

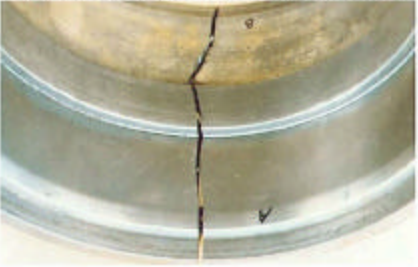




3 Cracks and Chips

Phenomena, causes and countermeasures		Examples of failures
Phenomena	<ul style="list-style-type: none"> ■ Cracks include slight cracks, splitting and fracture. ● Chips are a type of failure occurring at a certain part of a bearing ring rib or corner of a roller. 	<ul style="list-style-type: none"> ■ Crack and chip in a Spherical Roller Bearing  (A-6395) ● Crack on outer ring of Four-Point Contact Ball Bearing Crack starting from key groove on O.D. surface  (A-6625) ■ Crack in outer ring of Double-Row Cylindrical Roller Bearing  (A-6626) ● Chip in outer ring rib of Cylindrical Roller Bearing  (A-6655) ● Chip in outer ring rib of Cylindrical Roller Bearing  (A-6656)
Causes	<ul style="list-style-type: none"> ■ Cracks <ol style="list-style-type: none"> 1) Heavy load. 2) Excessively heavy internal load caused by improper installation. 3) Excessive interference at fitting, or shaft and housing of improper shape. 4) Instantaneous heat generation of bearing caused by sudden sliding at rolling surface, sliding surface or fitting surface. 5) Abnormal heat is generated due to shortage of lubricant. ● Chips <ol style="list-style-type: none"> 1) Abnormally heavy axial load or impact load. 2) Partial impact of hammer or other tool used when bearing is mounting or dismounting. 	
Countermeasures	<ul style="list-style-type: none"> ■ Cracks <ol style="list-style-type: none"> a) Investigation followed by countermeasures for excessively heavy load. b) Removal of thermal impact. c) Improvement of interference (decrease of interference.) ● Chips <ol style="list-style-type: none"> a) Improvement of mounting and dismounting procedures. b) Improvement of handling method. c) Investigation followed by countermeasures for excessively heavy load. 	