

### 4-9-6 X-axis plate spring replacement



- Be sure to set the main power breaker to OFF before replacing the X-axis plate springs.



- The plate springs to be replaced are installed inside the machine. Be extra careful not to get injured during the replacement.

The X-axis plate springs mounted on the carriage have the function of preventing large chips from entering the LM guide. During operation, therefore, pay continued careful attention to damage to the surfaces of the plate springs or both sides of each due to chips. Replace any damaged plate springs.

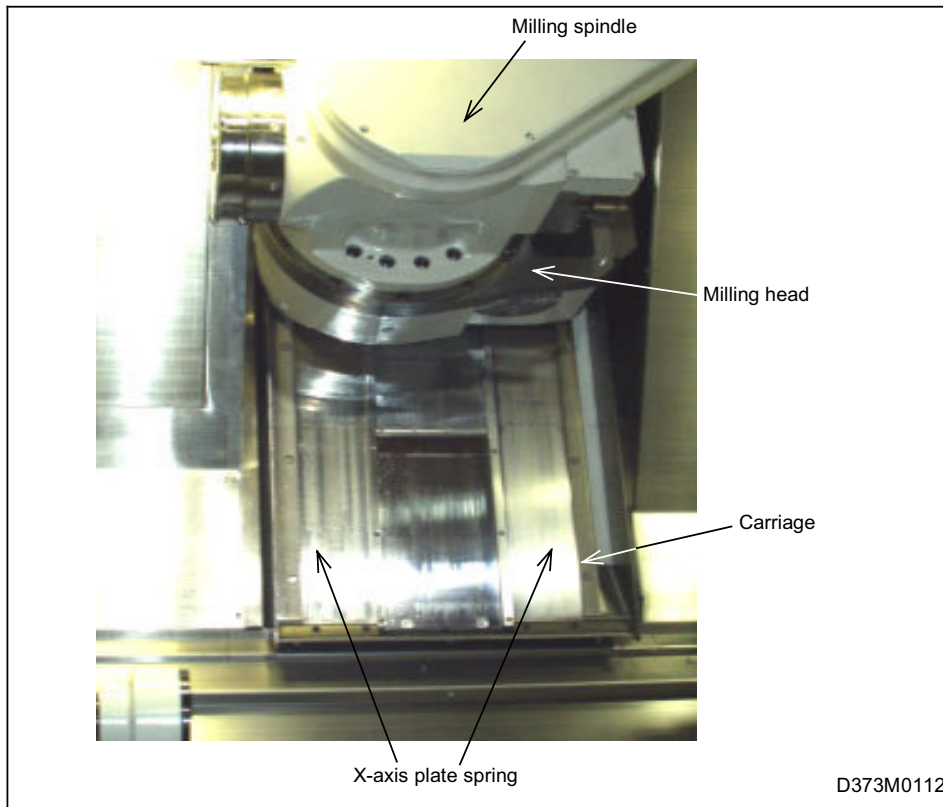


Fig. 4-59 X-axis plate spring replacement

#### Replacement parts of the X-axis plate spring

Part name	Parts No.	Quantity
Plate spring	43743569121	2

**1. X-axis plate spring replacement procedure**

- (1) Release tension by tightening the plate spring tension-adjusting bolt (C) located at the top of the carriage.

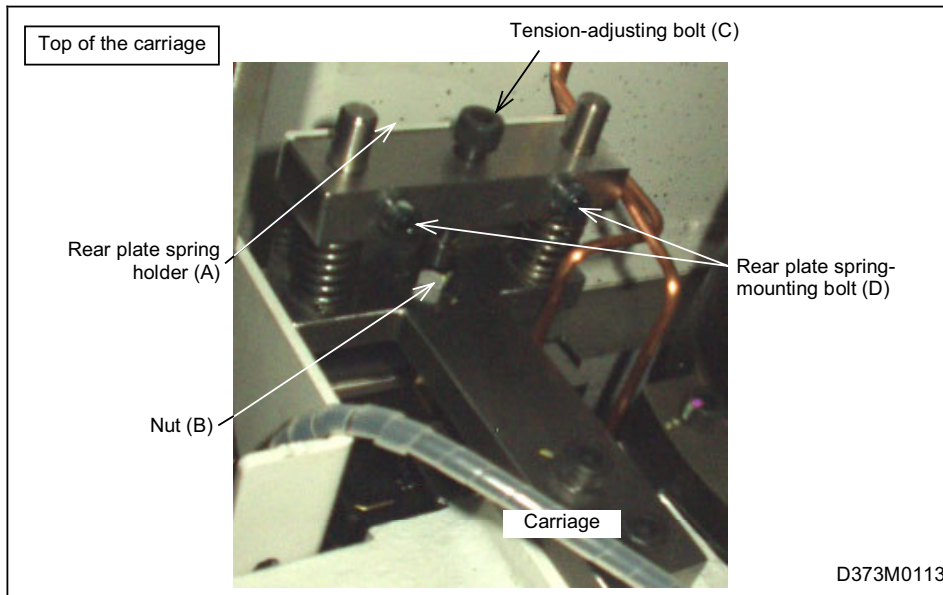


Fig. 4-60 X-axis plate spring replacement procedure (1/5)

- (2) Remove the plate spring guide-mounting block (E) located at the bottom of the turret base. At this time, remove any chips stuck in the liner (H) attached to the plate spring guide (F). If the liner (H) has already peeled off, please contact the Yamazaki Mazak service representative in your area.

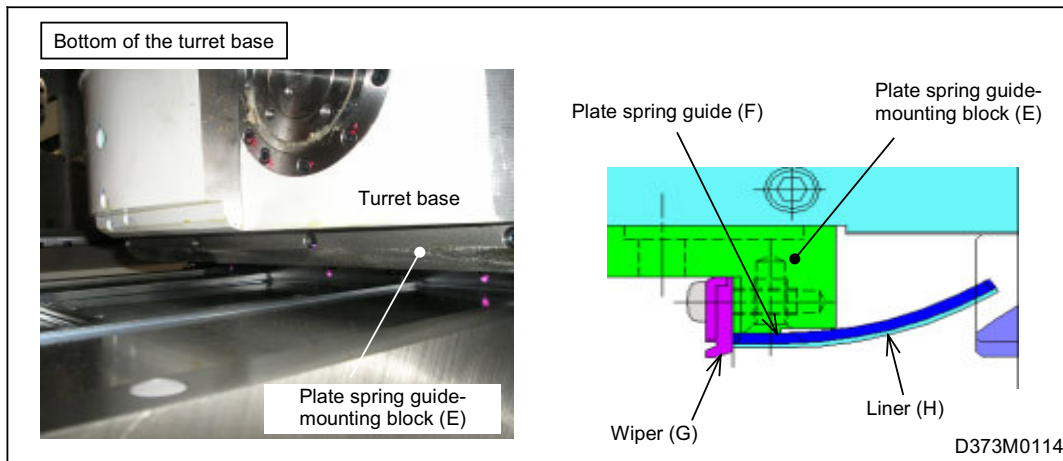


Fig. 4-61 X-axis plate spring replacement procedure (2/5)

- (3) Remove the front plate spring holder (L). However, do not remove the plate spring (J) at this time.

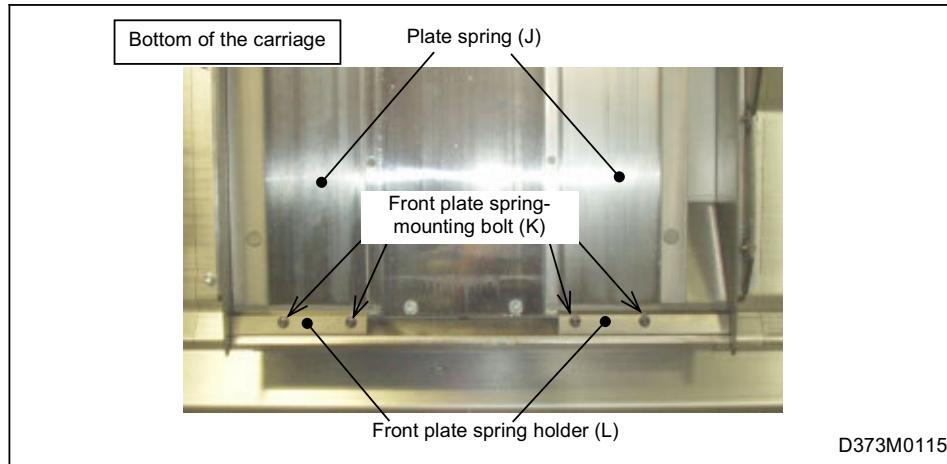


Fig. 4-62 X-axis plate spring replacement procedure (3/5)

- (4) Lift the front side of the plate spring (J) and clear away any chips sticking to the linear guide section and the plate spring guide section. Also, remove any chips stuck in the liner (N) of the X-axis LM guide upper block (M). If the liner (N) has already peeled off, please contact the Yamazaki Mazak service representative in your area.

**Note:** When cleaning, do not use an air gun. Otherwise, removal of chips will not be possible since they will enter the machine interior.

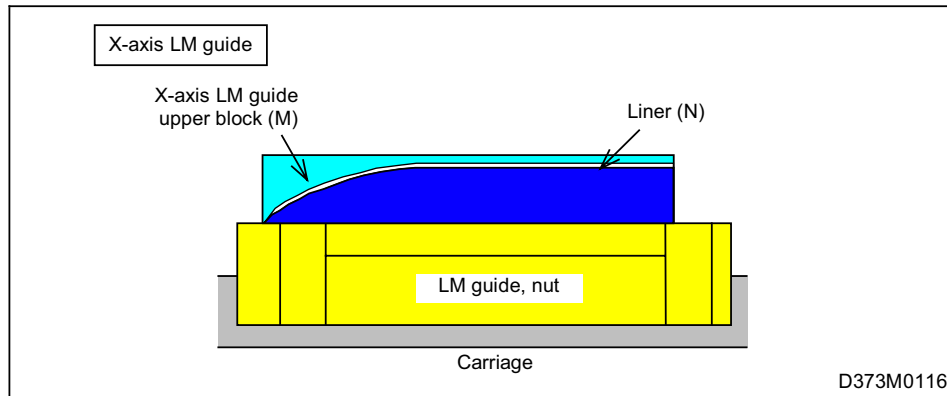


Fig. 4-63 X-axis plate spring replacement procedure (4/5)

- (5) Insert a new plate spring (J) from the top of the turret base, and pull out the front end of the plate spring from the bottom of the turret base. After this, also remove the old spring (J).
- (6) Remove the rear plate spring holder (A) from the top of the carriage and then fix the rear end of the new plate spring (J) using the rear plate spring holder (A) and the rear plate spring-mounting bolt (D).
- (7) Fix the front end of the new plate spring (J) using the front plate spring holder (L) and the front plate spring-mounting bolt (K).

**Note:** If the front plate spring-mounting bolt (K) is loose, sliding resistance or other factors could elongate the mounting holes of the plate spring (J), thus upheaving the plate spring.

- (8) Mount the plate spring guide-mounting block (E) at the bottom of the turret base. At this time, make sure that the wiper (G) is in a properly mounted condition.

### Precautions for confirming the holding allowance

- There must be traces of wiper contact on the entire surface of the plate spring.
- The traces of wiper contact on the surface of the plate spring must be parallel and not too deep.

<Holding allowance:  $0.5 \pm 0.2$  mm ( $0.020 \pm 0.008$  in.)>

\* Measure the distance from the top of the wiper (G) to the plate spring outer guide (P).

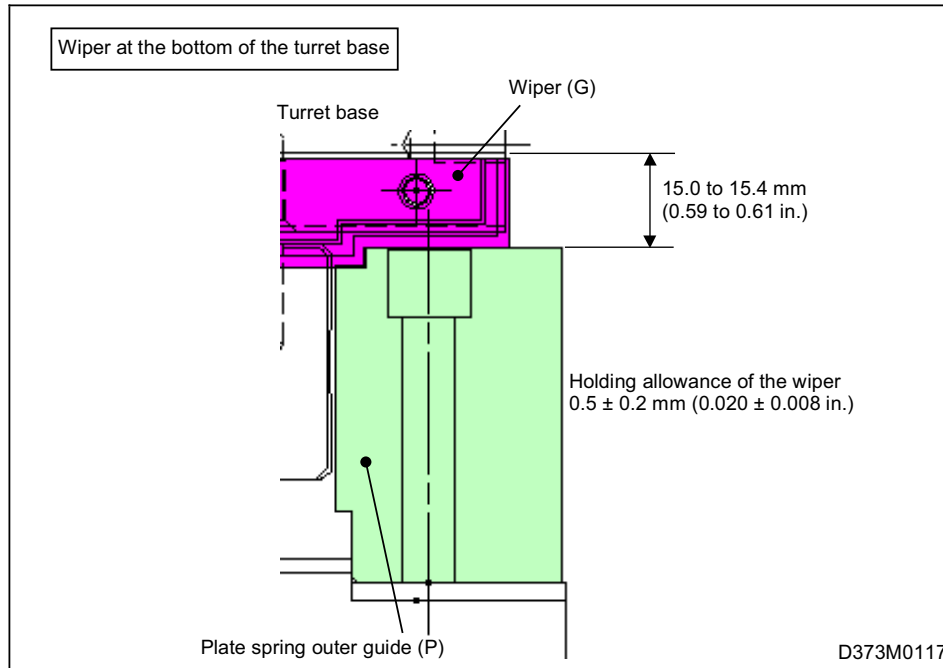


Fig. 4-64 X-axis plate spring replacement procedure (5/5)

- (9) Apply tension by loosening the plate spring tension-adjusting bolt (C) at the top of the carriage.
- (10) Make sure that the plate spring tension-adjusting bolt (C) has a clearance, and then lock the bolt by fastening the nut (B).
- (11) Verify that there is no upheaval of the plate spring (J).

**Note 1:** If upheaval is observed, correct the warping of the plate spring by loosening the front plate spring-mounting bolt (K), and then retighten the bolt (K).

**Note 2:** Upheaval of the plate spring could result in early damage.