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Campaign nos. 98-002  
to 98-009 inclusively

No. **98-2**

**REVISION 1** ←

Date: October 28, 1997

**SUBJECT: Fixed Half Splines**

YEAR	MODEL	MODEL NUMBER	SERIAL NUMBER	PART IDENTIFICATION
1998	Formula 500 Deluxe (Europe)	1248	ALL <u>except</u> vehicles with a Green Dot on TRA clutch	1
1998	Grand Touring 583 (Europe)	1223		2
1998	Grand Touring 500 (Europe)	1220		1
1998	MX Z 583 (Europe)	1277		2
1998	MX Z 500 (Europe)	1274		1
1998	Touring LE (Europe)	1305		2
1998	Skandic 500 (Europe)	1239		2
1998	Formula 500 (Europe)	1245		1
1998	MX Z 440 (Europe)	1266		2
1998	Summit 500 (Europe)	1258		1

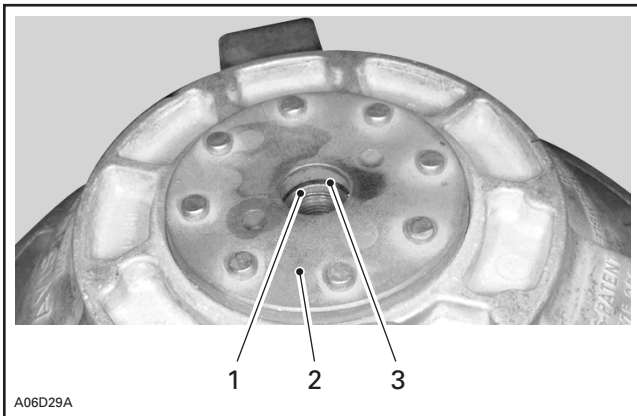
## PROBLEM

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



1. Inner shaft
2. Governor cup
3. Check gap here

- b. If **gap is existing**, replace inner half and verify pulley alignment.
- c. 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.

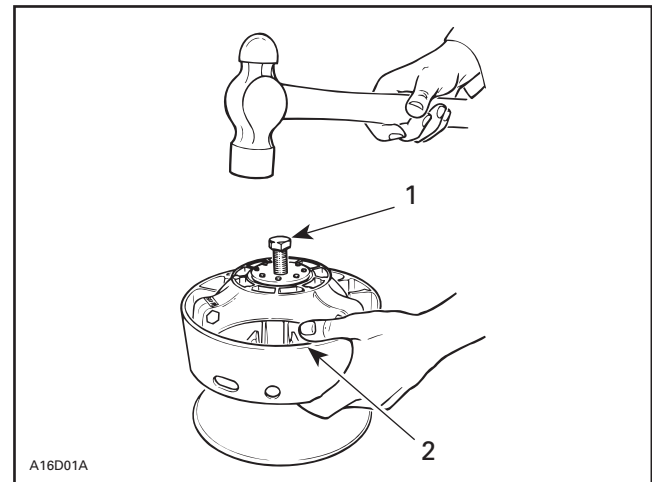
Torque specifications for ring gear retaining screws is 27 N•m (20 lbf•ft).

### 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

1. Puller
2. 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	16.5 (.650)	35.0 (1.380)	1.5 (.060)	529 0267 00

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

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

### ◆ WARNING

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

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/Grand Touring 583**

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/MX Z 583/MX Z 440**

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**

Inspection only.

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

Inspection, inner half replacement, involving 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.



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

Certified Mail

Date: September 30, 1997  
To: **All Ski-Doo Dealers**  
Subject: **Safety Recall - Fixed Half Splines on some of the following models**  
**1998 Formula 500 Deluxe**  
**1998 Grand Touring 583**  
**1998 Grand Touring 500**  
**1998 MX Z 583**  
**1998 MX Z 500**  
**1998 Touring LE**  
**1998 Skandic 500**  
**1998 Formula 500**  
**1998 MX Z 440**  
**1998 Summit 500**

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 above mentioned models.

The component that may be defective in the above mentioned models is the fixed half. 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 result in clutch fragmentation at high speeds.

We will be sending a Safety Recall letter, a copy of which is attached here to all known owners of the involved models asking them to contact their dealer in order to inspect and/or replace the fixed half. However, it is strongly recommended that you also personally contact any owner to whom you have sold a unit involved in this Safety Recall.

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

Please do not use, and advise all customers against using the involved models until the necessary inspection and/or 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**  
**Fixed Half Splines**  
**(on some of the following models)**  
**1998 Formula 500 Deluxe**  
**1998 Grand Touring 583**  
**1998 Grand Touring 500**  
**1998 MX Z 583**  
**1998 MX Z 500**  
**1998 Touring LE**  
**1998 Skandic 500**  
**1998 Formula 500**  
**1998 MX Z 440**  
**1998 Summit 500**

Date: September 30, 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 above mentioned models. Our records indicate you are the owner of an involved model.

The component of your unit that may be defective is the fixed half. On some units, inner half shaft splines may not have been machined deep enough (length wise) creating a gap between governor cup damper and inner shaft end. This may result in clutch fragmentation at high speeds.

You should not operate, nor permit your unit to be operated, before it has been inspected and repaired, if necessary, by your authorized Ski-Doo dealer.

You must contact your dealer at your earliest convenience to have an inspection performed on the involved fixed half. This work will be done at no charge to you.

If you have already sold your unit, please forward this letter to the new owner.

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