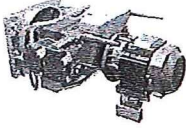
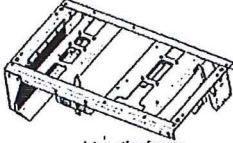
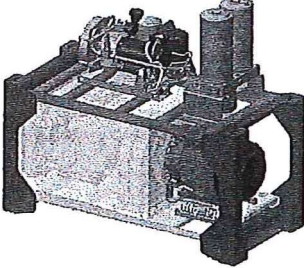
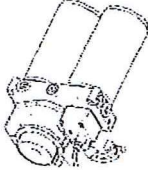
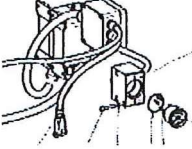
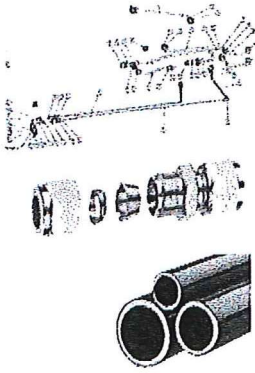




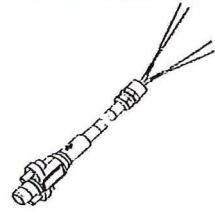
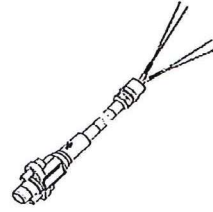
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Imported Components/SubComponents/Materials	Components/Sub Components/Materials Made/procured in USA	Details of Substantial Modification in USA	Final Product delivered to Alstom
 <p>Compressor Set</p>	 <p>Integration frames</p>	<p>Production [1] of the integration frames at U.S. sub-supplier (highly critical)</p> <ul style="list-style-type: none"> - cutting/forming/bending of us-bought steel sheets. - welding of the sub-parts, acc. US standards. - NC-machining of the whole welded frame: milling, adaptations of fitting points, drilling, sawing, grinding. - surface treatment and painting of the whole frame. - Verification / documentation / shipment to KBC. 	 <p>Air Supply Unit</p>
 <p>Air Dryer</p>	 <p>Electrical appliances</p>	<p>Production [1] of cable Harnesses for the Air Supply Unit at Knorr Brake Company and/or at U.S. sub-supplier</p> <p>Manufacturing of cable harnesses, including:</p> <ul style="list-style-type: none"> - arrangement and connection of wires. - cutting of wires. - crimping of wires. - assembly of plugs. - final testing of finished cable harnesses. <p>Preparation of Production at Knorr Brake Company</p> <ul style="list-style-type: none"> - Incoming Inspection and Quality Insurance. - Compilation of all parts of BOM from warehouse. - Engraving name plates to identify each unit throughout the entire production process. 	
 <p>Piping and tubing appliances</p>		<p>Assembly [1] of Air Supply Unit at Knorr Brake Company</p> <p>Mech., Pneum. and electr. Interconnection of :</p> <ul style="list-style-type: none"> - Integration frame - Compressor Set. - Air Dryer. - Auxiliary Air Supply Unit. - Safety Valves incl. fixing material and accessories. - Piping, Hoses, Hose clamps - Holders, Supporting parts. - All electrical parts, cable harnesses, connectors, plugs. - Identification and serialization labelling. <p>Routine testing [1] of Air Supply Unit at Knorr Brake Company (highly critical)</p> <ul style="list-style-type: none"> - Design and manufacturing of automated routine test tooling. - Electrical function test - High-voltage Test, incl. Insulation and Earthing. - Leakage test. - Shuttling cycle test. - Pressure governor Test. - Gas meter recording. - Creation of test report. - Final Inspection, packaging and shipment. 	
 <p>Fixings</p>		<p>Type testing [1] of Air Supply Unit at external laboratories in the US (highly critical)</p> <p>Scope of type testing still under discussion with Alstom but basically possible locally:</p> <ul style="list-style-type: none"> - EMC test - Noise test - Vibration input test into train - IP tests - shock&vibration test (see bench below) - high and low-temperature tests 	

[1] welding, forming, material removal, interconnection, permanent adhesive joining, testing, finishing; FRA Buy America FAQ, section: General Requirements: substantial transformation

Status: December 5th, 2016; based on scope defined in piping dwg. TA412659 rev9

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 (Signature)
 (Signature)

Imported Components/SubComponents/Materials	Components/Sub Components/Materials Made/procured in USA	Details of Substantial Modification In USA	Final Product delivered to Alstom
<p>Subcomponents representing less than 6% material value:</p> <ul style="list-style-type: none"> - Digi-Key - Mouser 	 <p>Speed sensor 49 CFR 661.11 compliant - see certificate</p>	<p><u>Production steps made by the Supplier in North Carolina facility and at local US subcontractors:</u></p> <ul style="list-style-type: none"> • All components are received into QC where components are inspected against IAR requirements • Cable is solder to PCB per [J Standard 001] • PCB is encapsulated into the stainless steel shell • Cable/shell assembly is over-molded for environmental protection • Cable is soldered into connector per [J Standard 001] • Cable/connector assembly is over-molded for environmental protection • Final assembly is inspected in QC against IAR requirements <p>Supplier facility video link : www.smith-systems-inc.com</p> <p><u>Production steps at Knorr Brake Company</u></p> <ul style="list-style-type: none"> - Incoming Inspection and Quality Insurance. - Repackaging/kitting acc. customer requirements. 	 <p>Speed sensor</p>

Type testing [1] of speed sensor (highly critical)

- Functional tests at static and dynamic commissioning

[1] welding, bending, material removal, interconnection, permanent adhesive joining, testing, finishing FPA Buy America FAD, section: General Requirements: substantial transformation
 States: January 26th, 2017 - Conditional to business award to US supplier