

**WARNING**

**IN ADDITION TO NORMAL DISCLAIMER STATEMENTS DOCUMENTED IN ADORE INPUTS AND OUTPUTS THE USER OF THIS EVALUATION PACKAGE MUST ACCEPT THE FOLLOWING TERMS BEFORE CONTINUING TO USE THIS SOFTWARE:**

- 1. THIS SOFTWARE PACKAGE SHALL ONLY BE USED FOR EVALUATION OF CAPABILITIES OF ADORE AND RELATED FACILITIES TO FACILITATE A PURCHASE DECISION.**
- 2. THE SOFTWARE SHALL NOT BE USED FOR ANY COMMERCIAL APPLICATION.**
- 3. UPON COMPLETION OF THE EVALUATION TASK THE SOFTWARE AND ALL RELATED DATA SHALL BE DESTROYED.**

**USER COOPERATION IN OBSERVING THE ABOVE TERMS IS GRATEFULLY APPRECIATED. USE THE CONTACT INFORMATION PROVIDED ON THE LAST PAGE OF THIS DOCUMENT TO REPORT ANY QUESTIONS AND/OR CONCERNS.**

---

**Background**

ADORE is normally distributed in source code form and the user is responsible for compiling the code and creating the appropriate executables. This evaluation package, however, consists of only executable codes and no compilation is required. Except for added licensing terms, in the program input/output procedures, there are no restrictions and/or limitations. The code should demonstrate most of the current capabilities of ADORE and the related input/output facilities.

**System Requirements and Prerequisites**

1. Windows or Macintosh computing platform.
2. Runtime Java Environment - Free Download from Oracle website.
3. Depending on the length of planned dynamic simulations, up to 10 GB of hard disk space.
4. User should be familiar with command line operation of the computer system, system environmental variables and related settings.

**Contents of AdoreEvaluation Zip File**

**Root Directory**

ReadMe.pdf	This instructions file
adoreManual.pdf	Adore user's manual
TestCases	Example input/output files
.../Ball	Ball Bearing example
Data.txt:	Typical Adore Input Data File

	Print.txt:	Print output file
	SOL1:	Ball motion plot data
	SOL2:	Cage motion plot data
	SOL7:	Overall performance parameters
	SOL8:	Animation data
.../Roller	Cylindrical Roller Bearing	
	Contents similar to those for ball bearing	
.../TaperedRoller	Tapered Roller Bearing	
	Contents similar to those for ball bearing	
bin	Directory of executable codes	
	Adore	Adore Fortran Executable
	AdrInput.jar	Adore Java Input Facility
	AdrPlot.jar	Adore Java Plot Facility
	Agore.jar	Adore Java Animation Facility

## Command Syntax

A forward slash ("/") is used in all commands below to specify location of a particular file. This is only acceptable on the Macintosh system. On a Windows system, the forward slash should be substituted by a back slash ("\").

## Installation Instructions

- Unzip the zip file in any convenient directory on the hard drive.
- The unzipped root directory will be either AdoreEvaluationMac on the Macintosh system or AdoreEvaluationWin on the Windows platform. For brevity this directory may be renamed as AdoreEvaluation.
- On Windows system Append the environmental PATH variable to contain .../AdoreEvaluation/bin.
- On Macintosh system in the Terminal application modify the RUN command under the Shell tab in Preferences to include the path .../AdoreEvaluation/bin.
- On a Windows system short cuts to the Java applications AdrInput.jar, AdrPlot.jar and Agore.jar may be installed on the desktop.
- On a Macintosh system the Java applications may be simply dragged in the dock.

## Test Installation

- Create a run directory (for example *AdoreRuns*) anywhere on the system.
- Create a subdirectory (for example *Test*) for a test case within the run directory.
- Copy a test input data file (for example .../AdoreEvaluation/TestCases/Ball/DATA.txt) to the current *Test* directory

- On the Windows system use the command prompt window and navigate to the current *Test* directory.
- On Macintosh system open the Terminal application and navigate to the current *Test* directory.
- Issue a command `Adore`. This should execute `ADORE`. If not check the setup for `PATH` variable.
- Compare the print output in file `PRINT.txt` with the corresponding `PRINT.txt` file supplied in the `AdoreEvaluation/TestCases` directory. The results for step zero output should compare almost exactly.
- To test the input facility double click the `AdrInput.jar` icon on the desktop on a Windows system, or in the dock on a Macintosh system. The application should run if the Java runtime facility is installed. In the event it does not run, execute the following command in command prompt window on a Windows system or in the Terminal application window on a Macintosh system:  

```
java -jar "../AdoreEvaluation/bin/AdrInput.jar"
```

If an invalid command message appears, then Java runtime is not installed. Install this environment from Oracle website and retry.
- To test the plot facility double click the `AdrPlot.jar` icon on the desktop on a Windows system, or in the dock on a Macintosh system. The application should run if the Java runtime facility is installed. If not follow the procedure presented above for `AdrInput`. If the application runs open the file `SOL2` in the current *Test* directory. This should display the cage motion plots.
- To test the animation facility double click the `Agore.jar` icon on the desktop on a Windows system, or in the dock on a Macintosh system. The application should run if the Java runtime facility is installed. If not follow the procedure presented above for `AdrInput`. If the application runs open the `SOL8` in the current *Test* directory. This should display the bearing animation.

### Executing any Arbitrary Test Case

`ADORE` is perhaps the most advanced dynamic performance tool for rolling bearing performance simulation. Due to a large range of options and variability in bearing geometry and operating environments there are a rather large number of input variables. In addition, with access to full source code, under normal software distribution, varying amount of customization may be performed to model some of the most complex operating environments. In fact, any of the interaction models may be replaced by user customized codes to model highly complex interactions for specialized applications. Since this evaluation version of the code only consists of executables, it may not be possible to evaluate some of these advanced customization capabilities. However, with adequate flexibility in input data options the overall modeling procedures and general strength of the code may be easily evaluated for prescribed application domains.

There are three steps to modeling bearing performance with `ADORE`:

- Preparation of input data.
- Execution of `ADORE`.

- Examination of output.

Since ADORE generates a number of data files during execution, it is best to run each test case in command line mode in a separate directory. This keeps all the files for a given run together and provides easy data access. Typical procedure for running a case consists of the following:

- Create an empty run directory for the case,
- Execute AdrInput to start input preparation.
- Prepare the inputs relevant to the case by following interactive instructions along with more detailed instructions in ADORE User Manual.
- Upon completion of the input save the input file as DATA.txt in the current run directory.
- Execute Adore to run ADORE and obtain the solutions.
- Examine the PRINT.txt file to review print output for the run.
- Execute AdrPlot to examine the output in graphic form.
- Execute Agore to look at animated view of bearing element motion.

### Limitations of the Evaluation Version

In addition to no access to ADORE source code and customized programming, the maximum number of time steps is limited to 1,000 with no sub-steps in the evaluation version of the software. In most cases this should be adequate for evaluation purposes. However, for advanced applications, which require dynamic simulation over extended times to fully evaluate ADORE capabilities, the user is encouraged to use the contact information below to describe the applications and requirements to complete the evaluation process.

### Technical Support Options

Due to the complexity associated with realistic modeling of true dynamic performance of rolling bearings, there is a definite learning curve to most productive use of ADORE. It is anticipated that typical users may have a number of simple “how to” questions upon start up. For simple installation related questions, the user is encouraged to use the contact information below. For somewhat more advanced technical assistance in evaluating the code for given application domain short term technical support, Option E (check ADORE options and price schedule), is offered to provide technical support via email and phone calls.

Any problems and/or suggestions to improve this evaluation package will be greatly appreciated. Please use the contact information provided below.

### Contact Information

Dr. Pradeep K. Gupta  
PKG Inc  
Mobile Phone: +1 518-383-1167  
Email: [guptap@PradeepKGuptaInc.com](mailto:guptap@PradeepKGuptaInc.com)