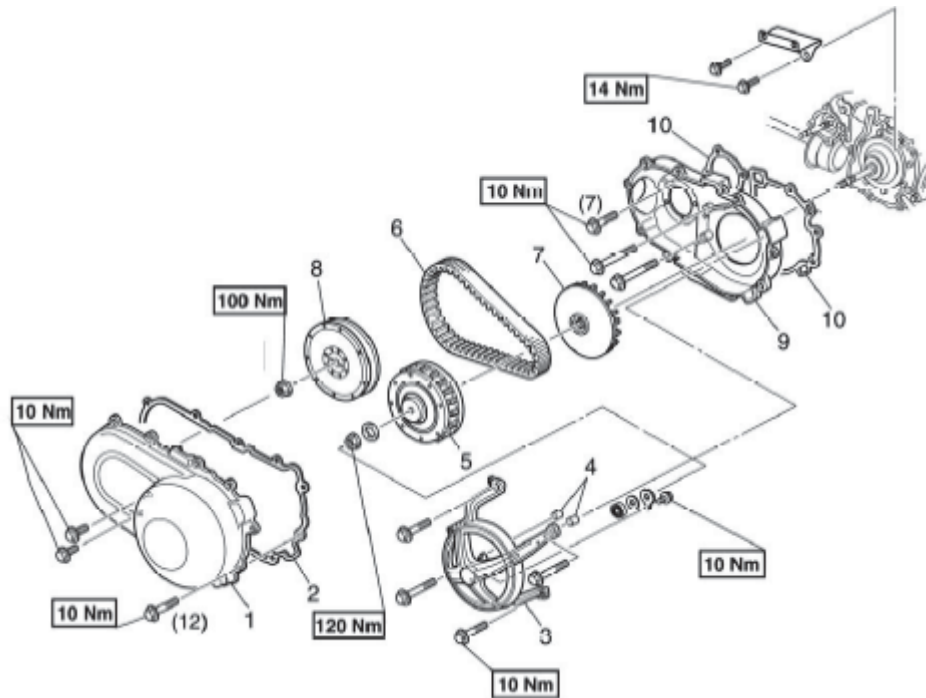


# Engine

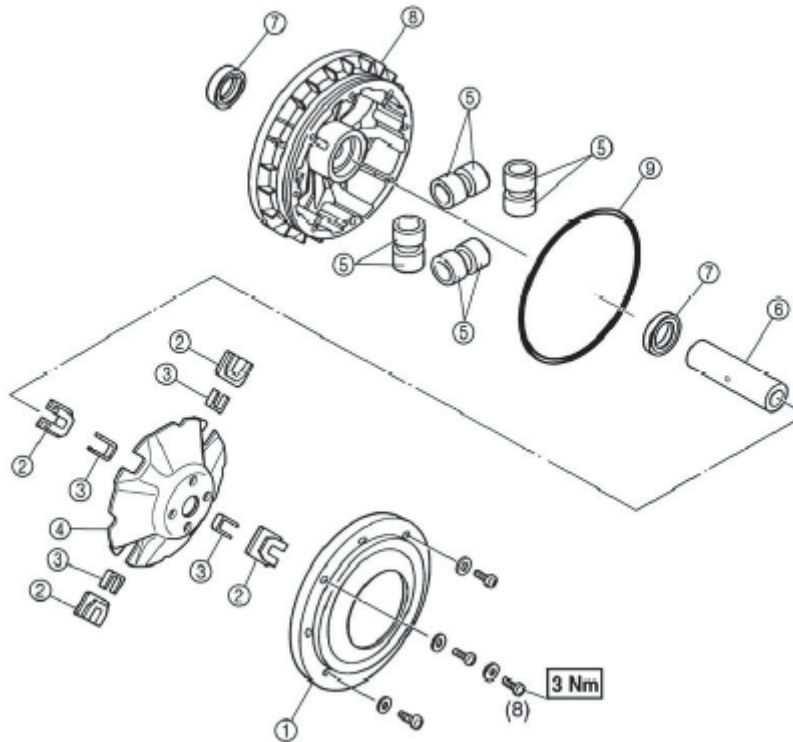
## Primary and Secondary Sheaves



No.	Part Name	Qty	Remarks
	<b>Removing the Primary and Secondary Sheaves</b>		Remove the parts in the order listed
	Engine assembly		
1	Drive Belt cover	1	
2	Rubber gasket	1	
3	Bearing Housing	1	
4	Dowel pin	2	
5	Primary sheave assembly	1	
6	V-belt	1	
7	Primary fixed sheave	1	
8	Secondary sheave assembly	1	
9	Drive belt case	1	For installation, reverse the order listed
10	Rubber gasket	2	

# Engine

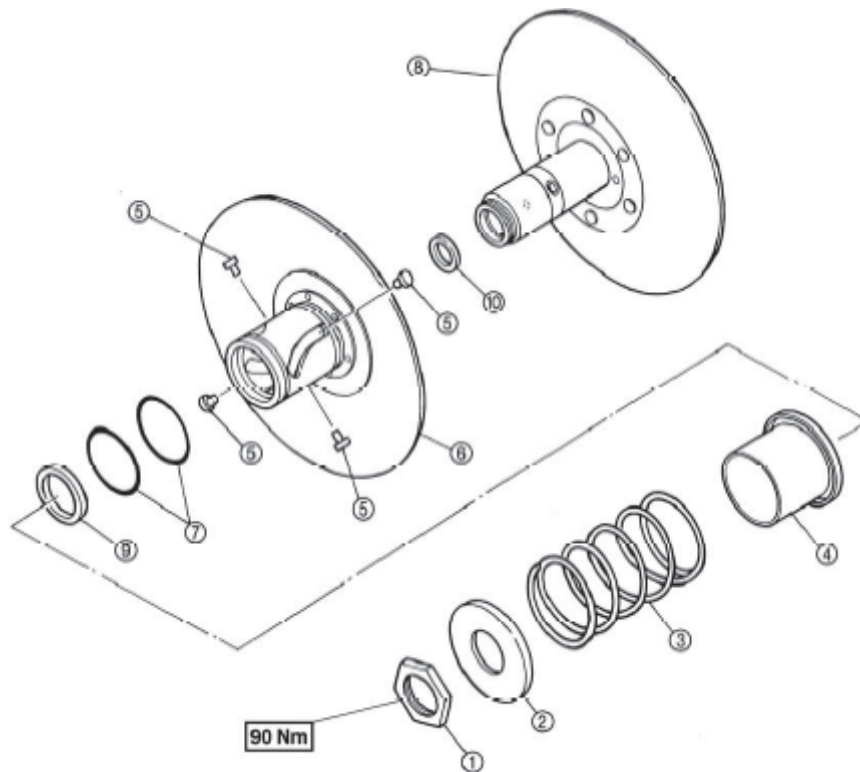
## Primary Sheave



No.	Part Name	Qty	Remarks
	<b>Disassembly of the Primary Sheave</b>		Remove the parts in the order listed
1	Primary pulley sheave cap	1	
2	Primary pulley slider	4	
3	Spacer	4	
4	Primary pulley cam	1	
5	Primary pulley weight	8	
6	Collar	1	
7	Oil seal	2	
8	Primary sliding sheave	1	For installation, reverse the order listed
9	O-ring	1	

# Engine

## Secondary Sheave



No.	Part Name	Qty	Remarks
<b>Disassembly of the Secondary Sheave</b>			
			Remove the parts in the order listed
1	Nut	1	
2	Spring seat	1	
3	Compression spring	1	
4	Spring seat	1	
5	Guide pin	4	
6	Secondary sliding sheave	1	
7	O-ring	2	
8	Secondary fixed sheave	1	
9	Oil seal	1	For installation, reverse the order listed
10	Oil seal	1	

# Engine

## 1. Inspect

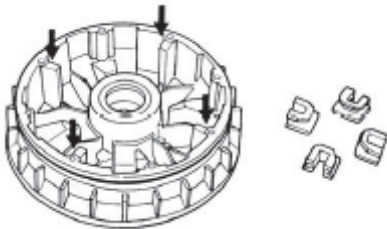
- Primary sheave outside diameter (a).

**Weight outside diameter wear limit:  
29.5 mm**



- Primary pulley slider
- Primary sliding sheave splines

Look for wear cracks or damage.

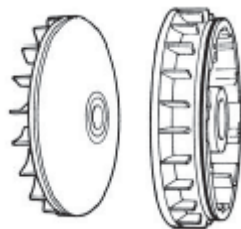


- Spacer
- Primary pulley cam

Look for cracks or damage.

- Primary sliding sheave
- Primary fixed sheave

Look for cracks or damage.



## 2. Inspect the Secondary sheave

- Secondary fixed sheave
- Secondary sliding sheave

Look for smooth operation, scratches or damage, If replacement is necessary replace as a set.

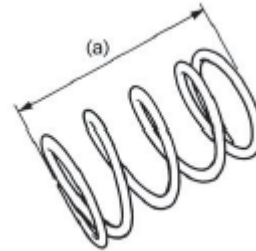
Look at torque cam grooves (1) and Guide pins (2) for damage or wear.



## 3. Inspect secondary sheave spring

- Measure spring free length (a)

Look for any damage

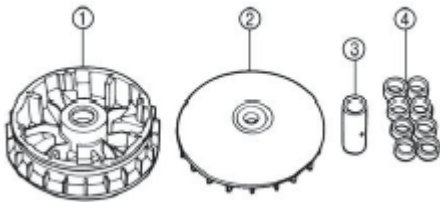


# Engine

## Install

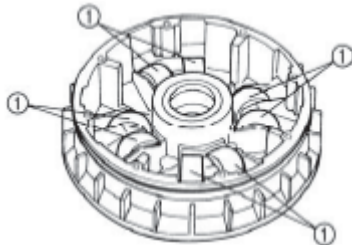
1. Assembling the primary sheave
  - Clean the primary sliding sheave face (1)
  - The primary fixed sheave face (2)
  - The collar (3)
  - The weights (4)

Remove excess grease.

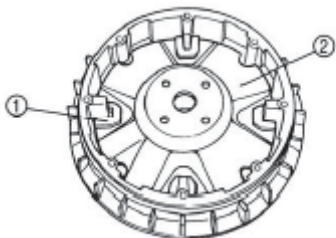


2. Install
  - The weights (1)

Apply a small amount of grease to the outer surface of the weights and install. Apply grease to the inner surface of the collar. Apply grease to the inner surface of the primary sliding sheave.



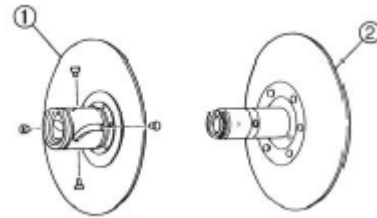
- Spacer
  - Sliders (1)
  - Primary pulley cam (2)
  - Primary sliding sheave cap
- 3 Nm or 25 in lbs**



3. Assembling the secondary Sheave
  - Apply assembly lube to

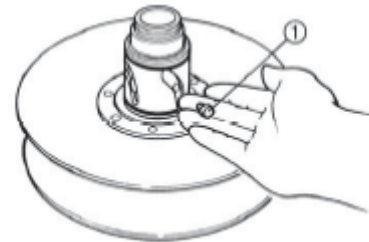
The secondary sliding sheave (1) inner surface and oil seals.

The bearings, oil seals and inner surface of the secondary fixed sheave.



- Install

Guide pins (1)  
Spring seat  
Compression spring  
Spring seat  
Nut



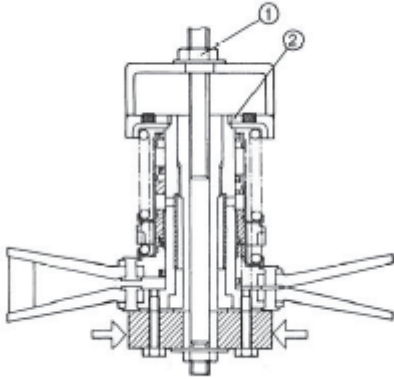
Attach the sheave fixed block, locknut wrench and sheave spring compressor to the secondary sheave assembly.

Place the sheave fixed block in a vise and secure it.

Tighten the sheave spring compressor nut (1) and compress the spring.

# Engine

Install the nut (2) and tighten it to the specified torque using the locknut wrench, and sheave fixed block.

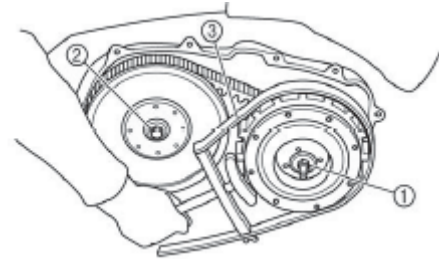


Tighten the primary sheave nut (1)

**120 Nm or 88 ft lbs**

Tighten the secondary sheave nut (2).

**100 Nm or 74 ft lbs**



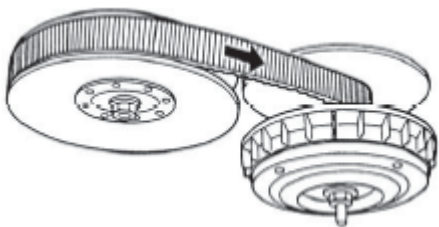
4. Install
- Secondary sheave assembly
  - V-belt
  - Primary sheave assembly

**Note:**

***Use the sheave holder (3) to hold the primary sheave. Tighten in order Primary sheave nut then Secondary sheave nut.***

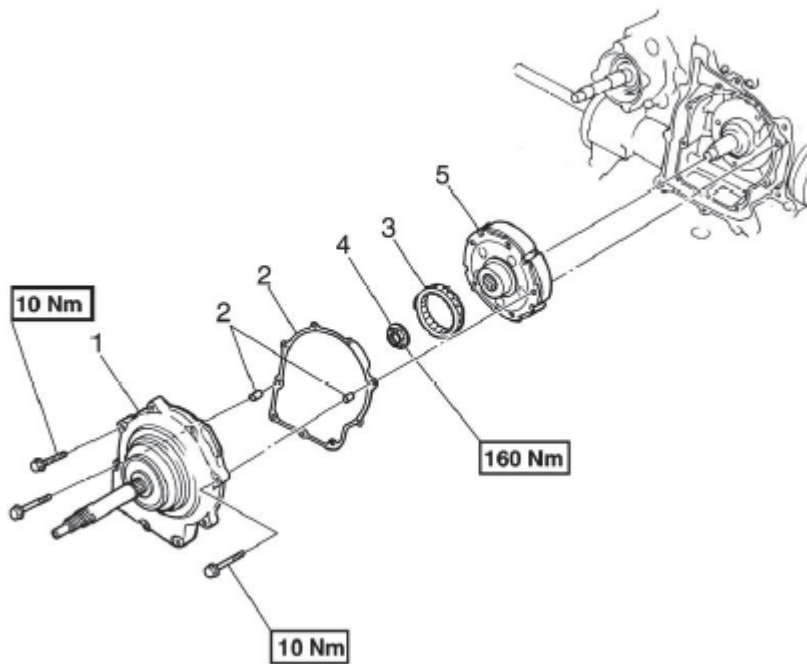
**Note:**

***Tightening the bolts(1), size found in adjustments chapter 3, will push the secondary sliding sheave away, causing the gap between the secondary fixed and sliding sheaves to widen. Install the V-belt with the arrow facing the direction in the illustration.***



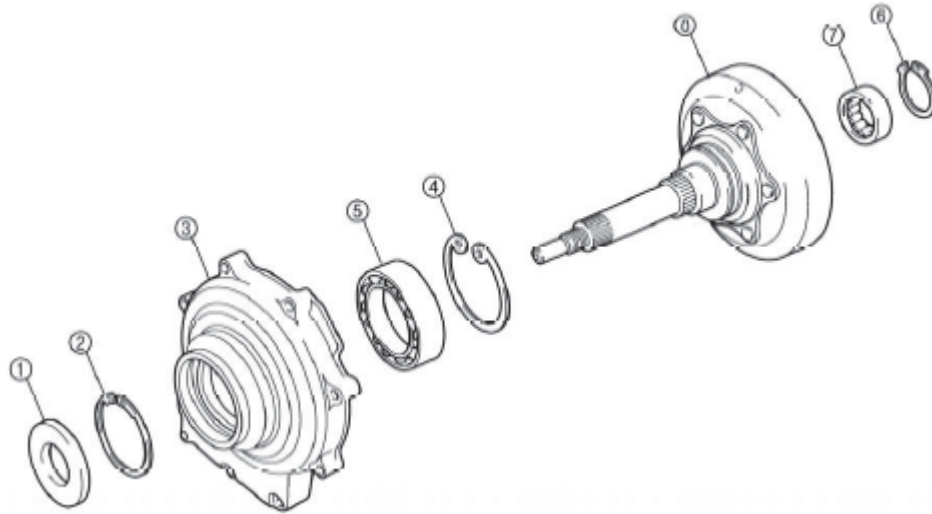
# Engine

## Clutch



No.	Part Name	Qty	Remarks
	<b>Removing the clutch</b>		Remove the parts in the order listed
	Primary and secondary sheaves		
1	Clutch housing assembly	1	
2	Gasket / dowel pin	1 / 2	
3	One-way clutch bearing	1	
4	Nut	1	
5	Clutch carrier assembly	1	For installation, reverse the order listed

# Engine



No.	Part Name	Qty	Remarks
	<b>Disassembling the clutch housing</b>		Remove the parts in the order listed
1	Oil seal	1	
2	Circlip	1	
3	Bearing Housing	1	
4	Circlip	1	
5	Bearing	1	
6	Circlip	1	
7	Bearing	1	For installation, reverse the order listed
8	Clutch Housing	1	



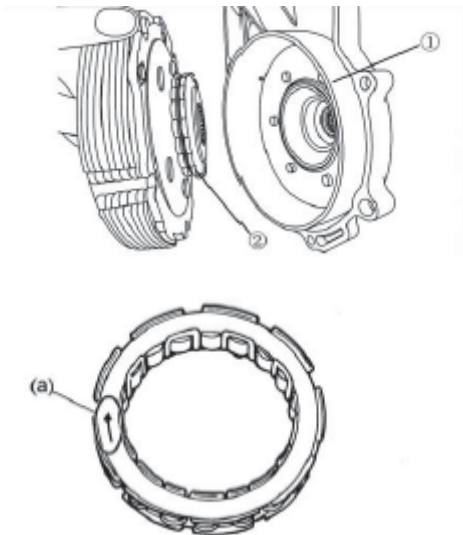
# Engine

Inspect the clutch

- Inspect the clutch housing (1)  
  
Look for heat damage or wear.
- Inspect the one way clutch bearing (2)  
  
Look for chaffing, wear or damage.

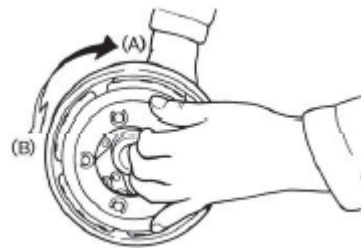
**Note:**

***If any damage is found replace the one way clutch bearing and clutch housing as a set. For installation the one way clutch bearing must be installed with the arrow facing inward toward the housing.***



Inspection of the one way clutch bearing.

- Install the one way clutch bearing and clutch carrier assembly to the clutch housing and hold the clutch carrier assembly.
- When turning the clutch housing clockwise (A), the clutch housing should turn freely. If it doesn't, the one way bearing is defective and needs to be replaced.

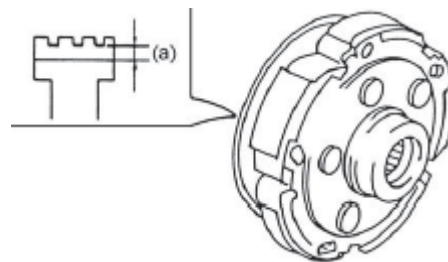


Inspect the clutch shoe assembly

Look for heat damage.

Measure the clutch shoe thickness

**Clutch shoe wear limit (a) 1.0 mm**

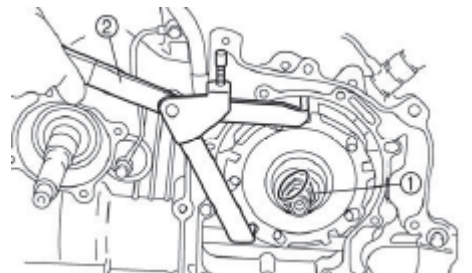


Install

- Clutch carrier assembly
- Nut (1) **160 Nm or 118 ft lbs**

Use a universal clutch holder (2) to hold the carrier assembly.

Lock the threads with a drift punch.



# Engine

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## Install

- Dowel pins
- Gasket
- Clutch housing assembly

### **10 Nm or 7 ft lbs**

Tighten the bolts in stages, using a cross pattern.

After tightening check the operation of the clutch housing assembly that it rotates counterclockwise smoothly.

