

## 13.Crank Pulley

### A: REMOVAL

**NOTE:**

When replacing a single part, perform the work with the engine assembly installed to body.

1) When working on the vehicle

**NOTE:**

When working on the vehicle, perform the following steps also.

(1) Remove the radiator main fan & fan motor assembly and radiator sub fan & fan motor assembly. <Ref. to CO(H4DO(w/o HEV))-89, REMOVAL, Radiator Main Fan and Fan Motor.> <Ref. to CO(H4DO(w/o HEV))-93, REMOVAL, Radiator Sub Fan and Fan Motor.>

2) Remove the V-belts. <Ref. to ME(H4DO(w/o HEV))-122, REMOVAL, V-belt.>

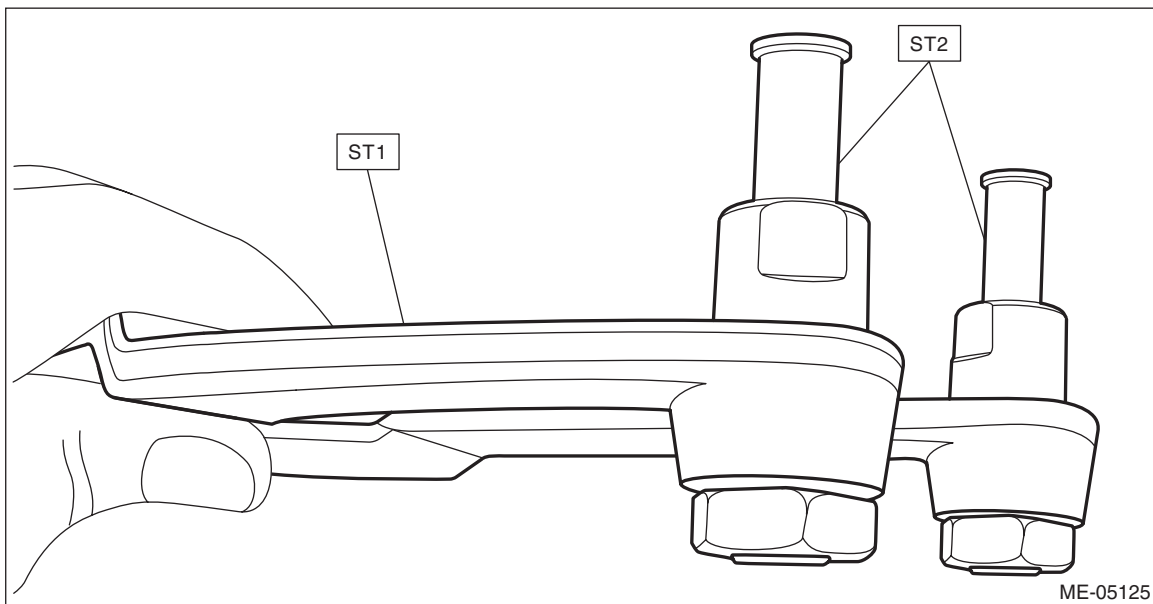
3) Use the ST to lock the crank pulley, and remove the crank pulley bolt.

**NOTE:**

To prevent damaging ST1, attach the ST2 onto the ST1 as shown.

ST1 18355AA000 PULLEY WRENCH

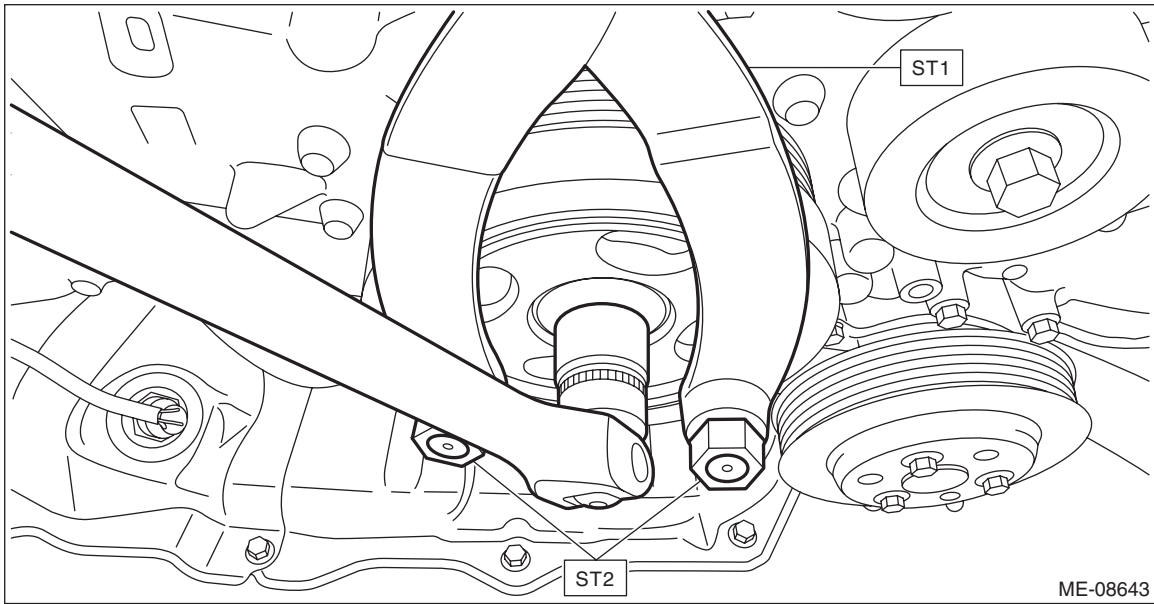
ST2 18334AA000 PULLEY WRENCH PIN SET



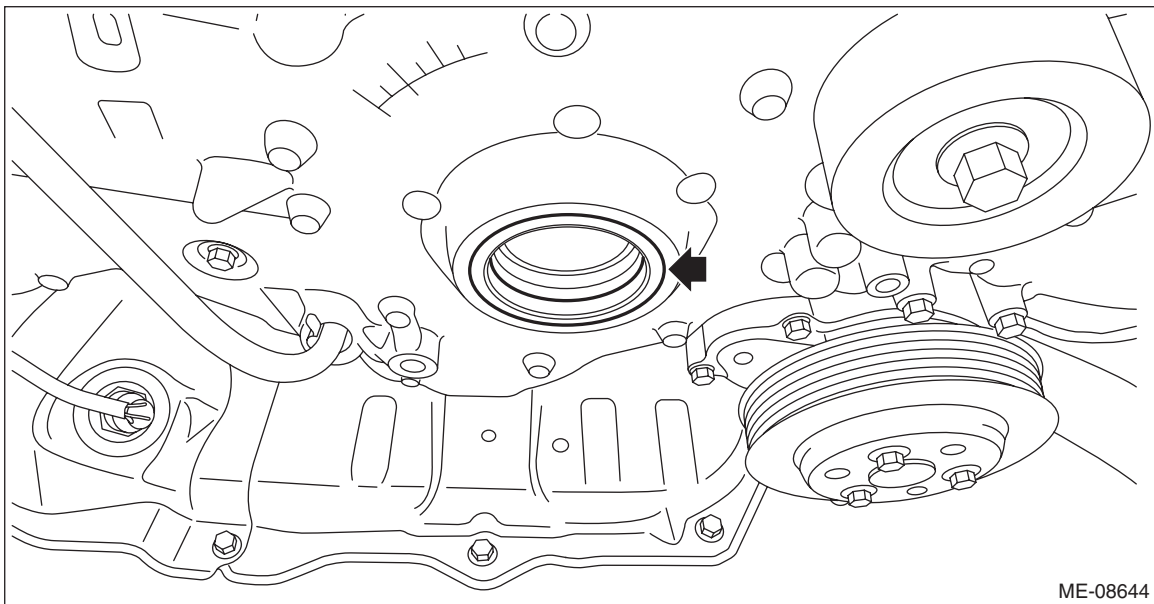
# Crank Pulley

MECHANICAL

ST1 18355AA000 PULLEY WRENCH  
ST2 18334AA000 PULLEY WRENCH PIN SET



- 4) Remove the crank pulley.
- 5) Remove the front oil seal. (Gasoline engine model)



# Crank Pulley

## MECHANICAL

### B: INSTALLATION

1) Degrease the press-fit section for the chain cover front oil seal, and install the front oil seal to the chain cover using ST. (Gasoline engine model)

#### CAUTION:

**Do not apply fluid such as engine oil to the front oil seal and the chain cover; otherwise engine oil leakage may occur.**

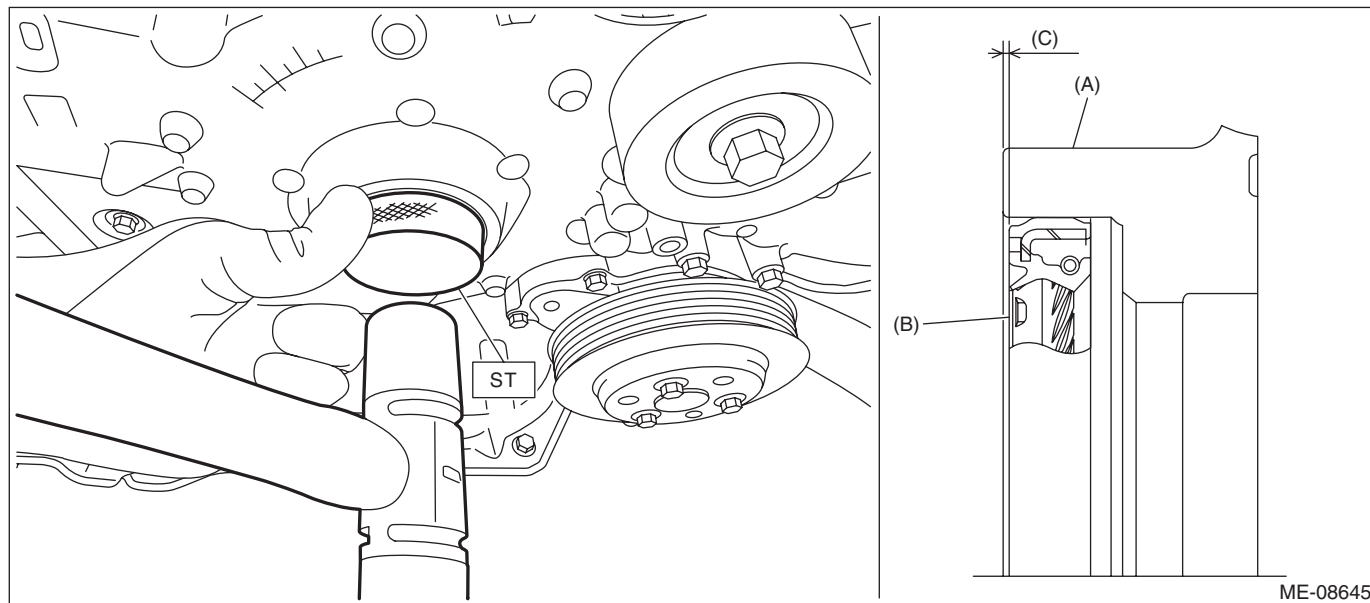
#### NOTE:

- Use a new front oil seal.
- When tapping the front oil seal in, protect the radiator fin with cardboards etc. so as not to damage the radiator fin by the plastic hammer.

ST 41399FG020 SPECIAL TOOL B

#### Front oil seal press-fit position:

$1^{+0}_{-1}$  mm ( $0.0039^{+0}_{-0.0039}$  in) position from chain cover end face



(A) Chain cover

(B) Oil seal

(C) Front oil seal press-fit position  
( $1^{+0}_{-1}$  mm ( $0.0039^{+0}_{-0.0039}$  in)  
position from chain cover end face)

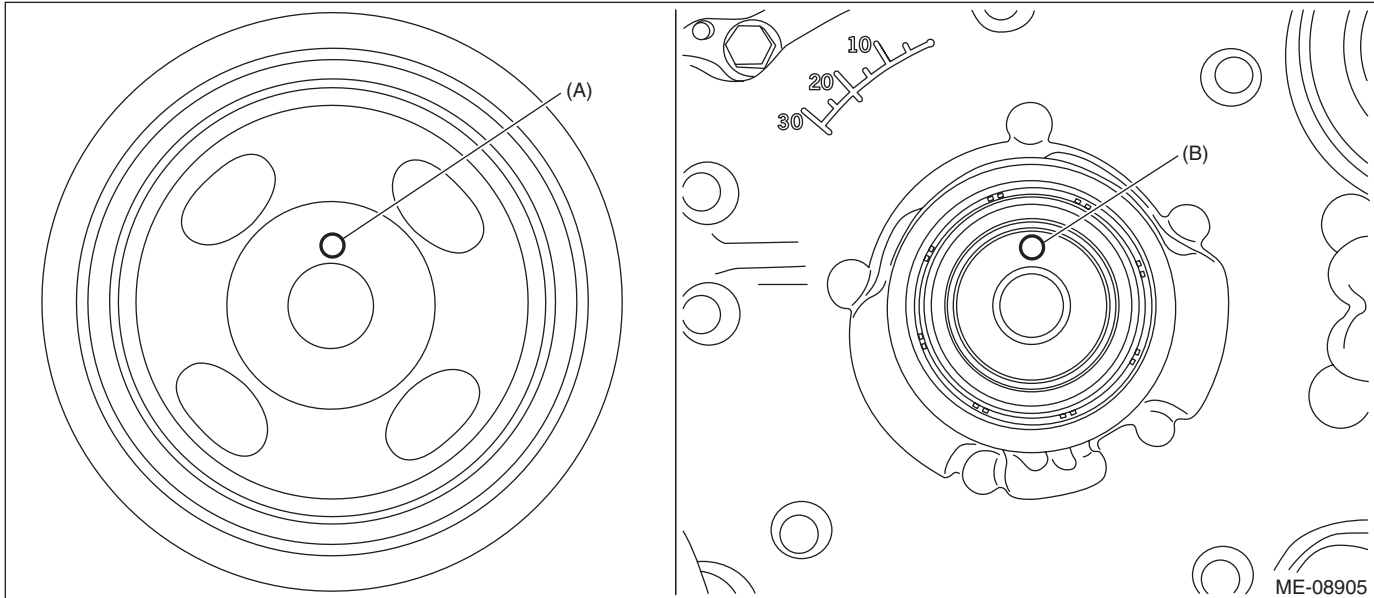
- 2) Clean the crankshaft thread using compressed air.
- 3) Apply engine oil to the crank pulley bolt seat and thread.

4) Install the crank pulley.

(1) Install the crank pulley to the crank pulley boss. (HEV model)

NOTE:

- Use new O-rings.
- Install the crank pulley by aligning the crank pulley knock hole (A) and crank pulley boss knock pin (B).

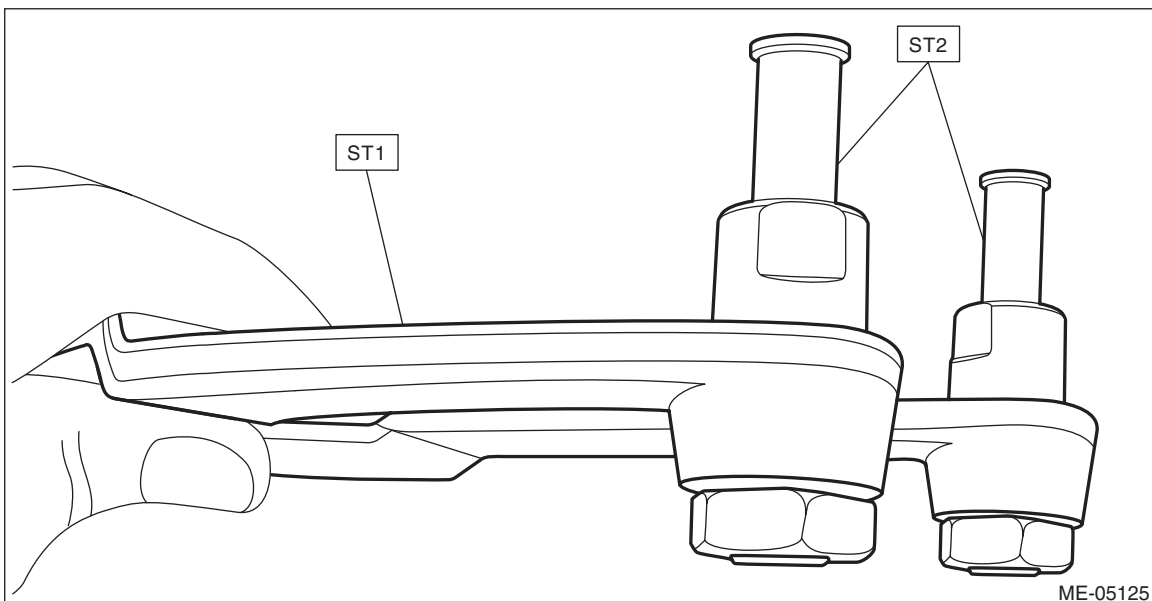


(2) Use the ST to lock the crank pulley, and temporarily tighten the crank pulley bolt.

NOTE:

To prevent damaging ST1, attach the ST2 onto the ST1 as shown.

ST1 18355AA000 PULLEY WRENCH  
ST2 18334AA000 PULLEY WRENCH PIN SET

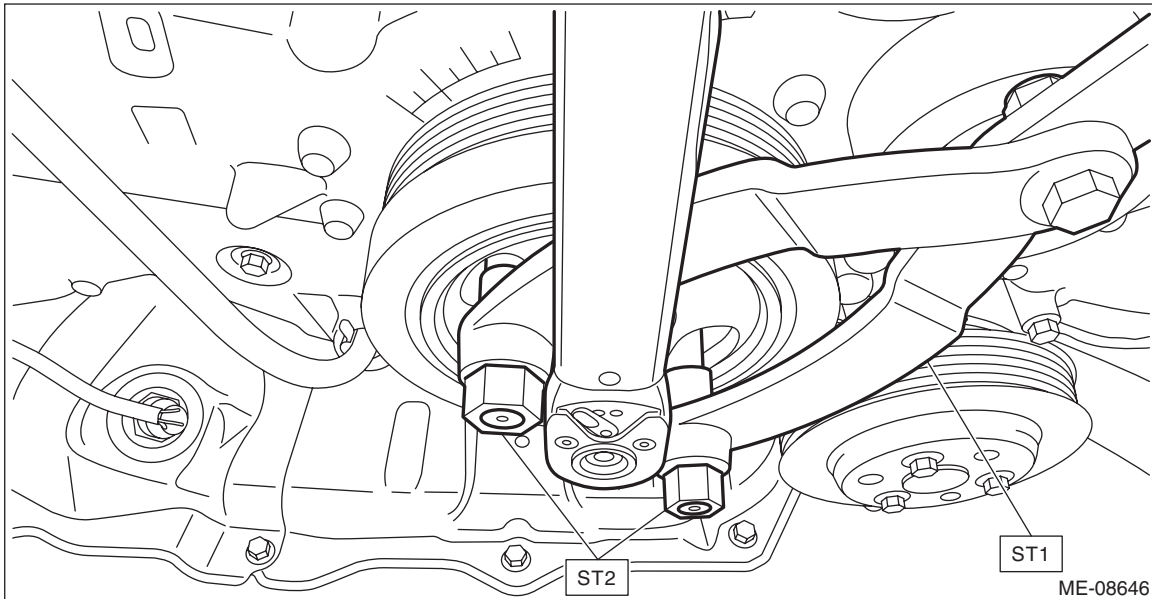


# Crank Pulley

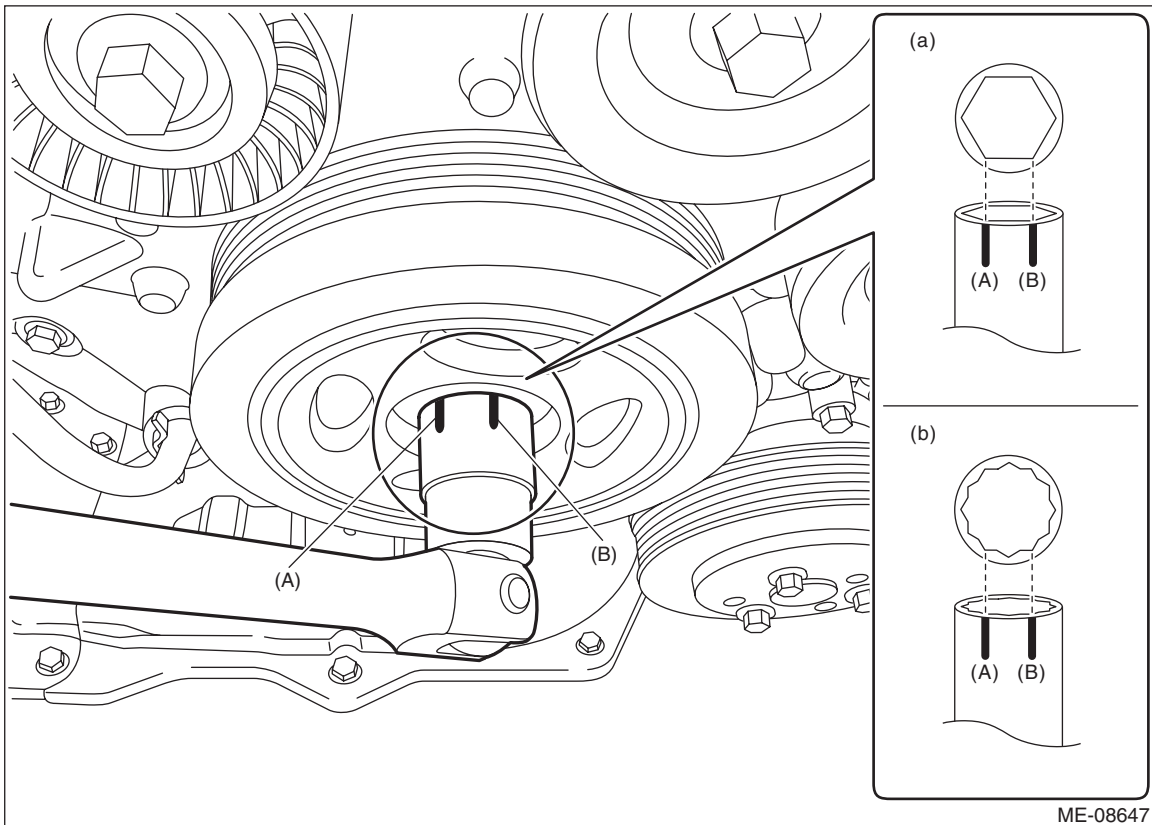
## MECHANICAL

ST1 18355AA000 PULLEY WRENCH  
ST2 18334AA000 PULLEY WRENCH PIN SET

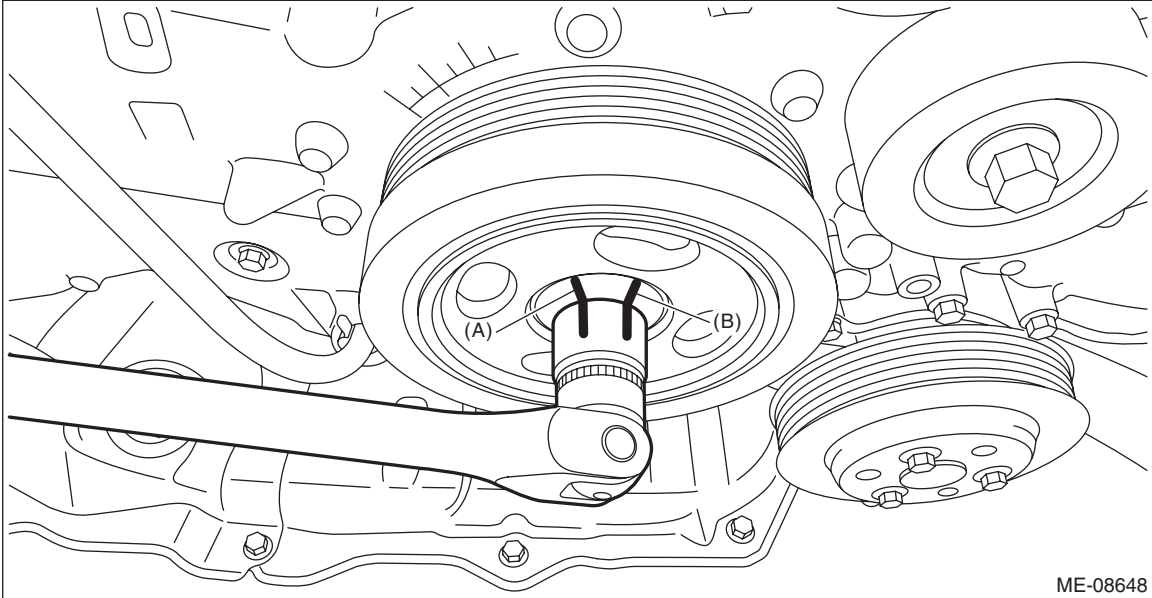
**Tightening torque:**  
**60 N·m (6.1 kgf-m, 44.3 ft-lb)**



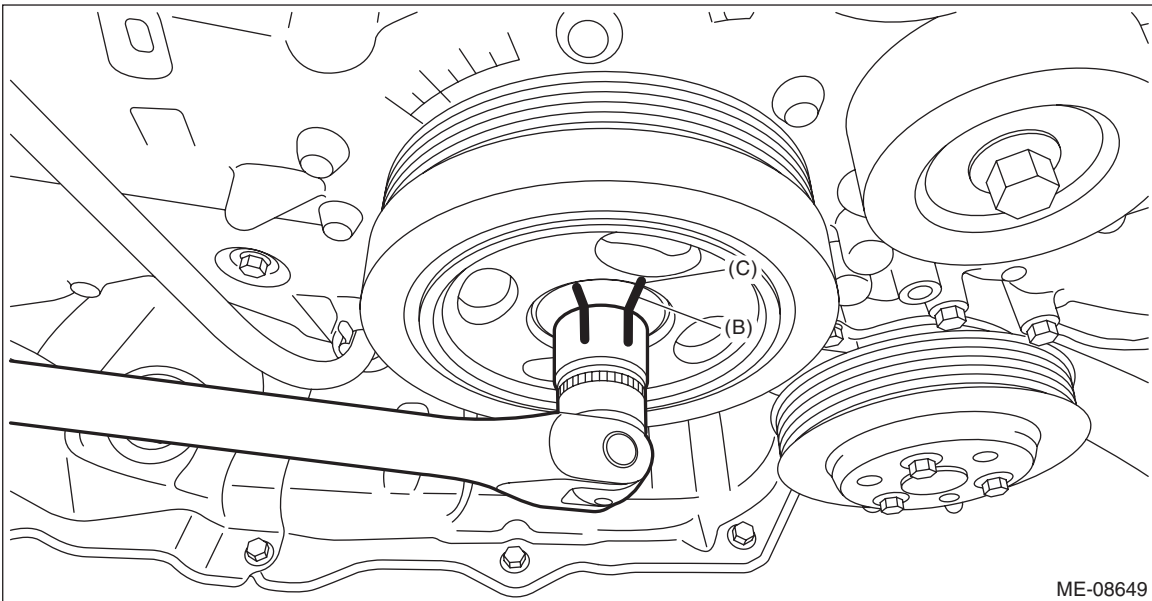
(3) Draw reference lines (A) and (B) using a marker to set the socket to the crank pulley bolt as shown in the figure.



- (4) Draw reference lines (A) and (B) on the crank pulley bolt using a marker as shown in the figure.



- (5) Draw end line (C) on crank pulley using a marker at the same position as reference line (B) drawn on the crank pulley bolt in step (3).



## Crank Pulley

### MECHANICAL

- (6) Use the ST to lock the crank pulley, and tighten the crank pulley bolt to the angle where reference line (A) and end line (C) are aligned.

#### NOTE:

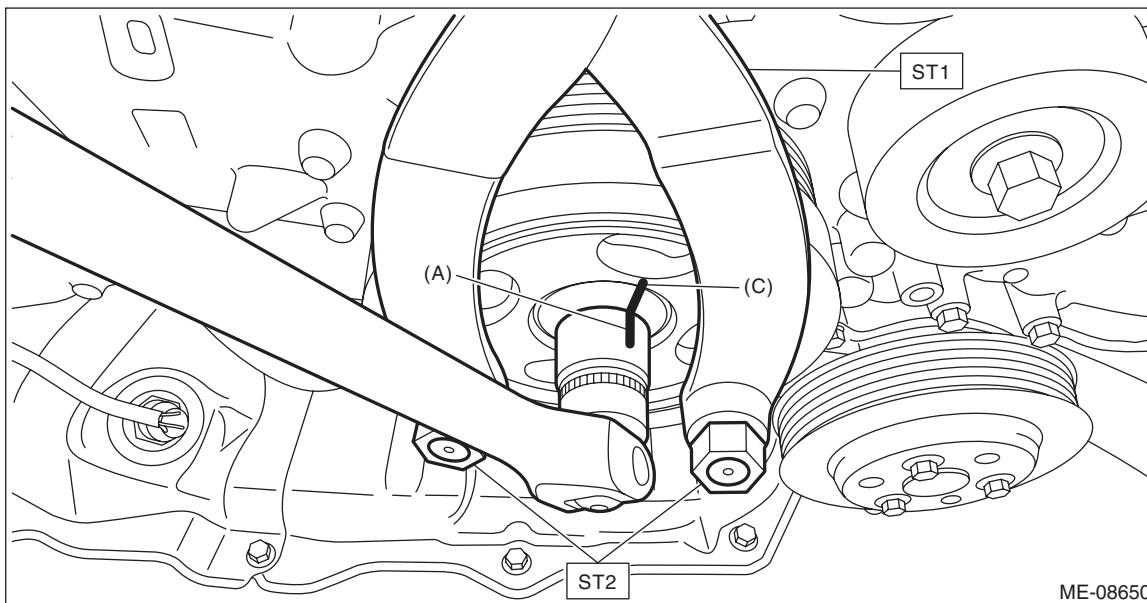
It should be approx.  $60^\circ$  when reference line (A) and end line (C) are aligned.

ST1 18355AA000 PULLEY WRENCH

ST2 18334AA000 PULLEY WRENCH PIN SET

#### **Tightening angle:**

**$60^\circ \pm 5^\circ$**



- 5) Install the V-belts. <Ref. to ME(H4DO(w/o HEV))-130, GASOLINE ENGINE MODEL, INSTALLATION, V-belt.>

- 6) When working on the vehicle

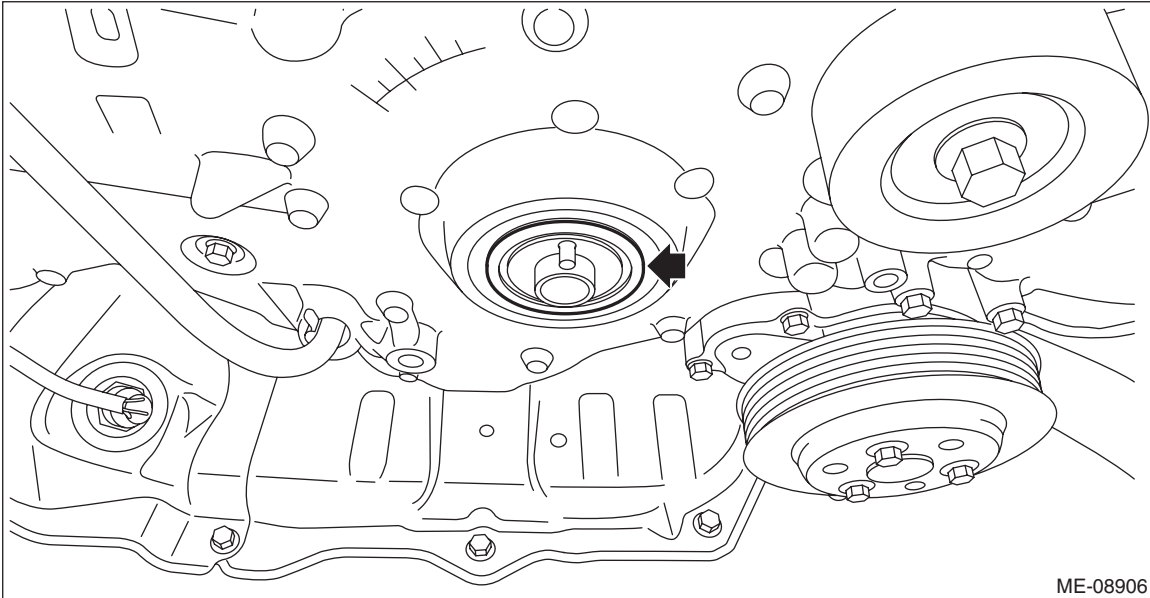
#### NOTE:

When working on the vehicle, perform the following steps also.

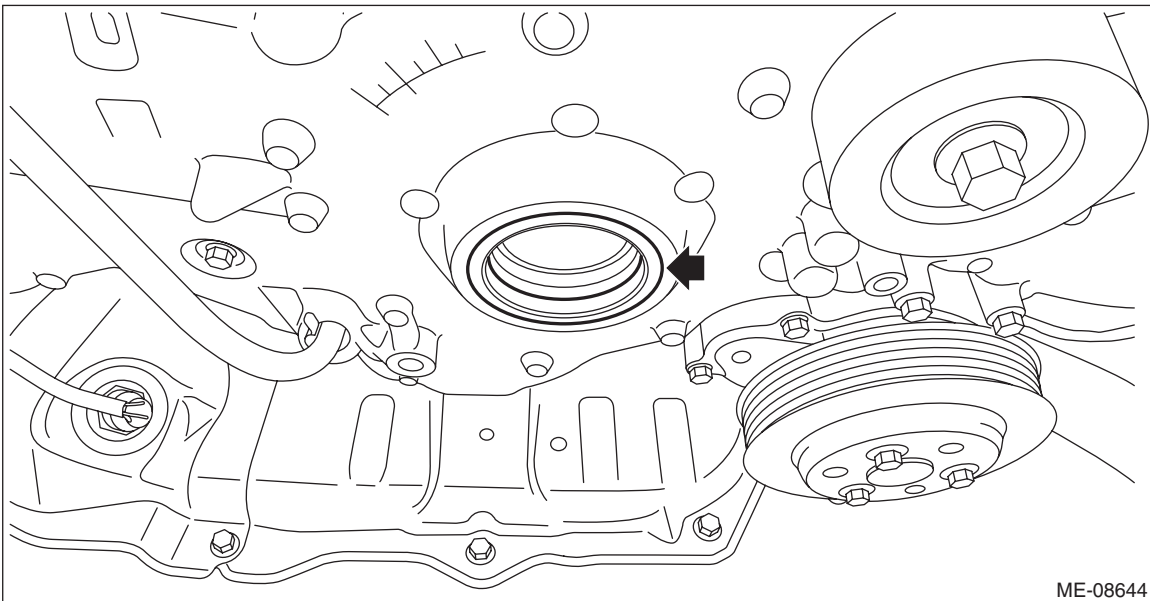
- (1) Install the radiator main fan & fan motor assembly and radiator sub fan & fan motor assembly. <Ref. to CO(H4DO(w/o HEV))-90, INSTALLATION, Radiator Main Fan and Fan Motor.> <Ref. to CO(H4DO(w/o HEV))-94, INSTALLATION, Radiator Sub Fan and Fan Motor.>

## C: INSPECTION

- 1) Check that the crank pulley has no deformation, cracks or other damages.
- 2) Inspect for oil leakage from the front oil seal. If there is an oil leak, replace the front oil seal with a new one. (Gasoline engine model) <Ref. to ME(H4DO(w/o HEV))-140, REMOVAL, Crank Pulley.>
- 3) Inspect for oil leakage from the front oil seal. If there is an oil leak, replace the front oil seal with a new part according to the following procedures. (HEV model)
  - (1) Remove the crank pulley. <Ref. to ME(H4DO(w/o HEV))-140, REMOVAL, Crank Pulley.>
  - (2) Remove the crank pulley boss from the chain cover.



- (3) Remove the front oil seal from the chain cover.



## Crank Pulley

### MECHANICAL

- (4) Degrease the press-fit section for the chain cover front oil seal, and install the front oil seal to the chain cover using ST.

#### CAUTION:

**Do not apply fluid such as engine oil to the front oil seal and the chain cover; otherwise engine oil leakage may occur.**

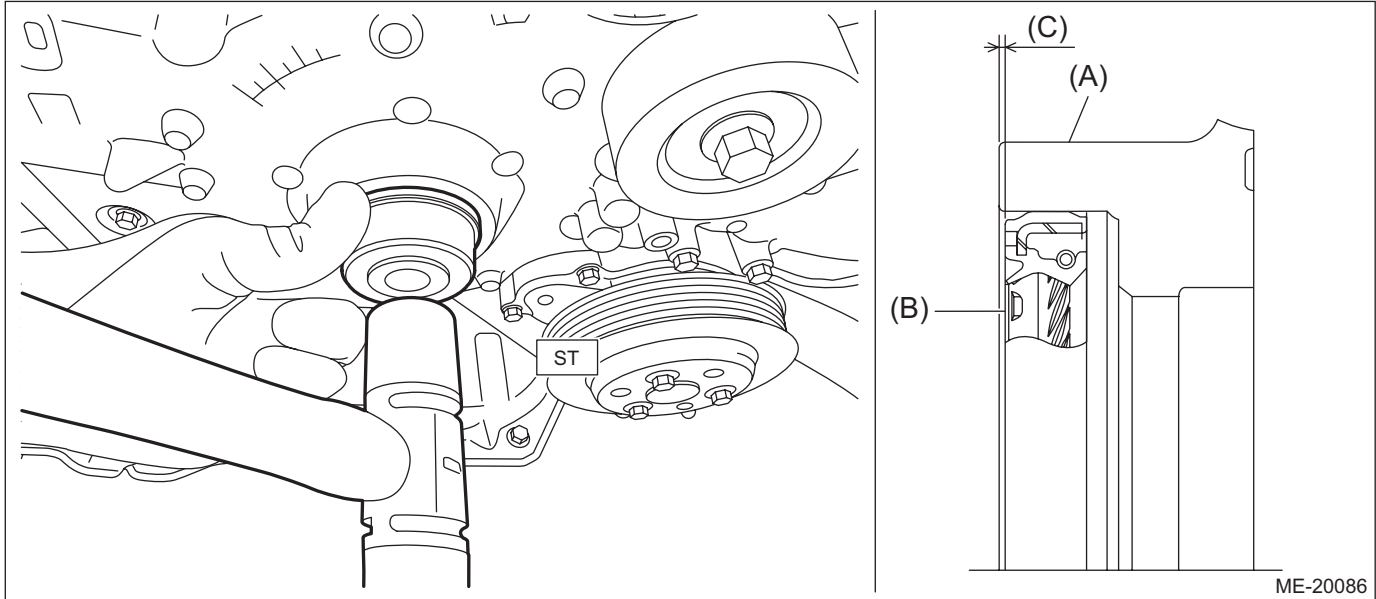
#### NOTE:

When tapping the front oil seal in, protect the radiator fin with cardboards etc. so as not to damage the radiator fin by the plastic hammer.

ST 41399FG020 SPECIAL TOOL B

#### Front oil seal press-fit position:

$1^{+0}_{-1}$  mm ( $0.0039^{+0}_{-0.0039}$  in) position from chain cover end face



(A) Chain cover

(B) Oil seal

(C) Front oil seal press-fit position  
( $1^{+0}_{-1}$  mm ( $0.0039^{+0}_{-0.0039}$  in)  
position from chain cover end  
face)

- (5) Install in the reverse order of removal after replacement.