# Checkpoints and Recovery
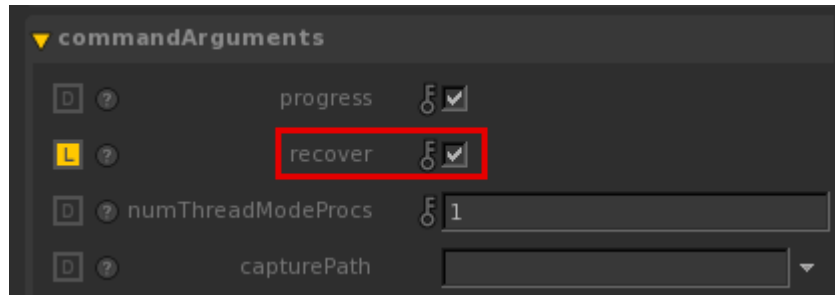
## Recovery

There are two ways to enable prman's recover mode

1. For interactive disk rendering use the `recover` attribute in PrmanGlobalStatements:

```
prmanStatements.commandArguments.recover
```



2. For farm rendering there is an environment variable:

```
setenv RFK_RMAN_RECOVER
```

When the recover mode is enabled the '-recover' flag will be passed to the prman command line. This flag tells prman to pick up where an existing render left off instead of blowing away an existing output file. If no output file is found it will do a normal render.

## Checkpoints

Render recovery is often used with checkpointing, enabled via the PrmanGlobalStatements "checkpoint" options:

```
prmanStatements.options.checkpoint.interval
prmanStatements.options.checkpoint.exitat
prmanStatements.options.checkpoint.keepfiles
prmanStatements.options.checkpoint.command
```
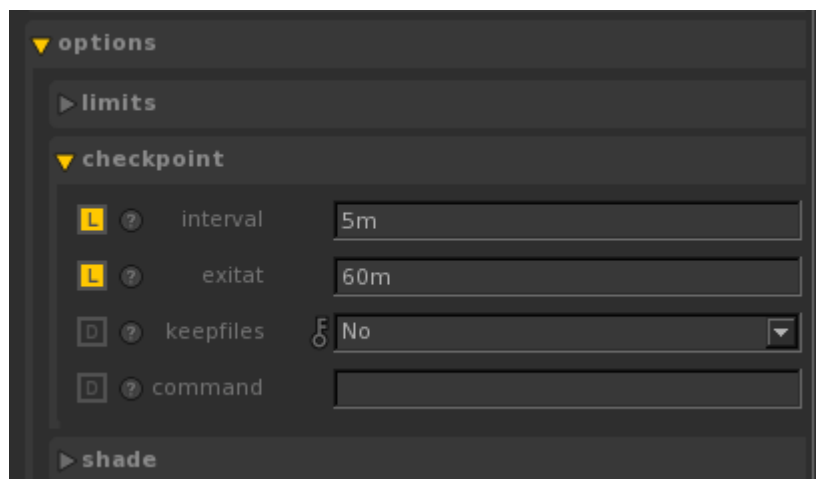


## Caveats

### Live Rendering

All checkpoint and recover options are ignored during live rendering.

**Output Type and Render Post-processing**

Because prman needs to have the original filename in order to recover a render both checkpoint and recover options are ignored for "color" outputs. Note this means that Katana's normal "copy and convert" post-render process will not run.

**Incremental Renders**

Incremental renders are not recoverable without checkpointing enabled. With incremental on and checkpoints off the buckets are not written out until the end of the render. See table below:

| incremental | checkpoints | recoverable? |
|---|---|---|
| on | disabled | NO |
| on | enabled | YES |
| off | disabled | YES |
| off | enabled | YES |

*Recoverable Render Settings*

**Recovery and 'keepfiles'**

Do not enable the keepfiles option for checkpointing if you want to use the recover capability.

```
Option "checkpoint" "uniform int keepfiles" [0]
```

The keepfiles option causes prman to save a sequence of checkpoints for debugging purposes giving each checkpoint image a unique file name tagged with increment and elapsed render time. However, when attempting to recover a file prman won't scan your directory for checkpointed files or try to choose one, it will only look for the file by the original render output name.