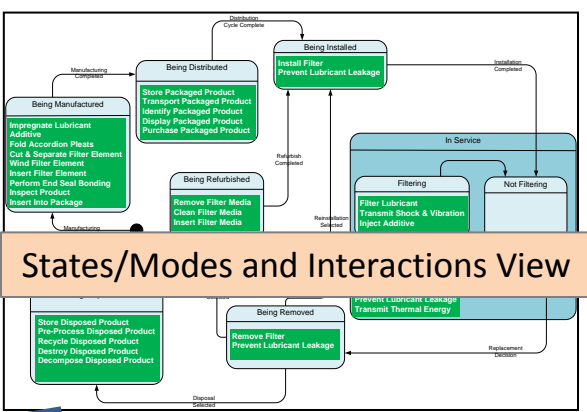
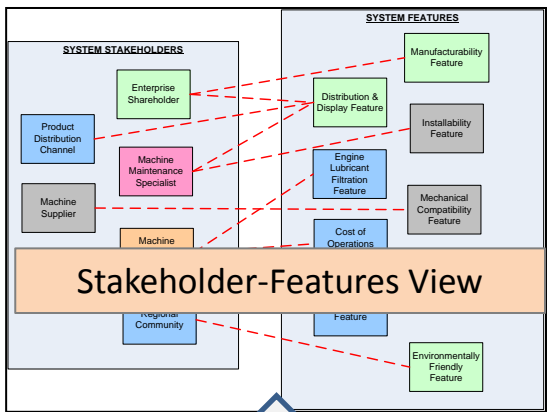
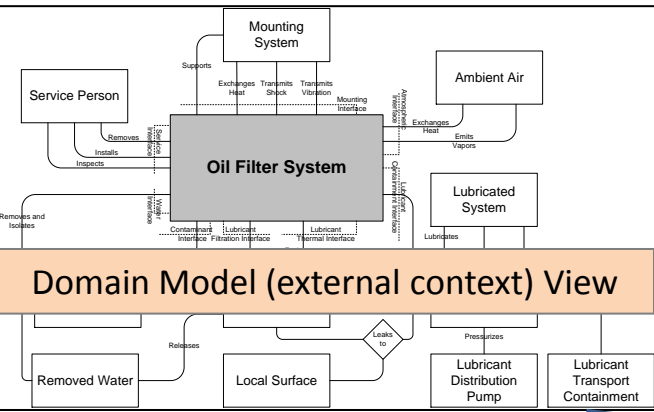


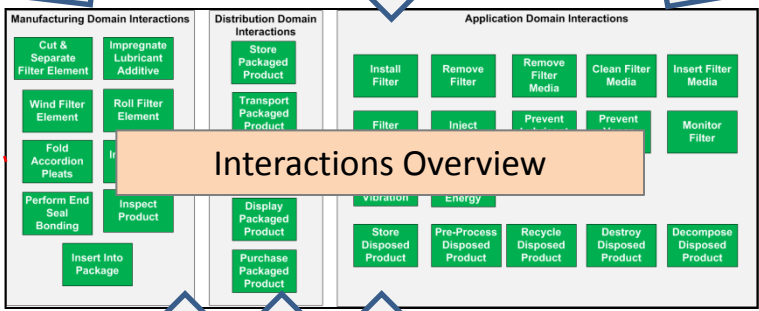
Overview of Selected Views of an S*Model

How Certain Model Views Fit Together:

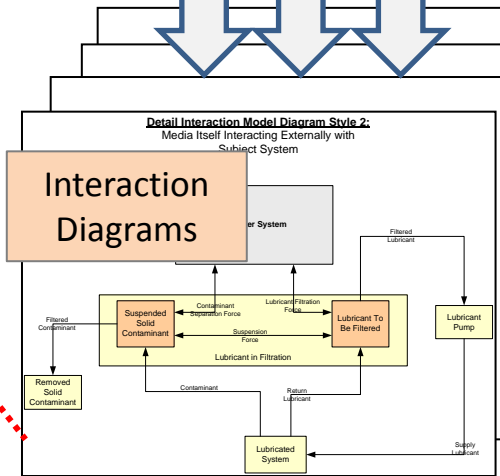
Selected views for use in discovering all the technical requirements and checking for completeness, consistency of same



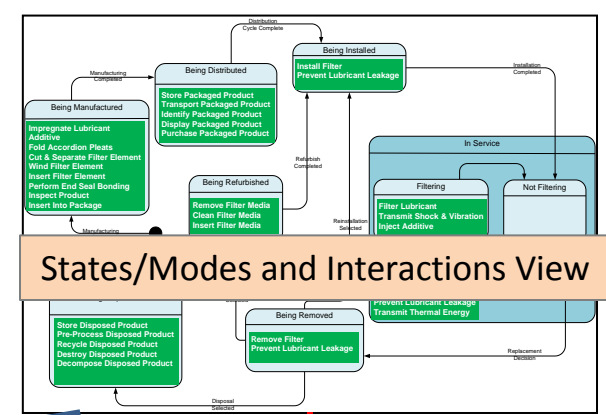
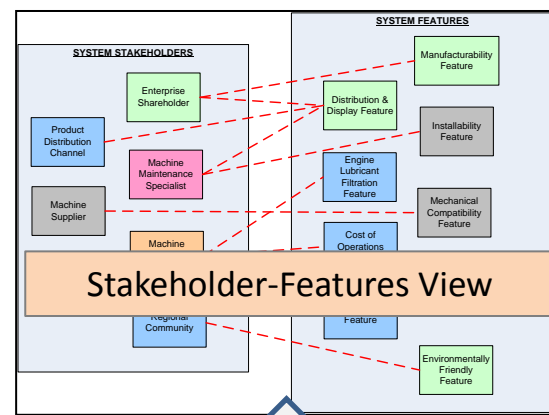
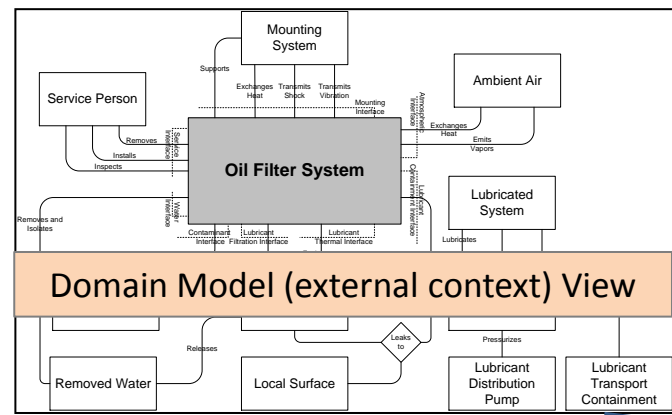
Discovering all the External Interactions



Discovering all the Technical Requirements

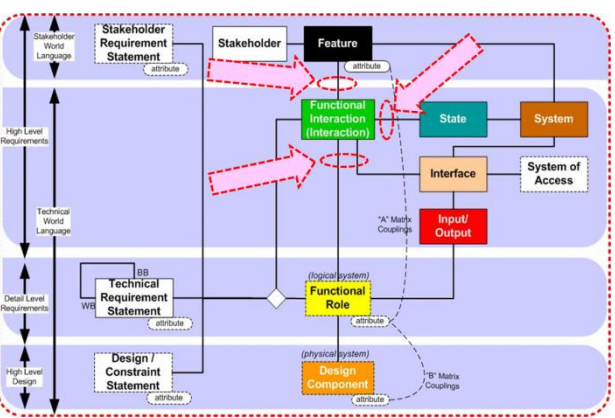
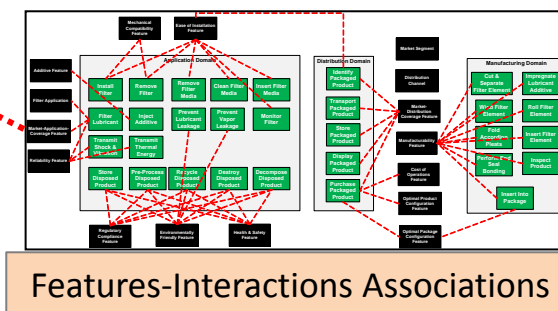
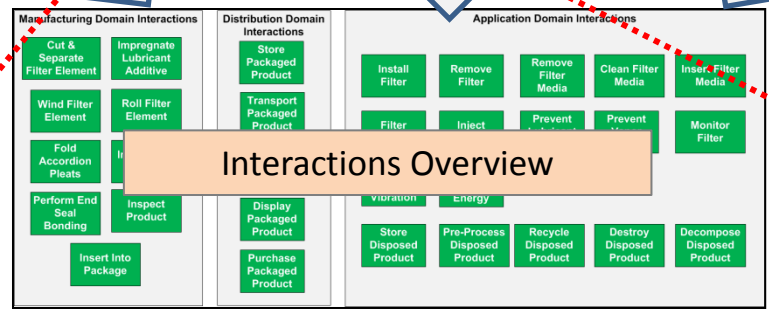


Interaction	Role	Requirement (Required or Assumed Behavior)
Filter Lubricant	Oil Filter System	For a Return Lubricant stream of [Lubricant Viscosity Range] and [Lubricant Pressure Range], the Oil Filter shall separate Filtered [Lubricant] from the [Lubricant] output stream, [Lubricant] viscosity within the [Lubricant] viscosity range.
Filter Lubricant	Lubricated System	For a Return Lubricant stream of [Lubricant Viscosity Range] and [Lubricant Pressure Range], the Oil Filter shall separate Filtered [Lubricant] from the [Lubricant] output stream, [Lubricant] viscosity within the [Lubricant] viscosity range.
Filter Lubricant	Lubricant Distribution Pump	For a Return Lubricant stream of [Lubricant Viscosity Range] and [Lubricant Pressure Range], the Oil Filter shall separate Filtered [Lubricant] from the [Lubricant] output stream, [Lubricant] viscosity within the [Lubricant] viscosity range.
Install Filter	Oil Filter System	The Oil Filter shall be manually installable in ten minutes or less, using only a screwdriver.
Install Filter	Oil Filter System	The Oil Filter shall have installation instructions printed on its exterior surface, in English
Install Filter	Service Person	The Service Person shall have the visual acuity and hand strength of an average 40 year old adult.
Install Filter	Service Person	The Service Person shall be capable of reading English at the tenth grade level.



Interactions-Actors Associations

Interaction Name	Interaction Definition	Oil Filter System	Mounting System	Ambient Air	Lubricated System	Service Person	Removed Water	Local Surface	Lubricant Distribution Pump	Lubricant Transport Containment	Manufacturing System	Distribution Channel	Machine Supplier	Machine
Remove Filter Media	The technician during which maintenance removes the filter media from the oil filter system.	X	X											
Clean Filter Media	The interaction during which the technician cleans the filter media.	X	X											
Insert Filter Media	The interaction during which the technician inserts the filter media back into the filter housing.	X	X											
Wind Filter Element	The interaction during which the manufacturing system winds the sheet filter element into a cylindrical shape.										X			
Transmit Shock & Vibration	The interaction during which the oil filter system is subjected to and transmits mechanical shock and vibration originating externally.	X	X											
Monitor Filter	The interaction through which the service person or sub-system equipment monitors the condition of the filter.	X	X											
Prevent Vapor Leakage	The interaction through which the oil filter prevents unseal quantities of gaseous vapor contaminants from	X	X											

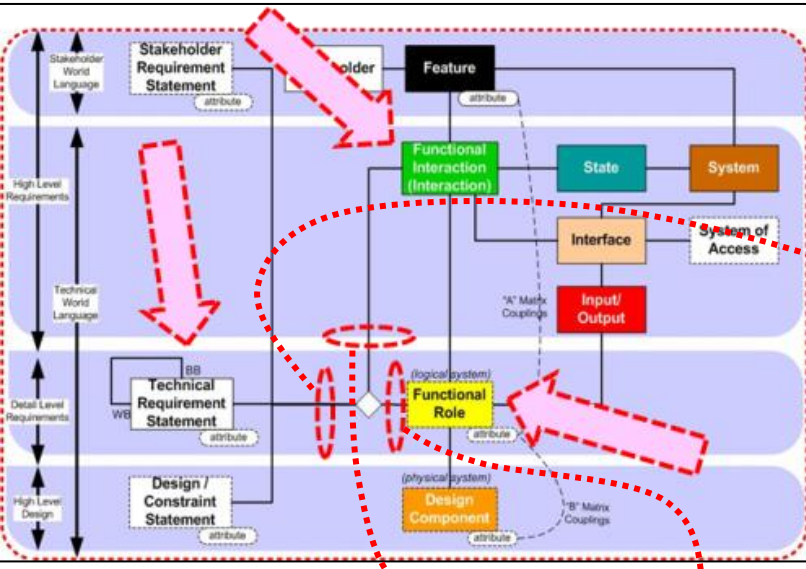


Inherent Relational Checks of High Level Model Completeness / Consistency (Model Metrics)

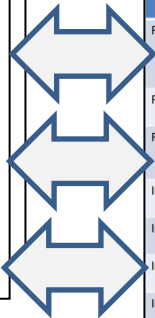
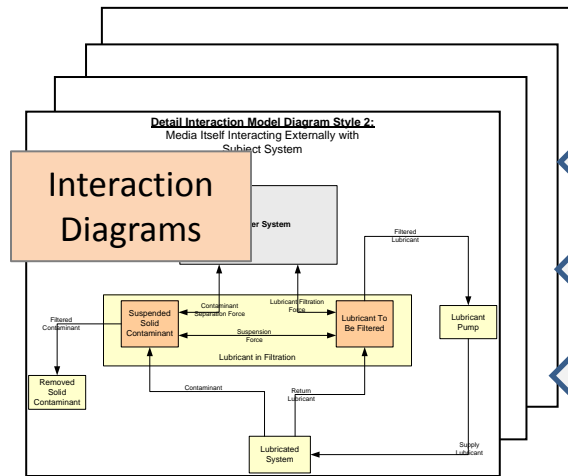
Three paths to the same Interactions

Inherent Relational Checks of Detail Level Model Completeness / Consistency (Model Metrics)

Requirements Statements are Transfer Functions



Interaction	Role	Requirement (Required or Assumed Behavior)
Filter Lubricant	Oil Filter System	For a <u>Return Lubricant</u> stream of [Lubricant Viscosity Range] and [Lubricant Pressure Range], the Oil Filter shall separate <u>Filtered Contaminant</u> particles from the <u>Lubricant</u> output stream, according to the [Filter Particle Size Distribution Profile].
Filter Lubricant	Lubricant in Filtration	The Lubricant in Filtration shall have viscosity within the [Lubricant Viscosity Range].
Filter Lubricant	Lubricant Distribution	The Pump shall maintain oil pressure within the [Lubricant Pressure Range].



Interaction	Role	Requirement (Required or Assumed Behavior)
Filter Lubricant	Oil Filter System	For a <u>Return Lubricant</u> stream of [Lubricant Viscosity Range] and [Lubricant Pressure Range], the Oil Filter shall separate <u>Filtered Contaminant</u> particles from the <u>Lubricant</u> output stream, according to the [Filter Particle Size Distribution Profile].
Filter Lubricant	Lubricant in Filtration	The Lubricant in Filtration shall have viscosity within the [Lubricant Viscosity Range].
Filter Lubricant	Lubricant Distribution	The Pump shall maintain oil pressure within the [Lubricant Pressure Range].
Install Filter	Oil Filter System	The Oil Filter shall be manually installable in ten minutes or less, using only a screwdriver.
Install Filter	Oil Filter System	The Oil Filter shall have installation instructions printed on its exterior surface, in English.
Install Filter	Service Person	The Service Person shall have the visual acuity and hand strength of an average 40 year old adult.
Install Filter	Service Person	The Service Person shall be capable of reading English at the tenth grade level.

Technical Requirements