (494 engine) 97001 (670 engine)
Claim Type	07
Expiry Date	December 1, 1997
Flat Rate Time	494 engine (3.1 hours) 670 engine (2.8 hours)

The flat rate time has been adjusted in order to compensate for the cost of antifreeze.

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

Please update the *Shop Manual* and the *Parts Catalog* with this bulletin.

## ADDITIONAL INFORMATION

An identification number have been stamped on the exhaust side of cylinders or on magneto housing near serial number. This identification number is to identify vehicles that have been modified from factory.

### **494 Engines**

Number 0 or number 8 is stamped.

### **670 Engines**

Number 4 or number 1 is stamped.

► NOTE: DO NOT perform warranty work on the vehicles listed below.

### MODEL 1138

00004	00133	00138	00365	00402	00554	00671
00023	00134	00262	00370	00512	00604	
00024	00136	00359	00383	00537	00613	

### MODEL 1139

00030	00137	00386	00640	00755	00826	01087	01304
00033	00164	00402	00644	00762	00828	01154	01314
00039	00166	00416	00650	00778	00830	01161	01318
00050	00193	00419	00662	00779	00836	01186	01567
00052	00197	00557	00667	00792	00842	01190	01568
00054	00231	00561	00669	00794	00844	01200	01671
00082	00233	00571	00670	00796	00916	01201	
00086	00237	00630	00675	00798	00926	01204	
00101	00242	00633	00702	00803	01034	01211	
00111	00269	00636	00716	00813	01064	01213	
00115	00271	00639	00733	00824	01083	01214	

### MODEL 1157

00004	00095	00243	00271	00282	00294	00306	00327
00006	00111	00257	00272	00283	00295	00307	00328
00007	00180	00260	00273	00284	00296	00308	00329
00009	00186	00261	00274	00285	00298	00310	00331
00013	00190	00262	00276	00286	00299	00312	00334
00030	00206	00263	00277	00287	00301	00313	00341
00032	00209	00267	00278	00288	00302	00314	00345
00080	00210	00268	00279	00289	00303	00315	00349
00086	00233	00269	00280	00292	00304	00319	
00094	00239	00270	00281	00293	00305	00324	

### MODEL 1158

00004	00027	00151	00389	00487	00508	00556	00580
00005	00029	00175	00427	00488	00512	00557	00581
00006	00030	00176	00429	00489	00520	00559	00582
00007	00031	00183	00466	00490	00527	00560	00583
00011	00033	00200	00467	00491	00531	00561	00584
00012	00035	00248	00468	00492	00538	00562	00586
00014	00037	00282	00471	00493	00547	00563	00588
00015	00051	00287	00472	00500	00548	00570	00589
00018	00072	00306	00478	00501	00549	00573	00590
00019	00109	00324	00484	00502	00552	00576	00591

00592	00620	00642	00668	00686	00702	00714	00734
00593	00622	00644	00670	00687	00703	00719	00735
00595	00624	00649	00671	00690	00704	00722	00736
00596	00628	00659	00672	00693	00705	00723	00738
00597	00632	00662	00674	00694	00706	00724	00739
00599	00638	00663	00677	00695	00707	00727	00742
00606	00639	00664	00682	00697	00708	00729	00743
00607	00640	00667	00685	00699	00711	00733	

## MODEL 1162

00198	00378	00412	00457	00726	00787	00838	00892
00243	00379	00413	00463	00727	00794	00839	00894
00293	00381	00414	00464	00728	00796	00844	00901
00305	00382	00416	00550	00732	00799	00847	00905
00319	00383	00417	00557	00737	00801	00848	00914
00331	00386	00418	00582	00738	00802	00849	00915
00343	00384	00422	00657	00743	00803	00851	00916
00345	00395	00424	00684	00747	00805	00856	00917
00348	00397	00425	00697	00749	00807	00860	00918
00349	00399	00428	00704	00757	00808	00861	00919
00351	00401	00429	00705	00758	00809	00864	00921
00354	00402	00430	00708	00759	00811	00867	00928
00356	00403	00432	00710	00760	00813	00868	00932
00358	00404	00433	00716	00764	00815	00874	00934
00359	00405	00435	00719	00768	00817	00875	00936
00365	00406	00437	00720	00771	00818	00879	00941
00368	00409	00439	00721	00772	00819	00880	00942
00370	00410	00441	00723	00774	00828	00881	00944
00374	00411	00450	00724	00784	00837	00883	

## MODEL 1163

00223	00343	00469	00728	00777			
00329	00468	00485	00771				

## MODEL 1191

00001	00042	00181	00202	00226	00252	00275	00293
00003	00059	00182	00206	00227	00253	00276	00295
00004	00093	00186	00207	00228	00254	00277	00297
00009	00108	00189	00208	00232	00264	00279	00298
00015	00130	00198	00210	00238	00267	00282	00299
00020	00135	00199	00216	00241	00268	00283	00300
00022	00151	00200	00218	00243	00270	00287	00301
00036	00180	00201	00225	00244	00274	00288	00306

00308	00393	00449	00466	00486	00510	00633	00784
00312	00398	00451	00467	00489	00518	00636	00787
00316	00399	00452	00468	00490	00525	00639	00788
00320	00403	00453	00469	00494	00526	00642	00790
00323	00407	00454	00471	00497	00534	00649	00797
00328	00408	00456	00472	00499	00561	00651	00809
00340	00411	00458	00476	00501	00583	00683	00845
00343	00413	00459	00477	00502	00590	00689	00861
00346	00414	00460	00478	00503	00598	00700	00862
00383	00420	00461	00479	00504	00606	00703	00983
00386	00422	00462	00480	00505	00608	00711	
00389	00427	00463	00481	00506	00609	00741	
00391	00438	00464	00482	00507	00612	00742	
00392	00442	00465	00485	00509	00615	00746	

### MODEL 1192

00016	00098	00206	00298	00448	00581	00870	00935
00024	00099	00210	00304	00500	00600	00917	00936
00028	00125	00213	00306	00514	00610	00918	00942
00051	00127	00214	00318	00523	00642	00921	01019
00054	00155	00221	00360	00536	00662	00922	
00059	00190	00248	00396	00537	00691	00923	
00073	00193	00260	00432	00538	00840	00924	
00085	00201	00270	00441	00543	00843	00926	
00090	00203	00281	00444	00547	00849	00931	

### MODEL 1193

00011	00316	00519	00566	00585	00603	00634	00669
00019	00328	00527	00567	00586	00607	00637	00670
00044	00329	00530	00568	00587	00610	00640	00671
00056	00330	00532	00569	00588	00611	00643	00672
00078	00331	00533	00570	00589	00613	00646	00673
00113	00332	00542	00571	00590	00614	00648	00674
00114	00333	00543	00573	00591	00617	00655	00677
00115	00334	00544	00574	00592	00618	00656	00678
00124	00360	00550	00575	00594	00623	00658	00679
00143	00363	00556	00576	00595	00625	00659	00680
00156	00375	00557	00577	00596	00626	00661	00681
00288	00391	00558	00578	00598	00627	00662	00682
00293	00408	00561	00579	00599	00629	00665	00683
00296	00463	00563	00580	00600	00630	00666	00684
00301	00474	00564	00581	00601	00632	00667	00685
00304	00501	00565	00584	00602	00633	00668	00686

00687	00701	00715	00730	00747	00765	00800	00859
00688	00702	00716	00731	00748	00766	00801	00860
00689	00703	00717	00734	00749	00767	00803	00862
00690	00704	00718	00735	00750	00769	00804	00936
00691	00705	00719	00736	00751	00774	00805	00940
00692	00706	00720	00737	00752	00775	00818	00967
00693	00707	00721	00738	00754	00780	00824	00968
00694	00708	00722	00739	00755	00782	00828	
00695	00709	00724	00741	00756	00783	00830	
00696	00710	00725	00742	00758	00786	00835	
00697	00711	00726	00743	00759	00788	00836	
00698	00712	00727	00744	00760	00791	00849	
00699	00713	00728	00745	00763	00793	00850	
00700	00714	00729	00746	00764	00795	00854	

### MODEL 1194

00025	00375	00777	01003	01232	01259	01285	01774
00046	00378	00781	01039	01233	01260	01287	01782
00066	00382	00783	01124	01234	01261	01293	01785
00078	00386	00807	01147	01235	01262	01297	01786
00086	00390	00808	01170	01236	01263	01298	01788
00147	00391	00825	01175	01237	01264	01299	01792
00211	00393	00826	01187	01238	01265	01300	01801
00261	00395	00842	01189	01239	01266	01301	01811
00264	00518	00843	01196	01240	01267	01368	01855
00267	00543	00847	01201	01241	01268	01378	01858
00282	00545	00849	01203	01242	01269	01381	01861
00284	00564	00890	01206	01243	01270	01386	01870
00287	00588	00919	01218	01244	01271	01415	01875
00300	00610	00942	01219	01245	01272	01420	01895
00303	00616	00951	01220	01246	01273	01421	01900
00307	00623	00971	01221	01247	01274	01424	01903
00309	00737	00973	01222	01248	01275	01432	01904
00314	00745	00976	01223	01249	01278	01439	
00316	00746	00977	01224	01250	01279	01440	
00319	00749	00982	01225	01252	01280	01443	
00320	00750	00983	01226	01254	01281	01448	
00322	00753	00988	01229	01255	01282	01463	
00341	00755	00990	01230	01256	01283	01760	
00345	00768	01001	01231	01258	01284	01767	

### MODEL 1195

00040

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. 97014

No. **97-9**

Date: January 20, 1997

**SUBJECT: A) Connector Housing Wires  
B) Engine Starting When Hot  
C) Red Positive Battery Cable Routing**

YEAR	MODEL	MODEL NUMBER	SERIAL NUMBER
1997	Grand Touring* SE	Canada 1129	From 00001 to 01428
1997	Grand Touring SE	United States 1130	From 00001 to 00455
1997	Grand Touring SE	Sweden 1131	From 00001 to 00205

## A) CONNECTOR HOUSING WIRES

### A) PROBLEM

Connector housing wires may be damaged by support plate.

### A) SOLUTION

Modify connector housing wires routing and install a protective molding onto support plate. Secure with locking ties.

### A) B) PARTS REQUIRED

Parts for subjects A and B are included in one kit (P/N 590 1756 00). This kit will be autoshipped to all dealers.

ITEM	DESCRIPTION	QTY
1	Locking tie	3
2	Windshield Molding	135 mm
3	Resistance (200 Ohms and 1/2 Watt)	1
4	Heat Shrink	1
5	Locking tie	1

## A) PROCEDURE

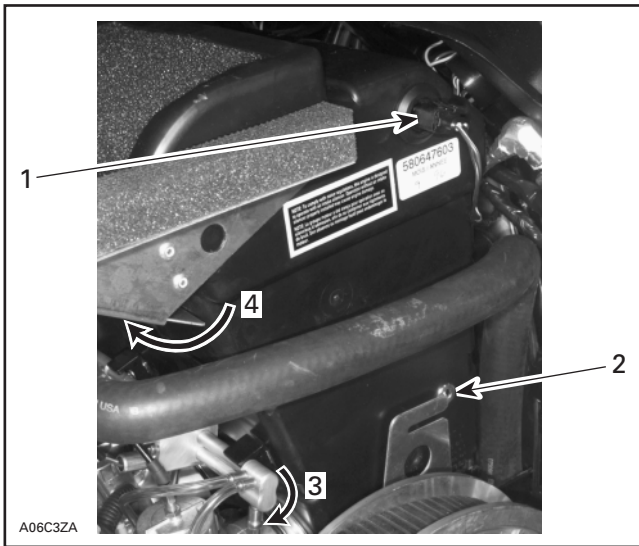
### Air Intake Silencers Removal (applicable for A and B)

Unplug air temperature sensor connector from air intake silencer.

Remove screw from left side air intake silencer.

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

Twist DPM manifold and detach from air intake silencer.

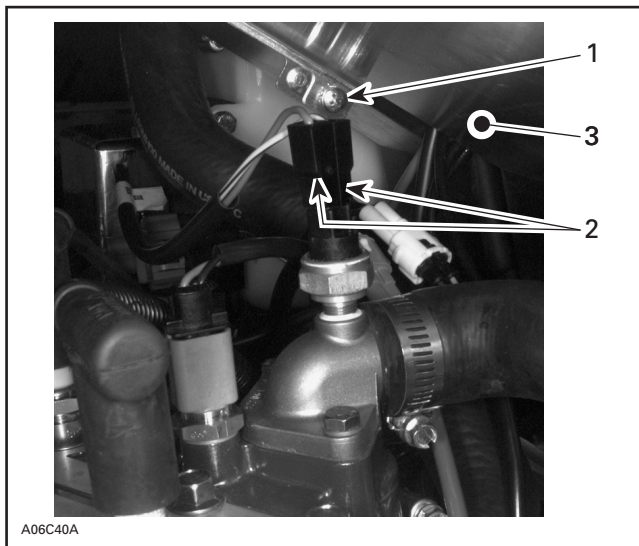


1. Unplug air temperature sensor
2. Remove left side screw
3. Twist DPM manifold and detach
4. Screw to be removed under heat shield deflector of air intake silencer

Remove left side air intake silencer.

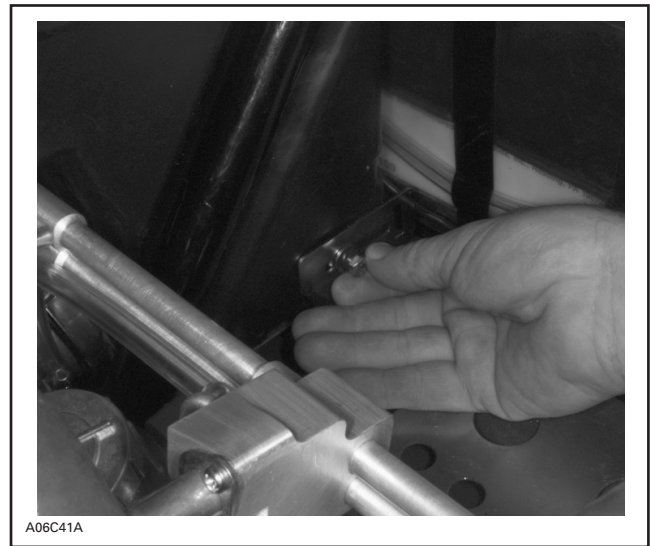
### ▼ CAUTION

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



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

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



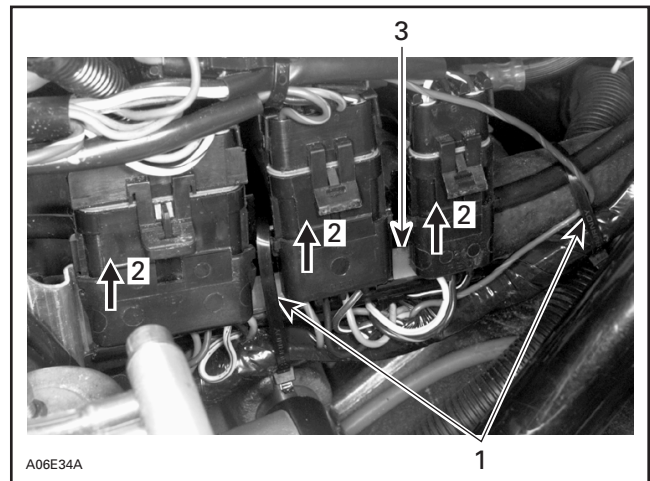
### REMOVE SCREW

Remove right side air intake silencer.

### Protective Molding Installation and Wires Positioning

Cut the two existing locking ties retaining main wiring harness to support plate.

Gently lift up three connector housings to detach them from support plate.



1. Cut existing locking ties
2. Gently detach connector housing from support plate
3. Support plate

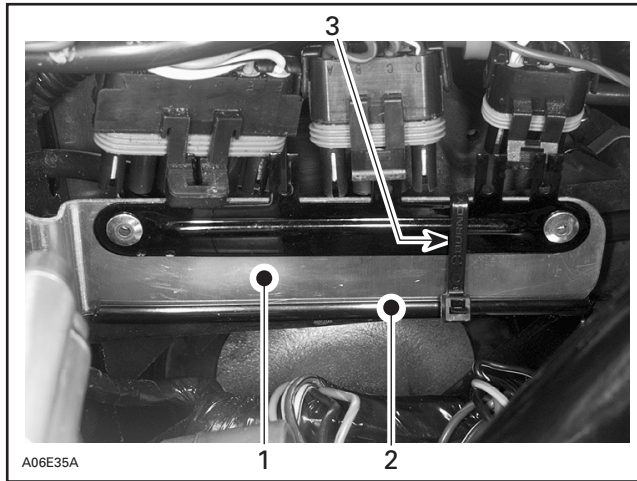
Insert protective molding on the support plate end.

### ◆ WARNING

Use extreme caution when installing protective molding. Support plate sharp edges may cause injuries.

Secure protective molding with one locking tie, as shown on the next photo.

**NOTE:** At this point, use only one locking tie to secure protective molding. Keep the two remaining locking ties for final assembly.

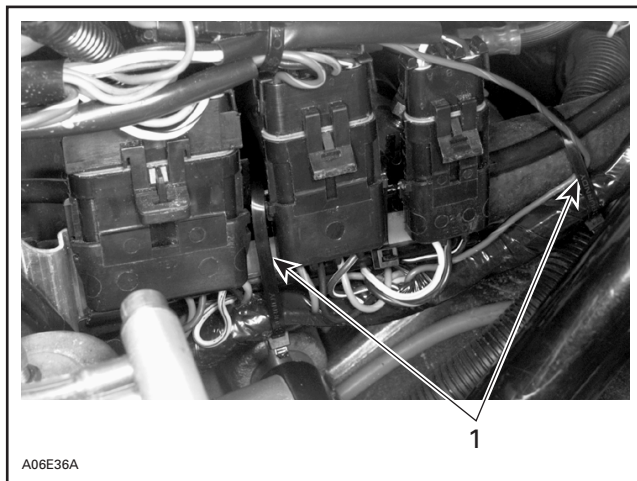


1. Support plate
2. Protective molding
3. Secure with one locking tie

Reinstall connector housings on support plate.

Rotate main wiring harness counter clockwise (CCW) so that all connector housing wires are facing carburetor's side.

Secure assembly with two locking ties, as shown on the next photo.



**FINAL ASSEMBLY**

1. Secure with locking ties

Do not reinstall air intake silencers at this point.

**B) ENGINE STARTING WHEN HOT**

**B) PROBLEM**

Engine is difficult to start when coolant is hot.

**B) SOLUTION**

Install a 200 ohms (1/2 Watt) resistance onto black wire of DPM temperature sensor connector.

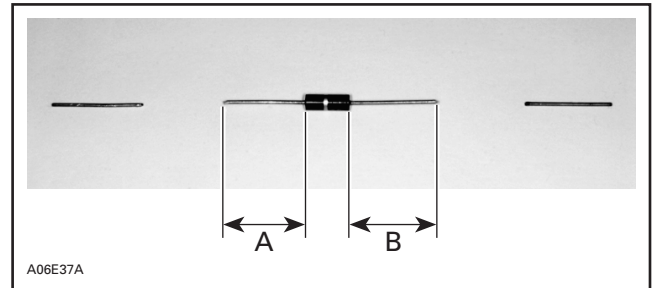
**B) PARTS REQUIRED**

Item 3, 4 and 5 from kit (P/N 590 1756 00) described on the first page of this bulletin

**B) PROCEDURE**

**Resistance Preparation**

Cut both resistance ends, as shown on the next photo.

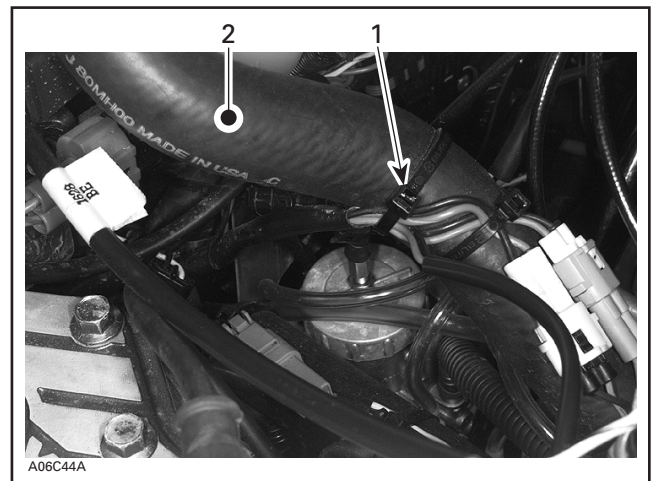


- A. 2 cm (3/4 in.)
- B. 2 cm (3/4 in.)

**Resistance Installation**

With the air intake silencers removed (refer to subject A).

Cut existing locking tie retaining DPM temperature sensor wires located on upper coolant hose.



1. Cut locking tie
2. Upper coolant hose

Using a cutter, remove 1 inch from main wire harness protector.

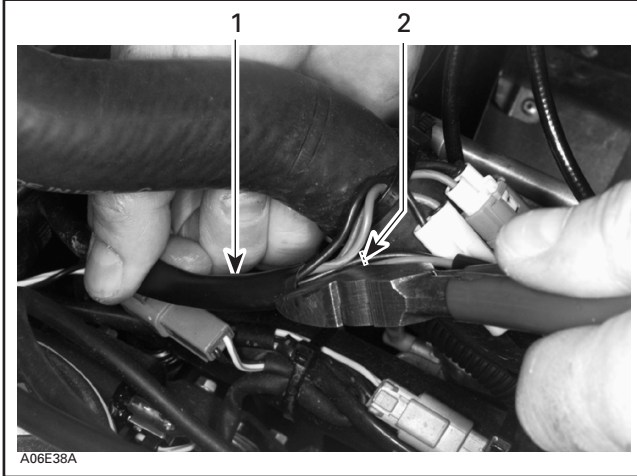
Cut 3 cm (1-3/16 in.) on the black wire of the DPM temperature sensor at locking tie location.



Refer to the following photo.

**▼ CAUTION**

To avoid wires damage, use only cutters to cut main wire harness protector. Do not use knife or sharp tool.

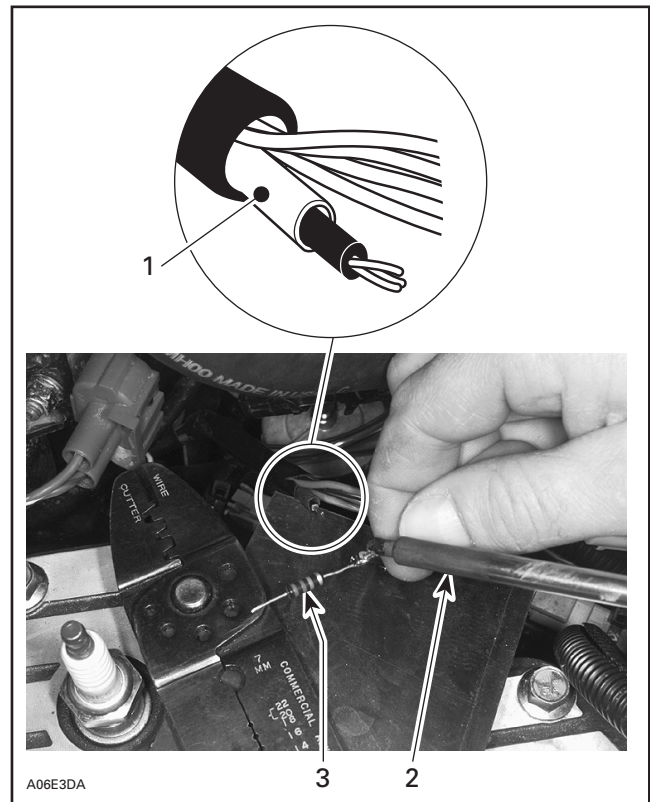


1. Remove 1 inch from protector
2. Cut black wire of the DPM temperature sensor

Strip both wire ends, then insert heat shrink on black wire. Slide heat shrink into main wire harness protector.

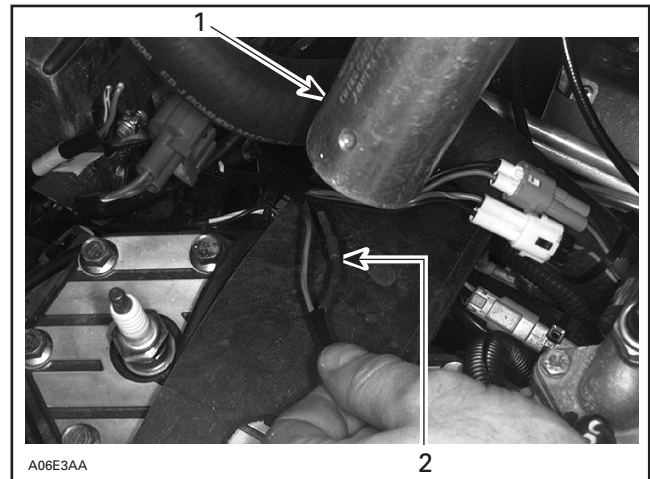
Using a soldering gun with soldering wire, solder resistance to both black wire ends, as shown on the next photo.

**NOTE:** To ensure correct contact between black wire and resistance, test continuity with a multimeter (P/N 529 0220 00).




1. Heat shrink temporarily installed on black wire into main wire harness protector
2. Soldering gun
3. Resistance

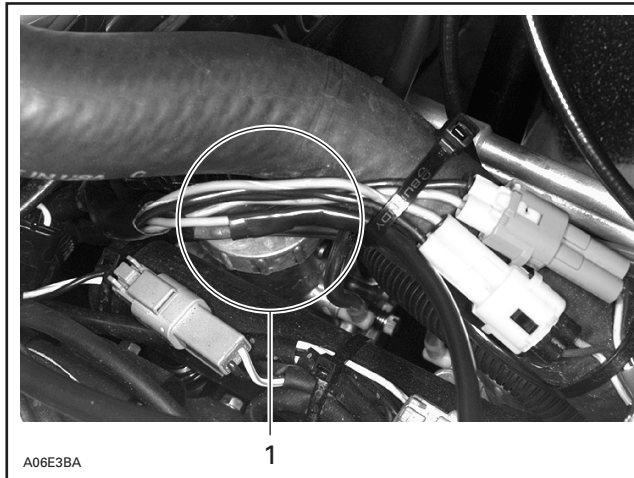
Slide heat shrink on resistance, and using an air blower (1500 w), apply heat onto heat shrink until it is properly fitted. Refer to the next photo.



1. Air blower
2. Heat shrink properly fitted

Slide protector of the two DPM temperature sensor wires onto heat shrink, then secure with locking tie.

 <b>CAUTION</b>
<p>Lightly tighten and ensure that locking tie is positioned on DPM temperature sensor wire side. Do not install locking tie onto soldered joint. Refer to the next photo.</p>



**FINAL ASSEMBLY**  
1. Resistance location

Reinstall both air intake silencers.

## A) B) WARRANTY

Complete a warranty claim form using the following information.

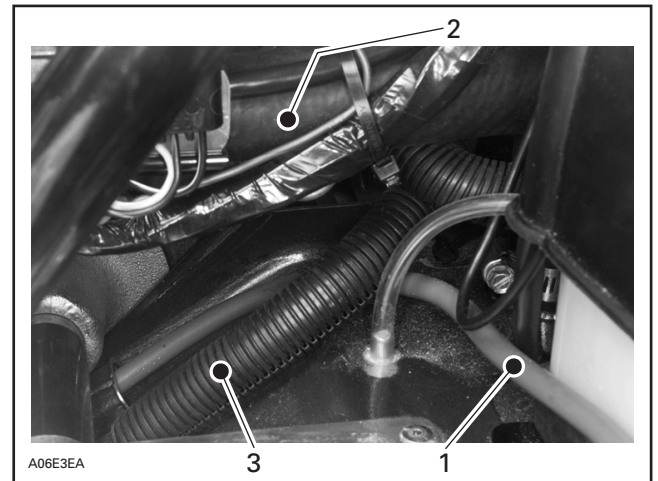
Campaign Number	97014
Claim Type	07
Expiry Date	January 31, 1999
Flat Rate Time	0,4 Hour

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

## C) RED POSITIVE BATTERY CABLE ROUTING

As specified in the *Predelivery Bulletin 97-11*, in section PARTS INSTALLATION (BATTERY) page 9. Red positive battery cable **must** be routed under fuel hose, as shown.

The following photo shows final routing of the red positive battery cable.



**FINAL ROUTING OF RED POSITIVE BATTERY CABLE**  
1. Red positive battery cable  
2. Coolant hose  
3. Fuel hose

Please route to:

Init.

Service

Sales

Parts



Campaign no. 97015

No. **97-10**

Date: January 17, 1997

**SUBJECT: Fuel Consumption**

YEAR	MODEL	MODEL NUMBER	SERIAL NUMBER
1997	Formula* 583	Canada: 1141 United States: 1142	From 00001 to 00641 From 00001 to 00561
1997	Grand Touring* 583	Canada: 1126 United States: 1127 Sweden: 1128	From 00001 to 01777 From 00001 to 00973 From 00001 to 00375

## PROBLEM

Excessive fuel consumption on the above mentioned models.

## SOLUTION

Modify the position of the needle in the throttle slide by moving E-clip from position 4 to position 2, then adjust both air screws (2-1/2 turn).

## PROCEDURE

### Needle Adjustment

Remove air intake silencer(s).

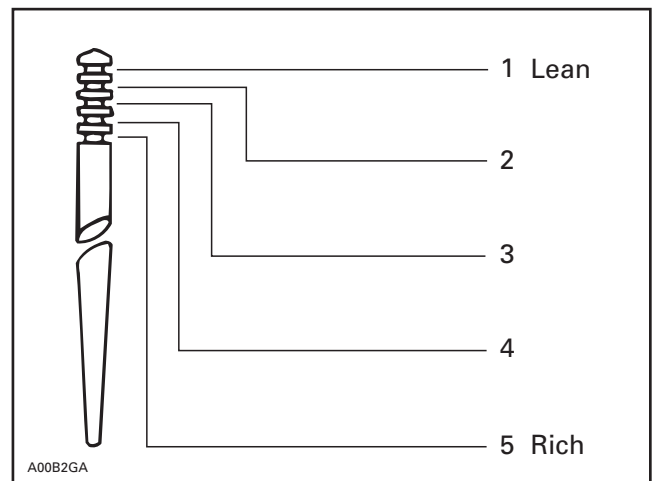
Unscrew carburetor cover then pull out throttle slide from both carburetors.

<b>◆ WARNING</b>
Exercise care when handling throttle slide. Scratches incurred may cause throttle slide to stick open in operation.

Disconnect throttle cable from throttle slide.

Remove screws from needle retaining plate to withdraw the needle.

Move E-clip from position 4 to position 2.



*MOVE E-CLIP TO POSITION 2*

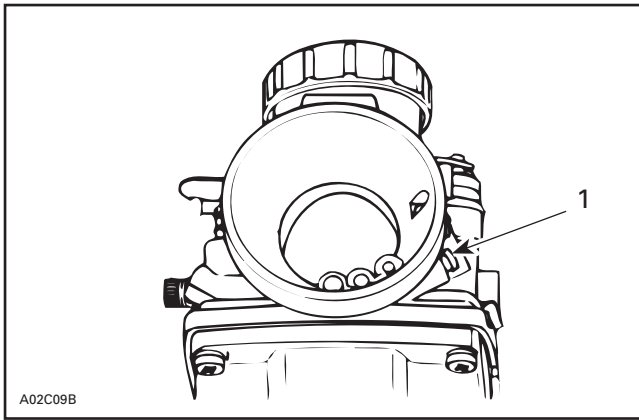
Reinstall needle into throttle slide.

Reconnect throttle cable then introduce throttle slide in carburetors.

Install carburetor covers.

### Air Screw Adjustment

Completely close air screw on both carburetors (until a slight seating resistance is felt) then back off 2-1/2 turns.



1. Adjust air screw

**NOTE:** Loosen rubber flange clamps and rotate carburetors to ease air screw adjustment.

Reinstall air intake silencer(s).

## WARRANTY

Complete a warranty claim form using the following information.

Campaign Number	97015
Claim Type	07
Expiry Date	January 31, 1999
Flat Rate Time	0.3 Hour

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

Please route to:

Init.

Service

Sales

Parts



Campaign no. 97016

No. **97-11**

Date: February 9, 1997

**SUBJECT: Carburetion Modification**

YEAR	MODEL	MODEL NUMBER	SERIAL NUMBER
1997	FORMULA 500 (Canada)	1138	00001 to 01274
1997	FORMULA 500 (U.S.)	1139	00001 to 03368
1997	FORMULA 500 (Europe)	1140	00001 to 00289
1997	FORMULA 500 DELUXE (Canada)	1191	00001 to 01020
1997	FORMULA 500 DELUXE (U.S.)	1192	00001 to 02054

## PROBLEM

At 30% opening throttle, carburetion is too lean for the above mentioned vehicles.

## SOLUTION

Move E-ring from position 3 to position 4 on needle for both carburetors. Proceed as follows:

## PROCEDURE

Open hood.

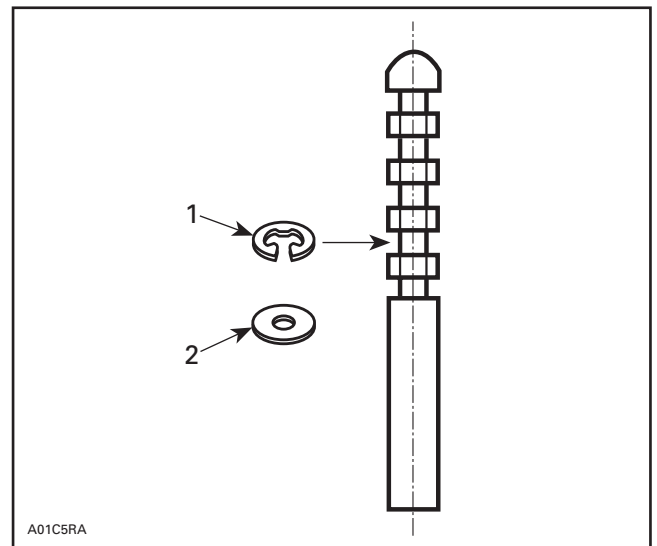
Unscrew carburetor cover then pull out throttle slide. Compress spring toward cover and hold it.

Remove locking device and free cable from throttle slide.

Unscrew needle retaining plate.

Remove needle. Take care not to lose plastic washer underneath E-ring.

Move E-ring from position 3 to position 4.



1. Install E-ring in slot no. 4 (counting from top)
2. Plastic washer must be underneath E-ring when reinstalling needle

Reinstall all parts.

Proceed the same with the other carburetor.

**IMPORTANT:** Make sure that engine does not rev over 7750 RPM. Adjust TRA pulley calibration screws accordingly. Refer to page 04-03-9 in 1997 Shop Manual Volume 2.

## WARRANTY

Complete a warranty claim using the following information:

Campaign number	97016
Claim type	07
Expiration date	February 28, 1998
Flat rate time	0.4 hour

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

Please update TECHNICAL DATA section of *1997 Shop Manual Volume 2* and the *1995 to 1997 Specification Booklet*.

Please route to:

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



No. **97-12**

Date: February 17, 1997

**SUBJECT: Warranty Bulletin Update  
No. 97-8**

The original Warranty Bulletin Update, No. 97-1 dated from October 30, 1996 is superseded by bulletin No. 97-8, dated January 20, 1997.

Please discard Warranty Bulletin, No. 97-1.

**NOTE:** Please indicate on bulletin 97-8 that it supersedes 97-1.

Please route to:

Init.

Service

Sales

Parts



Campaign no. 97017

No. **97-13**

Date: March 7, 1997

**SUBJECT: Fuel Consumption**

YEAR	MODEL	MODEL NUMBER	SERIAL NUMBER
1997	SUMMIT* 583	Canada: 1159	From 00001 to 00637
1997	SUMMIT* 583	United States: 1160	From 00001 to 00765
1997	SUMMIT* 583	Sweden: 1161	From 00001 to 00065

**PROBLEM**

Excessive fuel consumption on the above mentioned models.

**SOLUTION**

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

Adjust air screws to (3-1/2 turn) on both carburetors.

Adjust throttle slide height to 2.0 mm (.078 in) instead of 2.3 mm (.090 in).

**PROCEDURE**

Refer to *1997 Ski-doo Shop Manual, Volume 2*, (P/N 484 0647 01) section 03, ENGINE, sub-section 11 (CARBURETOR AND FUEL PUMP) for complete adjustment procedure.

**Needle Adjustment**

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

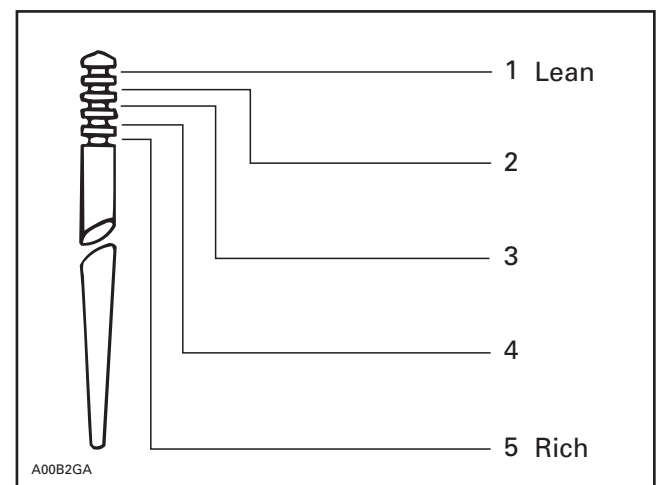
Remove air silencer assembly.

Unscrew carburetor cover then pull out throttle slide from both carburetors.

**◆ WARNING**

Exercise care when handling throttle slide. Scratches incurred may cause throttle slide to stick open in operation.

Disconnect throttle cable from throttle slide.  
 Remove screws from needle retaining plate to withdraw the needle.  
 Move E-clip from position 4 to position 3.



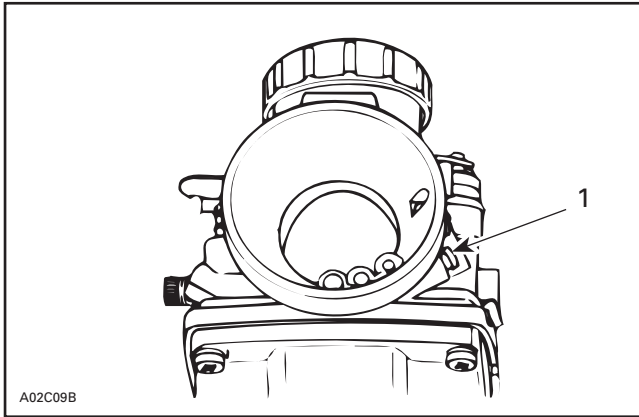
**MOVE E-CLIP TO POSITION 3**

Reinstall needle into throttle slide.  
 Reinstall throttle cable then introduce throttle slide in carburetors.  
 Install carburetor covers.



## Air Screw Adjustment

Completely close air screw on both carburetors (until a slight seating resistance is felt) then back off 3-1/2 turns.

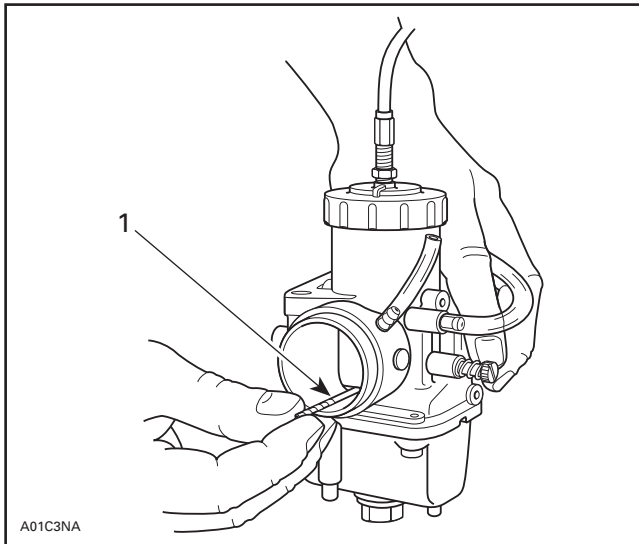


1. Adjust air screw

**NOTE:** Loosen rubber flange clamps and rotate carburetors to ease air screw adjustment.

## Throttle Slide Height

Adjust throttle slide height to 2.0 mm (.078 in) by turning idle speed screw.



### TYPICAL

1. Drill bit used as gauge for throttle slide height

Reinstall air silencer assembly.

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

Check for kinked or loose hoses.

Please update the *1997 Ski-doo Shop Manual, Volume 2*, (P/N 484 0647 01) section 03 and section 09, with this bulletin.

## WARRANTY

Complete a warranty claim form using the following information.

Campaign Number	97017
Claim Type	07
Expiry Date	February 28, 1999
Flat Rate Time	0.3 Hour

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.  
 Inspection 97019  
 Replacement 97018

No. **97-14**

Date: April 30, 1997

**SUBJECT: A) Fan Belt Pulleys  
 B) Deep Powder Snow Utilization  
 C) Verification List**

YEAR	MODEL	MODEL NUMBER	SERIAL NUMBER
1997	TOURING SLE (Canada)	1110	From 00001 to 01664
1997	TOURING SLE (United States)	1111	From 00001 to 00975

## A) FAN BELT PULLEYS

### A) PROBLEM

Some fan belt pulleys may develop rust on inner surfaces and cause early fan belt wear or failure.

### A) SOLUTION

#### Inspection

After removing fan protector, inspect bottom pulley on fan belt contact surface for rust formation. Rotate engine by hand to inspect the entire surface of the pulleys.

#### Replacement (if pulleys are rusted)

Replace original pulleys (bottom and upper pulleys) with new ones. The new pulleys are YIC (Yellow Iridescent Chromate). Finalize installation with a new fan belt.

## A) KIT REQUIRED

FAN BELT PULLEYS KIT (P/N 590 1218 00)	
V-BELT PULLEY	1
PULLEY HALF	1
PROTECTION WASHER	1
FAN BELT	1
LOCKING TIE	1

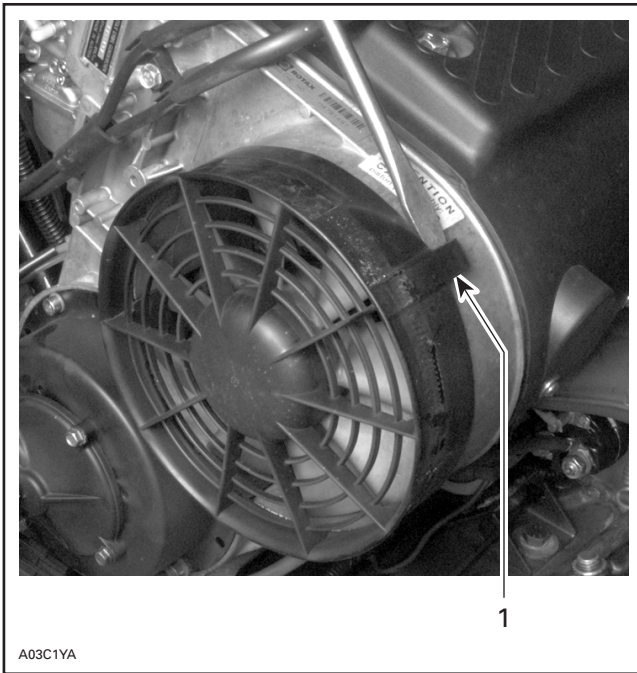
## A) PROCEDURE

### Disassembly

Remove muffler.

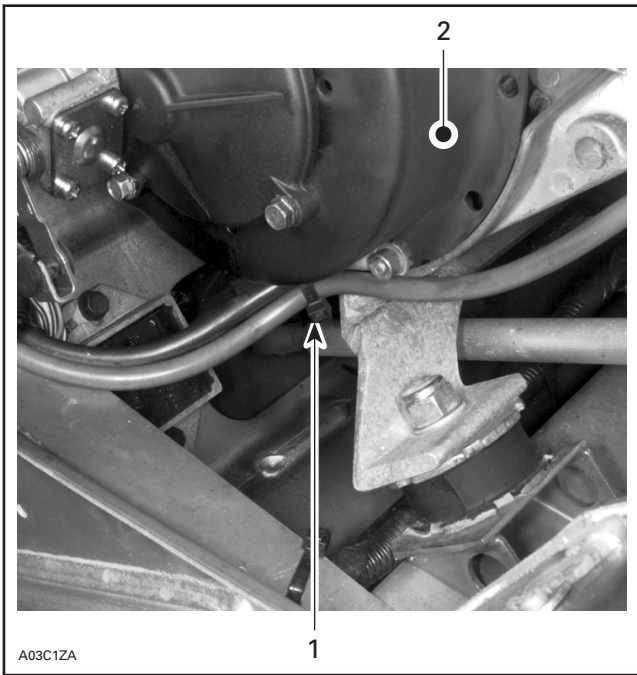
Remove air deflector.

Using a flat screwdriver, lift fan protector tabs as shown in the following photo, then remove fan protector.



1. Lift tab and remove fan protector

Cut locking tie located under rewind starter, as shown in the following photo.



1. Cut this locking tie  
2. Rewind starter

Remove rewind starter.

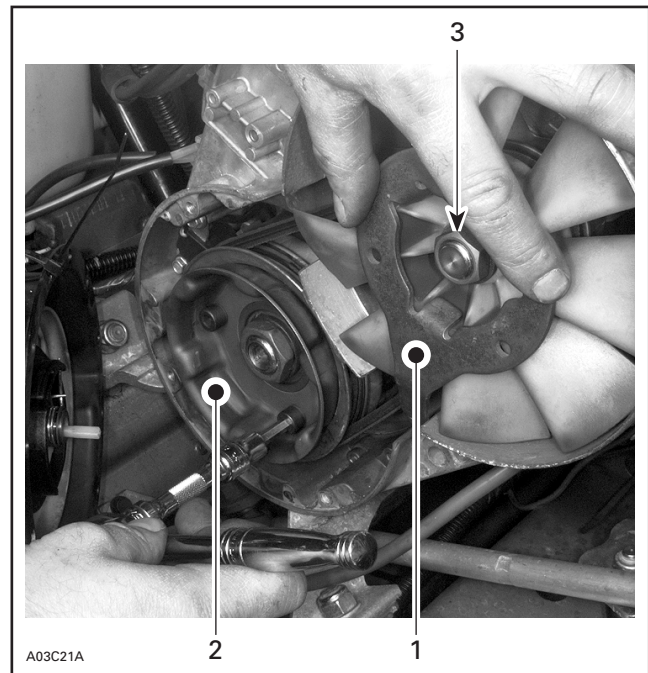
**NOTE:** Temporarily attach rewind starter to disk brake to ease pulley replacement. Refer to the following photo.



**REWIND STARTER TEMPORARILY ATTACHED TO DISK BRAKE WITH LOCKING TIE**

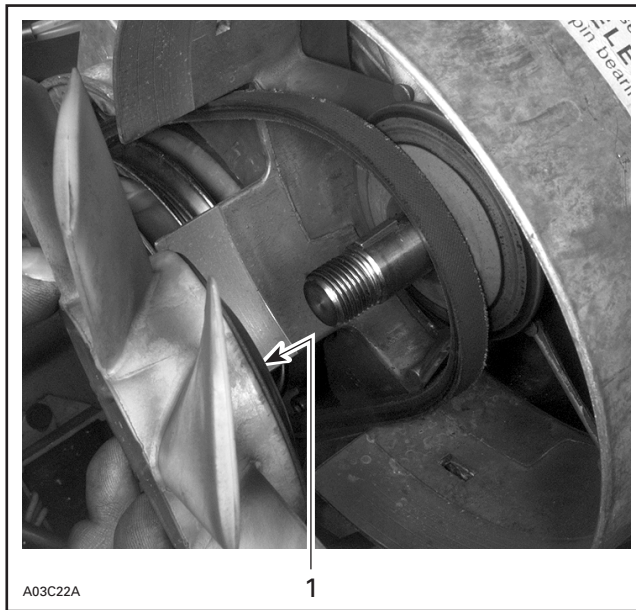
Using fan holder tool (P/N 420 8763 57), unscrew starting pulley screws and remove pulley.

With fan holder tool still in place, remove fan nut. Refer to the following photo.



1. Fan holder tool  
2. Remove starting pulley  
3. Remove fan nut

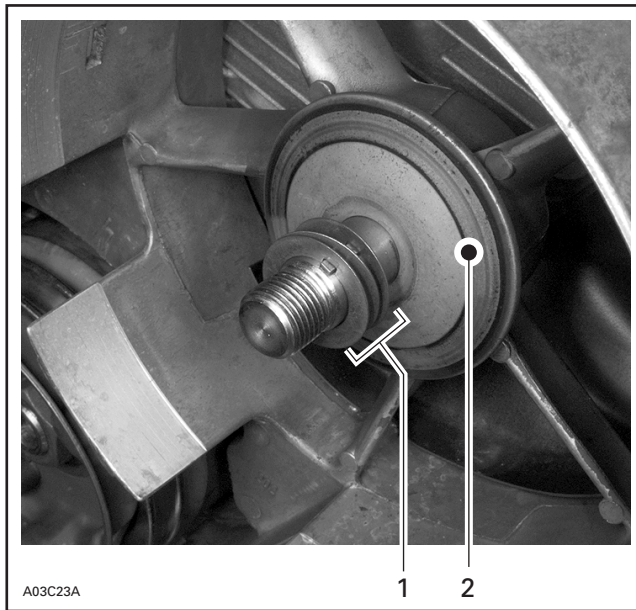
Remove fan as shown in the following photo, then detach pulley half from fan.



1. Detach pulley half from fan

Remove fan belt.

Remove shims and second half pulley. Keep shims for assembly. Refer to the following photo.



1. Remove shims  
2. Remove second half pulley

## Reassembly

Remove existing rusted bottom pulley and replace with new one.

Reinstall starting pulley. Apply Loctite 242 (blue) and torque screws to 22 N•m (195 lbf•in).

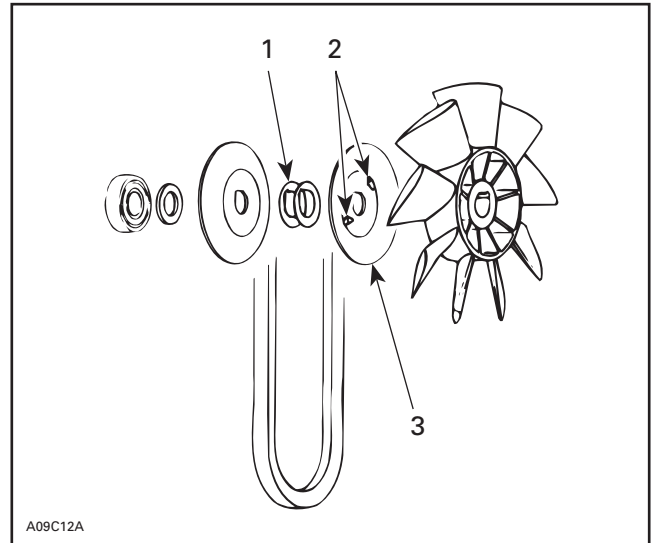
Install pulley half on fan axle.

Reinstall original shims.

Install new fan belt.

Install pulley half (protection washer) so that the 2 positioning tabs are on fan side.

Ensure to insert these tabs into fan notches. Refer to the following illustration.



1. Adjust here  
2. Positioning tabs  
3. Pulley half used as a protection washer

Reinstall fan assembly on fan axle. Temporarily tighten fan nut.

## ▼ CAUTION

When reinstalling fan assembly, ensure that key is properly positioned into fan axle keyway.

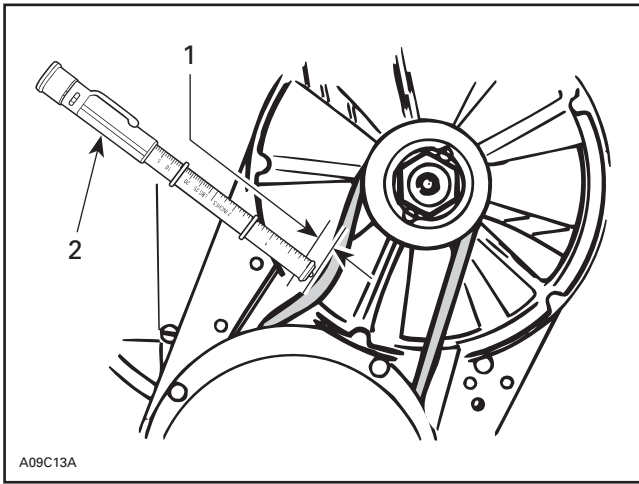
## FAN BELT TENSION ADJUSTMENT

To adjust fan belt tension, add or remove shim(s), as shown with no. 2 in the previous illustration.

Discard excess shim(s).

To adjust tension, fan belt deflection must be as specified when applying the proper force midway between pulleys.

Adjust fan belt deflection with tension tester (P/N 414 3482 00) as per following illustration.



A09C13A

**TYPICAL**

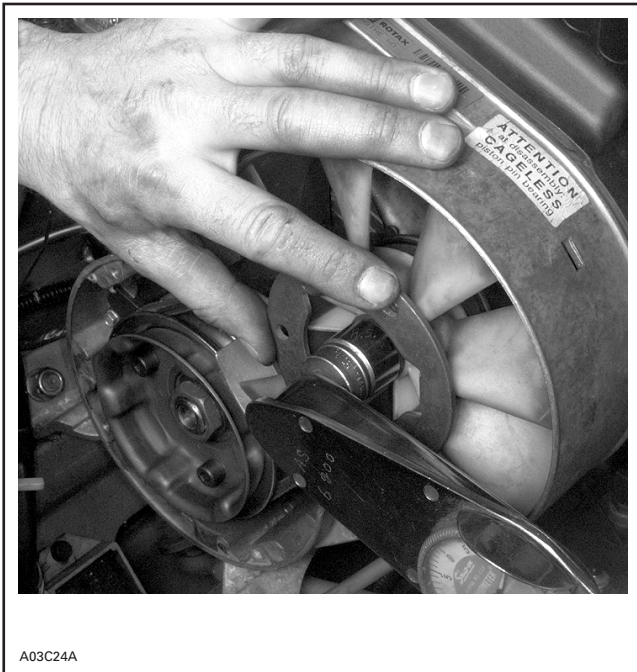
1. Adjust deflection here
2. Tension tester (P/N 414 3482 00)

Adjust fan belt deflection according to the following specifications:

Belt Deflection (lower O-ring)	Force Applied (upper O-ring)
9.5 mm (3/8 in)	5 kg (11 lb)

Once fan belt is properly adjusted, torque fan nut to 48 N•m (35 lbf•ft) using fan holder tool (P/N 420 8763 57), as shown in the following photo.

**NOTE:** Apply Loctite 242 (blue) on fan nut threads.



A03C24A

**TORQUE FAN NUT USING FAN HOLDER TOOL**

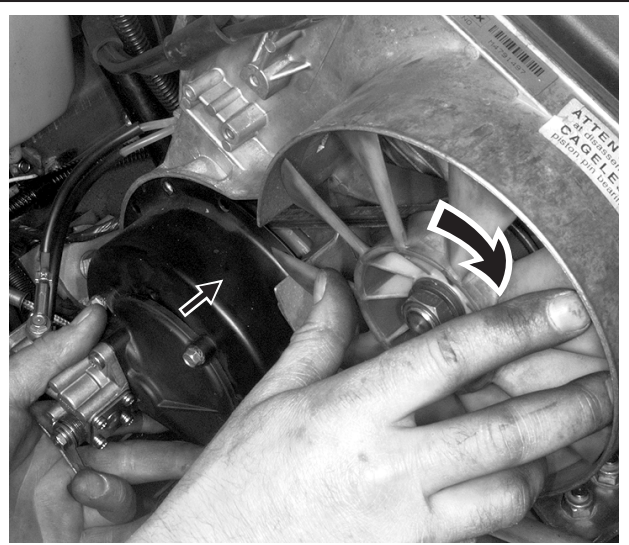
## Finalizing Reassembly

Detach rewind starter from disc brake.

Reinstall rewind starter.

### ▼ CAUTION

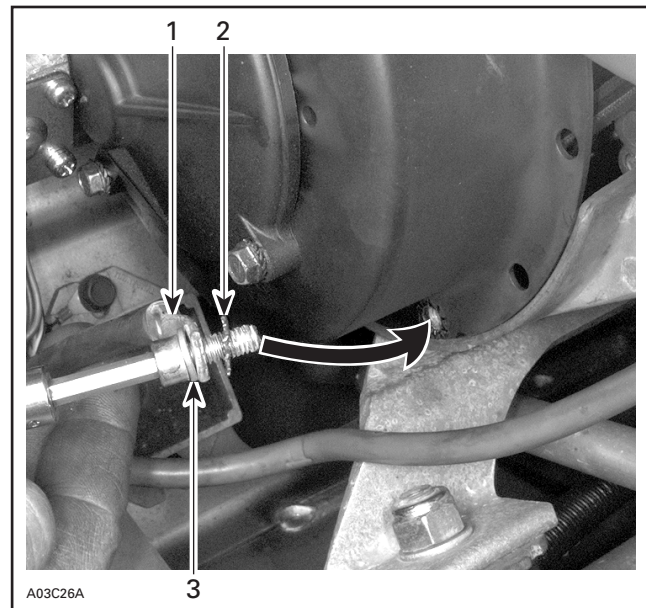
When installing rewind starter, ensure that oil pump shaft is properly positioned. Do not force shaft insertion. Turn fan until oil pump shaft slides in place, as shown in the following photo.



A03C25A

**TURN FAN TO SLIDE OIL PUMP SHAFT IN PLACE**

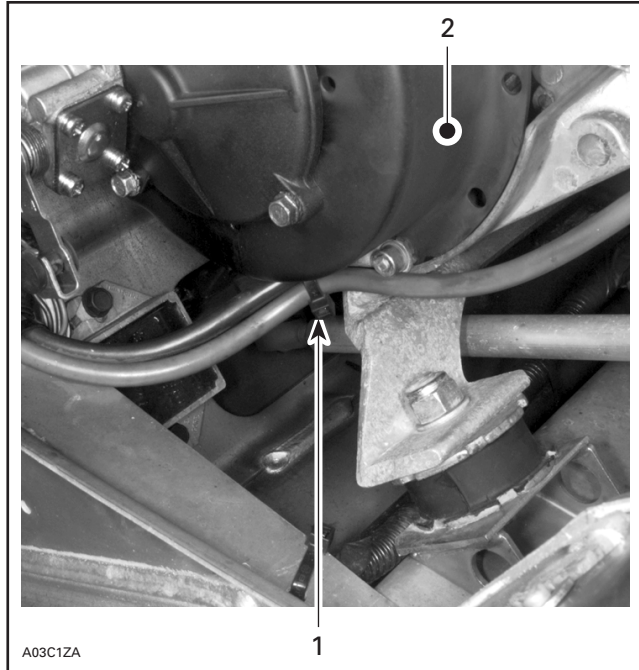
Secure rewind starter with original screws and ensure that ground cable is properly installed, as shown in the following photo.



A03C26A

1. Ground cable
2. Star washer
3. Washer

Secure cables with a locking tie, as shown in the next photo.



1. Secure cables with a locking tie
2. Rewind starter

Reinstall fan protector.

Reinstall air deflector.

**NOTE:** Ensure that air deflector recess match fan protector tab.

Reinstall muffler.

## A) WARRANTY

Please return parts and complete a warranty claim form using the following information.

PULLEYS INSPECTION	
Campaign Number	97019
Claim Type	07
Expiration Date	April 30, 1999
Flat Rate Time	0.3 hour

PULLEYS INSPECTION AND REPLACEMENT	
Campaign Number	97018
Claim Type	07
Expiration Date	April 30, 1999
Flat Rate Time	0.4 hour

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

## B) DEEP POWDER SNOW UTILIZATION

### B) PROBLEM

When using above mentioned snowmobiles in deep powder snow, snow may enter the air intake system through a gap between air intake foam and hood.

### B) SOLUTION

Replace existing air intake foam with a new higher one.

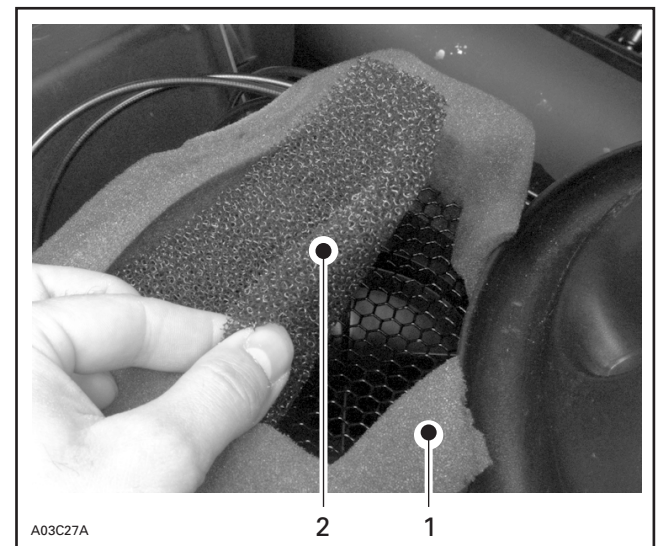
### B) PART REQUIRED

DESCRIPTION	P/N	QTY
Air Intake Foam	415 1060 00	1

### B) PROCEDURE

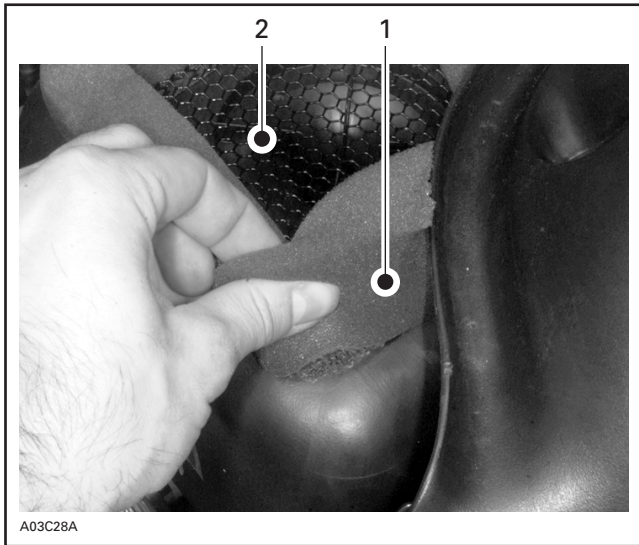
Lift hood.

Remove air intake filter, as shown in the following photo. Keep it.



1. Air intake foam
2. Air intake filter

Pull apart existing air intake foam, as shown in the next photo. Keep air intake filter retainer.



1. Air intake foam
2. Air intake filter retainer

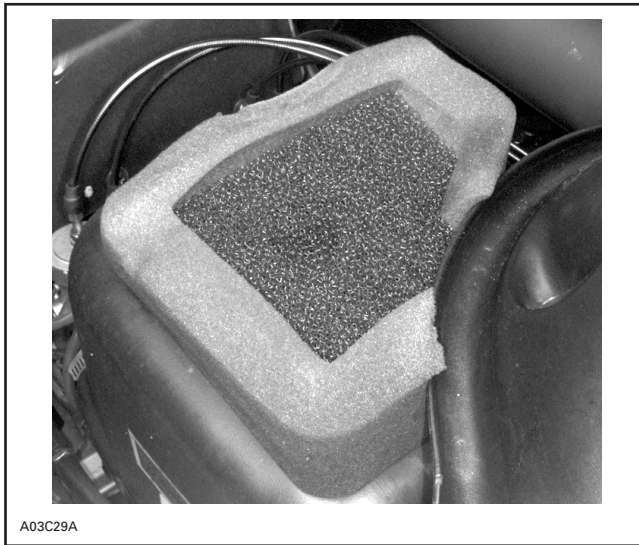
Using Bombardier cleaner (P/N 293 110 001 — 400g), clean the surface and dry thoroughly.

Remove backing from new foam.

Position original air intake filter retainer on air box.

Position new foam and apply pressure to allow good adherence.

Reinstall original air intake filter.



**FINAL ASSEMBLY**

## B) WARRANTY

Normal warranty applies. Complete a warranty claim.

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

## C) VERIFICATION LIST

If engine has been previously repaired for piston failure, the following items should be checked before releasing unit:

1. Check fan belt for proper tension.
2. Clean carburetor float bowl.
3. Check for water in fuel tank or carburetor float bowl.
4. Check for any kink or hose pinch on fuel routing lines.
5. Check ignition timing.
6. Ensure that air intake is in place.
7. Ensure that air intake is properly installed on carburetor.
8. Install new higher air intake foam (P/N 415 1060 00) in the case that snowmobile is being used in deep powder snow. Refer to section B of this bulletin.

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"/>



No. **97-15**

Date: May 29, 1997

**SUBJECT: Premature Wear of Slider Shoes**

YEAR	MODEL	MODEL NUMBER	SERIAL NUMBER
1997	MX Z* 583	1174/1175/1176	ALL
1997	MX Z* 670	1193/1194/1195	ALL
1997	MACH* 1	1177/1178/1179	ALL
1997	MACH* Z	1180/1181/1182	ALL
1997	FORMULA* III	1148/1149/1150	ALL
1997	FORMULA* Z	1145/1146	ALL
1997	GRAND TOURING* SE	1129/1130/1131	ALL

**PROBLEM**

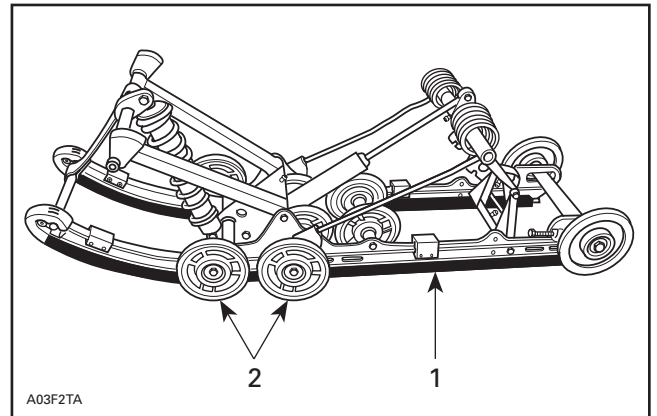
On some units premature slider wear may occur. Factors may include marginal or icy snow conditions and high speed use without adequate lubrication to sliders.

Please ensure that proper suspension adjustments and riding conditions have been noted before determining the need to install this kit.

**SOLUTION**

Inspect rear suspension first, as described in the section INSPECTION of this bulletin.

Replace both slider shoes and 4 front idler wheels, if needed.



**TYPICAL**  
 1. Slider shoes (both sides)  
 2. Front idler wheels (both sides)



## PART REQUIRED

Order new parts according to the following table.

DESCRIPTION	P/N	QTY
New Slider Shoe	560 1032 00	2
Elastic Nut	228 5610 45	2
New Idler Wheel (139 mm)	Refer to Section <b>Front Idler Wheels Replacement</b>	4

## INSPECTION

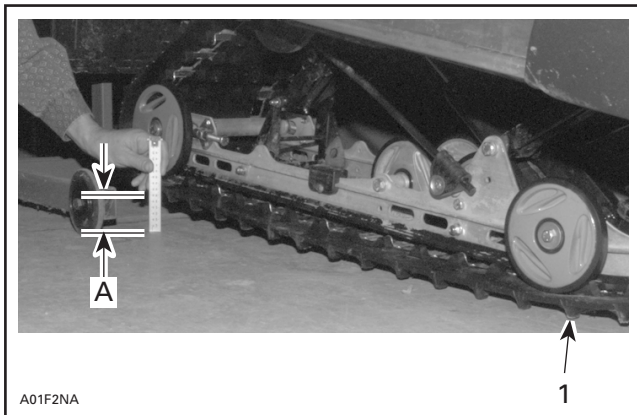
The 2 following steps must have been performed before installing new parts:

### 1. STOPPER STRAP ADJUSTMENT

Lift rear of snowmobile so that track does not touch ground.

Lower snowmobile so that front section of track leans on ground.

Measure the distance between the track and ground at rear. If measure is greater than 5 cm (2 in), shorten stopper strap accordingly.



#### TYPICAL

1. Contact surface
- A. 5 cm (2 in) from ground

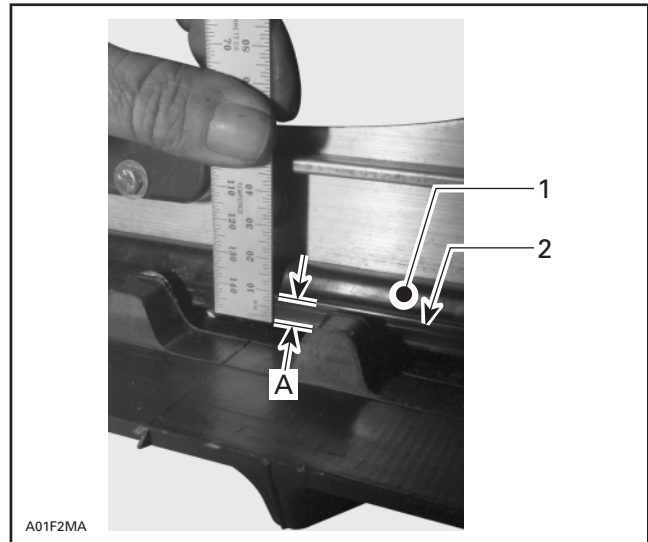
### 2. SLIDER SHOE WEAR LIMIT

The following is the procedure to properly measure wear limit on snowmobile slider shoes as well as additional related information.

## How to Measure

Measure slider shoes from the bottom to the 0.5 mm radius as shown on the next photo.

Minimum thickness is 2 mm (5/64 in).



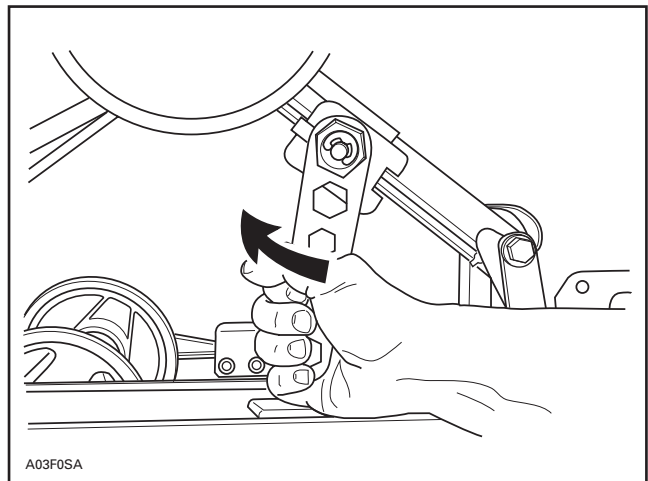
1. Slider shoe
2. Molding line (this line is not the wear limit)
- A. Wear limit measurement (must be at least 2 mm)

Replace slider shoes when wear limit is reach.

## PROCEDURE

### Suspension Removal

Decrease spring preload by turning LH cam clockwise and RH cam counterclockwise.



LH SIDE SHOWN

## PART REQUIRED

Order new parts according to the following table.

DESCRIPTION	P/N	QTY
New Slider Shoe	560 1032 00	2
Elastic Nut	228 5610 45	2
New Idler Wheel (139 mm)	Refer to Section <b>Front Idler Wheels Replacement</b>	4

## INSPECTION

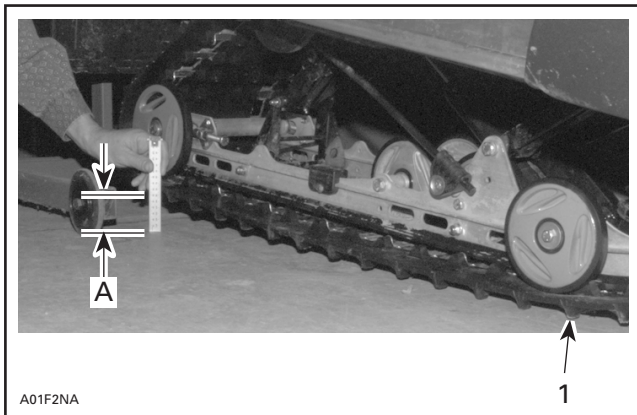
The 2 following steps must have been performed before installing new parts:

### 1. STOPPER STRAP ADJUSTMENT

Lift rear of snowmobile so that track does not touch ground.

Lower snowmobile so that front section of track leans on ground.

Measure the distance between the track and ground at rear. If measure is greater than 5 cm (2 in), shorten stopper strap accordingly.



#### TYPICAL

1. Contact surface
- A. 5 cm (2 in) from ground

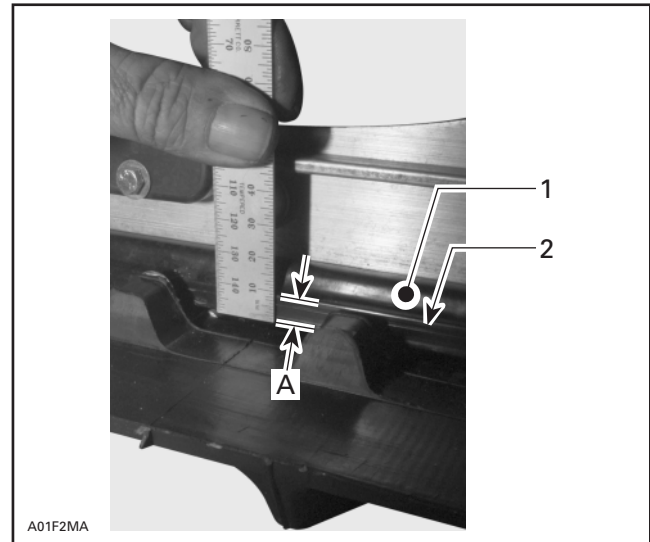
### 2. SLIDER SHOE WEAR LIMIT

The following is the procedure to properly measure wear limit on snowmobile slider shoes as well as additional related information.

## How to Measure

Measure slider shoes from the bottom to the 0.5 mm radius as shown on the next photo.

Minimum thickness is 2 mm (5/64 in).



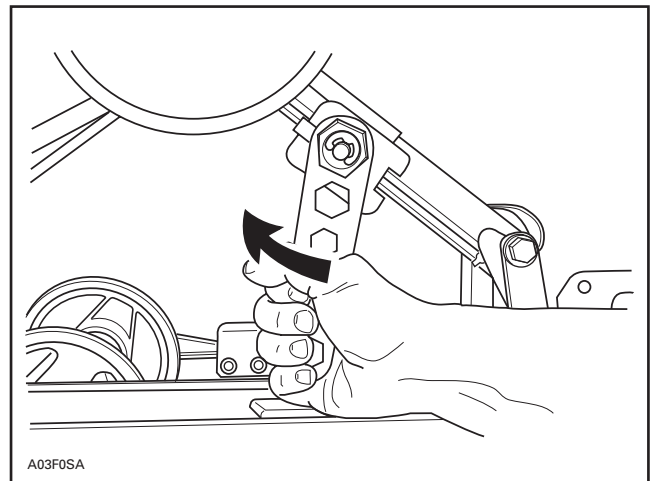
1. Slider shoe
2. Molding line (this line is not the wear limit)
- A. Wear limit measurement (must be at least 2 mm)

Replace slider shoes when wear limit is reach.

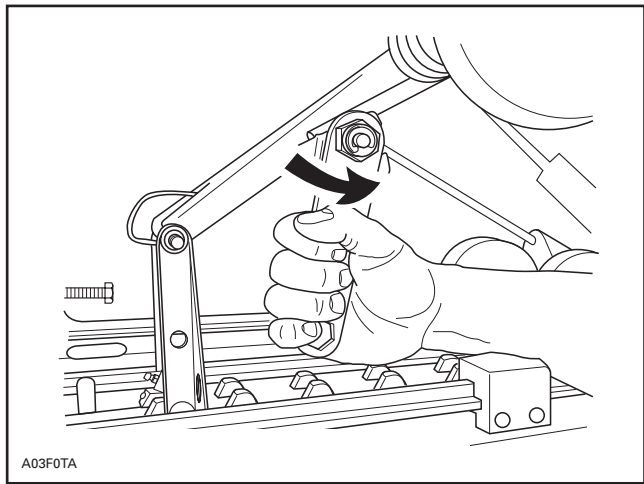
## PROCEDURE

### Suspension Removal

Decrease spring preload by turning LH cam clockwise and RH cam counterclockwise.



LH SIDE SHOWN



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**RH SIDE SHOWN**

Lift rear of vehicle and support it off the ground.  
Loosen track tension.

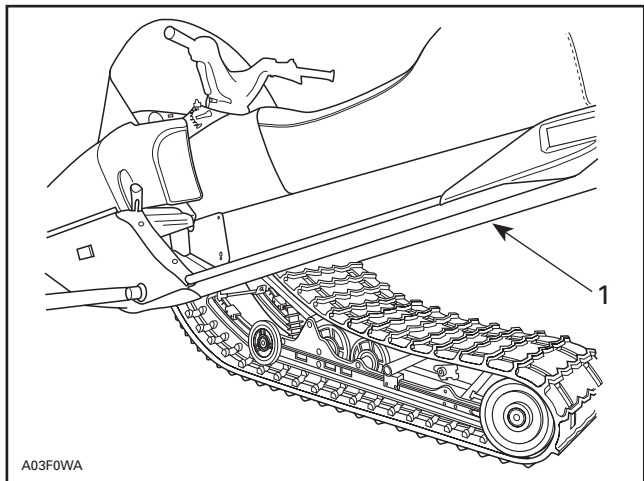
Unscrew rear arm top axle from chassis.

**NOTE:** To prevent axle from turning when unscrewing screws assembled with threadlocker, proceed as follows:

- Knock on screw head and/or heat to break threadlocker bond.
- Loosen one screw then retighten.
- Remove the opposite screw.
- Remove the first one.

Unscrew center idler wheel axle from tunnel then remove.

Lift rear of vehicle at least 1 m (3 ft).



A03F0WA

1. At least 1 m (3 ft)

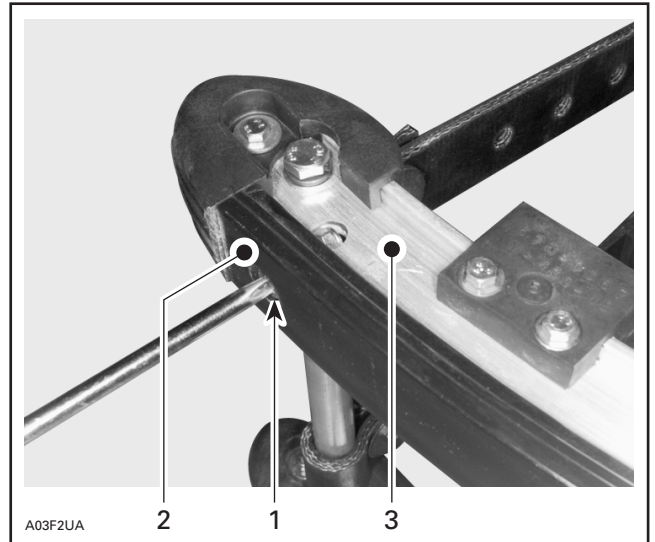
Remove both screws retaining front arm to tunnel.

Remove suspension.

## Slider Shoes Replacement

### REMOVAL

Remove screw retaining slider shoe to front runner end, as shown in the following photo.

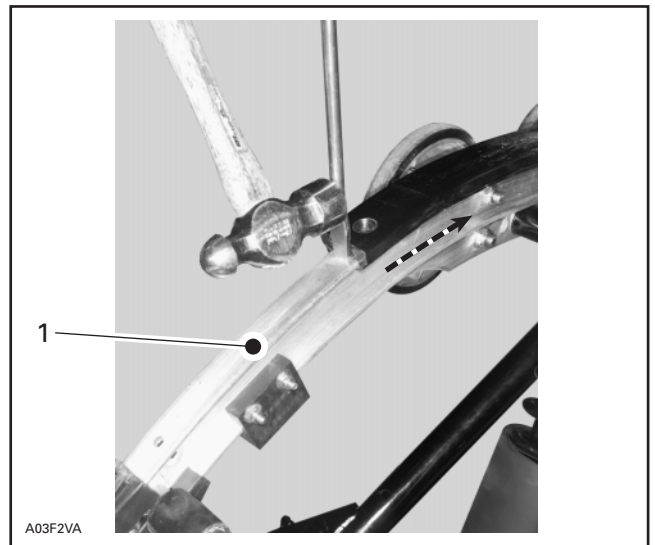


A03F2UA

1. Remove screw
2. Slider shoe
3. Runner

Using a soft material block or a flat screwdriver, as shown in the next photo, push slider shoe out of the runner rail.

**NOTE:** When using a screwdriver to remove slider shoe, ensure not to damage runner surface.



A03F2VA

**PUSH OUT SLIDER SHOE**

1. Runner surface

## INSTALLATION

Using a soft sand paper, smooth runner surface. Apply BOMBARDIER LUBE (P/N 293 6000 16 — 12 x 14 oz) on runner surface. This will ease new slider shoe installation.

Install new slider shoe and secure with **new** elastic nut (P/N 228 5610 45) and original screw.

Repeat procedure for the other side.

## Front Idler Wheels Replacement

Replace 4 front idler wheels with new 139 mm (5-1/2 in) wheels. Refer to the following table.

**NOTE:** Remove bearings on existing wheels and reinstall on new wheels.

MODEL	WHEEL COLOR	P/N	Qty
MX Z 583	Yellow	570 0695 06	4
MX Z 670	Yellow	570 0695 06	4
Mach 1	Yellow	570 0695 06	4
Mach Z	Yellow	570 0695 06	4
Formula III	Red	570 0695 03	4
Formula Z	Red	570 0695 03	4
Grand Touring SE	Blue	570 0695 08	4

## Suspension Installation

Reinstall assembled suspension into track with front portion first.

Insert rear portion of suspension into track.

Bolt front arm, rear arm then center top idler wheel axle.

Adjust track tension. Refer to *Shop Manual* in section 06-04 *Volume 3* or 06-05 *Volume 2* TRACK.

## Ride Adjustment

Refer to *Operator's Guide* or decal on belt guard.

## WARRANTY

Normal warranty applies. Complete a warranty claim.

Please return parts and complete a warranty claim form using the following information.

SLIDERS/IDLER WHEELS REPLACEMENT	
Claim Type	01
Job Code	0896
Flat Rate Time	1.4 hour

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