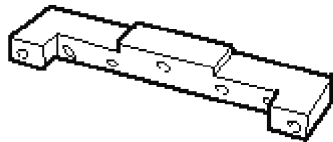


# 1999 XK RANGE - Basic Engine - 303-01

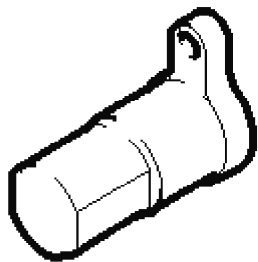
## Exhaust Camshaft Sprocket SC - Bank 2 12.65.74

### Special Service tools



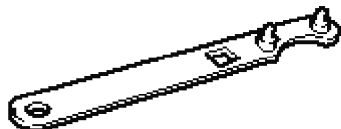
D.WST.017  
Camshaft setting  
303-530

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D.WST.032  
Crankshaft setting  
303-531

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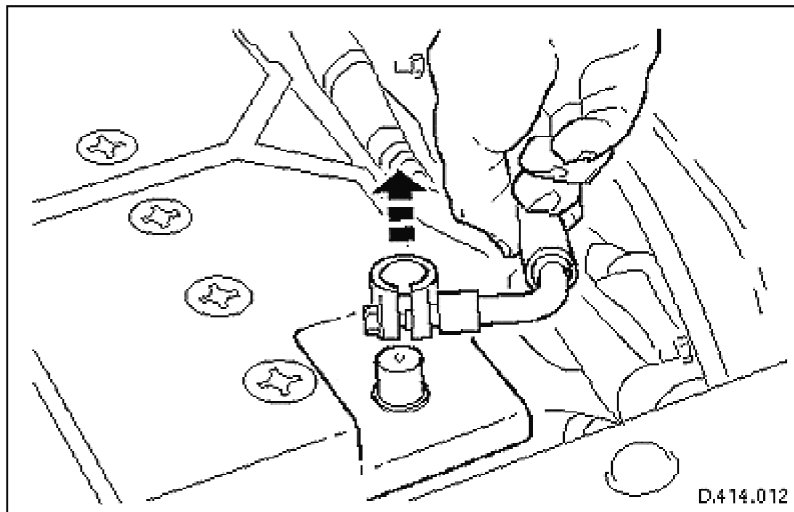
D.WST.021  
Timing chain tensioning  
303-532

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### Removal

1. Open the engine compartment and fit paintwork protection sheets.
2. Open the driver's door, or both doors if necessary, to allow the side glass to drop. Ensure that the doors remain open until after the battery has been disconnected.

## 1999 XK RANGE - Basic Engine - 303-01

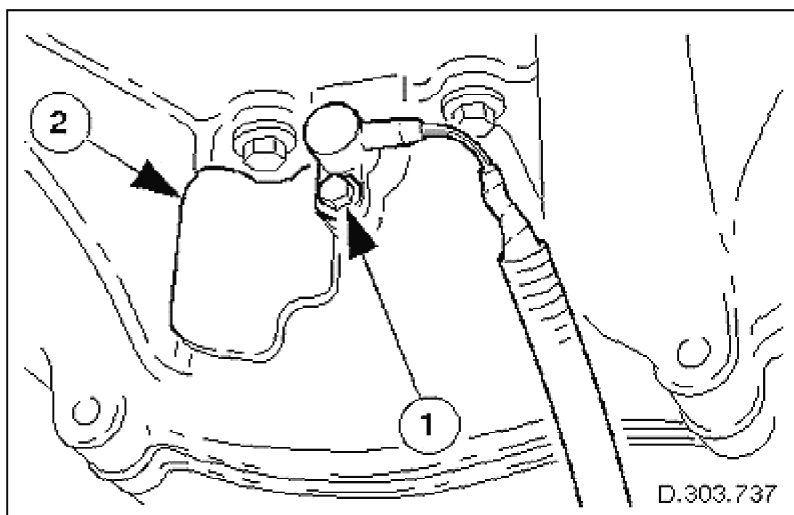


3. Disconnect the battery ground cable.

- Remove the battery cover.

4. Remove the Cam Cover from Bank 2. Refer to Operation <<12.29.43>>.

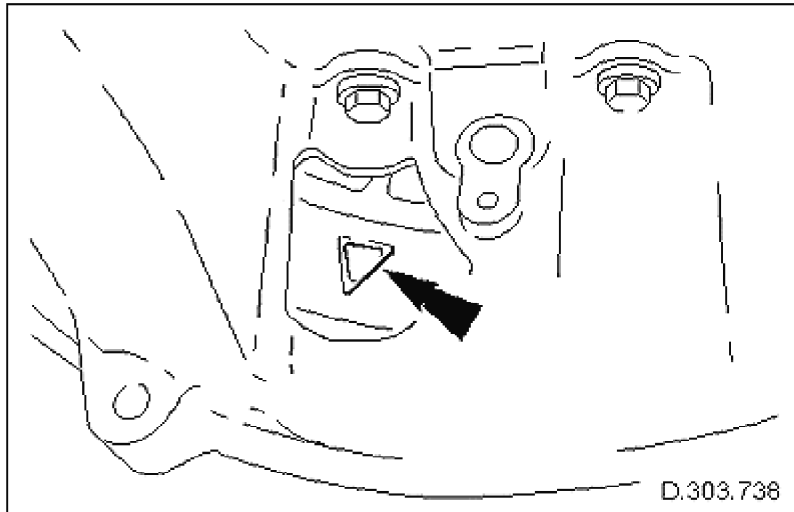
5. Raise the vehicle on a ramp.



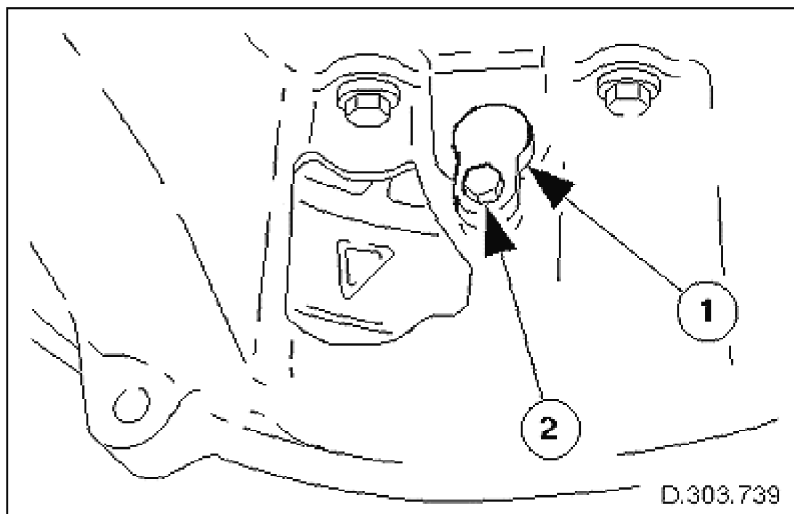
6. Remove the crankshaft position sensor.

1. Remove the bolt which secures the crankshaft position sensor to the flywheel housing.
  - Remove the sensor and allow it to hang free under the engine.
2. Remove the access grommet (for torque converter bolts) from the housing.

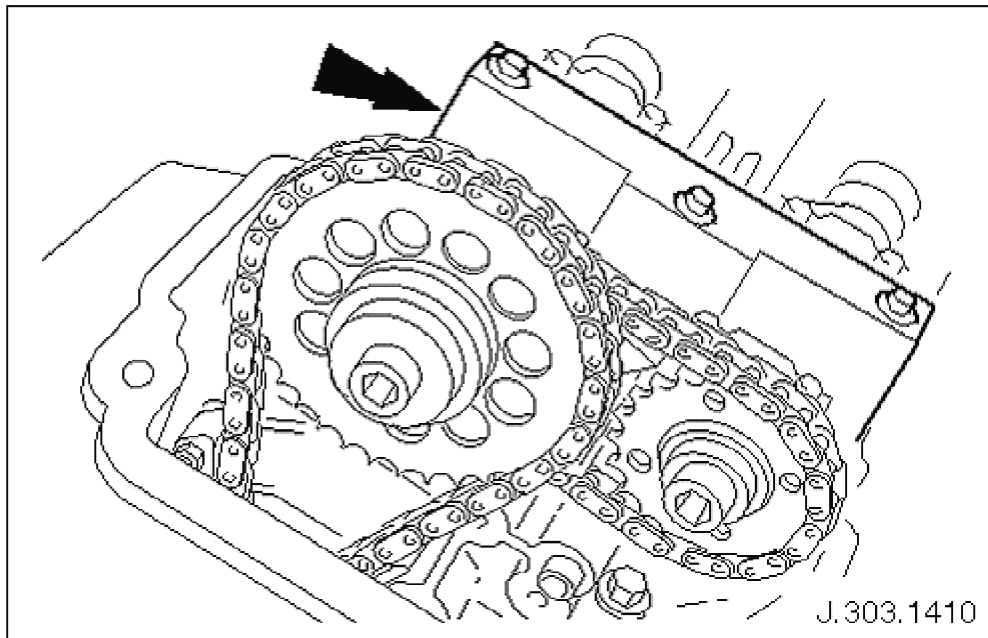
## 1999 XK RANGE - Basic Engine - 303-01



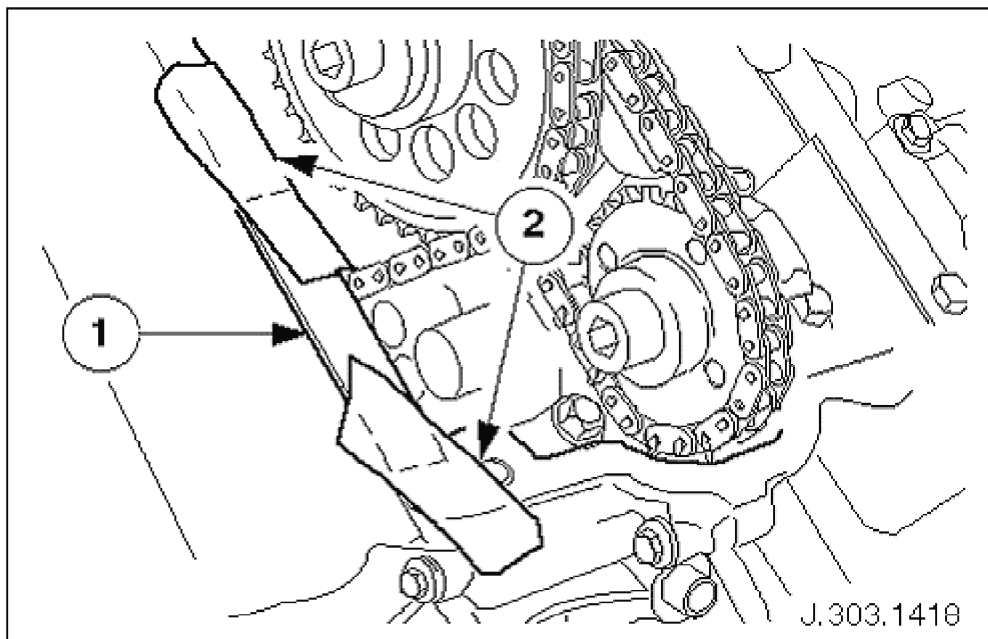
7. Rotate the crankshaft until the triangular arrow indent on the drive plate is visible through the access hole; confirm that the timing flat on each camshaft is uppermost.



8. Install the crankshaft setting peg 303-531 to the crankshaft position sensor location.
  1. Install the crankshaft setting peg 303-531.
    - Position the crankshaft so that the setting peg engages fully into the timing slot.
  2. Install and tighten the bolt to secure the setting peg.
9. Lower the vehicle on the ramp.



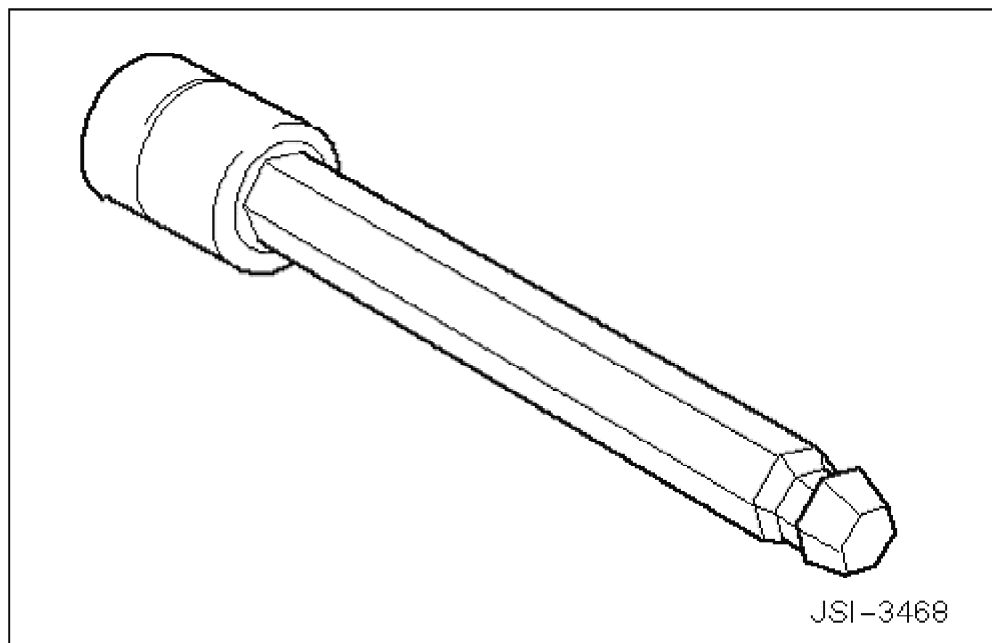
10. Install the camshaft locking tool 303-530 to Bank 2 camshafts, aligning the shafts slightly as necessary.



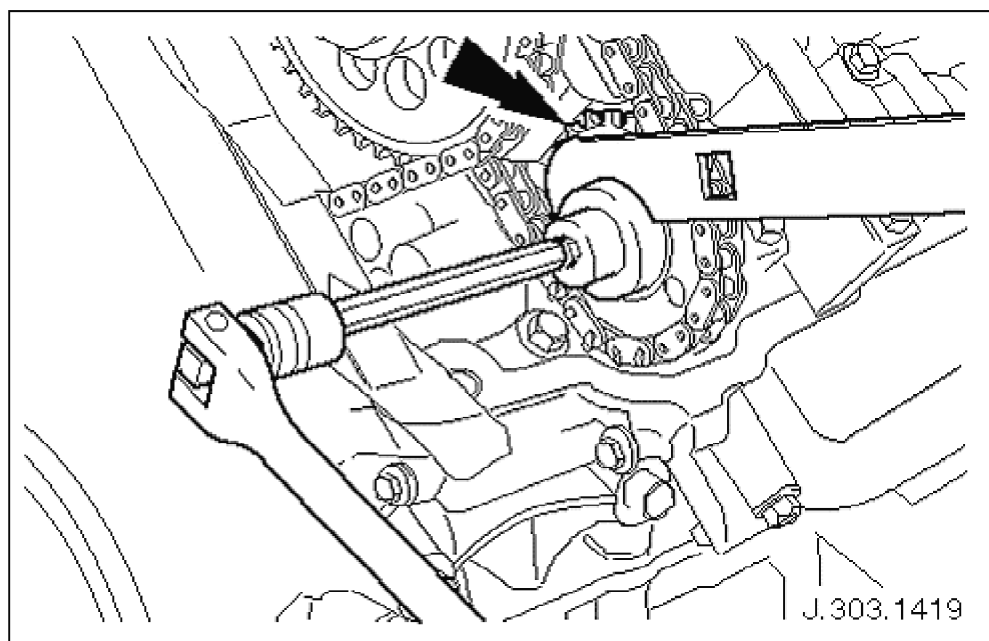
11.  **CAUTION:**  
Use a length of steel strip that will not fall into the timing cover.

Protect the upper face of the timing cover from scratches, when removing the bolt which secures the sprocket.

1. Place a flat piece of steel strip along the timing cover horizontal jointing face, adjacent to the exhaust camshaft sprocket.
2. Secure the steel strip in place with adhesive tape.



12. A ball-ended hexagon drive bit is required to remove the sprocket securing bolt. A suitable tool is available from Snap On as (FABLM10E) Long Series 10mm AF.

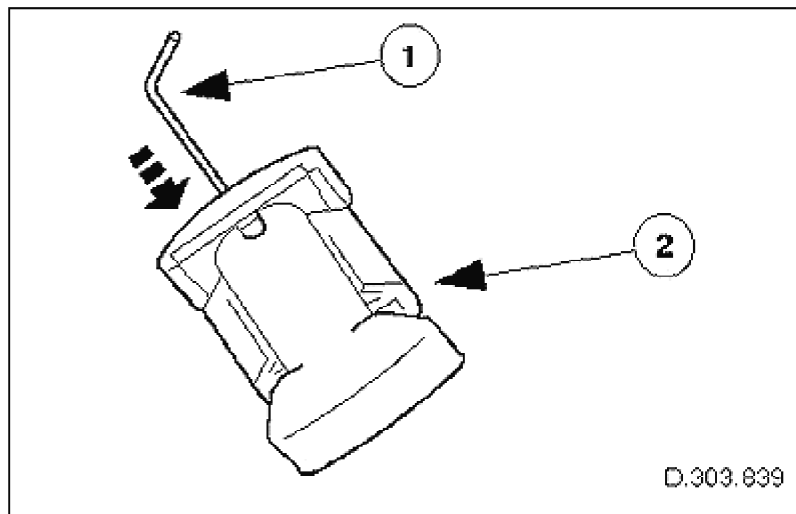


13. Remove the bolt which secures the sprocket to the exhaust camshaft.

- Move the sprocket forward from the camshaft boss.
- Remove the sprocket and leave the chain resting on the cylinder head.

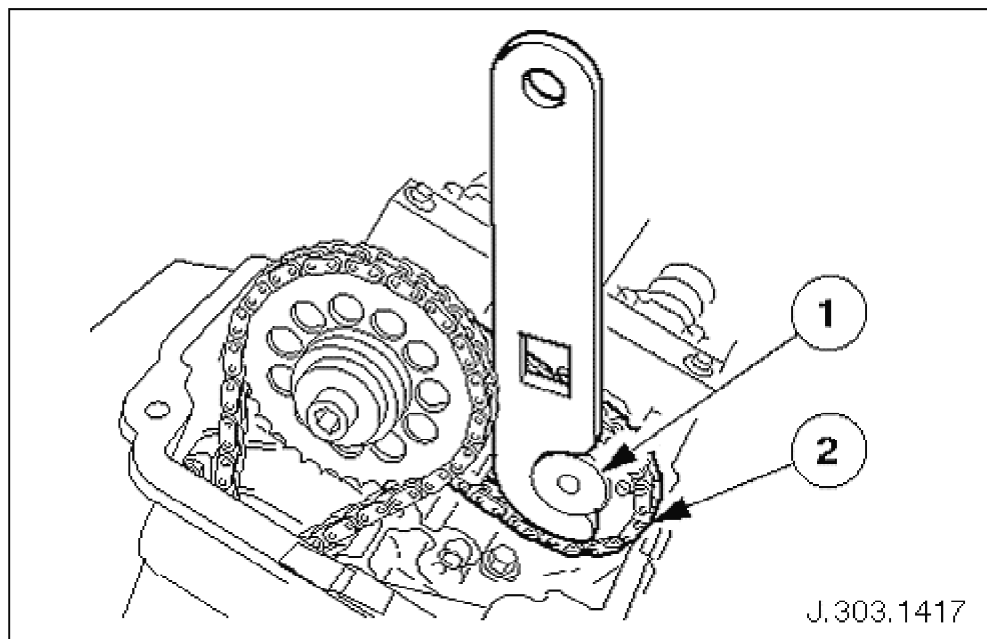
14. Clean and inspect all relevant components.

## Installation



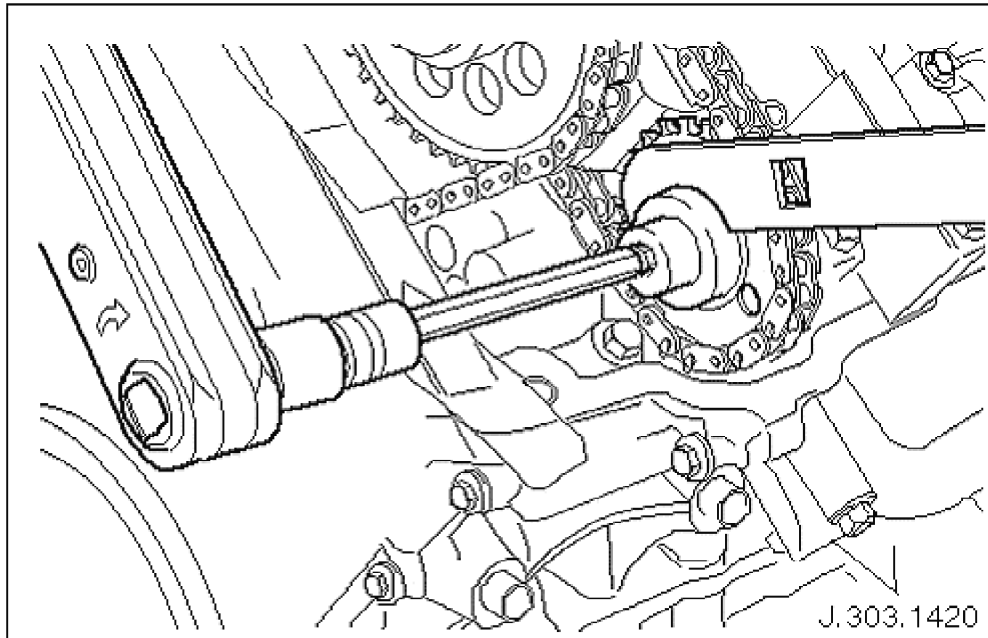
1. Push the tensioner piston into the body to provide clearance for installing. Tensioner fitted to cylinder head.

1. Insert a thin rigid wire through the hole in the end of the tensioner piston to displace the ball from the non-return valve seat.
2. With the wire in position, press the piston fully into the tensioner body.
  - Remove the wire.



2. Install the sprocket to the secondary chain.

1. With the sprocket installed to the chain, temporarily position the sprocket onto the camshaft.
2. Adjust the position of the sprocket within the chain to allow the chain tensioning tool 303-532 to be approximately vertical, as shown.



3. Install the camshaft sprocket.

- Install the bolt to secure the sprocket.
- Apply force to the tool (303-532) in an anti-clockwise direction to tension the chain on its drive side.
- Whilst applying the opposing force to the sprocket and chain, tighten the sprocket securing bolt to 115-125 Nm.
- Remove the chain tensioning tool.

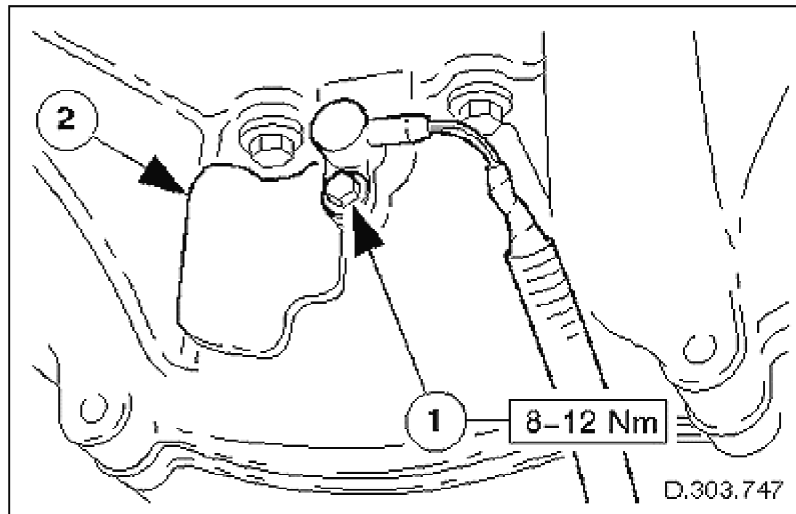
4. Remove the tape and steel strip from the timing cover upper face. Wipe any residue of tape from the joint face.

5. Remove the camshaft locking tool.

6. Install the Cam Cover to Bank 2. Refer to Operation <<12.29.43>>.

7. Raise the vehicle on the ramp.

8. Remove the crankshaft setting tool 303-531.



9. Install the crankshaft position sensor.

1. Install the sensor to the flywheel housing and fit the securing bolt. Tighten to 8-12 Nm.
2. Install the access grommet to the housing.

10. Lower the ramp.

11. Remove the paint protection sheets and close the engine compartment cover.

Connect the battery and install the battery cover.

<<86.15.15>>