

Failure Checklist - Oil Seal / Rotary Shaft Seal

SYMPTOM	CAUSE	RECOMMENDED ACTION
Oil Seal rotates with shaft	Seal O.D smaller than bore I.D	Select correct size seal and replace
Oil Seal moves in axial direction along the shaft	Seal O.D smaller than bore I.D and caused by the rotating of shaft or the internal pressure	Select correct size seal and replace
Seal installed in declining condition	The I.D of housing bore is undersized, incorrect means of installation causing the seal to be misaligned	Ensure housing bore is correct size
The deformation of the metal case	Use of incorrect tool to install the seal	Use correct installation tool
The damage on the case O.D	The finish of housing is not correct and / or incorrect means of installation Dirt adhering to the seal O.D or the housing I.D	Ensuring housing size is correct Use correct installation tool
Lip worn seriously	Insufficient lubrication Application design restricts lubricant access to seal lip	Ensure sufficient lubricant Change design to ensure seal lip is accessible to lubricant
Lip worn seriously	Inner pressure too high	Change seal design to pressure type
Lip partially worn	Seal partially installed T.I.R of I.D and O.D are too big	Select seal which T.I.R is suitable
Lip partially worn	Seal misaligned in housing	Ensure housing bore is correct Use correct installation tool
Lip hardened worn and cracked	High temperature / shaft rotation speed / pressure	Select a suitable compound type Supply sufficient lubricant
Lip material swollen	Incorrect compound selection	Select the correct compound
Lip scratched	The shaft surface is not smooth Scratch caused by incorrect installation tool	Let all the lip configuration clear Install seal correctly
Lip turning out	Incorrect installation Inner pressure too high	Lubricate the lip and shaft before installation Use pressure type seal
Crack on the base of flex section	Inner pressure too high Sudden pressure strike on the flex section	Use high pressure type seals
Spring dislodged from spring groove	Shaft chamfer is incorrect Incorrect installation The retainer lip is too short	Finish the shaft chamfer and lubricate the shaft before installation Be careful while installing Change the seal design



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