|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | | |  |
|  |  | | |  |
|  | Function Group Spec  Climate System  <<Logical>> (Allocated) | | |  |
|  |  |
|  |  |
|  |  | | |  |
| Document Type | **Function Specification** | | |  |
| Template Version | **6.0** | | |  |
| SysML Report Template Version | **O Beta (11/6/2019)** | | |  |
| Document ID | **functionspec\_sysmlreporttemplate** | | |  |
| Document Location |  | | |  |
| Document Owner | **MyName** | | |  |
| Document Revision | **FGS0** | | |  |
| Document Status | **Draft** | | |  |
| Date Issued | **2021-02-16** | | |  |
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| Document Classification | GIS1 Item Number: | **27.60/35** | |  |
| GIS2 Classification: | **Confidential** | |
|  | | | | |
|  | | | | |
| Document Approval | | | | |
| Name | Role | | Email Confirmation | Date |
|  |  | |  |  |
|  |  | |  |  |

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# Introduction

## Document Purpose

The Function (Group) Specification (FS) specifies an individual function / a group of functions.

To get more information about the concept of feature, function and component level abstraction refer to the [Ford RE Wiki](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Engineering+for+SW+Enabled+Features).

## Document Scope

The following set of functions from the [Global Feature & Function List](https://www.vsemweb.ford.com:443/tc/launchapp?-attach=true&-s=226TCSession&-o=ZmZNi0JHx3NrTDAAAAAAAAAAAAA) is described in this specification.

|  |  |  |  |
| --- | --- | --- | --- |
| **Function ID** | **Function Name** | **Owner** | **Reference** |
|  |  |  |  |

**Table 2: Functions described in this specification**

## Document Audience

The FS is authored by the owners of the individual functions. All Stakeholders, i.e., all people who have a valid interest in the functions and their behavior should read and, if possible, review the FS. It needs to be guaranteed, that all stakeholders have access to the currently valid version of the FS.

**#Hint:** The FS template has the IP Classification “Proprietary” by default. IP Classification “Confidential” might be required in some cases, e.g. by Ford Functional Safety.

### Stakeholder List

For the latest list of the feature stakeholder and their roles & responsibilities refer to <Put VSEM Link here>.

**#Hint:** Refer to [Ford RE Wiki – Stakeholder List](http://wiki.ford.com/display/RequirementsEngineering/Stakeholder+Analysis) on how to create a stakeholder list. The stakeholder list should be stored in VSEM in the pseudo folder “General Data Artifacts” of the corresponding function.

## Document Organization

### Document Context

Refer to the [Specification Structure page](http://wiki.ford.com/display/RequirementsEngineering/Specification+templates) in the [Ford RE Wiki](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Engineering+for+SW+Enabled+Features) to understand how the FS relates to other Ford Requirements Documents and Specifications.

### Document Structure

The structure of this document is explained below:

**Section 1** – Introduction how to use this document including responsibilities and requisite documents. Explains the terminology. Gives a clarification of the definitions, concepts and abbreviations used in the document.

**Section 2** – Function Group Description. Gives an overview and the purpose of the function group.

**Section 3** – Functional Architecture: Specifies the overall functional architecture of the function group

**Section 4** – Function Specifications: Specifies the logical functions of the function group in detail

**Section 5** – List of Open Concerns

**Section 6** Revision history including a list of new or modified requirements. The requirements in this document are tagged, and this section contains different types of tables listing all, new, or changed requirements by their title and page no.

**Section 7** – Appendix: Presenting additional data mainly in a tabular form, e.g., a data dictionary

**#Hint:** All sections are mandatory, unless explicitly marked by the tag “#Classification” as “optional” or as applicable e.g. to certain domains like “Functional Safety”.

## Document Conventions

### Requirements Templates

Each requirement, use case or scenario in this specification shall follow the corresponding template given in the document template *Specification\_Macros.dotm* at [RE Wiki - Specification Templates](http://wiki.ford.com/display/RequirementsEngineering/Specification+templates?src=contextnavpagetreemode).

#### Identification of Requirements

#### Requirements Attributes

The templates provided by *Specification\_Macros.dotm* define a list of attributes for each requirement. This helps to classify the requirement. The attributes are explained at [RE Wiki - Requirements Attributes](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes?src=contextnavpagetreemode).

# Function Group Description

**#Classification:** Function Group only (remove section, if only a single Function is specified in this document)

**#Hint**: Provide an overview / a description of the Function Group

This Function Group consists of all functions allocated to 970518553.jpg **Climate System** <<Logical>> including all functions in their corresponding call trees.

Description of Climate System:

Periodic Park Purge and Unlock Park Purge communicate with EM Registers through the Climate System. They are a part of the Climate system.

# Functional Architecture

**#Classification:** Function Group only (remove section, if only a single Function is specified in this document)

**#Hint:** The Functional Architecture shall reflect the result of the functional decomposition for a given feature or parts of it.

Refer to the [*RE Wiki – Functional Decomposition*](http://wiki.ford.com/display/RequirementsEngineering/Functional+Analysis+and+Architecture) for some guidance on how to decompose a feature into functions, i.e., how to find the right functional partitioning for the function level. The functions shown here are those, which are specified in section 5 “Function Specifications”.

## Description

**#Hint:** Provide some informal description of the characteristics of the chosen architecture. Also give some graphical representation of the Functional Architecture. Either SysML Internal Block diagrams or [Data Flow Diagrams](http://wiki.ford.com/display/RequirementsEngineering/Data+Flow+Diagram?src=contextnavpagetreemode) could be used to depict such a Functional Architecture.

**#Link:** [*SysML – Internal Block Diagrams*](https://pd3.spt.ford.com/sites/SystemsEngineering/SEC/sysml-teamsite/SysML%20Wiki/Internal%20Block%20Diagram%20Basics.aspx) or [*RE Wiki - Data Flow Diagrams*](http://wiki.ford.com/display/RequirementsEngineering/Data+Flow+Diagram?src=contextnavpagetreemodehttp://wiki.ford.com/display/RequirementsEngineering/Data+Flow+Diagram?src=contextnavpagetreemode)

## Function List

|  |  |  |  |
| --- | --- | --- | --- |
| **Function ID** | **Function Name** | **Function Description** | **ASIL** |
|  | 569628064.jpg [Provide Climate system with User Input](#_50bd3f022200fcabfc8688251ad91e56) <<System Function>> | Senses user input and gives said input/selection to the Climate system. |  |
|  | 105625660.jpg [Retrieve LastPosition Value](#_33fd98995b3c47283e8bd48d76865366) <<Subsystem Function>> | Retrieve the LastPosition position value from memory. |  |
|  | 569628064.jpg [Save Positions](#_10e55dde9493bfadaa76f428f2d1b7d8) <<System Function>> | Saves the registers position every time the registers are moved by the user through "manually" moving the registers or through selecting a preset. |  |
|  | 569628064.jpg [Save LastPosition of Corresponding Registers to Selected Preset](#_12d433653b6c1f42157259f6dcd80666) <<System Function>> | Saves the LastPosition to the selected preset. This allows for the presets to be programmed with the current register positions. |  |
|  | 105625660.jpg [Send Move Command to Actuators](#_dbc460f76cb7ce34861f725fb2ccdbdd) <<Subsystem Function>> | Register Controller sends move request to the register actuators to move the registers. |  |
|  | 569628064.jpg [Move Corresponding Registers to Received Position](#_5219b2dc880b60ac1d10c91499618037) <<System Function>> | General Function that will move the registers to the directed position. |  |
|  | 105625660.jpg [Detect User Input](#_c89354962997b027dab358481fb9d137) <<Subsystem Function>> | senses user input from HMI |  |
|  | 569628064.jpg [Move Registers to HOME](#_2906be7ccb93b90a5e58e472e0e7ca70) <<System Function>> | Will move the registers to the HOME position every time the vehicle state transitions to OFF. |  |
|  | 105625660.jpg [Retrieve Registers' Positions](#_a2fbd345f943d530c36ffb78beb4b4c2) <<Subsystem Function>> | Sense the registers physical position and gives that position to the Climate system |  |
|  | 105625660.jpg [Save to LastPosition](#_53eba03d9f75ec7036c38aa39e1fec29) <<Subsystem Function>> | Saves the new register position to the LastPosition every time it receives a move register command |  |
|  | 105625660.jpg [Move to Requested Position](#_c9b37eb1e2cd1f4e980827e78c3abbe3) <<Subsystem Function>> | Registers move to the requested position. |  |
|  | 105625660.jpg [Send Feedback to HMI](#_060d1652ecc7458a35619ab17477158f) <<Subsystem Function>> | Sends feedback to the HMI to display when the HMI display is shown next. |  |
|  | 105625660.jpg [Save LastPosition to BeforeClosedPosition](#_f1e76c76a90cf86f748b5094aa8b7227) <<Subsystem Function>> | Saves LastPosition to BeforeClosedPosition every time ButtonPressed is a close command |  |
|  | 105625660.jpg [Provide User move register move commands](#_13012cf47a14aa7313ba181063920a89)  <<Subsystem Function>> | provides move register move commands |  |
|  | 105625660.jpg [Retrieve HOME Value](#_4ff1bcd652274f14a3ca205ff6fdb4e3) <<Subsystem Function>> | Retrieve the HOME position value from memory. |  |
|  | 569628064.jpg [Move Registers to LastPosition](#_b1d880af0f35ad801808cda600e233d9) <<System Function>> | Will move the registers to the LastPosition every time the vehicle state transitions to the ON state. |  |

Table 3: List of Logical Functions

## Signal List

Refer to the [Data Dictionary](#_Data_Dictionary) - [Logical Signals](#_Logical_Signals).

# Function Specifications

## 105625660.jpg Detect User Input

### Function Overview

#### Description

**#Hint:** Some descriptive text to explain the purpose and functionality of the function.

Function is allocated to:

* 143394815.jpg Analyze Input <<System Function>>
* 970518553.jpg EM Registers Vehicle Domain <<Logical>>
* 143394815.jpg Provide UserInput <<Logical>>
* -904097280.jpg Register Controller <<Logical>>
* 143394815.jpg Request Register Change <<Logical>>

senses user input from HMI

#### Variants

**#Classification**: Mandatory (State “Not applicable”, if not used)

**#Hint:** If different variants of the same function are specified in this section, list those variants in the table below.

Variants on Function level could be driven technology or feature content. Example: There could be a “Low Content” and a “High Content” variant of some exterior lighting function. The Low Content variant applies for Conventional Headlight technology, the High Content variant applies for LED and Xenon technology. In this case we call the different technologies the Variant Options (for the time being you could think of them as Logical Parameters) which the Variant depends on. The optional column “Variant condition” allows to express the dependency of a Variant based on Variant Options/Logical Parameters.

If requirements/signals are not applicable for all variants/variant options, those requirements should state explicitly, which function variant/variant option they apply to.

**#Link:** [RE Wiki – Variant Management](http://wiki.ford.com/display/RequirementsEngineering/Variant+Management).

*Not supported by MagicDraw report generation.*

#### Input Requirements

**#Classification**: Mandatory (State “Not applicable”, if not used)

**#Hint:** List any input requirements here (legal, Trustmark), which need to be taken into account, beyond what is specified in the corresponding Feature Documents.

*Not supported by MagicDraw report generation.*

#### Assumptions

**#Classification**: Mandatory (State “Not applicable”, if not used)

**#Hint:** A list of known assumptions concerning the effects of the function’s behavior on other functions or elements (i.e., dependencies) as well as assumptions on the behavior expected by the function (e.g. known limitations). During the course of the development most of those assumptions are typically either converted into actual requirements or discarded at some point – such that this chapter remains mostly empty.

No assumptions specified for this function.

#### References

##### Ford Documents

List here all Ford internal documents, which are directly related to the feature.

| **Reference** | **Title** | **Doc. ID** | **Revision** |
| --- | --- | --- | --- |
|  |  |  |  |

Table 5: Ford internal Documents *(not specified in model)*

##### External Documents and Publications

The list of external documents could include books, reports and online sources.

**#Hint:** You may refer to [IEEE Citation Reference](http://www.ieee.org/documents/ieeecitationref.pdf) on how to format a reference.

| **Reference** | **Document / Publication** |
| --- | --- |
|  |  |

Table 7: External documents and publications *(not specified in model)*

#### Glossary

See Appendix for Definitions and Abbreviations.

### Function Scope

The 105625660.jpg **– “Detect User Input”** function is called by the following functions:

* 569628064.jpg – “[Provide Climate system with User Input](#_50bd3f022200fcabfc8688251ad91e56)”

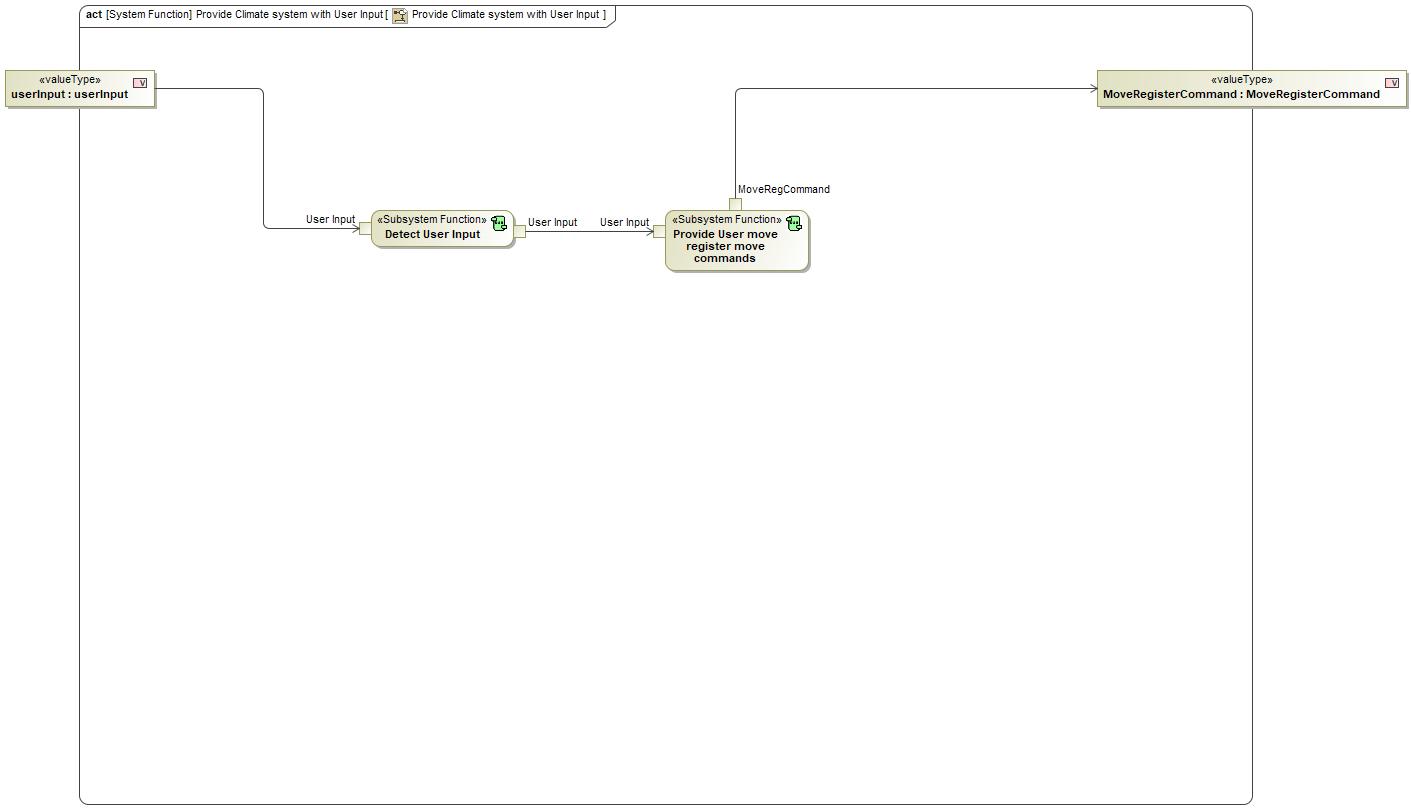


Figure : Activity Diagram of 569628064.jpg “Provide Climate system with User Input” calling 105625660.jpg “Detect User Input”

### Function Interfaces

**#Link:** [RE Wiki – Adding a Logical Signal or Parameter](http://wiki.ford.com/display/RequirementsEngineering/Adding+a+Logical+Signal+or+Parameter)

#### Logical Inputs

|  |  |
| --- | --- |
| **Signal Name** | **Description** |
| User Input  Type:  1020239328.jpg [userInput](#_92b25d8939283cda19386fd8ddedf11e) | Received from:   * 1261387158.jpg Activity Parameter Node: userInput |

#### Logical Outputs

|  |  |
| --- | --- |
| **Signal Name** | **Description** |
| User Input | Sent to:   * 105625660.jpg [Provide User move register move commands](#_13012cf47a14aa7313ba181063920a89) |

#### Logical Parameters

**#Hint**: Put requirements for parameters here, which are implemented as configuration parameters using Method 2 or 3 or as parameters for calibration.

*Not supported by MagicDraw report generation.*

### Function Modeling

**#Classification:** Mandatory

**#Hint:** Typical modeling artifacts in this section are State Machines, Activity Diagrams / Flow Charts, Decision Tables, and possibly Sequence Diagrams, which can all be used as techniques to analyze the function requirements.

**#Links:** Analyze / Model Requirements: [RE Wiki – Analyze / Model Requirements](http://wiki.ford.com/pages/viewpage.action?pageId=110594919&src=contextnavpagetreemode)

#### Use Cases

**#Classification:** Infotainment Only (remove section, if not used)

**#Hint:** Some Domains (e.g. Infotainment) use not only Customer Use Cases (in the Feature Doc), but refine Use Case descriptions down to function level. In general, the RE approach encourages the use of Use Cases on Feature Level but not on Function Level. Activity Diagrams are a more suitable way to express the same on Function Level.

**#Links:** Infotainment – “Harmony Systems Engineering” Approach

*Not supported by MagicDraw report generation.*

#### State Charts / Activity Diagrams / Sequence Diagrams / Decision Tables

**#Classification:** Mandatory

**#Hint:** It is highly recommended to use at least one of the following modeling techniques for modeling and analyzing the Function behavior and derived requirements (refer to sample diagrams below):

State Machines, Activity Diagrams / Flow Charts, or Decision Tables

Optionally, Sequence Diagrams might help to analyze the interaction between Functions.

**#Links:** Analyze / Model Requirements: [RE Wiki – Analyze / Model Requirements](http://wiki.ford.com/pages/viewpage.action?pageId=110594919&src=contextnavpagetreemode)

State Charts [RE Wiki – State Charts](http://wiki.ford.com/display/RequirementsEngineering/State+Charts?src=contextnavpagetreemode)

Activity Diagrams: [RE Wiki – Activity Diagram](http://wiki.ford.com/display/RequirementsEngineering/Activity+Diagram?src=contextnavpagetreemode), [SysML User Group – Activity Diagram Basics](https://pd3.spt.ford.com/sites/SystemsEngineering/SEC/sysml-teamsite/SysML%20Wiki/Activity%20Diagram%20Basics.aspx)

Sequence Diagrams: [RE Wiki – Sequence Chart](http://wiki.ford.com/display/RequirementsEngineering/Sequence+Chart?src=contextnavpagetreemode), [SysML User Group – Sequence Diagram Basics](https://pd3.spt.ford.com/sites/SystemsEngineering/SEC/sysml-teamsite/SysML%20Wiki/Sequence%20Diagram%20Basics.aspx)

No diagrams internal to function specified.

### Function Requirements

#Link: [*RE Wiki – How to write good requirements*](http://wiki.ford.com/display/RequirementsEngineering/How+to+write+better+requirements?src=contextnavpagetreemode)

#### Functional Requirements

***#Hint:*** *Please also consider specific situations like Initialization (Startup) and Deinitialization (Shutdown) apart from Normal Operation and Error Handling. E.g. a* state chart or activity diagram might help for better understanding.

##### Normal Operation

Detect User Input

When subsystem function receives the signal "userinput", it shall forward the signal to the subsystem function "Provide User Input"

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Requirement ID: | | | | | | | |
| **Rationale** |  | | | | | | |
| **Acceptance Criteria** |  | | | | | | |
| **Notes** |  | | | | | | |
| **Source** |  | | | | | **Owner** |  |
| **Source Req.** | * -1193871816.jpg HMI System Functionality * -1193871816.jpg Display Visual Feedback | | | | | **V&V Method** |  |
| **Type** |  | | | **Priority** |  | **Status** |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.0 | End of Requirement | | | | |

##### Error Handling

***#Hint:*** *FMEA counter measures could be considered as requirements in this chapter*

No Error Handling Requirements specified.

#### Non-Functional Requirements

***#Hint:*** *Non-functional requirements specify some performance criteria in addition to the functional behavior given defined by the functional requirements. Timing (if not already included in the functional requirements), security details (e.g. how secure does an algorithm have to be) or reliability (e.g. mean time between failure) could be specified in this section.*

No Non-Functional Requirements specified.

#### Functional Safety Requirements

**#Classification**: Functional Safety only – If not used, remove content and state “Not Applicable”

***#Hint:*** *Add Functional Safety Requirements (FSRs) derived for this function.*

**#Link:** [Functional Safety Sharepoint](https://pd3.spt.ford.com/sites/GlobalFunctionalSafety/Pages/default.aspx) – Functional Safety Concept

[RE Wiki - Requirements Attributes](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes)

No Functional Safety Requirements specified.

##### ASIL Decomposition of Functional Safety Requirements

**#Classification**: Functional Safety only – If not used, remove content and state “Not Applicable”

***#Hint:*** *Sometimes an ASIL decomposition of Functional Safety Requirements is required. The decomposed FSRs should be listed beneath each ASIL Decomposition table below and referenced inside the table by ID and Title*

**#Link:** [Functional Safety Sharepoint](https://pd3.spt.ford.com/sites/GlobalFunctionalSafety/Pages/default.aspx) – Functional Safety Concept

No Functional Safety Requirements with ASIL Decompositions specified.

#### Other Requirements

##### Design Requirements

***#Hint:*** *Requirements of a Logical Function should be typically agnostic of their SW/HW implementation*. If for specific reasons the function owner needs to define explicitly design constraints, it can be done in this chapter.

No Design Requirements specified.

## 569628064.jpg Move Corresponding Registers to Received Position

### Function Overview

#### Description

Function is allocated to:

* 970518553.jpg Climate System <<Logical>>
* 970518553.jpg EM Registers <<Logical>>
* 970518553.jpg EM Registers Vehicle Domain <<Logical>>

General Function that will move the registers to the directed position.

#### Variants

*Not supported by MagicDraw report generation.*

#### Input Requirements

*Not supported by MagicDraw report generation.*

#### Assumptions

No assumptions specified for this function.

#### References

##### Ford Documents

List here all Ford internal documents, which are directly related to the feature.

| **Reference** | **Title** | **Doc. ID** | **Revision** |
| --- | --- | --- | --- |
|  |  |  |  |

Table 5: Ford internal Documents *(not specified in model)*

##### External Documents and Publications

The list of external documents could include books, reports and online sources.

| **Reference** | **Document / Publication** |
| --- | --- |
|  |  |

Table 7: External documents and publications *(not specified in model)*

#### Glossary

See Appendix for Definitions and Abbreviations.

### Function Scope

The 569628064.jpg **– “Move Corresponding Registers to Received Position”** function is called by the following functions:

* 569628064.jpg – “[Move Corresponding Registers to Received Position](#_571f7af2cfca17d9a4cdfa9c9dacd0a0)”
* 569628064.jpg – “[Move Corresponding Registers to Received Position](#_ce95f12035c2fa349c7f5d07e65be650)”
* 569628064.jpg – “[Move Corresponding Registers to Received Position](#_a9694ebeaaea7a3abe9cb676ce57adc1)”
* 708421765.jpg – “[Move Registers](#_e69e999f49d30a742ebb3f4b59cf6da8)”

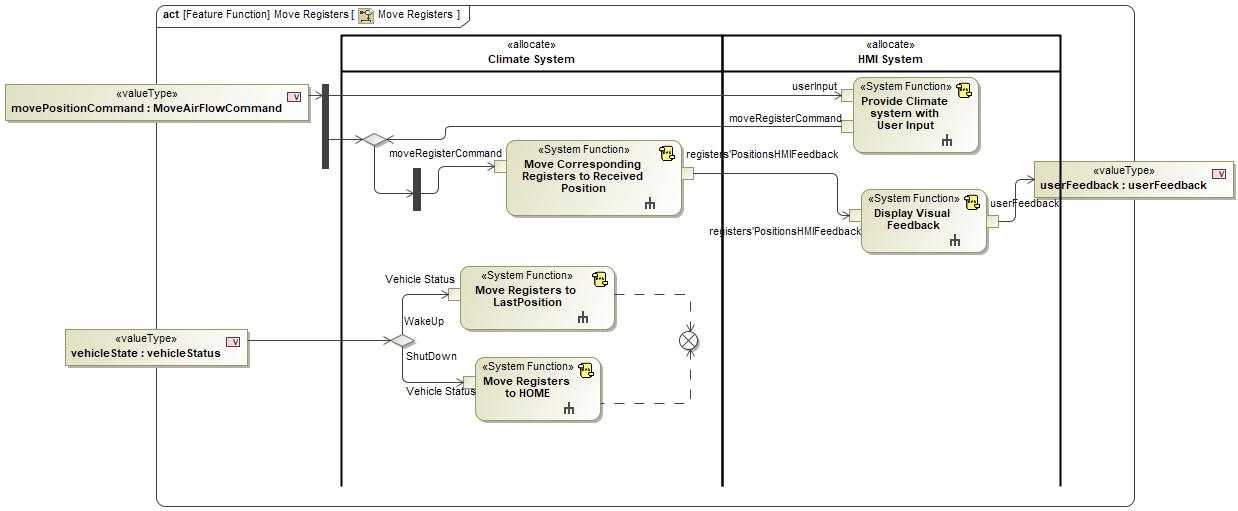


Figure : Activity Diagram of 708421765.jpg “Move Registers” calling 569628064.jpg “Move Corresponding Registers to Received Position”

### Function Interfaces

#### Logical Inputs

|  |  |
| --- | --- |
| **Signal Name** | **Description** |
| MoveRegisterCommand  Type:  1020239328.jpg [MoveRegisterCommand](#_b8deb5335a9beacee07a3dfacdd9df9f) | Received from:   * 569628064.jpg [Provide Climate system with User Input](#_50bd3f022200fcabfc8688251ad91e56) * 1261387158.jpg Activity Parameter Node: movePositionCommand |

#### Logical Outputs

|  |  |
| --- | --- |
| **Signal Name** | **Description** |
| Registers'PostionsHMIFeedback  Type:  1020239328.jpg [Registers'PostionsHMIFeedback](#_a213d8e6af464d1c025b953bcaa30bab) | Sent to:   * 569628064.jpg [Display Visual Feedback](#_3dc91daae7cbd4657779dc7b5ee3d8fe) |

#### Logical Parameters

*Not supported by MagicDraw report generation.*

### Function Modeling

#### Use Cases

*Not supported by MagicDraw report generation.*

#### State Charts / Activity Diagrams / Sequence Diagrams / Decision Tables

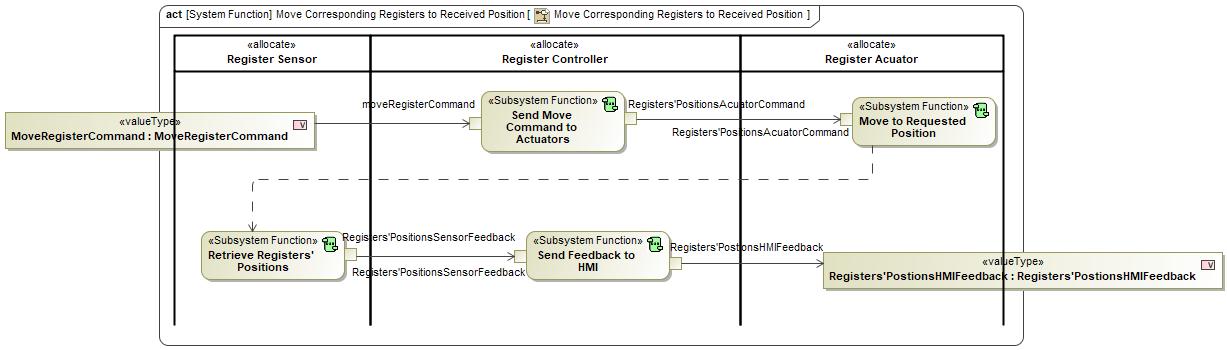


Figure : Move Corresponding Registers to Received Position

### Function Requirements

#### Functional Requirements

##### Normal Operation

Move Registers

"Move Registers to Received Position" system function shall move the registers to the said position when a "MoveRegisterCommand" is received.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Requirement ID: | | | | | | | |
| **Rationale** |  | | | | | | |
| **Acceptance Criteria** |  | | | | | | |
| **Notes** |  | | | | | | |
| **Source** |  | | | | | **Owner** |  |
| **Source Req.** | * -1618143751.jpg EM Reg Cyclical Move Command * -1618143751.jpg EM Reg Move Command * -547336611.jpg Electrically Actuated * -1618143751.jpg EM Reg Preset Command | | | | | **V&V Method** |  |
| **Type** |  | | | **Priority** |  | **Status** |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.0 | End of Requirement | | | | |

Move Registers Feedback

"Move Registers to Received Position" system function shall update Registers'PositionsHMIFeedback to HMI when "MoveRegisterCommand" is received.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Requirement ID: | | | | | | | |
| **Rationale** |  | | | | | | |
| **Acceptance Criteria** |  | | | | | | |
| **Notes** |  | | | | | | |
| **Source** |  | | | | | **Owner** |  |
| **Source Req.** | * -1618143751.jpg EM Reg Cyclical Move Command * -1618143751.jpg EM Reg Move Command * -547336611.jpg HVAC Vent Air Flow Direction Interface * -1618143751.jpg EM Reg Preset Command | | | | | **V&V Method** |  |
| **Type** |  | | | **Priority** |  | **Status** |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.0 | End of Requirement | | | | |

Climate System Functionality

"Climate System" shall provide "Registers'PostionsHMIFeedback" and receive "MoveRegisterCommand", & "vehicleStatus".

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Requirement ID: | | | | | | | |
| **Rationale** |  | | | | | | |
| **Acceptance Criteria** |  | | | | | | |
| **Notes** |  | | | | | | |
| **Source** |  | | | | | **Owner** |  |
| **Source Req.** | * -1618143751.jpg Response Time * -1618143751.jpg EM Reg Cyclical Move Command * -1618143751.jpg EM Reg After Calibration * -1618143751.jpg EM Reg Preset Aim Memo * -1618143751.jpg EM Reg Calibration * -547336611.jpg Fast and Accurate * -547336611.jpg Electrically Actuated * -547336611.jpg Personalizable * -1618143751.jpg EM Reg Move Command * -547336611.jpg Registers Memory * -1618143751.jpg Degrees per second * -1618143751.jpg EM Reg Position Location * -1618143751.jpg EM Reg Preset Command * -1618143751.jpg EM Reg Vehicle ON | | | | | **V&V Method** |  |
| **Type** |  | | | **Priority** |  | **Status** |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.0 | End of Requirement | | | | |

##### Error Handling

No Error Handling Requirements specified.

#### Non-Functional Requirements

No Non-Functional Requirements specified.

#### Functional Safety Requirements

No Functional Safety Requirements specified.

##### ASIL Decomposition of Functional Safety Requirements

No Functional Safety Requirements with ASIL Decompositions specified.

#### Other Requirements

##### Design Requirements

No Design Requirements specified.

## 569628064.jpg Move Registers to HOME

### Function Overview

#### Description

Function is allocated to:

* 970518553.jpg Body Control System <<Logical>>
* 970518553.jpg Climate System <<Logical>>
* 970518553.jpg EM Registers <<Logical>>
* 970518553.jpg EM Registers Vehicle Domain <<Logical>>

Will move the registers to the HOME position every time the vehicle state transitions to OFF.

#### Variants

*Not supported by MagicDraw report generation.*

#### Input Requirements

*Not supported by MagicDraw report generation.*

#### Assumptions

No assumptions specified for this function.

#### References

##### Ford Documents

List here all Ford internal documents, which are directly related to the feature.

| **Reference** | **Title** | **Doc. ID** | **Revision** |
| --- | --- | --- | --- |
|  |  |  |  |

Table 5: Ford internal Documents *(not specified in model)*

##### External Documents and Publications

The list of external documents could include books, reports and online sources.

| **Reference** | **Document / Publication** |
| --- | --- |
|  |  |

Table 7: External documents and publications *(not specified in model)*

#### Glossary

See Appendix for Definitions and Abbreviations.

### Function Scope

The 569628064.jpg **– “Move Registers to HOME”** function is called by the following functions:

* 708421765.jpg – “[Move Registers](#_e69e999f49d30a742ebb3f4b59cf6da8)”
* 569628064.jpg – “[Move Registers to HOME](#_c480466fb4e17085a1d0eff59962547d)”

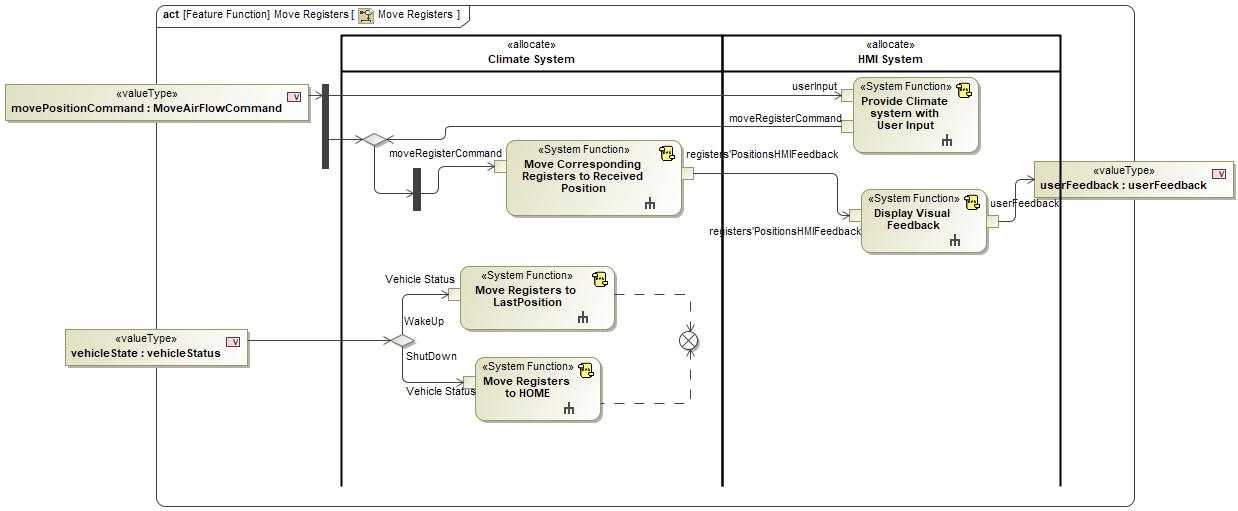


Figure : Activity Diagram of 708421765.jpg “Move Registers” calling 569628064.jpg “Move Registers to HOME”

### Function Interfaces

#### Logical Inputs

|  |  |
| --- | --- |
| **Signal Name** | **Description** |
| Vehicle Status  Type:  1020239328.jpg [vehicleStatus](#_e6f9db769e3f0e81f8ee1235d819100b) | Received from:   * 1261387158.jpg Activity Parameter Node: vehicleState |

#### Logical Outputs

No Logical Outputs specified.

#### Logical Parameters

*Not supported by MagicDraw report generation.*

### Function Modeling

#### Use Cases

*Not supported by MagicDraw report generation.*

#### State Charts / Activity Diagrams / Sequence Diagrams / Decision Tables

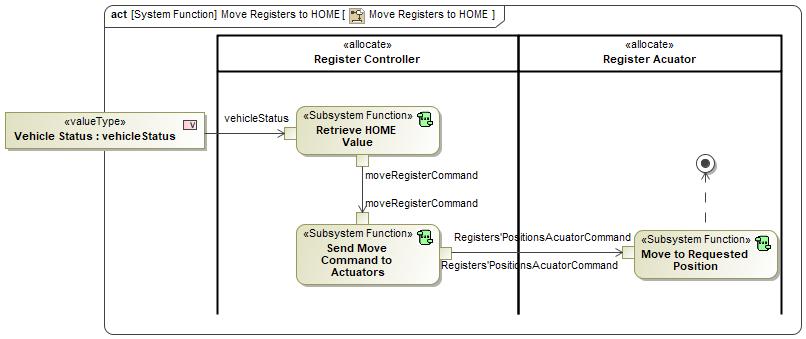


Figure : Move Registers to HOME

### Function Requirements

#### Functional Requirements

##### Normal Operation

HOME

"Move Registers to HOME" system function shall move the registers to the HOME position when it receives "vehicleStatus"==OFF.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Requirement ID: | | | | | | | |
| **Rationale** |  | | | | | | |
| **Acceptance Criteria** |  | | | | | | |
| **Notes** |  | | | | | | |
| **Source** |  | | | | | **Owner** |  |
| **Source Req.** | * -547336611.jpg Electrically Actuated * -1618143751.jpg EM Reg Home Position | | | | | **V&V Method** |  |
| **Type** |  | | | **Priority** |  | **Status** |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.0 | End of Requirement | | | | |

Climate System Functionality

"Climate System" shall provide "Registers'PostionsHMIFeedback" and receive "MoveRegisterCommand", & "vehicleStatus".

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Requirement ID: | | | | | | | |
| **Rationale** |  | | | | | | |
| **Acceptance Criteria** |  | | | | | | |
| **Notes** |  | | | | | | |
| **Source** |  | | | | | **Owner** |  |
| **Source Req.** | * -1618143751.jpg Response Time * -1618143751.jpg EM Reg Cyclical Move Command * -1618143751.jpg EM Reg After Calibration * -1618143751.jpg EM Reg Preset Aim Memo * -1618143751.jpg EM Reg Calibration * -547336611.jpg Fast and Accurate * -547336611.jpg Electrically Actuated * -547336611.jpg Personalizable * -1618143751.jpg EM Reg Move Command * -547336611.jpg Registers Memory * -1618143751.jpg Degrees per second * -1618143751.jpg EM Reg Position Location * -1618143751.jpg EM Reg Preset Command * -1618143751.jpg EM Reg Vehicle ON | | | | | **V&V Method** |  |
| **Type** |  | | | **Priority** |  | **Status** |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.0 | End of Requirement | | | | |

Body Control System Functionality

"Body Control System" shall provide the "vehicleStatus" to the "Climate System".

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Requirement ID: | | | | | | | |
| **Rationale** |  | | | | | | |
| **Acceptance Criteria** |  | | | | | | |
| **Notes** |  | | | | | | |
| **Source** |  | | | | | **Owner** |  |
| **Source Req.** | * -1618143751.jpg EM Reg Vehicle ON * -1618143751.jpg EM Reg Home Position | | | | | **V&V Method** |  |
| **Type** |  | | | **Priority** |  | **Status** |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.0 | End of Requirement | | | | |

##### Error Handling

No Error Handling Requirements specified.

#### Non-Functional Requirements

No Non-Functional Requirements specified.

#### Functional Safety Requirements

No Functional Safety Requirements specified.

##### ASIL Decomposition of Functional Safety Requirements

No Functional Safety Requirements with ASIL Decompositions specified.

#### Other Requirements

##### Design Requirements

No Design Requirements specified.

## 569628064.jpg Move Registers to LastPosition

### Function Overview

#### Description

Function is allocated to:

* 970518553.jpg Body Control System <<Logical>>
* 970518553.jpg Climate System <<Logical>>
* 970518553.jpg EM Registers <<Logical>>
* 970518553.jpg EM Registers Vehicle Domain <<Logical>>

Will move the registers to the LastPosition every time the vehicle state transitions to the ON state.

#### Variants

*Not supported by MagicDraw report generation.*

#### Input Requirements

*Not supported by MagicDraw report generation.*

#### Assumptions

No assumptions specified for this function.

#### References

##### Ford Documents

List here all Ford internal documents, which are directly related to the feature.

| **Reference** | **Title** | **Doc. ID** | **Revision** |
| --- | --- | --- | --- |
|  |  |  |  |

Table 5: Ford internal Documents *(not specified in model)*

##### External Documents and Publications

The list of external documents could include books, reports and online sources.

| **Reference** | **Document / Publication** |
| --- | --- |
|  |  |

Table 7: External documents and publications *(not specified in model)*

#### Glossary

See Appendix for Definitions and Abbreviations.

### Function Scope

The 569628064.jpg **– “Move Registers to LastPosition”** function is called by the following functions:

* 708421765.jpg – “[Move Registers](#_e69e999f49d30a742ebb3f4b59cf6da8)”
* 569628064.jpg – “[Move Registers to LastPosition](#_be81aa342bb236dcc9f5d380b2bca5bb)”

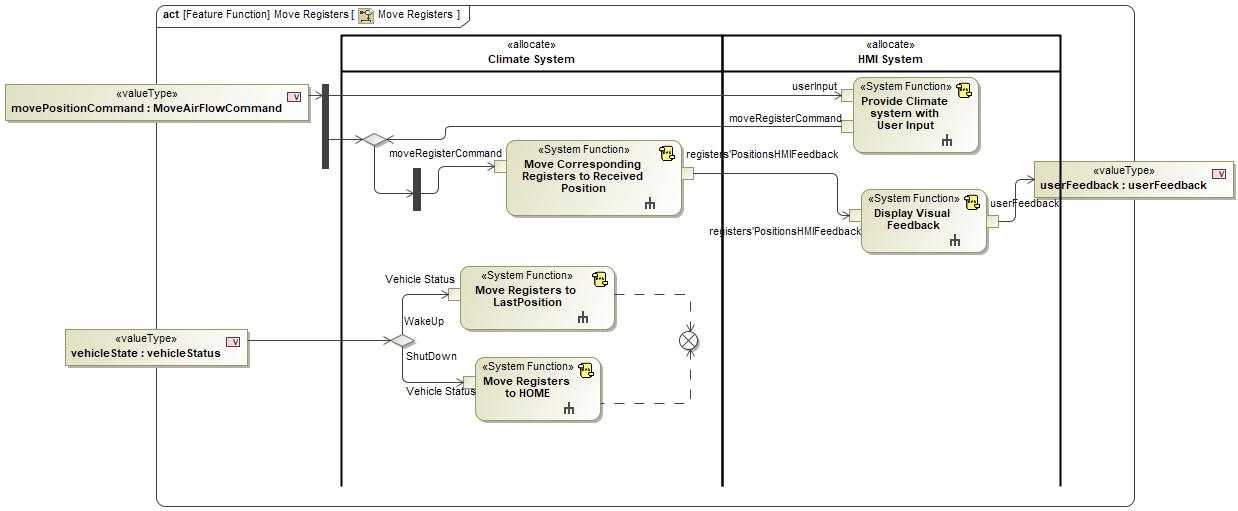


Figure : Activity Diagram of 708421765.jpg “Move Registers” calling 569628064.jpg “Move Registers to LastPosition”

### Function Interfaces

#### Logical Inputs

|  |  |
| --- | --- |
| **Signal Name** | **Description** |
| Vehicle Status  Type:  1020239328.jpg [vehicleStatus](#_e6f9db769e3f0e81f8ee1235d819100b) | Received from:   * 1261387158.jpg Activity Parameter Node: vehicleState |

#### Logical Outputs

No Logical Outputs specified.

#### Logical Parameters

*Not supported by MagicDraw report generation.*

### Function Modeling

#### Use Cases

*Not supported by MagicDraw report generation.*

#### State Charts / Activity Diagrams / Sequence Diagrams / Decision Tables

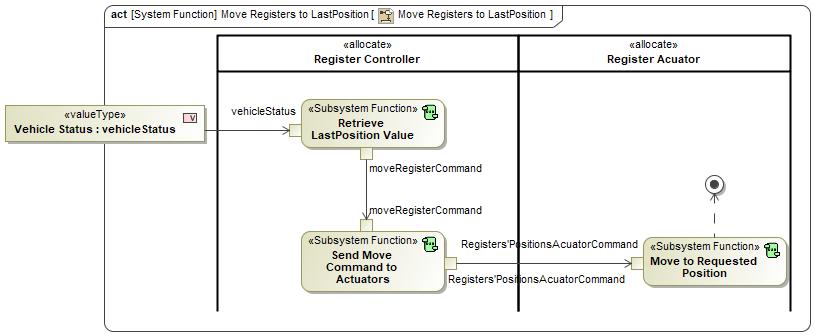


Figure : Move Registers to LastPosition

### Function Requirements

#### Functional Requirements

##### Normal Operation

LastPosition

"Move Registers to LastPosition" system function shall move the registers to the LastPosition when it receives "vehicleStatus"==ON or "vehicleStatus"==Accessory.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Requirement ID: | | | | | | | |
| **Rationale** |  | | | | | | |
| **Acceptance Criteria** |  | | | | | | |
| **Notes** |  | | | | | | |
| **Source** |  | | | | | **Owner** |  |
| **Source Req.** | * -1618143751.jpg EM Reg Vehicle ON * -547336611.jpg Electrically Actuated | | | | | **V&V Method** |  |
| **Type** |  | | | **Priority** |  | **Status** |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.0 | End of Requirement | | | | |

Climate System Functionality

"Climate System" shall provide "Registers'PostionsHMIFeedback" and receive "MoveRegisterCommand", & "vehicleStatus".

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Requirement ID: | | | | | | | |
| **Rationale** |  | | | | | | |
| **Acceptance Criteria** |  | | | | | | |
| **Notes** |  | | | | | | |
| **Source** |  | | | | | **Owner** |  |
| **Source Req.** | * -1618143751.jpg Response Time * -1618143751.jpg EM Reg Cyclical Move Command * -1618143751.jpg EM Reg After Calibration * -1618143751.jpg EM Reg Preset Aim Memo * -1618143751.jpg EM Reg Calibration * -547336611.jpg Fast and Accurate * -547336611.jpg Electrically Actuated * -547336611.jpg Personalizable * -1618143751.jpg EM Reg Move Command * -547336611.jpg Registers Memory * -1618143751.jpg Degrees per second * -1618143751.jpg EM Reg Position Location * -1618143751.jpg EM Reg Preset Command * -1618143751.jpg EM Reg Vehicle ON | | | | | **V&V Method** |  |
| **Type** |  | | | **Priority** |  | **Status** |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.0 | End of Requirement | | | | |

Body Control System Functionality

"Body Control System" shall provide the "vehicleStatus" to the "Climate System".

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Requirement ID: | | | | | | | |
| **Rationale** |  | | | | | | |
| **Acceptance Criteria** |  | | | | | | |
| **Notes** |  | | | | | | |
| **Source** |  | | | | | **Owner** |  |
| **Source Req.** | * -1618143751.jpg EM Reg Vehicle ON * -1618143751.jpg EM Reg Home Position | | | | | **V&V Method** |  |
| **Type** |  | | | **Priority** |  | **Status** |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.0 | End of Requirement | | | | |

##### Error Handling

No Error Handling Requirements specified.

#### Non-Functional Requirements

No Non-Functional Requirements specified.

#### Functional Safety Requirements

No Functional Safety Requirements specified.

##### ASIL Decomposition of Functional Safety Requirements

No Functional Safety Requirements with ASIL Decompositions specified.

#### Other Requirements

##### Design Requirements

No Design Requirements specified.

## 105625660.jpg Move to Requested Position

### Function Overview

#### Description

Function is allocated to:

* 143394815.jpg Actuate Registers <<Logical>>
* 970518553.jpg EM Registers Vehicle Domain <<Logical>>
* 143394815.jpg Provide UserInput <<Logical>>
* -904097280.jpg Register Acuator <<Logical>>

Registers move to the requested position.

#### Variants

*Not supported by MagicDraw report generation.*

#### Input Requirements

*Not supported by MagicDraw report generation.*

#### Assumptions

No assumptions specified for this function.

#### References

##### Ford Documents

List here all Ford internal documents, which are directly related to the feature.

| **Reference** | **Title** | **Doc. ID** | **Revision** |
| --- | --- | --- | --- |
|  |  |  |  |

Table 5: Ford internal Documents *(not specified in model)*

##### External Documents and Publications

The list of external documents could include books, reports and online sources.

| **Reference** | **Document / Publication** |
| --- | --- |
|  |  |

Table 7: External documents and publications *(not specified in model)*

#### Glossary

See Appendix for Definitions and Abbreviations.

### Function Scope

The 105625660.jpg **– “Move to Requested Position”** function is called by the following functions:

* 569628064.jpg – “[Move Corresponding Registers to Received Position](#_5219b2dc880b60ac1d10c91499618037)”
* 569628064.jpg – “[Move Registers to HOME](#_2906be7ccb93b90a5e58e472e0e7ca70)”
* 569628064.jpg – “[Move Registers to LastPosition](#_b1d880af0f35ad801808cda600e233d9)”

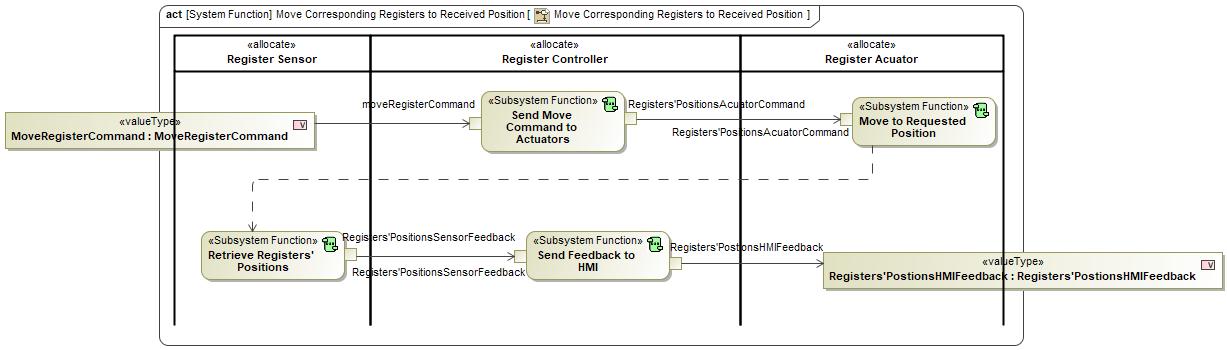


Figure : Activity Diagram of 569628064.jpg “Move Corresponding Registers to Received Position” calling 105625660.jpg “Move to Requested Position”

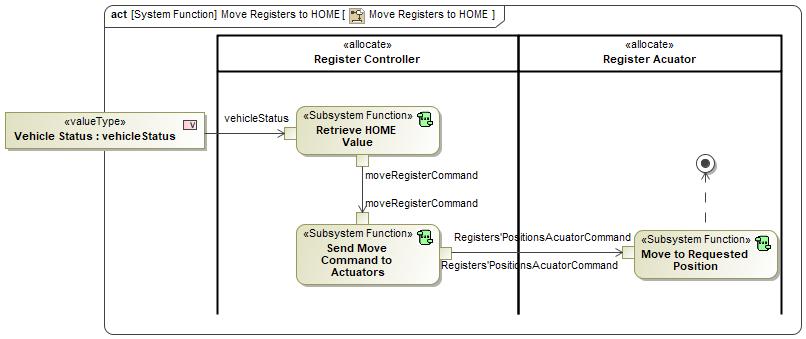


Figure : Activity Diagram of 569628064.jpg “Move Registers to HOME” calling 105625660.jpg “Move to Requested Position”

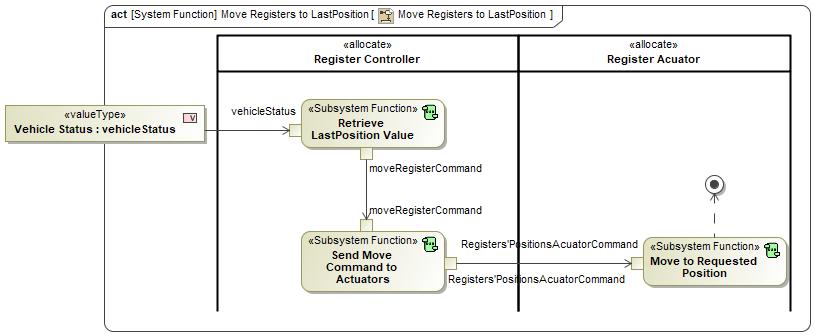


Figure : Activity Diagram of 569628064.jpg “Move Registers to LastPosition” calling 105625660.jpg “Move to Requested Position”

### Function Interfaces

#### Logical Inputs

|  |  |
| --- | --- |
| **Signal Name** | **Description** |
| Registers'PositionsAcuatorCommand  Type:  1020239328.jpg [Registers'PositionsAcuatorCommand](#_08b5257b7c72d6d115687dae2e66a2ac) | Received from:   * 105625660.jpg [Send Move Command to Actuators](#_dbc460f76cb7ce34861f725fb2ccdbdd) |

#### Logical Outputs

No Logical Outputs specified.

#### Logical Parameters

*Not supported by MagicDraw report generation.*

### Function Modeling

#### Use Cases

*Not supported by MagicDraw report generation.*

#### State Charts / Activity Diagrams / Sequence Diagrams / Decision Tables

No diagrams internal to function specified.

### Function Requirements

#### Functional Requirements

##### Normal Operation

Move to Requested Position

"Move to Requested Position" subsystem function shall move registers to requested position when it receives "Registers'PositionsActuatorCommand".

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Requirement ID: | | | | | | | |
| **Rationale** |  | | | | | | |
| **Acceptance Criteria** |  | | | | | | |
| **Notes** |  | | | | | | |
| **Source** |  | | | | | **Owner** |  |
| **Source Req.** | * -1193871816.jpg HOME * -1193871816.jpg Move Registers * -1193871816.jpg LastPosition | | | | | **V&V Method** |  |
| **Type** |  | | | **Priority** |  | **Status** |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.0 | End of Requirement | | | | |

Register Actuator Functionality

Register Actuator shall move itself to the correct position whenever it receives "Registers'PositionsActuatorCommand" from Register Controller.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Requirement ID: | | | | | | | |
| **Rationale** |  | | | | | | |
| **Acceptance Criteria** |  | | | | | | |
| **Notes** |  | | | | | | |
| **Source** |  | | | | | **Owner** |  |
| **Source Req.** | * -1193871816.jpg HOME * -1193871816.jpg Move Registers * -1193871816.jpg LastPosition | | | | | **V&V Method** |  |
| **Type** |  | | | **Priority** |  | **Status** |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.0 | End of Requirement | | | | |

##### Error Handling

No Error Handling Requirements specified.

#### Non-Functional Requirements

No Non-Functional Requirements specified.

#### Functional Safety Requirements

No Functional Safety Requirements specified.

##### ASIL Decomposition of Functional Safety Requirements

No Functional Safety Requirements with ASIL Decompositions specified.

#### Other Requirements

##### Design Requirements

No Design Requirements specified.

## 569628064.jpg Provide Climate system with User Input

### Function Overview

#### Description

Function is allocated to:

* 970518553.jpg Climate System <<Logical>>
* 970518553.jpg EM Registers Vehicle Domain <<Logical>>
* 970518553.jpg HMI System <<Logical>>

Senses user input and gives said input/selection to the Climate system.

#### Variants

*Not supported by MagicDraw report generation.*

#### Input Requirements

*Not supported by MagicDraw report generation.*

#### Assumptions

No assumptions specified for this function.

#### References

##### Ford Documents

List here all Ford internal documents, which are directly related to the feature.

| **Reference** | **Title** | **Doc. ID** | **Revision** |
| --- | --- | --- | --- |
|  |  |  |  |

Table 5: Ford internal Documents *(not specified in model)*

##### External Documents and Publications

The list of external documents could include books, reports and online sources.

| **Reference** | **Document / Publication** |
| --- | --- |
|  |  |

Table 7: External documents and publications *(not specified in model)*

#### Glossary

See Appendix for Definitions and Abbreviations.

### Function Scope

The 569628064.jpg **– “Provide Climate system with User Input”** function is called by the following functions:

* 708421765.jpg – “[Move Registers](#_e69e999f49d30a742ebb3f4b59cf6da8)”
* 708421765.jpg – “[Save LastPosition in Preset](#_58899de816c8ff1f7178a8bba4247812)”
* 708421765.jpg – “[Store Registers' Positions](#_7986aff96e6ee88b9962283bdc931348)”

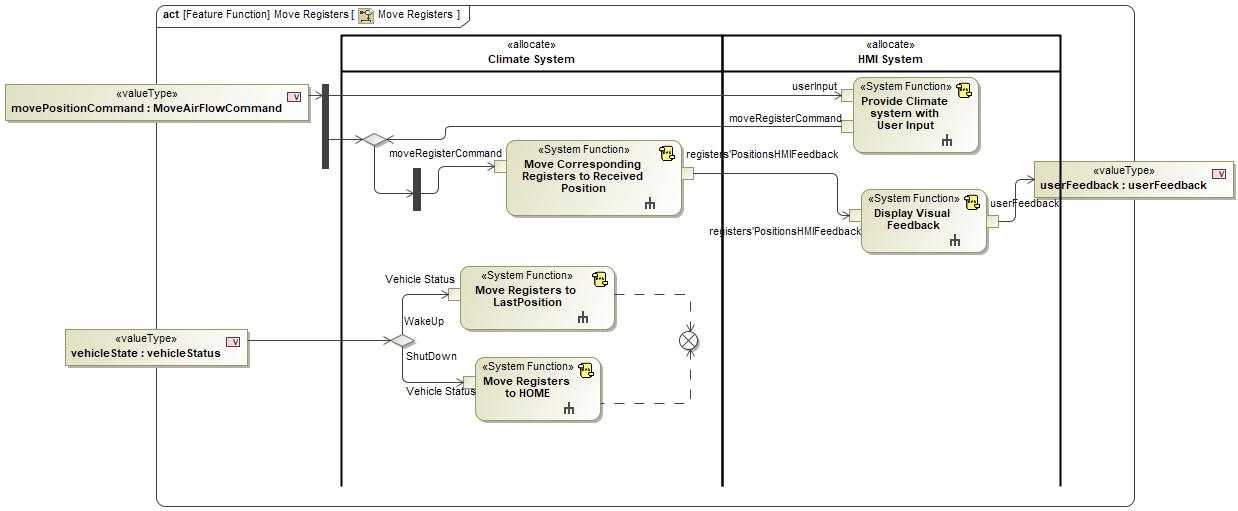


Figure : Activity Diagram of 708421765.jpg “Move Registers” calling 569628064.jpg “Provide Climate system with User Input”

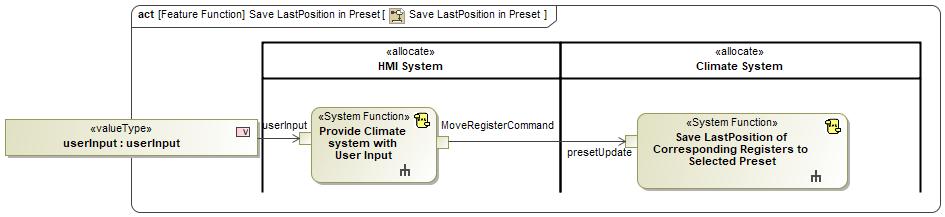


Figure : Activity Diagram of 708421765.jpg “Save LastPosition in Preset” calling 569628064.jpg “Provide Climate system with User Input”

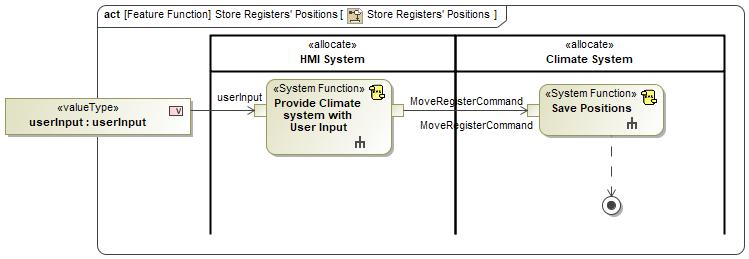


Figure : Activity Diagram of 708421765.jpg “Store Registers' Positions” calling 569628064.jpg “Provide Climate system with User Input”

### Function Interfaces

#### Logical Inputs

|  |  |
| --- | --- |
| **Signal Name** | **Description** |
| userInput  Type:  1020239328.jpg [userInput](#_92b25d8939283cda19386fd8ddedf11e) | Received from:   * 1261387158.jpg Activity Parameter Node: userInput * 1261387158.jpg Activity Parameter Node: movePositionCommand * 1261387158.jpg Activity Parameter Node: userInput |

#### Logical Outputs

|  |  |
| --- | --- |
| **Signal Name** | **Description** |
| MoveRegisterCommand  Type:  1020239328.jpg [MoveRegisterCommand](#_b8deb5335a9beacee07a3dfacdd9df9f) | Sent to:   * 569628064.jpg [Save Positions](#_10e55dde9493bfadaa76f428f2d1b7d8) * 569628064.jpg [Save LastPosition of Corresponding Registers to Selected Preset](#_12d433653b6c1f42157259f6dcd80666) * 569628064.jpg [Move Corresponding Registers to Received Position](#_5219b2dc880b60ac1d10c91499618037) |

#### Logical Parameters

*Not supported by MagicDraw report generation.*

### Function Modeling

#### Use Cases

*Not supported by MagicDraw report generation.*

#### State Charts / Activity Diagrams / Sequence Diagrams / Decision Tables

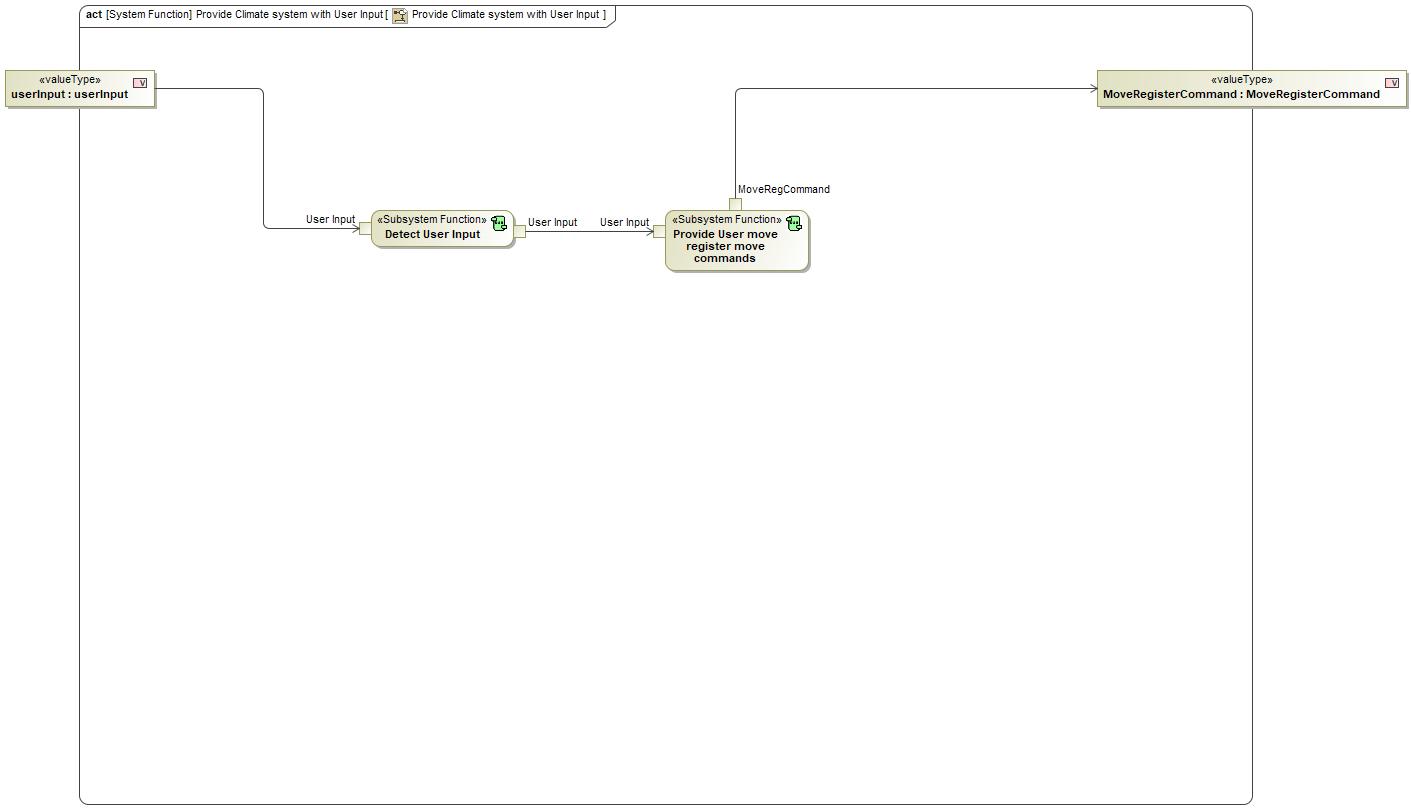


Figure : Provide Climate system with User Input

### Function Requirements

#### Functional Requirements

##### Normal Operation

HMI System Functionality

HMI System shall provide MoveRegisterCommand and receive "Registers'PostionsHMIFeedback".

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Requirement ID: | | | | | | | |
| **Rationale** |  | | | | | | |
| **Acceptance Criteria** |  | | | | | | |
| **Notes** |  | | | | | | |
| **Source** |  | | | | | **Owner** |  |
| **Source Req.** | * -124368076.jpg EM Reg HMI Functionality * 373076138.jpg HMI Feedback * -1618143751.jpg EM Reg Move Command * -1618143751.jpg EM Reg Preset Aim Memo * -547336611.jpg HVAC Vent Air Flow Direction Interface * -124368076.jpg EM Reg HMI Feedback * -1618143751.jpg EM Reg Preset Command | | | | | **V&V Method** |  |
| **Type** |  | | | **Priority** |  | **Status** |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.0 | End of Requirement | | | | |

HMI to Climate System User Input

"Provide Climate System With User Input" system function shall provide the climate system with "MoveRegisterCommand" when it receives userInput.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Requirement ID: | | | | | | | |
| **Rationale** |  | | | | | | |
| **Acceptance Criteria** |  | | | | | | |
| **Notes** |  | | | | | | |
| **Source** |  | | | | | **Owner** |  |
| **Source Req.** | * -124368076.jpg EM Reg HMI Functionality * -547336611.jpg Personalizable * -1618143751.jpg EM Reg Preset Aim Memo * -547336611.jpg HVAC Vent Air Flow Direction Interface | | | | | **V&V Method** |  |
| **Type** |  | | | **Priority** |  | **Status** |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.0 | End of Requirement | | | | |

##### Error Handling

No Error Handling Requirements specified.

#### Non-Functional Requirements

No Non-Functional Requirements specified.

#### Functional Safety Requirements

No Functional Safety Requirements specified.

##### ASIL Decomposition of Functional Safety Requirements

No Functional Safety Requirements with ASIL Decompositions specified.

#### Other Requirements

##### Design Requirements

No Design Requirements specified.

## 105625660.jpg Provide User move register move commands

### Function Overview

#### Description

Function is allocated to:

* 970518553.jpg EM Registers Vehicle Domain <<Logical>>
* -463306694.jpg Provide ON/OFF Move Request <<Logical>>
* -904097280.jpg Register Controller <<Logical>>

provides move register move commands

#### Variants

*Not supported by MagicDraw report generation.*

#### Input Requirements

*Not supported by MagicDraw report generation.*

#### Assumptions

No assumptions specified for this function.

#### References

##### Ford Documents

List here all Ford internal documents, which are directly related to the feature.

| **Reference** | **Title** | **Doc. ID** | **Revision** |
| --- | --- | --- | --- |
|  |  |  |  |

Table 5: Ford internal Documents *(not specified in model)*

##### External Documents and Publications

The list of external documents could include books, reports and online sources.

| **Reference** | **Document / Publication** |
| --- | --- |
|  |  |

Table 7: External documents and publications *(not specified in model)*

#### Glossary

See Appendix for Definitions and Abbreviations.

### Function Scope

The 105625660.jpg **– “Provide User move register move commands ”** function is called by the following functions:

* 569628064.jpg – “[Provide Climate system with User Input](#_50bd3f022200fcabfc8688251ad91e56)”

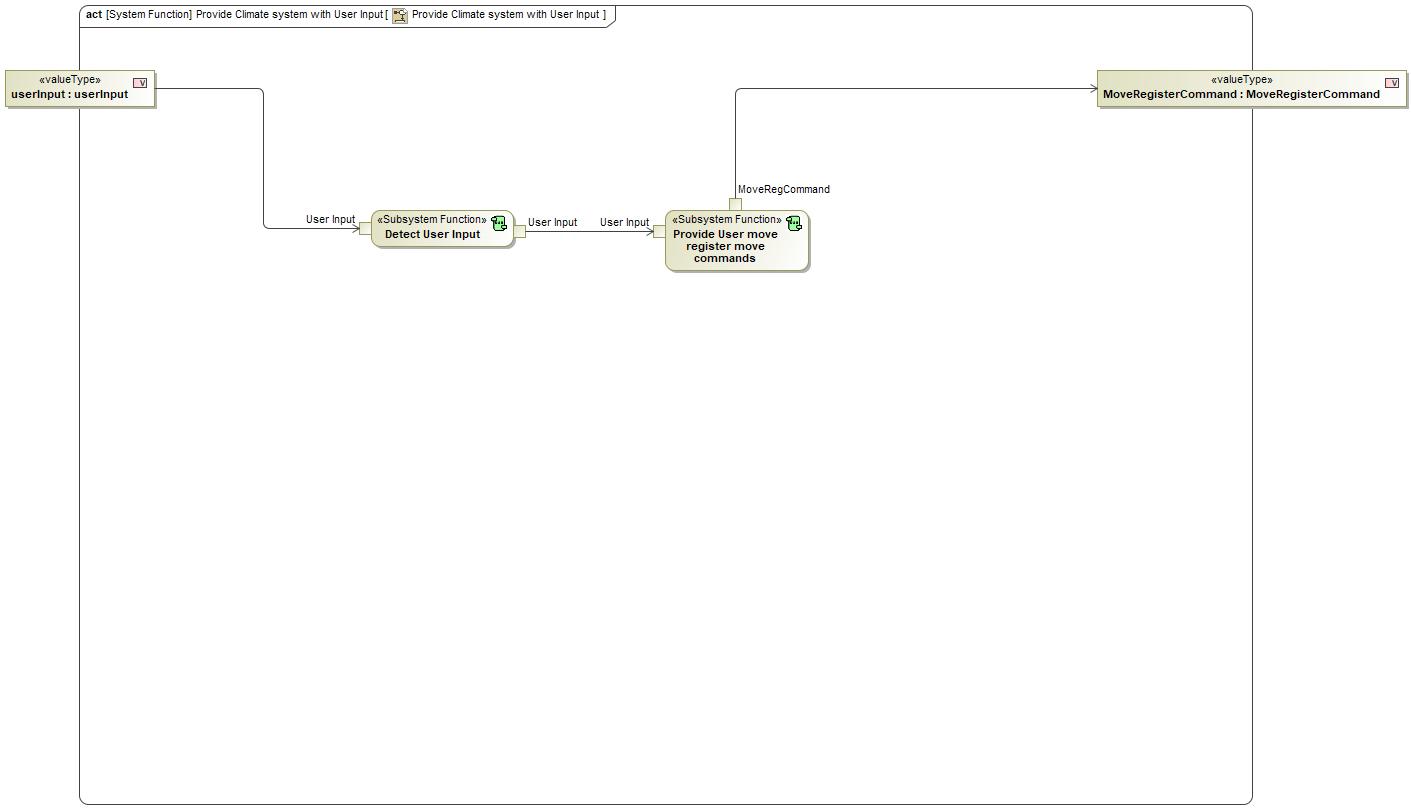


Figure : Activity Diagram of 569628064.jpg “Provide Climate system with User Input” calling 105625660.jpg “Provide User move register move commands ”

### Function Interfaces

#### Logical Inputs

|  |  |
| --- | --- |
| **Signal Name** | **Description** |
| User Input | Received from:   * 105625660.jpg [Detect User Input](#_c89354962997b027dab358481fb9d137) |

#### Logical Outputs

|  |  |
| --- | --- |
| **Signal Name** | **Description** |
| MoveRegCommand  Type:  1020239328.jpg [MoveRegisterCommand](#_b8deb5335a9beacee07a3dfacdd9df9f) | Sent to:   * 1261387158.jpg Activity Parameter Node: MoveRegisterCommand |

#### Logical Parameters

*Not supported by MagicDraw report generation.*

### Function Modeling

#### Use Cases

*Not supported by MagicDraw report generation.*

#### State Charts / Activity Diagrams / Sequence Diagrams / Decision Tables

No diagrams internal to function specified.

### Function Requirements

#### Functional Requirements

##### Normal Operation

Provide User Input

When subsytem function receives the signal 'userinput', it shall provide the signal 'MoveRegisterCommand'

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Requirement ID: | | | | | | | |
| **Rationale** |  | | | | | | |
| **Acceptance Criteria** |  | | | | | | |
| **Notes** |  | | | | | | |
| **Source** |  | | | | | **Owner** |  |
| **Source Req.** | * -1193871816.jpg HMI System Functionality * -1193871816.jpg Display Visual Feedback | | | | | **V&V Method** |  |
| **Type** |  | | | **Priority** |  | **Status** |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.0 | End of Requirement | | | | |

##### Error Handling

No Error Handling Requirements specified.

#### Non-Functional Requirements

No Non-Functional Requirements specified.

#### Functional Safety Requirements

No Functional Safety Requirements specified.

##### ASIL Decomposition of Functional Safety Requirements

No Functional Safety Requirements with ASIL Decompositions specified.

#### Other Requirements

##### Design Requirements

No Design Requirements specified.

## 105625660.jpg Retrieve HOME Value

### Function Overview

#### Description

Function is allocated to:

* 970518553.jpg EM Registers Vehicle Domain <<Logical>>
* -463306694.jpg Provide IgnitionStatus <<Logical>>
* -904097280.jpg Register Controller <<Logical>>

Retrieve the HOME position value from memory.

#### Variants

*Not supported by MagicDraw report generation.*

#### Input Requirements

*Not supported by MagicDraw report generation.*

#### Assumptions

No assumptions specified for this function.

#### References

##### Ford Documents

List here all Ford internal documents, which are directly related to the feature.

| **Reference** | **Title** | **Doc. ID** | **Revision** |
| --- | --- | --- | --- |
|  |  |  |  |

Table 5: Ford internal Documents *(not specified in model)*

##### External Documents and Publications

The list of external documents could include books, reports and online sources.

| **Reference** | **Document / Publication** |
| --- | --- |
|  |  |

Table 7: External documents and publications *(not specified in model)*

#### Glossary

See Appendix for Definitions and Abbreviations.

### Function Scope

The 105625660.jpg **– “Retrieve HOME Value”** function is called by the following functions:

* 569628064.jpg – “[Move Registers to HOME](#_2906be7ccb93b90a5e58e472e0e7ca70)”

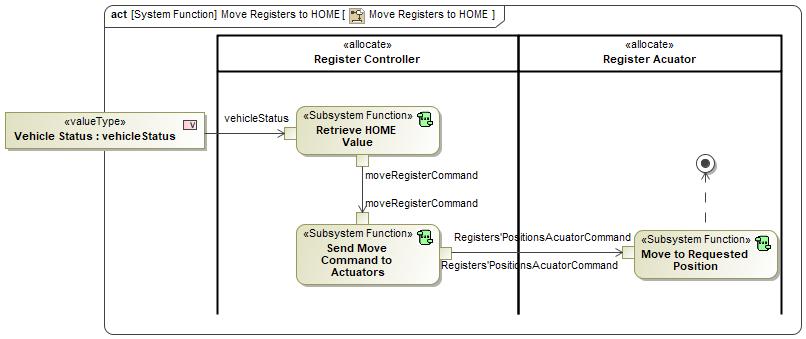


Figure : Activity Diagram of 569628064.jpg “Move Registers to HOME” calling 105625660.jpg “Retrieve HOME Value”

### Function Interfaces

#### Logical Inputs

|  |  |
| --- | --- |
| **Signal Name** | **Description** |
| vehicleStatus  Type:  1020239328.jpg [vehicleStatus](#_e6f9db769e3f0e81f8ee1235d819100b) | Received from:   * 1261387158.jpg Activity Parameter Node: Vehicle Status |

#### Logical Outputs

|  |  |
| --- | --- |
| **Signal Name** | **Description** |
| moveRegisterCommand  Type:  1020239328.jpg [MoveRegisterCommand](#_b8deb5335a9beacee07a3dfacdd9df9f) | Sent to:   * 105625660.jpg [Send Move Command to Actuators](#_dbc460f76cb7ce34861f725fb2ccdbdd) |

#### Logical Parameters

*Not supported by MagicDraw report generation.*

### Function Modeling

#### Use Cases

*Not supported by MagicDraw report generation.*

#### State Charts / Activity Diagrams / Sequence Diagrams / Decision Tables

No diagrams internal to function specified.

### Function Requirements

#### Functional Requirements

##### Normal Operation

Register Controller Functionality

Register Controller shall output Registers'PositionsAcuatorCommand, "Registers'PostionsHMIFeedback" and input "Registers'PositionsSensorFeedback", "MoveRegisterCommand".

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Requirement ID: | | | | | | | |
| **Rationale** |  | | | | | | |
| **Acceptance Criteria** |  | | | | | | |
| **Notes** |  | | | | | | |
| **Source** |  | | | | | **Owner** |  |
| **Source Req.** | * -1193871816.jpg Climate System Functionality * -1193871816.jpg HMI to Climate System User Input * -1193871816.jpg Preset Memorization * -1193871816.jpg Save LastPositions | | | | | **V&V Method** |  |
| **Type** |  | | | **Priority** |  | **Status** |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.0 | End of Requirement | | | | |

Retrieve HOME Value

"Retrieve HOME Value" subsystem function shall output the HOME value as "MoveRegisterCommand" when it receives "vehicleStatus"==OFF

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Requirement ID: | | | | | | | |
| **Rationale** |  | | | | | | |
| **Acceptance Criteria** |  | | | | | | |
| **Notes** |  | | | | | | |
| **Source** |  | | | | | **Owner** |  |
| **Source Req.** | * -1193871816.jpg HOME | | | | | **V&V Method** |  |
| **Type** |  | | | **Priority** |  | **Status** |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.0 | End of Requirement | | | | |

##### Error Handling

No Error Handling Requirements specified.

#### Non-Functional Requirements

No Non-Functional Requirements specified.

#### Functional Safety Requirements

No Functional Safety Requirements specified.

##### ASIL Decomposition of Functional Safety Requirements

No Functional Safety Requirements with ASIL Decompositions specified.

#### Other Requirements

##### Design Requirements

No Design Requirements specified.

## 105625660.jpg Retrieve LastPosition Value

### Function Overview

#### Description

Function is allocated to:

* 970518553.jpg EM Registers Vehicle Domain <<Logical>>
* -463306694.jpg Provide IgnitionStatus <<Logical>>
* -904097280.jpg Register Controller <<Logical>>

Retrieve the LastPosition position value from memory.

#### Variants

*Not supported by MagicDraw report generation.*

#### Input Requirements

*Not supported by MagicDraw report generation.*

#### Assumptions

No assumptions specified for this function.

#### References

##### Ford Documents

List here all Ford internal documents, which are directly related to the feature.

| **Reference** | **Title** | **Doc. ID** | **Revision** |
| --- | --- | --- | --- |
|  |  |  |  |

Table 5: Ford internal Documents *(not specified in model)*

##### External Documents and Publications

The list of external documents could include books, reports and online sources.

| **Reference** | **Document / Publication** |
| --- | --- |
|  |  |

Table 7: External documents and publications *(not specified in model)*

#### Glossary

See Appendix for Definitions and Abbreviations.

### Function Scope

The 105625660.jpg **– “Retrieve LastPosition Value”** function is called by the following functions:

* 569628064.jpg – “[Move Registers to LastPosition](#_b1d880af0f35ad801808cda600e233d9)”

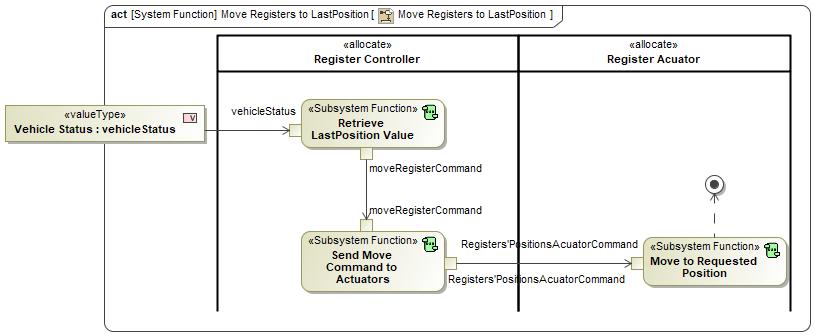


Figure : Activity Diagram of 569628064.jpg “Move Registers to LastPosition” calling 105625660.jpg “Retrieve LastPosition Value”

### Function Interfaces

#### Logical Inputs

|  |  |
| --- | --- |
| **Signal Name** | **Description** |
| vehicleStatus  Type:  1020239328.jpg [vehicleStatus](#_e6f9db769e3f0e81f8ee1235d819100b) | Received from:   * 1261387158.jpg Activity Parameter Node: Vehicle Status |

#### Logical Outputs

|  |  |
| --- | --- |
| **Signal Name** | **Description** |
| moveRegisterCommand  Type:  1020239328.jpg [MoveRegisterCommand](#_b8deb5335a9beacee07a3dfacdd9df9f) | Sent to:   * 105625660.jpg [Send Move Command to Actuators](#_dbc460f76cb7ce34861f725fb2ccdbdd) |

#### Logical Parameters

*Not supported by MagicDraw report generation.*

### Function Modeling

#### Use Cases

*Not supported by MagicDraw report generation.*

#### State Charts / Activity Diagrams / Sequence Diagrams / Decision Tables

No diagrams internal to function specified.

### Function Requirements

#### Functional Requirements

##### Normal Operation

Register Controller Functionality

Register Controller shall output Registers'PositionsAcuatorCommand, "Registers'PostionsHMIFeedback" and input "Registers'PositionsSensorFeedback", "MoveRegisterCommand".

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Requirement ID: | | | | | | | |
| **Rationale** |  | | | | | | |
| **Acceptance Criteria** |  | | | | | | |
| **Notes** |  | | | | | | |
| **Source** |  | | | | | **Owner** |  |
| **Source Req.** | * -1193871816.jpg Climate System Functionality * -1193871816.jpg HMI to Climate System User Input * -1193871816.jpg Preset Memorization * -1193871816.jpg Save LastPositions | | | | | **V&V Method** |  |
| **Type** |  | | | **Priority** |  | **Status** |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.0 | End of Requirement | | | | |

Retrieve LastPosition Value

"Retrieve LastPosition Value" subsystem function shall output the LastPosition value as "MoveRegisterCommand" when it receives "vehicleStatus"==ON.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Requirement ID: | | | | | | | |
| **Rationale** |  | | | | | | |
| **Acceptance Criteria** |  | | | | | | |
| **Notes** |  | | | | | | |
| **Source** |  | | | | | **Owner** |  |
| **Source Req.** | * -1193871816.jpg LastPosition | | | | | **V&V Method** |  |
| **Type** |  | | | **Priority** |  | **Status** |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.0 | End of Requirement | | | | |

##### Error Handling

No Error Handling Requirements specified.

#### Non-Functional Requirements

No Non-Functional Requirements specified.

#### Functional Safety Requirements

No Functional Safety Requirements specified.

##### ASIL Decomposition of Functional Safety Requirements

No Functional Safety Requirements with ASIL Decompositions specified.

#### Other Requirements

##### Design Requirements

No Design Requirements specified.

## 105625660.jpg Retrieve Registers' Positions

### Function Overview

#### Description

Function is allocated to:

* 970518553.jpg EM Registers Vehicle Domain <<Logical>>
* -904097280.jpg Register Sensor <<Logical>>
* -463306694.jpg Sense Registers' Positions <<Logical>>

Sense the registers physical position and gives that position to the Climate system

#### Variants

*Not supported by MagicDraw report generation.*

#### Input Requirements

*Not supported by MagicDraw report generation.*

#### Assumptions

No assumptions specified for this function.

#### References

##### Ford Documents

List here all Ford internal documents, which are directly related to the feature.

| **Reference** | **Title** | **Doc. ID** | **Revision** |
| --- | --- | --- | --- |
|  |  |  |  |

Table 5: Ford internal Documents *(not specified in model)*

##### External Documents and Publications

The list of external documents could include books, reports and online sources.

| **Reference** | **Document / Publication** |
| --- | --- |
|  |  |

Table 7: External documents and publications *(not specified in model)*

#### Glossary

See Appendix for Definitions and Abbreviations.

### Function Scope

The 105625660.jpg **– “Retrieve Registers' Positions”** function is called by the following functions:

* 569628064.jpg – “[Move Corresponding Registers to Received Position](#_5219b2dc880b60ac1d10c91499618037)”

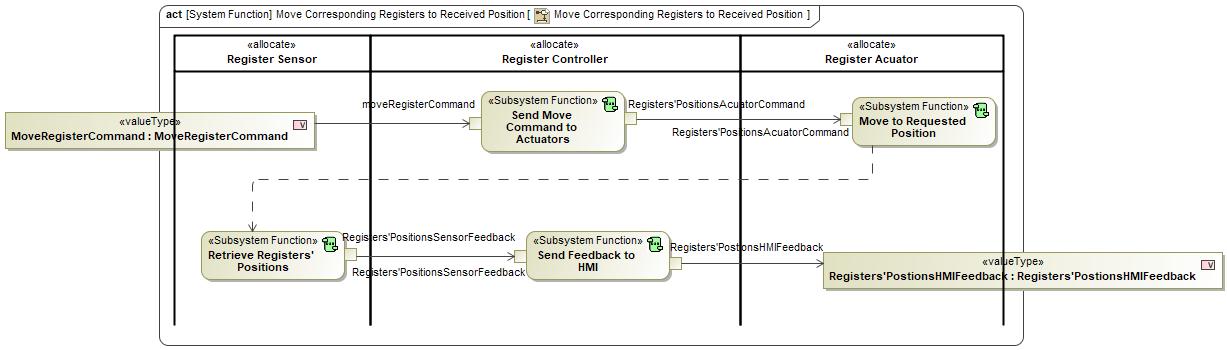


Figure : Activity Diagram of 569628064.jpg “Move Corresponding Registers to Received Position” calling 105625660.jpg “Retrieve Registers' Positions”

### Function Interfaces

#### Logical Inputs

No Logical Inputs specified.

#### Logical Outputs

|  |  |
| --- | --- |
| **Signal Name** | **Description** |
| Registers'PositionsSensorFeedback  Type:  802792400.jpg [Registers'PositionsSensorFeedback](#_a986d850c094bae00c8310d3e8b8c34d) | Sent to:   * 105625660.jpg [Send Feedback to HMI](#_060d1652ecc7458a35619ab17477158f) |

#### Logical Parameters

*Not supported by MagicDraw report generation.*

### Function Modeling

#### Use Cases

*Not supported by MagicDraw report generation.*

#### State Charts / Activity Diagrams / Sequence Diagrams / Decision Tables

No diagrams internal to function specified.

### Function Requirements

#### Functional Requirements

##### Normal Operation

Retrieve Registers' Positions

"Retrieve Registers' Positions" subsystem function shall sense the registers positions after any registers are moved and output that information as "Registers'PositionsSensorFeedback".

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Requirement ID: | | | | | | | |
| **Rationale** |  | | | | | | |
| **Acceptance Criteria** |  | | | | | | |
| **Notes** |  | | | | | | |
| **Source** |  | | | | | **Owner** |  |
| **Source Req.** | * -1193871816.jpg Move Registers Feedback | | | | | **V&V Method** |  |
| **Type** |  | | | **Priority** |  | **Status** |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.0 | End of Requirement | | | | |

Register Sensor Functionality

Register Sensor shall output "Registers'PositionsSensorFeedback" to Register Control every time a Register Actuator moves.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Requirement ID: | | | | | | | |
| **Rationale** |  | | | | | | |
| **Acceptance Criteria** |  | | | | | | |
| **Notes** |  | | | | | | |
| **Source** |  | | | | | **Owner** |  |
| **Source Req.** | * -1193871816.jpg Move Registers Feedback | | | | | **V&V Method** |  |
| **Type** |  | | | **Priority** |  | **Status** |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.0 | End of Requirement | | | | |

##### Error Handling

No Error Handling Requirements specified.

#### Non-Functional Requirements

No Non-Functional Requirements specified.

#### Functional Safety Requirements

No Functional Safety Requirements specified.

##### ASIL Decomposition of Functional Safety Requirements

No Functional Safety Requirements with ASIL Decompositions specified.

#### Other Requirements

##### Design Requirements

No Design Requirements specified.

## 569628064.jpg Save LastPosition of Corresponding Registers to Selected Preset

### Function Overview

#### Description

Function is allocated to:

* 970518553.jpg Climate System <<Logical>>
* 970518553.jpg EM Registers Vehicle Domain <<Logical>>

Saves the LastPosition to the selected preset. This allows for the presets to be programmed with the current register positions.

#### Variants

*Not supported by MagicDraw report generation.*

#### Input Requirements

*Not supported by MagicDraw report generation.*

#### Assumptions

No assumptions specified for this function.

#### References

##### Ford Documents

List here all Ford internal documents, which are directly related to the feature.

| **Reference** | **Title** | **Doc. ID** | **Revision** |
| --- | --- | --- | --- |
|  |  |  |  |

Table 5: Ford internal Documents *(not specified in model)*

##### External Documents and Publications

The list of external documents could include books, reports and online sources.

| **Reference** | **Document / Publication** |
| --- | --- |
|  |  |

Table 7: External documents and publications *(not specified in model)*

#### Glossary

See Appendix for Definitions and Abbreviations.

### Function Scope

The 569628064.jpg **– “Save LastPosition of Corresponding Registers to Selected Preset”** function is called by the following functions:

* 708421765.jpg – “[Save LastPosition in Preset](#_58899de816c8ff1f7178a8bba4247812)”

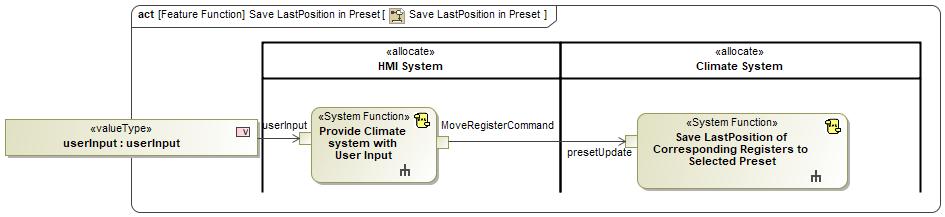


Figure : Activity Diagram of 708421765.jpg “Save LastPosition in Preset” calling 569628064.jpg “Save LastPosition of Corresponding Registers to Selected Preset”

### Function Interfaces

#### Logical Inputs

|  |  |
| --- | --- |
| **Signal Name** | **Description** |
| presetUpdate  Type:  1020239328.jpg [MoveRegisterCommand](#_b8deb5335a9beacee07a3dfacdd9df9f) | Received from:   * 569628064.jpg [Provide Climate system with User Input](#_50bd3f022200fcabfc8688251ad91e56) |

#### Logical Outputs

No Logical Outputs specified.

#### Logical Parameters

*Not supported by MagicDraw report generation.*

### Function Modeling

#### Use Cases

*Not supported by MagicDraw report generation.*

#### State Charts / Activity Diagrams / Sequence Diagrams / Decision Tables



Figure : Save LastPosition of Corresponding Registers to Selected Preset

### Function Requirements

#### Functional Requirements

##### Normal Operation

Climate System Functionality

"Climate System" shall provide "Registers'PostionsHMIFeedback" and receive "MoveRegisterCommand", & "vehicleStatus".

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Requirement ID: | | | | | | | |
| **Rationale** |  | | | | | | |
| **Acceptance Criteria** |  | | | | | | |
| **Notes** |  | | | | | | |
| **Source** |  | | | | | **Owner** |  |
| **Source Req.** | * -1618143751.jpg Response Time * -1618143751.jpg EM Reg Cyclical Move Command * -1618143751.jpg EM Reg After Calibration * -1618143751.jpg EM Reg Preset Aim Memo * -1618143751.jpg EM Reg Calibration * -547336611.jpg Fast and Accurate * -547336611.jpg Electrically Actuated * -547336611.jpg Personalizable * -1618143751.jpg EM Reg Move Command * -547336611.jpg Registers Memory * -1618143751.jpg Degrees per second * -1618143751.jpg EM Reg Position Location * -1618143751.jpg EM Reg Preset Command * -1618143751.jpg EM Reg Vehicle ON | | | | | **V&V Method** |  |
| **Type** |  | | | **Priority** |  | **Status** |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.0 | End of Requirement | | | | |

Preset Memorization

"Save LastPosition of Selected Registers to Selected Preset" system function shall save LastPosition of the selected registers to the selected preset when it receives "StaticSelection"==PRESET\_ONE\_SAVED || "StaticSelection"==PRESET\_TWO\_SAVED.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Requirement ID: | | | | | | | |
| **Rationale** |  | | | | | | |
| **Acceptance Criteria** |  | | | | | | |
| **Notes** |  | | | | | | |
| **Source** |  | | | | | **Owner** |  |
| **Source Req.** | * -547336611.jpg Personalizable * -1618143751.jpg EM Reg Preset Aim Memo | | | | | **V&V Method** |  |
| **Type** |  | | | **Priority** |  | **Status** |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.0 | End of Requirement | | | | |

##### Error Handling

No Error Handling Requirements specified.

#### Non-Functional Requirements

No Non-Functional Requirements specified.

#### Functional Safety Requirements

No Functional Safety Requirements specified.

##### ASIL Decomposition of Functional Safety Requirements

No Functional Safety Requirements with ASIL Decompositions specified.

#### Other Requirements

##### Design Requirements

No Design Requirements specified.

## 105625660.jpg Save LastPosition to BeforeClosedPosition

### Function Overview

#### Description

Function is allocated to:

* 970518553.jpg EM Registers Vehicle Domain <<Logical>>
* -904097280.jpg Register Controller <<Logical>>
* -463306694.jpg Update LastPosition Memory <<Logical>>

Saves LastPosition to BeforeClosedPosition every time ButtonPressed is a close command

#### Variants

*Not supported by MagicDraw report generation.*

#### Input Requirements

*Not supported by MagicDraw report generation.*

#### Assumptions

No assumptions specified for this function.

#### References

##### Ford Documents

List here all Ford internal documents, which are directly related to the feature.

| **Reference** | **Title** | **Doc. ID** | **Revision** |
| --- | --- | --- | --- |
|  |  |  |  |

Table 5: Ford internal Documents *(not specified in model)*

##### External Documents and Publications

The list of external documents could include books, reports and online sources.

| **Reference** | **Document / Publication** |
| --- | --- |
|  |  |

Table 7: External documents and publications *(not specified in model)*

#### Glossary

See Appendix for Definitions and Abbreviations.

### Function Scope

The 105625660.jpg **– “Save LastPosition to BeforeClosedPosition”** function is called by the following functions:

* 569628064.jpg – “[Save Positions](#_10e55dde9493bfadaa76f428f2d1b7d8)”

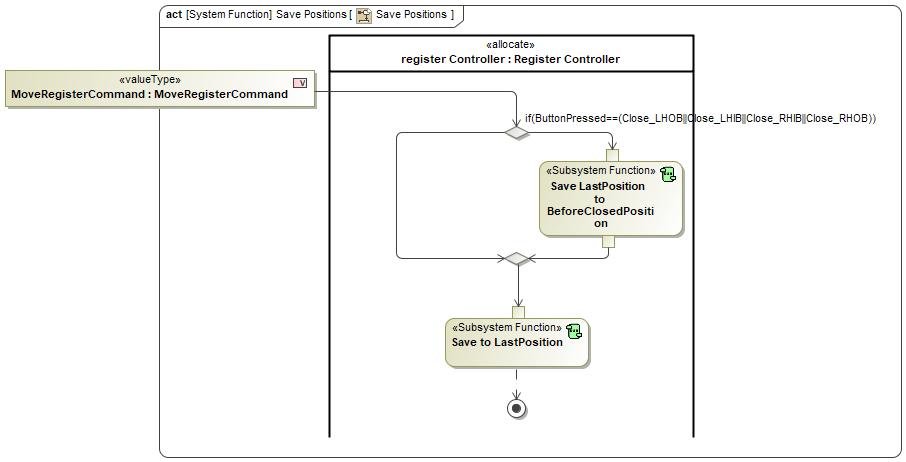


Figure : Activity Diagram of 569628064.jpg “Save Positions” calling 105625660.jpg “Save LastPosition to BeforeClosedPosition”

### Function Interfaces

#### Logical Inputs

|  |  |
| --- | --- |
| **Signal Name** | **Description** |
| input  Type:  1020239328.jpg [MoveRegisterCommand](#_b8deb5335a9beacee07a3dfacdd9df9f) | Received from:   * 1261387158.jpg Activity Parameter Node: MoveRegisterCommand |

#### Logical Outputs

|  |  |
| --- | --- |
| **Signal Name** | **Description** |
| output  Type:  1020239328.jpg [MoveRegisterCommand](#_b8deb5335a9beacee07a3dfacdd9df9f) | Sent to:   * 105625660.jpg [Save to LastPosition](#_53eba03d9f75ec7036c38aa39e1fec29) |

#### Logical Parameters

*Not supported by MagicDraw report generation.*

### Function Modeling

#### Use Cases

*Not supported by MagicDraw report generation.*

#### State Charts / Activity Diagrams / Sequence Diagrams / Decision Tables

No diagrams internal to function specified.

### Function Requirements

#### Functional Requirements

##### Normal Operation

Save LastPosition to BeforeClosedPosition

"Save LastPosition to BeforeClosedPosition" subsystem function shall save the current register positions(LastPosition) to BeforeClosedPosition every time "ButtonPressed"==(Close\_LHOB||Close\_LHIB||Close\_RHIB||Close\_RHOB).

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Requirement ID: | | | | | | | |
| **Rationale** |  | | | | | | |
| **Acceptance Criteria** |  | | | | | | |
| **Notes** |  | | | | | | |
| **Source** |  | | | | | **Owner** |  |
| **Source Req.** | * -1193871816.jpg Save BeforeClosedPositions | | | | | **V&V Method** |  |
| **Type** |  | | | **Priority** |  | **Status** |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.0 | End of Requirement | | | | |

##### Error Handling

No Error Handling Requirements specified.

#### Non-Functional Requirements

No Non-Functional Requirements specified.

#### Functional Safety Requirements

No Functional Safety Requirements specified.

##### ASIL Decomposition of Functional Safety Requirements

No Functional Safety Requirements with ASIL Decompositions specified.

#### Other Requirements

##### Design Requirements

No Design Requirements specified.

## 569628064.jpg Save Positions

### Function Overview

#### Description

Function is allocated to:

* 970518553.jpg Climate System <<Logical>>
* 970518553.jpg EM Registers Vehicle Domain <<Logical>>

Saves the registers position every time the registers are moved by the user through "manually" moving the registers or through selecting a preset.

#### Variants

*Not supported by MagicDraw report generation.*

#### Input Requirements

*Not supported by MagicDraw report generation.*

#### Assumptions

No assumptions specified for this function.

#### References

##### Ford Documents

List here all Ford internal documents, which are directly related to the feature.

| **Reference** | **Title** | **Doc. ID** | **Revision** |
| --- | --- | --- | --- |
|  |  |  |  |

Table 5: Ford internal Documents *(not specified in model)*

##### External Documents and Publications

The list of external documents could include books, reports and online sources.

| **Reference** | **Document / Publication** |
| --- | --- |
|  |  |

Table 7: External documents and publications *(not specified in model)*

#### Glossary

See Appendix for Definitions and Abbreviations.

### Function Scope

The 569628064.jpg **– “Save Positions”** function is called by the following functions:

* 708421765.jpg – “[Store Registers' Positions](#_7986aff96e6ee88b9962283bdc931348)”

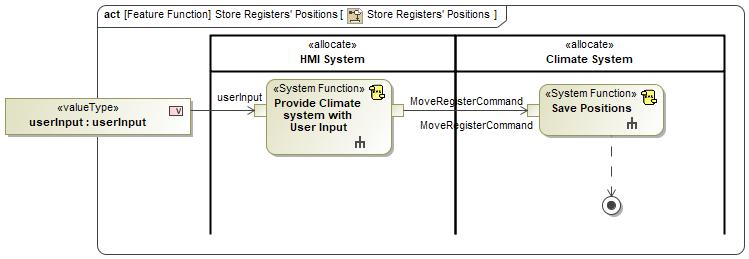


Figure : Activity Diagram of 708421765.jpg “Store Registers' Positions” calling 569628064.jpg “Save Positions”

### Function Interfaces

#### Logical Inputs

|  |  |
| --- | --- |
| **Signal Name** | **Description** |
| MoveRegisterCommand  Type:  1020239328.jpg [MoveRegisterCommand](#_b8deb5335a9beacee07a3dfacdd9df9f) | Received from:   * 569628064.jpg [Provide Climate system with User Input](#_50bd3f022200fcabfc8688251ad91e56) |

#### Logical Outputs

No Logical Outputs specified.

#### Logical Parameters

*Not supported by MagicDraw report generation.*

### Function Modeling

#### Use Cases

*Not supported by MagicDraw report generation.*

#### State Charts / Activity Diagrams / Sequence Diagrams / Decision Tables

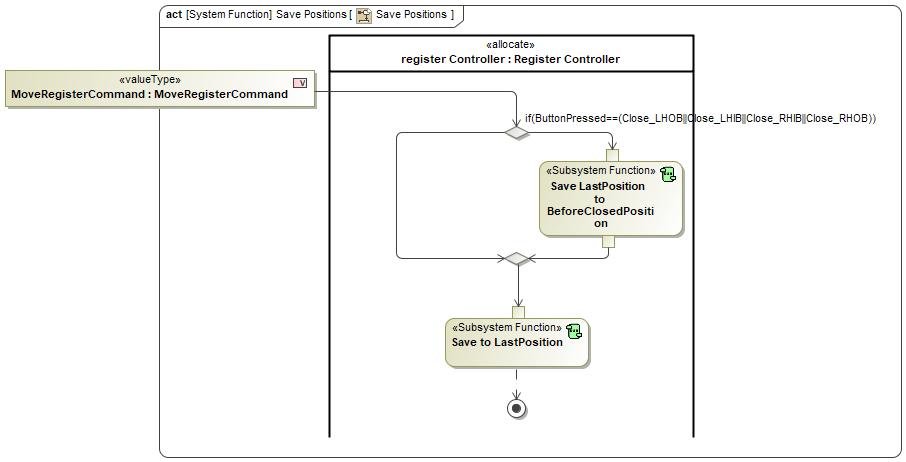


Figure : Save Positions

### Function Requirements

#### Functional Requirements

##### Normal Operation

Save BeforeClosedPositions

"Saved Positions" system function shall store the old registers positions(LastPosition) in BeforeClosedPosition then store the new registers positions in LastPosition when it receives "ButtonPressed"==(Close\_LHOB||Close\_LHIB||Close\_RHIB||Close\_RHOB

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Requirement ID: | | | | | | | |
| **Rationale** |  | | | | | | |
| **Acceptance Criteria** |  | | | | | | |
| **Notes** |  | | | | | | |
| **Source** |  | | | | | **Owner** |  |
| **Source Req.** | * -547336611.jpg Registers Memory * -124368076.jpg EM Reg Memo Postion | | | | | **V&V Method** |  |
| **Type** |  | | | **Priority** |  | **Status** |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.0 | End of Requirement | | | | |

Climate System Functionality

"Climate System" shall provide "Registers'PostionsHMIFeedback" and receive "MoveRegisterCommand", & "vehicleStatus".

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Requirement ID: | | | | | | | |
| **Rationale** |  | | | | | | |
| **Acceptance Criteria** |  | | | | | | |
| **Notes** |  | | | | | | |
| **Source** |  | | | | | **Owner** |  |
| **Source Req.** | * -1618143751.jpg Response Time * -1618143751.jpg EM Reg Cyclical Move Command * -1618143751.jpg EM Reg After Calibration * -1618143751.jpg EM Reg Preset Aim Memo * -1618143751.jpg EM Reg Calibration * -547336611.jpg Fast and Accurate * -547336611.jpg Electrically Actuated * -547336611.jpg Personalizable * -1618143751.jpg EM Reg Move Command * -547336611.jpg Registers Memory * -1618143751.jpg Degrees per second * -1618143751.jpg EM Reg Position Location * -1618143751.jpg EM Reg Preset Command * -1618143751.jpg EM Reg Vehicle ON | | | | | **V&V Method** |  |
| **Type** |  | | | **Priority** |  | **Status** |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.0 | End of Requirement | | | | |

Save LastPositions

"Saved Positions" system function shall store the new registers positions in LastPosition when it receives "MoveRegisterCommand" where "ButtonPressed"!=(Close\_LHOB||Close\_LHIB||Close\_RHIB||Close\_RHOB

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Requirement ID: | | | | | | | |
| **Rationale** |  | | | | | | |
| **Acceptance Criteria** |  | | | | | | |
| **Notes** |  | | | | | | |
| **Source** |  | | | | | **Owner** |  |
| **Source Req.** | * -547336611.jpg Registers Memory * -124368076.jpg EM Reg Memo Postion | | | | | **V&V Method** |  |
| **Type** |  | | | **Priority** |  | **Status** |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.0 | End of Requirement | | | | |

##### Error Handling

No Error Handling Requirements specified.

#### Non-Functional Requirements

No Non-Functional Requirements specified.

#### Functional Safety Requirements

No Functional Safety Requirements specified.

##### ASIL Decomposition of Functional Safety Requirements

No Functional Safety Requirements with ASIL Decompositions specified.

#### Other Requirements

##### Design Requirements

No Design Requirements specified.

## 105625660.jpg Save to LastPosition

### Function Overview

#### Description

Function is allocated to:

* 970518553.jpg EM Registers Vehicle Domain <<Logical>>
* -904097280.jpg Register Controller <<Logical>>
* -463306694.jpg Sense Registers' Positions <<Logical>>

Saves the new register position to the LastPosition every time it receives a move register command

#### Variants

*Not supported by MagicDraw report generation.*

#### Input Requirements

*Not supported by MagicDraw report generation.*

#### Assumptions

No assumptions specified for this function.

#### References

##### Ford Documents

List here all Ford internal documents, which are directly related to the feature.

| **Reference** | **Title** | **Doc. ID** | **Revision** |
| --- | --- | --- | --- |
|  |  |  |  |

Table 5: Ford internal Documents *(not specified in model)*

##### External Documents and Publications

The list of external documents could include books, reports and online sources.

| **Reference** | **Document / Publication** |
| --- | --- |
|  |  |

Table 7: External documents and publications *(not specified in model)*

#### Glossary

See Appendix for Definitions and Abbreviations.

### Function Scope

The 105625660.jpg **– “Save to LastPosition”** function is called by the following functions:

* 569628064.jpg – “[Save Positions](#_10e55dde9493bfadaa76f428f2d1b7d8)”

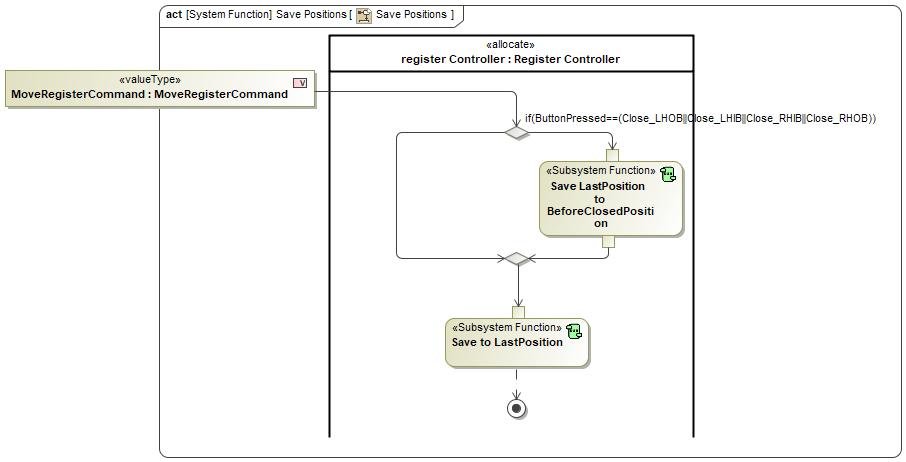


Figure : Activity Diagram of 569628064.jpg “Save Positions” calling 105625660.jpg “Save to LastPosition”

### Function Interfaces

#### Logical Inputs

|  |  |
| --- | --- |
| **Signal Name** | **Description** |
| input  Type:  1020239328.jpg [MoveRegisterCommand](#_b8deb5335a9beacee07a3dfacdd9df9f) | Received from:   * 1261387158.jpg Activity Parameter Node: MoveRegisterCommand * 105625660.jpg [Save LastPosition to BeforeClosedPosition](#_f1e76c76a90cf86f748b5094aa8b7227) |

#### Logical Outputs

No Logical Outputs specified.

#### Logical Parameters

*Not supported by MagicDraw report generation.*

### Function Modeling

#### Use Cases

*Not supported by MagicDraw report generation.*

#### State Charts / Activity Diagrams / Sequence Diagrams / Decision Tables

No diagrams internal to function specified.

### Function Requirements

#### Functional Requirements

##### Normal Operation

Save to LastPosition

"Save to LastPosition" subsystem function shall save the new register position to LastPosition every time it receives "MoveRegisterCommand".

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Requirement ID: | | | | | | | |
| **Rationale** |  | | | | | | |
| **Acceptance Criteria** |  | | | | | | |
| **Notes** |  | | | | | | |
| **Source** |  | | | | | **Owner** |  |
| **Source Req.** | * -1193871816.jpg Save LastPositions | | | | | **V&V Method** |  |
| **Type** |  | | | **Priority** |  | **Status** |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.0 | End of Requirement | | | | |

##### Error Handling

No Error Handling Requirements specified.

#### Non-Functional Requirements

No Non-Functional Requirements specified.

#### Functional Safety Requirements

No Functional Safety Requirements specified.

##### ASIL Decomposition of Functional Safety Requirements

No Functional Safety Requirements with ASIL Decompositions specified.

#### Other Requirements

##### Design Requirements

No Design Requirements specified.

## 105625660.jpg Send Feedback to HMI

### Function Overview

#### Description

Function is allocated to:

* 970518553.jpg EM Registers Vehicle Domain <<Logical>>
* -463306694.jpg Manage Feedback <<Logical>>
* -463306694.jpg Provide User Feedback <<Logical>>
* -904097280.jpg Register Controller <<Logical>>

Sends feedback to the HMI to display when the HMI display is shown next.

#### Variants

*Not supported by MagicDraw report generation.*

#### Input Requirements

*Not supported by MagicDraw report generation.*

#### Assumptions

No assumptions specified for this function.

#### References

##### Ford Documents

List here all Ford internal documents, which are directly related to the feature.

| **Reference** | **Title** | **Doc. ID** | **Revision** |
| --- | --- | --- | --- |
|  |  |  |  |

Table 5: Ford internal Documents *(not specified in model)*

##### External Documents and Publications

The list of external documents could include books, reports and online sources.

| **Reference** | **Document / Publication** |
| --- | --- |
|  |  |

Table 7: External documents and publications *(not specified in model)*

#### Glossary

See Appendix for Definitions and Abbreviations.

### Function Scope

The 105625660.jpg **– “Send Feedback to HMI”** function is called by the following functions:

* 569628064.jpg – “[Move Corresponding Registers to Received Position](#_5219b2dc880b60ac1d10c91499618037)”

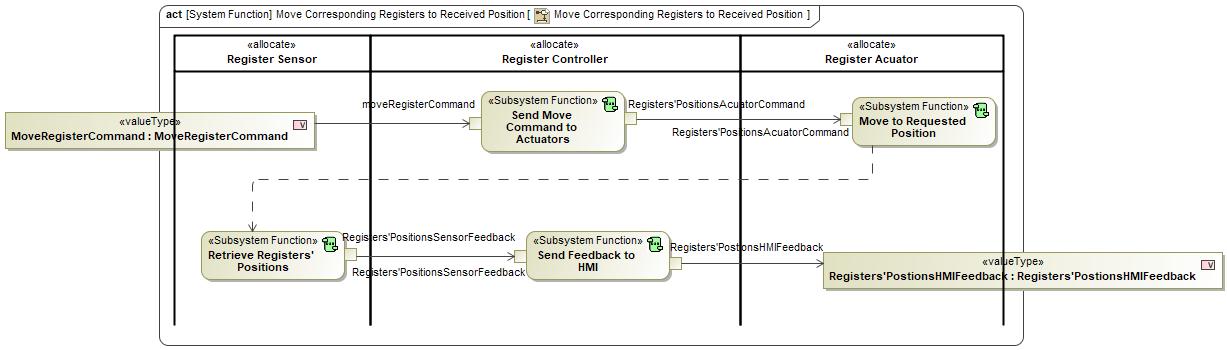


Figure : Activity Diagram of 569628064.jpg “Move Corresponding Registers to Received Position” calling 105625660.jpg “Send Feedback to HMI”

### Function Interfaces

#### Logical Inputs

|  |  |
| --- | --- |
| **Signal Name** | **Description** |
| Registers'PositionsSensorFeedback  Type:  802792400.jpg [Registers'PositionsSensorFeedback](#_a986d850c094bae00c8310d3e8b8c34d) | Received from:   * 105625660.jpg [Retrieve Registers' Positions](#_a2fbd345f943d530c36ffb78beb4b4c2) |

#### Logical Outputs

|  |  |
| --- | --- |
| **Signal Name** | **Description** |
| Registers'PostionsHMIFeedback  Type:  1020239328.jpg [Registers'PostionsHMIFeedback](#_a213d8e6af464d1c025b953bcaa30bab) | Sent to:   * 1261387158.jpg Activity Parameter Node: Registers'PostionsHMIFeedback |

#### Logical Parameters

*Not supported by MagicDraw report generation.*

### Function Modeling

#### Use Cases

*Not supported by MagicDraw report generation.*

#### State Charts / Activity Diagrams / Sequence Diagrams / Decision Tables

No diagrams internal to function specified.

### Function Requirements

#### Functional Requirements

##### Normal Operation

Register Controller Functionality

Register Controller shall output Registers'PositionsAcuatorCommand, "Registers'PostionsHMIFeedback" and input "Registers'PositionsSensorFeedback", "MoveRegisterCommand".

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Requirement ID: | | | | | | | |
| **Rationale** |  | | | | | | |
| **Acceptance Criteria** |  | | | | | | |
| **Notes** |  | | | | | | |
| **Source** |  | | | | | **Owner** |  |
| **Source Req.** | * -1193871816.jpg Climate System Functionality * -1193871816.jpg HMI to Climate System User Input * -1193871816.jpg Preset Memorization * -1193871816.jpg Save LastPositions | | | | | **V&V Method** |  |
| **Type** |  | | | **Priority** |  | **Status** |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.0 | End of Requirement | | | | |

Send Feedback to HMI

"Send Feedback to HMI" subsystem function shall send "Registers'PositionsHMIFeedback" to HMI every 50ms.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Requirement ID: | | | | | | | |
| **Rationale** |  | | | | | | |
| **Acceptance Criteria** |  | | | | | | |
| **Notes** |  | | | | | | |
| **Source** |  | | | | | **Owner** |  |
| **Source Req.** | * -1193871816.jpg Move Registers Feedback | | | | | **V&V Method** |  |
| **Type** |  | | | **Priority** |  | **Status** |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.0 | End of Requirement | | | | |

##### Error Handling

No Error Handling Requirements specified.

#### Non-Functional Requirements

No Non-Functional Requirements specified.

#### Functional Safety Requirements

No Functional Safety Requirements specified.

##### ASIL Decomposition of Functional Safety Requirements

No Functional Safety Requirements with ASIL Decompositions specified.

#### Other Requirements

##### Design Requirements

No Design Requirements specified.

## 105625660.jpg Send Move Command to Actuators

### Function Overview

#### Description

Function is allocated to:

* 970518553.jpg EM Registers Vehicle Domain <<Logical>>
* -463306694.jpg Manage Move Register Requests <<Logical>>
* -463306694.jpg Provide Climate System ON/OFF Selection <<Logical>>
* -904097280.jpg Register Controller <<Logical>>

Register Controller sends move request to the register actuators to move the registers.

#### Variants

*Not supported by MagicDraw report generation.*

#### Input Requirements

*Not supported by MagicDraw report generation.*

#### Assumptions

No assumptions specified for this function.

#### References

##### Ford Documents

List here all Ford internal documents, which are directly related to the feature.

| **Reference** | **Title** | **Doc. ID** | **Revision** |
| --- | --- | --- | --- |
|  |  |  |  |

Table 5: Ford internal Documents *(not specified in model)*

##### External Documents and Publications

The list of external documents could include books, reports and online sources.

| **Reference** | **Document / Publication** |
| --- | --- |
|  |  |

Table 7: External documents and publications *(not specified in model)*

#### Glossary

See Appendix for Definitions and Abbreviations.

### Function Scope

The 105625660.jpg **– “Send Move Command to Actuators”** function is called by the following functions:

* 569628064.jpg – “[Move Corresponding Registers to Received Position](#_5219b2dc880b60ac1d10c91499618037)”
* 569628064.jpg – “[Move Registers to HOME](#_2906be7ccb93b90a5e58e472e0e7ca70)”
* 569628064.jpg – “[Move Registers to LastPosition](#_b1d880af0f35ad801808cda600e233d9)”

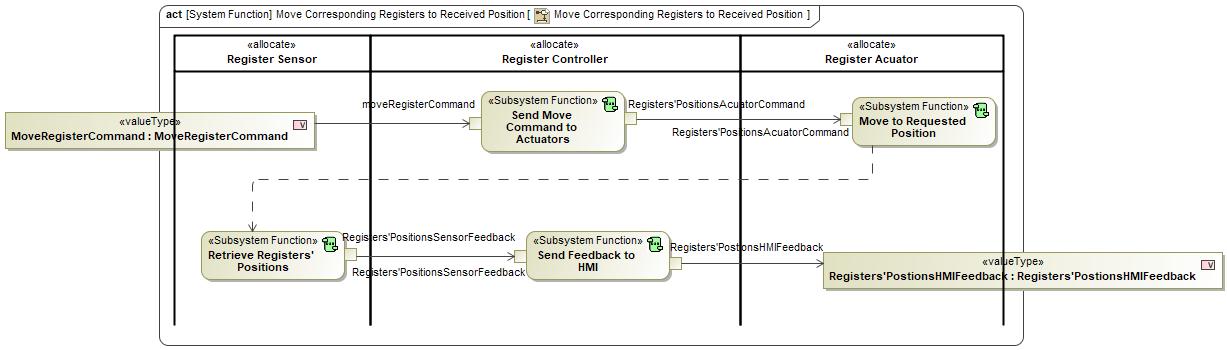


Figure : Activity Diagram of 569628064.jpg “Move Corresponding Registers to Received Position” calling 105625660.jpg “Send Move Command to Actuators”

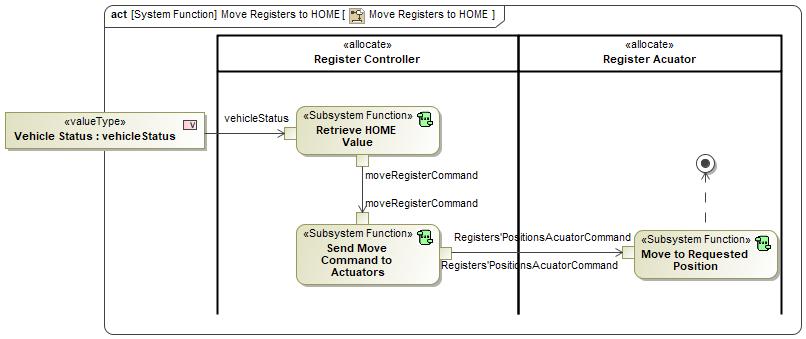


Figure : Activity Diagram of 569628064.jpg “Move Registers to HOME” calling 105625660.jpg “Send Move Command to Actuators”

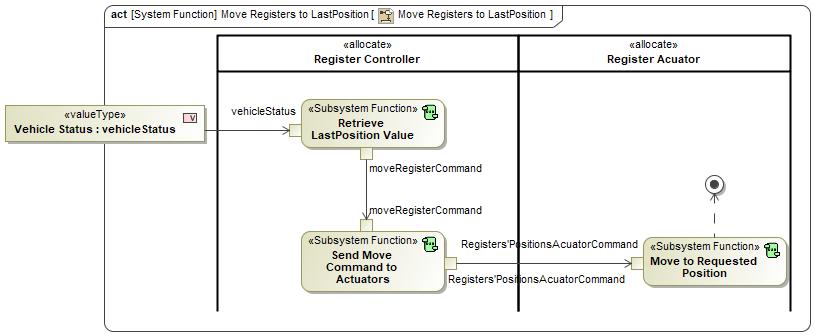


Figure : Activity Diagram of 569628064.jpg “Move Registers to LastPosition” calling 105625660.jpg “Send Move Command to Actuators”

### Function Interfaces

#### Logical Inputs

|  |  |
| --- | --- |
| **Signal Name** | **Description** |
| moveRegisterCommand  Type:  1020239328.jpg [MoveRegisterCommand](#_b8deb5335a9beacee07a3dfacdd9df9f) | Received from:   * 105625660.jpg [Retrieve LastPosition Value](#_33fd98995b3c47283e8bd48d76865366) * 1261387158.jpg Activity Parameter Node: MoveRegisterCommand * 105625660.jpg [Retrieve HOME Value](#_4ff1bcd652274f14a3ca205ff6fdb4e3) |

#### Logical Outputs

|  |  |
| --- | --- |
| **Signal Name** | **Description** |
| Registers'PositionsAcuatorCommand  Type:  1020239328.jpg [Registers'PositionsAcuatorCommand](#_08b5257b7c72d6d115687dae2e66a2ac) | Sent to:   * 105625660.jpg [Move to Requested Position](#_c9b37eb1e2cd1f4e980827e78c3abbe3) |

#### Logical Parameters

*Not supported by MagicDraw report generation.*

### Function Modeling

#### Use Cases

*Not supported by MagicDraw report generation.*

#### State Charts / Activity Diagrams / Sequence Diagrams / Decision Tables

No diagrams internal to function specified.

### Function Requirements

#### Functional Requirements

##### Normal Operation

Register Controller Functionality

Register Controller shall output Registers'PositionsAcuatorCommand, "Registers'PostionsHMIFeedback" and input "Registers'PositionsSensorFeedback", "MoveRegisterCommand".

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Requirement ID: | | | | | | | |
| **Rationale** |  | | | | | | |
| **Acceptance Criteria** |  | | | | | | |
| **Notes** |  | | | | | | |
| **Source** |  | | | | | **Owner** |  |
| **Source Req.** | * -1193871816.jpg Climate System Functionality * -1193871816.jpg HMI to Climate System User Input * -1193871816.jpg Preset Memorization * -1193871816.jpg Save LastPositions | | | | | **V&V Method** |  |
| **Type** |  | | | **Priority** |  | **Status** |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.0 | End of Requirement | | | | |

Send Move Command to Actuators

"Send Move Command to Actuators" subsystem function shall send "Registers'PositionsActuatorCommand" to the corresponding actuators anytime it receives "moveRegisterCommand".

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Requirement ID: | | | | | | | |
| **Rationale** |  | | | | | | |
| **Acceptance Criteria** |  | | | | | | |
| **Notes** |  | | | | | | |
| **Source** |  | | | | | **Owner** |  |
| **Source Req.** | * -1193871816.jpg HOME * -1193871816.jpg Move Registers * -1193871816.jpg LastPosition | | | | | **V&V Method** |  |
| **Type** |  | | | **Priority** |  | **Status** |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.0 | End of Requirement | | | | |

##### Error Handling

No Error Handling Requirements specified.

#### Non-Functional Requirements

No Non-Functional Requirements specified.

#### Functional Safety Requirements

No Functional Safety Requirements specified.

##### ASIL Decomposition of Functional Safety Requirements

No Functional Safety Requirements with ASIL Decompositions specified.

#### Other Requirements

##### Design Requirements

No Design Requirements specified.

# Open Concerns

**#Hint:** The following list presents open concerns, which have to be discussed or clarified over the course of the on-going requirements engineering.

| ID | Concern Description | e-Tracker / Reference | Responsible | Status | Solution |
| --- | --- | --- | --- | --- | --- |
| 1 |  |  |  |  |  |

Table 8: Open Concerns *(Not supported by MagicDraw report generation.)*

# Revision History

**#Hint:** A new version number is assigned to a document with a given revision each time it is checked in to Team Center (TCSE). After release of a revision, the document cannot be edited and no new versions can be created on that revision. When updating the document after that, a new revision has to be created and new versions on that revision will be created upon checking in.

No Revision History found.

## Template Revisions

*#Important: Do not change this section*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Version | Rev. | Date | Description | Responsible |
| *1* | *0* | *2016-02-26* | *Initial version, derived from FDS* | *Jbaden1* |
| *1* | *1* | *2016-02-26* | *Word properties corrected* | *Jbaden1* |
| *1* | *2* | *2016-03-10* | *Clean up of document meta data (Word properties)* | *Jbaden1* |
| *1* | *3* | *2016-03-22* | * *Footer formatting corrected (Issue 19)* * *“Constraints” chapter renamed to “Input Requirements” (Issue 20)* | *Jbaden1* |
| *1* | *4* | *2016-04-20* | * *Broken Wiki links repaired* | *Jbaden1* |
| *2* | *0* | *2016-06-10* | * *Document metadata adapted. Prepared for new macros* * *DTC table removed* * *HMI function added as a chapter (details still to be refined)* * *Signal / Parameter IDs column deleted interface tables* | *Jbaden1* |
| *2* | *1* | *2016-07-14* | * *Converted to SysML diagrams* * *HMI section further elaborated* * *Template version added to footer* * *Dedicated Startup / Shutdown sections removed (only hints added)* * *Data Dictionary reworked and Signal / Parameter IDs column re-introduced* | *Jbaden1* |
| *2* | *2* | *2016-12-07* | * *Minor formatting changes* | *Jbaden1* |
| *3* |  |  | *Skipped to synchronize with Specification\_Macros.dotm* |  |
| *4* |  |
| *5* | *0* | *2017-01-13* | * *Meta data updated for specification macros, version 3.1* * *SW Unit chapter removed for the time being* * *Green boxes added for user hints* | *Jbaden1* |
| *5* | *1* | *2017-01-18* | * *Some additional hints.* * *Hyperlinks highlighted in hints* | *Jbaden1* |
| *6* | *0* | *2017-04-28* | * *Editorial change. Hints added to chapter 4.1.4* * *Chapter “Traceability Matrix” removed* | *Jbaden1* |
| *6* | *0* | *2018-04-28* | * *CR69/63: New chapters added for Functional Safety (FTTI and Technical Safety Requirements)* * *CR53: New coversheet + additional meta-data* * *CR76: merge sections for configuration and for calibration parameters into one on Function Level* | *Jbaden1* |
| *6* | *0* | *2018-08-06* | * *CR66: Fix version numbering in footer of Function Spec* | *Jbaden1* |
| *6* | *0* | *2018-09-28* | * *Broken links to RE Wiki repaired* | *Jbaden1* |
| *6* | *0* | *2018-10-31* | * *Minor corrections on cover sheet and in footer to be more GIS compliant and VSEM aligned* * *“Overview” and “Description” exchanged in headings (following common sense)* | *Jbaden1* |
| *6* | *0* | *2018-11-12* | * *Explanatory text in Variants” section revised* * *Functional Safety modifications as agreed with FuSa core team (Baseline: November 2018 Dearborn On-Site)* | *Jbaden1* |
| *M* |  | *2019-04-02* | * *Initial version of SysML report template* | *snuesch* |
| *M* |  | *2019-04-05* | * *Improved dialog boxes to select function group* | *snuesch* |
| *M* |  | *2019-04-26* | * *Improved function interfaces (support of additional elements (e.g., send signal action, add structural feature action, merge node, decision node, activity parameter nodes, etc.) and pins)* | *snuesch* |
| *N* |  | *2019-08-19* | * *For each function now also requirements satisfied by activity parameter nodes and function outputs are populated.* | *snuesch* |
| *N* |  | *2019-08-21* | * *Improved glossary and acronym tables* | *snuesch* |
| *N* |  | *2019-09-20* | * *Updated Function Interfaces tables with better wording. Added a report template variable that allows to disable senders and receivers. Sorted requirements by ID.* | *snuesch* |
| *N* |  | *2019-09-27* | * *Green hints now only show up for first function.* * *labelTag variable can be used to filter revision history.* | *snuesch* |

# Appendix

## Data Dictionary

### Logical Signals

**#Macro:** [Add Ins -> Add Requirement macro](http://wiki.ford.com/display/RequirementsEngineering/Adding+a+Logical+Signal+or+Parameter) (select “Logical Signal” as type)

MoveRegisterCommand

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Encoding Type Name** | |  |
| Note: An encoding is either discrete or continuous. Delete fields below which are not needed | | |
| **Value**  (Continuous Encoding) | Min Value |  |
| Max Value |  |
| Resolution |  |
| Offset |  |
| **Value**  (Discrete  Encoding) |  |  |
| **Unit** | |  |

Registers'PositionsAcuatorCommand

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Encoding Type Name** | |  |
| Note: An encoding is either discrete or continuous. Delete fields below which are not needed | | |
| **Value**  (Continuous Encoding) | Min Value |  |
| Max Value |  |
| Resolution |  |
| Offset |  |
| **Value**  (Discrete  Encoding) |  |  |
| **Unit** | |  |

Registers'PositionsSensorFeedback

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Encoding Type Name** | |  |
| Note: An encoding is either discrete or continuous. Delete fields below which are not needed | | |
| **Value**  (Continuous Encoding) | Min Value |  |
| Max Value |  |
| Resolution |  |
| Offset |  |
| **Value**  (Discrete  Encoding) |  |  |
| **Unit** | |  |

Registers'PostionsHMIFeedback

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Encoding Type Name** | |  |
| Note: An encoding is either discrete or continuous. Delete fields below which are not needed | | |
| **Value**  (Continuous Encoding) | Min Value |  |
| Max Value |  |
| Resolution |  |
| Offset |  |
| **Value**  (Discrete  Encoding) |  |  |
| **Unit** | |  |

userInput

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Encoding Type Name** | |  |
| Note: An encoding is either discrete or continuous. Delete fields below which are not needed | | |
| **Value**  (Continuous Encoding) | Min Value |  |
| Max Value |  |
| Resolution |  |
| Offset |  |
| **Value**  (Discrete  Encoding) |  |  |
| **Unit** | |  |

vehicleStatus

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Encoding Type Name** | |  |
| Note: An encoding is either discrete or continuous. Delete fields below which are not needed | | |
| **Value**  (Continuous Encoding) | Min Value |  |
| Max Value |  |
| Resolution |  |
| Offset |  |
| **Value**  (Discrete  Encoding) |  |  |
| **Unit** | |  |

### Logical Parameters

**#Macro:** [Add Ins -> Add Requirement macro](http://wiki.ford.com/display/RequirementsEngineering/Adding+a+Logical+Signal+or+Parameter) (select “Logical Parameter” as type)

### Encoding Types

**#Macro:** [Add Ins -> Add Requirement macro](http://wiki.ford.com/display/RequirementsEngineering/Adding+an+Encoding+Type) (select “Encoding Type” as type)

## Glossary

**#Hint**: Terms, concepts and abbreviations used in the document shall be defined and illustrated here. Note that changes to terms and/or concepts described in this section tend to cause major updates to this document.

The tables below have feature specific definitions and abbreviations. For additional, non-feature specific terms please refer to the [RE Glossary](http://wiki.ford.com/display/RequirementsEngineering/Glossary?src=contextnavpagetreemode)

### Definitions

**#Hint:** The table below has definitions and abbreviations relevant for the functions in this document. For additional terms please refer to the [RE Glossary](http://wiki.ford.com/display/RequirementsEngineering/Glossary?src=contextnavpagetreemode)

| **Definition** | **Description** |
| --- | --- |
| BeforeClosedPosition | The last stationary positions that the registers were in before the registers were closed. To be used to return the registers back to their previous position when the registers are requested to open by the User. |
| HOME | Value that denotes the Home position the registers will move to when the car is turned off. |
| LastPosition | Denotes the last stationary position that the registers were in. For example the position before the vehicle was turned OFF, before a Cycling option was selected, or before another feature requested to move the registers. |

Table 9: Definitions used in this document

### Abbreviations

No acronyms specified.

Document ends here.