I. PURPOSE

The majority of machinery/equipment at Chrysler has hazardous energy sources that are similar and are isolated by employees the same way. This document establishes minimum guidelines for the protection of employees when working in, on or around machines or equipment during repair, maintenance or service, from injury due to unexpected energization, start-up or release of stored energy from the machine/equipment. This is accomplished through the 3 key elements of the process:

1. The written plant "Generic" policy which follows the guidelines established in SMI-107.

2. Lockout/energy control graphics posted at specific machines/equipment that have multiple energy sources associated with the operation.

3. Formal training that covers the keys aspects of the lockout/energy control process.

The implementation of these 3 key elements constitutes lockout/energy control knowledge and training, and is specific to the individual machine/equipment being isolated.

 Additionally, this process establishes the minimum guidelines for neutralizing the energy sources on machinery, equipment systems, and facility services during installation, servicing, and repairing in conformance with Federal and State OSHA regulations (29CFR 1910.147), Ontario Occupational Health and Safety Act and Regulations for Industrial Establishments (Reg. 851), and Mexican Federal Standard NOM-004-STPS-1999, Section 7.2.2.

Any special circumstances that arise at specific operations that are not addressed by the content of this instruction shall be reviewed by the Local Joint Health & Safety Committee (LJHSC) for a unique controlled exception specific to the operation in question. The LJHSC shall conduct a formal review of the unique non-conforming operation, consulting with members of the Corporate Safety Office as necessary. Prior to approving a deviation, the LJHSC will produce a written description of the specific circumstance that includes a short term solution specifying all required safety controls that will provide temporary employee safeguards. Additionally, the LJHSC will provide a recommendation for a long term permanent solution. This document will be signed by the LJHSC, attached to the Plant Specific Lockout Program, posted at the machine for the duration of the deviation, and added to the agenda of the Weekly and Monthly Safety Review Board Meeting. The LEPC shall expedite a permanent compliant solution to the issue.

II. ORGANIZATIONAL COMPONENTS AFFECTED

This policy applies to all Chrysler – Chrysler Group LLC (Chrysler) operating units in the United States, Canada, and Mexico which require employees to work with, on, or around equipment and machinery being serviced, maintained, or repaired.
III. DEFINITIONS

1. **Authorized Employee** – a person who is trained to implement the lockout/energy control procedure on machines or equipment to perform servicing or maintenance on that machine or equipment or, as a member of management, to oversee the lockout process

   a. Classification as an Authorized employee requires;

      i. Class room training / Kiosk training (generic and all applicable energy specific modules, eg, electrical)

      ii. Complete review of SMI 107

      iii. Energy control graphics training, available online class: MTSSMI107

      iv. Hands-on practical evaluation on a specific piece of equipment using the Periodic Inspection Report, by an Authorized employee

      v. Issuance of an approved Safety Lock with the Personal Identification applied to the Lock

      vi. Issuance of a Multiple Lockout Hasp

   NOTE - Authorized employees with prior service/maintenance experience on a particular piece of equipment do not require retraining unless the hands-on practical evaluation indicates a deficiency.

2. **Adjunct Employee** – A person who is not an Authorized Employee, but on occasion finds it necessary to enter an area that is locked out (i.e. a robot cell) for analysis, guidance, review, observation or to perform assigned housekeeping/cleaning duties.

   a. Classification as an Adjunct employee requires;

      i. Class room training / Kiosk training (generic LO module)

      ii. Review of selected sections of SMI 107 (definitions, lock issuance and adjunct LO procedures)

      iii. Issuance of an approved Safety Lock with Personal Identification (Adjunct designation) applied to the Lock.

3. **Affected Employee** – an employee whose job requires him/her to operate or use a machine or equipment on which servicing or maintenance is being performed under lockout/energy control, or whose job requires him/her to work in an area in which servicing or maintenance is being performed.

   a. Classification as an Affected employee requires;

      i. 5 Minute Safety Talk on Lockout/Energy Control (Example attached, Appendix A)

4. **Energy source** – any source of electrical, mechanical, hydraulic, pneumatic, chemical, thermal, coherent electromagnetic or other potentially hazardous energy.

5. **E-Stop** – An e-stop device shall override all other functions and operations in all modes. Power to the machine actuators which causes a hazardous condition(s) shall be removed as quickly as possible without creating other hazards and the reset of an e-stop device shall not initiate a restart.

6. **Entry** – Generally speaking, entry into a cell or work area shall be the point at which any part of an individual’s body breaks an imaginary "plane" that duplicates the original opening covered by a removable fixed guard, perimeter guarding gate/door or presence sensing device. NOTE: For additional clarification, please refer to Appendix G “Lockout Entry Clarifications – Frequently Asked Questions 5/13/08"
7. **Cycle-Stop** – When used for the control of hazardous motion, cycle stops shall de-energize automatic mode of the system and cause all associated equipment to come to a controlled or system stop.

8. **Lockout** – the placement of a lockout device on an energy isolating device, in accordance with an established procedure, ensuring that the energy isolating device and the equipment being controlled cannot be operated until the lockout device is removed.

9. **Lockout device** – a device that uses a positive means such as a lock, to hold an energy isolating device in the safe position and prevent the energizing of a machine or equipment.
   a. **Department (Equipment) Lock** – a uniquely identified lock approved for two applications:
      i. Group (lock box) lockout applications.
      ii. The securing of equipment during periods of time when work has been suspended or interrupted (e.g. during a Shift Change or a system out of service).

10. **Multiple Lockout Hasp** – a lockout device that allows or accommodates multiple locks on a single energy isolating device.

11. **Normal production operations** – the use of a machine or equipment to perform its intended production function.

12. **Non-routine maintenance** – not normally occurring on a daily or regular basis.

13. **Other Employee** – employees not in the above three groups (Authorized, Adjunct or Affected).

14. **Routine maintenance** – normally occurring on a daily or regular basis.

15. **Servicing and/or maintenance** – workplace activities such as constructing, installing, setting up, adjusting, inspecting, modifying, and maintaining and/or servicing machines or equipment. These activities include lubrication, cleaning or unjamming of machines or equipment, and making adjustments or tool changes, where the employee may be exposed to the unexpected energization or start-up of the equipment or release of hazardous energy.

16. **Setting up** – any work or activity performed to prepare a machine or equipment to perform its normal production operation.

### IV. RESPONSIBILITY

1. **Management** – Each plant’s management is responsible to establish and maintain a written procedure for neutralizing and locking out energy sources for machinery, equipment and facility services.
   a. Each Chrysler plant shall establish a comprehensive written plant-specific procedure based on this SMI.
   b. Training responsibility. Employees who are required (Authorized) to lockout machines or equipment while performing service or maintenance shall be instructed (formally trained) by their supervisor as to the requirements of this procedure. Authorized Employees shall be retrained by the department supervisor(s) whenever there is a change in their job assignment, a change in machine/equipment or processes that present a new hazard, or when energy control procedures change. Plant management of servicing and maintenance personnel shall ensure that all employees are trained in and use applicable lockout/energy control procedures.
   c. Enforcement responsibility. All department supervisors will enforce compliance with this policy, including use of corrective disciplinary action when necessary.

2. **Employees** – Each employee is required to comply with this SMI by following all plant and department operating requirements approved by the department supervisor and safety department. Authorized and Adjunct Employees shall consult with their supervisor or other knowledgeable member of management whenever there are any questions regarding the application of this SMI. Authorized and Adjunct Employees who are issued safety locks will use them *exclusively* for their personal protection in implementing the plant lockout/energy control policy.
3. **Distribution of Locks to Authorized and Adjunct Employees** – Each Plant will create a Plant Lock Issuance Process, which must be approved by the Local Joint Health and Safety Committee prior to implementation.

   a. **Adjunct Employees** - An Adjunct Employee may enter an area that is locked out by complying with the following procedure:

      i. Contact the Authorized Employee who has locked out the machine or equipment. If it is a group lockout contact the Authorized Employee designated to coordinate the lockout activity. Explain reason for need of entry into locked out area;

      ii. Under the guidance of the Authorized Employee responsible for the lockout, the Adjunct Employee will apply his/her lockout device to the energy isolating device(s) of the machine or equipment; and

      iii. The Adjunct Employee may enter the locked out area only under the guidance of the Authorized Employee responsible for the lockout and will only be involved in supervised analysis, guidance, review, observation or to perform assigned housekeeping/cleaning duties.

      iv. Adjunct Employees such as janitors, housekeeping, or similar personnel who have not received Authorized Employee training and require access to machinery or equipment for cleaning purposes only, and may be exposed to unexpected energization or release of stored energy must be under the guidance of an Authorized Employee responsible for implementing the lockout/energy control process. In addition, under the direction of the Authorized Employee responsible for the lockout, the Adjunct Employee will apply his/her lockout device to the energy isolating device(s) of the machine or equipment. At no time will the Adjunct Employee’s lock be the only lock on the hasp/energy isolating device(s) of the machine or equipment (the lock of the Authorized Employee is always the last lock to be removed).

   b. **Authorized Employees** – All Authorized Employees must be provided and assigned a standardized lockout lock(s) and key and danger lock label. This unique label shall be applied to the lock body and will identify the employee’s classification (Authorized or Adjunct). Multiple lockout hasps will be available for use as necessary. The unique lockout locks shall be singularly identified (with photograph on lock), be the only devices used for controlling energy and shall not be used for other purposes.

      i. If new machinery or equipment is received or existing machinery or equipment is modified or relocated, an evaluation shall be performed to determine adequacy of the lockout/energy control procedure (reference: SMI-105).

      ii. Compliance with all lockout/energy control policies and procedures is mandatory. Failure to comply will result in disciplinary action up to and including discharge. Human Resource departments shall maintain a record that demonstrates effective enforcement of this policy.

      iii. This SMI does not apply to work on cord and plug connected electrical equipment as long as the cord is unplugged and the plug is under the exclusive control of the employee performing the servicing or maintenance.

V. GENERAL

1. **Sequence of Lockout / Energy Control Procedure**

   a. An Authorized Employee must notify all Affected Employees that servicing or maintenance is required on a machine or equipment and that the machine or equipment must be shut down and locked out to perform the servicing or maintenance.

   b. The Authorized Employee shall identify the type and magnitude of the energy that the machine or equipment uses, shall understand the hazards of the energy, and shall know the methods to control the
energy.

c. If the machine or equipment is operating, shut it down by normal deactivation procedure (depress the stop button, open switch, close valve, etc.). Follow specific sequence if specified on the machine or equipment lockout/energy control graphic.

d. De-activate/use the energy isolating device(s) so that the machine or equipment is isolated from the energy source(s).

e. Lockout the energy isolating device(s) with assigned unique individual lock(s).

f. Stored or residual energy (such as that in capacitors, springs, elevated machine members, rotating flywheels, hydraulic systems, and air, gas, steam, or water pressure, etc.) must be dissipated or restrained by methods such as grounding, repositioning, blocking, bleeding down, etc.


g. Ensure that the equipment is disconnected from the energy source(s) by first checking that no personnel are exposed, then verify the isolation of the machine or equipment by operating the push button or other normal operating control(s) or by testing to make certain the equipment will not operate. Caution: Return operator controls to neutral or “off” position after verifying the isolation of the machine or equipment.

h. The machine or equipment is now locked out.

2. Restoring Machine or Equipment to Service

   a. When servicing or maintenance is completed and the machine or equipment is ready to return to normal operating condition, the Authorized Employee shall take the following steps:

   b. Check the machine or equipment and the immediate area around the machine or equipment to ensure nonessential items have been removed and that the machine or equipment components are operationally intact;

   c. Check the work area to verify that all employees have been safely positioned or removed from the area;

   d. Verify that the controls are in neutral and will not cause machine or equipment movement upon energization.

   e. Each Authorized Employee who has applied a lock must remove the lockout devices and reenergize the machine or equipment. Note: The removal of some forms of blocking may require reenergization of the machine before safe removal; and

   f. Notify Affected Employees that the servicing or maintenance is completed and the machine or equipment is ready for use.

VI. TESTING OR POSITIONING OF ENERGIZED EQUIPMENT

1. In situations where lockout devices must be temporarily removed from the energy isolating device and the machine or equipment energized to test or position the machine, equipment or component thereof, the Authorized Employee must perform the following sequence of actions:

   a. Clear the machine or equipment of tools and materials;

   b. Clear personnel from the machine or equipment area;

   c. Remove the lockout devices according to established procedure;

   d. Energize and proceed with testing or positioning; and,

   e. De-energize all systems and reapply the lockout device and tag to the controls to continue the work.
VII. GROUP LOCKOUT/ENERGY CONTROL

1. In situations when more than one Authorized Employee is required to perform work on machinery or equipment, a designated Authorized Employee assigned by the department shall physically locate and lockout the machinery or equipment prior to the attachment of other locks and shall coordinate all activities for employee protection.

2. The designated Authorized Employee shall communicate the purpose of the operation to the servicing and maintenance employees, and ensure that all procedural steps have been properly completed for the proper deenergization of the equipment. It is critical that each Authorized Employee involved in the group lockout be familiar with the type and magnitude of energy that may be present during the servicing and maintenance work.

3. Each Authorized Employee shall place his/her own personal lockout lock on the energy isolating device(s) before engaging in the servicing and maintenance operation. Any additional Authorized Employee(s) entering the affected area (e.g., guarded perimeter), where lockout/energy control is required, shall apply their own personal lock before entering. Adjunct Employees shall also place their own personal lockout lock on the energy isolating device(s), before entering for cleaning or inspection.

4. If the energy-isolating device cannot accept multiple locks, a multiple lockout hasp(s) shall be used. This enables each Authorized or Adjunct Employee to have control over his/her own protection, and verify that the equipment has been properly deenergized.

5. To facilitate ease of maintenance, a group lockbox(s) may be utilized on equipment/machines that have multiple energy isolation points. Each Authorized or Adjunct Employees shall apply their individual lockout locks to the group lockbox(s) after the designated Authorized Employee has de-energized the equipment/machine utilizing the steps listed above and deposited all lockbox keys in the lockbox. If selected for use, the group lockbox(s) shall be:
   a. Be red in color
   b. Labeled to identify the department it serves
   c. Of substantial construction, and robust enough to withstand the environment and conditions under which it is used.

6. When the activities involving group lockout extend into another work shift, or there is a change of Authorized Employees, the provisions for shift or personnel changes shall be followed.

VIII. SHIFT OR PERSONNEL CHANGES

1. When a machine or equipment is locked out and tagged during shift or personnel changes, the maintenance supervisor is responsible to ensure a specific procedure is used to ensure the continuity of lockout device protection. This includes provisions for the orderly transfer of lockout device protection between off-going and oncoming employees, to minimize exposure to hazards from the unexpected energization or start-up of the machine or equipment, or the release of stored energy. During this period it is essential that the continuity of lockout device protection be maintained and the identity of the specific work order and its status be communicated between shifts/personnel.

IX. REMOVAL OF A LOCKOUT DEVICE BY MANAGEMENT

1. Each lockout device shall be removed from each energy-isolating device by the Authorized Employee who applied the device. Should an emergency occur when a lock must be removed, the supervisor of the Authorized Employee who placed the lock can remove it with the permission of the maintenance area manager, provided the following procedure is used:
   a. Verify that the Authorized employee who applied the lockout device is not at the plant;
   b. Make all reasonable efforts to contact the Authorized Employee to inform him/her that his/her lockout device has been removed; and
   c. Ensure the Authorized Employee who originally applied the lockout device is notified of this activity and the reason for the removal before resuming work activity at the plant.
   d. Document details of the lock removal (Example attached, Appendix B).
2. If the supervisor is not available, a maintenance manager may remove the lockout device by following the steps outlined in the above section, “Removal of a Lockout Device by Management”. If a lockout device is removed in an emergency, then the equipment must be 100% visually inspected to assure no employee is in a potentially hazardous location. If all the machinery or equipment cannot be seen from the lockout position, then additional employees must be stationed to prevent entry into hazardous areas until the equipment has been restored to normal operations with all safety interlocks in place.

X. SERVICING AND/OR MAINTENANCE OPERATIONS

1. When servicing activity such as lubricating, cleaning, or unjamming the production equipment during production is necessary, the employee(s) performing the servicing may be subject to hazards that are not part of the production operation itself. Workers engaged in these operations are covered by lockout/energy control that requires application of the lockout/energy control process when any of the following conditions occur:
   
a. The employee must either remove or by-pass machine guards or other safety devices, resulting in exposure to hazards;
   
b. The employee is required to place any part of his/her body in contact with the point of operation of the operational machine or equipment; or,
   
c. The employee is required to place any part of his/her body into a danger zone associated with a machine operating cycle.

XI. MINOR SERVICING TASKS

1. Employees performing minor tool changes and adjustments (tip dressing, tip/drill changes, robot head cleaning, etc) and/or other minor serving activities that are routine, repetitive, and integral to the use of the production equipment and that occur during normal production operations do not require lockout, provided the work is performed using alternative measures that provide effective protection from release of unexpected hazardous energy. Alternative measures of control must be validated for effectiveness before minor servicing tasks can be initiated. Plants are permitted the flexibility to exceed these minimum requirements. Please reference your local Plant Lockout / Energy Control procedure.

2. During normal production operations, when repetitive minor adjustments are required, equipment servicing shall be accomplished under the protection of specifically designed control reliable control circuits, control equipment, and operating procedures that provide proven effective protection for employees. Such circuits (safety mats, light curtains, electrical interlocks, etc.) must deactivate (drop power to drives/transfers) the machinery or equipment and not permit the affected equipment to be energized without specific actions (reset at the main control panel) by the employee performing the minor servicing or adjustment. If circuit controls cannot be engineered into a machine or equipment to safely deactivate all energy prior to entry, then the lockout/energy control procedure must be followed. Employees performing the minor servicing or adjustment must not be exposed to hazards from adjacent machinery or equipment.

3. Employees (jobsetters, set-up personnel, machine operators, etc.) required to work on, in or around machinery or equipment, for the purpose of making minor tool repairs, tool changes, or adjustments shall be designated and trained by their department supervisor and follow all department operating standards.

4. Each location is responsible for developing and maintaining a written list of “minor servicing tasks” for every process and/or piece of equipment. The LJHSC shall review and approve the written list(s). The written list must be sorted, at a minimum, by department and shall be attached to the location’s written LO/EC Policy/Program.

5. Department operating procedures shall identify the methods of equipment shutdown, entry and restart.

6. Refer to the “Lockout Minor Service Task Decision Matrix” (Appendix F) to determine if the Minor Servicing Task process is the proper process to utilize in this particular situation.

7. Employees performing a minor task must have continuous line-of-site control over mechanism used to prevent unexpected release of hazardous energy, eg, gate interlock
8. Control reliable alternative measures are in place to provide effective protection from the release of unexpected hazardous energy. The effectiveness of these alternative measures, e.g., safety mats, light curtains, electrical gate interlocks, must be verified prior to performing work each and every time an employee performs an approved minor servicing task.

XII. TROUBLESHOOTING BY OBSERVATION GUIDELINES

1. These guidelines are a deviation from normal lockout/energy control practices and are intended for only required Troubleshooting through observation. The bypassing of safety devices, or removal of fixed guards, shall only be done if no other method of diagnosing the problem is possible. When a non-routine (not normally occurring on a daily or regular basis) operating problem is experienced with machinery/equipment and it is deemed necessary for Authorized maintenance personnel to by-pass the established safety devices to observe the process during automatic, semi-automatic or manual modes, the following must be implemented:
   a. Refer to the “Troubleshooting Decision Matrix” (Appendix E) to determine if the Troubleshooting process is the proper process to utilize in this particular situation.
   b. Authorization for troubleshooting by observation only must be obtained from the department supervisor and maintenance supervisor before troubleshooting under this guideline is conducted. Consult with the Local Joint Health and Safety Committee (LJHSC), as necessary. The “Authorization For Observation/Troubleshooting” form (Appendix C) must be completed prior to troubleshooting; and
   c. Authorization shall be approved only after a pre-planning meeting has been conducted to discuss work needs and alternative energy control. If no other method of diagnosing the problem is possible, and no other alternatives for lockout/energy control can be followed, only then will observation be authorized inside the guarded area.

2. The Authorized Employee observing the machinery/equipment shall do so at a safe distance from the hazardous areas throughout the cycle. Employees must never be permitted to place any part of their bodies inside the motion work envelope or point of operation of any equipment. No maintenance modification shall be performed under this procedure. Remember: This is for observation purposes, only! No tools will be permitted inside the machine area other than a spark-free flashlight.

3. Where currently provided, Authorized employees shall use a Pendant, Enabler, or E-Stop device when performing troubleshooting. These devices, when activated, will stop all hazardous motion accessible to the worker(s) inside the work cell and shall be in the possession of the Authorized employee at all times when inside the work cell.

4. A sign stating, "Caution - Machine Under Maintenance - Safety Systems Have Been Temporarily Bypassed" shall be posted at the machine (entrance to machine) and the control panel until all systems have been restored.

5. The observation must be done with the assistance of a fellow Authorized Employee who shall be positioned outside the guarded area, in full view of the Authorized Employee inside the guarded area and within reach of an emergency stop control. Authorized Employees observing expected motion inside the guarded area shall pay particular attention to 18-inch clearance zones, work envelopes, pinch points and points of operation. These areas shall never be violated for any reason.
   NOTE: The Authorized Employee must be observed at all times by an attendant. This is a one to one relationship; one attendant per one Authorized Employee, and shall remain one for one at all times.

6. When the cause of the malfunction is determined, and repair or adjustment is deemed necessary, lockout/energy control must be followed. At no time shall employees make repairs without first applying lockout/energy control procedures. After the problem has been diagnosed, all safety systems must be returned to normal operating requirements and appropriate lockout/energy control procedures must be followed by all Authorized Employees before any service or maintenance on the machine/equipment is conducted.

7. A written record of the observation troubleshooting must be maintained by the responsible authorizing
maintenance supervisor, including a description as to why it was required to by-pass the safety devices.

XIII. OUTSIDE PERSONNEL - CONTRACTORS

1. Whenever outside servicing personnel (contractors) are to be engaged in activities covered by this document, plant facilities engineering or maintenance supervision and the contractor shall inform each other of their respective lockout procedures. The plant facilities engineering or maintenance supervision shall ensure that Chrysler Group LLC employees understand and comply with the restrictions and prohibitions of the outside contractor’s lockout/energy control program.

2. Contractors working within a Chrysler facility shall be required to make available, if appropriate, a written lockout/energy control program and ensure the protection of their employees, Chrysler Group LLC employees and equipment. Anytime a contractor works on Chrysler equipment, a mutual understanding between organizations shall be maintained to ensure communications and understanding. Contractors wanting access into equipment or working on systems shall contact the facilities department (prior to commencing work) to secure energy systems for safe access. The facilities department shall designate a qualified employee to coordinate contractor activities within Chrysler facilities. Contractors are prohibited from terminating or restarting any system and using equipment or powered industrial vehicles under the responsibility of Chrysler. When both parties are working on machinery or equipment, dual locks shall be used.

3. Contract personnel responsible for supervising Chrysler Group LLC employees shall require the same level of lockout training provided to regular, full-time Chrysler Group LLC supervisors.

XIV. TRAINING AND COMMUNICATION

1. Training shall be provided to ensure that the purpose and function of this SMI is understood by employees and that the knowledge and skills required for safe application, use, and removal of the energy controls are acquired by all employees. The training shall include the following:

   a. Authorized Employees – Training in the recognition of applicable hazardous energy sources, the type and magnitude of the energy available in the plant, and the methods and means necessary for energy isolation and control.

      i. Class room training / Kiosk training (generic and all applicable energy specific modules, eg, electrical)

      ii. Complete review of SMI-107

      iii. Energy control graphics training, available online class: MTSSMI107

      iv. Hands-on practical evaluation, using the Periodic Inspection Report, by an authorized employee

      **NOTE** - Authorized employees with prior service/maintenance experience on a particular piece of equipment do not require retraining unless the hands-on practical evaluation indicates a deficiency

   b. Adjunct Employees- Instruction in the purpose and use of the energy control procedures and familiarization with lockout devices and tags.

      i. Class room training / Kiosk training (generic LO module)

      ii. Review of selected sections of SMI-107 (definitions, lock issuance and adjunct LO procedures)

   c. Affected Employees – Instruction in the purpose and use of the energy control procedures and familiarization with lockout devices and tags. Inform of the prohibition relating to attempts to restart or re-energize machines or equipment that are locked out.

      i. 5 Minute Safety Talk on Lockout/Energy Control

   d. Supervision of Authorized Employees - Training in the recognition of applicable hazardous energy sources the type and magnitude of the energy available in the plant, the methods and means necessary for energy isolation and control, and management’s responsibility to enforce the Lockout/Energy Control Process. Clear understanding of the Plant’s written Lockout/Energy Control Program. Same training as an
Authorized Employee.
e. Authorized Employees will be provided retraining when:
   i. There is a change in the job assignment, a change in machines, equipment or processes that present a new hazard, or whenever there is a change in the lockout/energy control procedures; and
   ii. A periodic inspection reveals, or management has reason to believe that there are deviations from or inadequacies in the employee’s knowledge or use of the lockout/energy control procedures;
   iii. The training shall be certified upon completion. The certification record must contain each employee’s name, the date(s) of the training, and subject information.
   iv. Supervisors of an Authorized Employee shall receive "Authorized Employee" lockout/energy control training.

XV. ANNUAL VALIDATIONS

1. The purpose of the annual validation is to correct any deviations or inadequacies in the lockout/energy control procedure. Annual validations are intended to assure that the lockout/energy control procedure continues to be implemented properly and that the employees involved are familiar with the responsibilities under that procedure. The validations must be able to determine three things:
   a. Whether the steps under the energy control procedure are being followed;
   b. Whether the employees involved know their responsibilities under the procedure; and
   c. Whether the procedure is adequate to provide the necessary protection, and what changes, if any, are needed.
2. An Authorized Employee in Management shall conduct annual validations of lockout/energy control procedures. Someone must conduct this other than the person(s) using the lockout/energy control procedures. All Authorized Employees using lockout/energy control procedures shall be included in a validation each year.
3. The validation shall be certified using the “Lockout/Energy Control Annual Validation Report” form (Appendix D). The certification must identify the machine or equipment on which the energy control procedure was being performed, the date of the validation, the Authorized Employee(s) included in the validation, and the Authorized Employee performing the validation. Hard copies of the annual validation report, complete with supervisor and employee signatures, should be maintained for a period of 12 months. Annual Validation reports will be recorded in the Lockout Database, accessible through the OSH homepage.

XVI. LOCKOUT/ENERGY CONTROL GRAPHICS AND MACHINE-SPECIFIC PROCEDURE REQUIREMENTS

1. OSHA compliance activity is focusing on written specific energy control procedures. This information is to provide guidance in the enhanced development of machine/equipment specific procedures for the control of potentially hazardous energy in accordance with 29 CFR 1910.147(c)(4)(ii) [Control of Hazardous Energy (Lockout)].
2. In accordance with the OSHA Lockout standard, a plant energy control program must be written to include procedures that "clearly and specifically outline the scope, purpose, authorization, rules and techniques that authorized employees must utilize to control potentially hazardous energy” (1910.147(c)(4)(ii). To ensure that Authorized Employees are fully aware of where all hazardous energy isolation sources are located and the specific requirements for machine or equipment energy control, the following procedures shall be included with every facility’s written Lockout/Energy Control Program:
   a. A plant wide review of all machinery and equipment to identify all the specific types of potentially hazardous energy sources (electrical, hydraulic, pneumatic, thermal, etc.).
   b. A list of all the hazardous energy sources identified for each machine or equipment including each source’s isolation device location and method of their control shall be posted at the individual machine or
c. A review of each machine and/or equipment to determine if identified hazardous energy sources are similar for shutdown. Machines and/or equipment that use the same type and magnitude of energy and similar controls, shall be covered by a single written (plant generic) procedure. If hazardous energy sources are identified as not being similar, and/or a special sequence to achieve proper de-energization is required, a specific graphic identifying the sequence of shutdown must be developed and posted in accordance with this SMI. Examples of processes that require specific procedures for energy isolation are; heat treat furnaces, die casting machines, and foundry processes (see below, Exhibit B).

NOTE: The posting of a hazardous energy graphic is not required for stand-alone machines and equipment if a single energy control device (example - electrical disconnect) will completely de-energize all potentially hazardous energies, and is under the exclusive control of the Authorized Employee(s).

3. A lockout/energy control graphic describing each machine/equipment’s hazardous energy sources shall be posted at each individual machine /equipment in accordance with this instruction. The lockout graphic shall include the location of each energy source isolation device, the type and magnitude of energy present, and the proper means of locking out the machine /equipment.

4. Lockout/Energy Control Graphics shall be posted to assist the Authorized Employees in identifying all energy sources present at the machine, equipment or manufacturing system. Lockout Graphics must be displayed prominently at the machine or system. The number of individual graphics posted will vary depending on the hazards associated with a given machine, equipment or system (See Requirements For All Lockout/Energy Control Graphics, number 6).

5. Lockout/energy control graphics may be developed by original equipment manufacturers, approved lockout graphic vendors or by local plant engineering departments.

6. The OEM, the approved graphics supplier, and the responsible Chrysler division engineering department must complete a review of the graphic’s accuracy before any Plant or Corporate Safety reviews are scheduled to occur. This review must occur prior to plant buy-off of the equipment.

XVII. REQUIREMENTS FOR LOCKOUT GRAPHICS PRODUCED BY ORIGINAL EQUIPMENT MANUFACTURERS

Original Equipment Manufacturers (OEMs) who have the capability of producing lockout/energy control graphics in house without the need for assistance from one of the approved graphic vendors, may qualify for approval from the Corporate Safety Office Advanced Process Group, if:

1. The OEM contacts the Corporate Safety Office and Local Plant Safety Committee during the project concept phase and submits a sample lockout/energy control graphic for approval.

2. The OEM demonstrates a cost savings to develop graphics themselves.

3. The OEM is capable of producing all required graphics and associated icon stickers/labels.

4. Approval of an OEM to create lockout/energy control graphics is given only on a case by case basis for each build project.

5. The Corporate Safety Advanced Process Group shall maintain a list of OEMs that are approved to develop graphics for a specific build program. Failure of a graphics approved OEM to comply with this specification will result in immediate disqualification of approval status. Upon disqualification the OEM is required to use a Chrysler-approved lockout graphics vendor to complete the build project.
XVIII. REQUIREMENTS FOR LOCKOUT/ENERGY CONTROL GRAPHIC SUPPLIERS

1. The graphic supplier shall be approved through Chrysler Corporate purchasing in conjunction with Chrysler occupational safety and health.

2. The graphic supplier shall contact the Corporate Safety Office and Local Plant Safety Health and Safety Committee during the project concept phase and submit a sample lockout/energy control graphic for approval.

3. The graphic supplier shall be capable of producing all required graphics and associated required tags to Chrysler Group LLC specifications using the exact legends.

4. Chrysler safety reserves the right to reject a graphic supplier on any future project based on past quality or service.

5. Preliminary black and white graphics shall be provided to the purchasing engineer, Corporate and plant safety for review by the graphic manufacturer prior to shipment of the machine/equipment. The graphic supplier and the OEM are responsible for verifying the accuracy of all lockout/energy control graphic materials before the equipment installation is complete.

XIX. REQUIREMENTS FOR ALL LOCKOUT/ENERGY CONTROL GRAPHICS

1. Preliminary black and white graphics shall be provided for review by the OEM and the responsible Chrysler engineering division prior to shipment of the machine/equipment. The OEM is responsible for verifying the accuracy of all lockout/energy control graphic materials before to equipment installation is complete.

2. Revised machinery or equipment must remain in compliance with the requirements of SMI-105 (Safety and Health Inspection of Machinery and Equipment) as well as the requirements of this specification.

3. All required graphics shall be developed in full compliance with this specification including general layout, required colors and icon shapes.

4. All required color graphics and tags shall be installed on the equipment at the end use manufacturing Chrysler Group LLC facility before the machine or equipment is released for production. All final approved graphics shall be delivered by a Chrysler approved, graphics supplier (in an editable, electronic format, e.g. PowerPoint, Auto Cad, or Word file) to plant engineering and have the ability to be reproduced/revised at a later date as necessary. NOTE: Only engineers knowledgeable in lockout graphics development and approved by the Local Joint Health & Safety Committee shall be authorized to update pre-existing lockout graphics.

5. The following shall be used as a guide to the number of the lockout graphic plan views to be posted:
   a. Standalone type machines with multiple energy sources shall have one plan view posted at the machine's main electrical panel.
   b. Transfer type lines shall have one plan view posted on each side of the process/operation. One posted at the main electrical panel and one on the opposite side of the line, on an interlocked guard or console.
   c. Multiple processes located within perimeter guarded cells, shall have one plan view lockout graphic posted on each side of the cell. When interlock access gates are present, the lockout graphic is usually posted on the access gate. If the energy control requirements can not be covered on one plan view because of system complexity, additional plan views can be produced for the same process.

6. Graphics used for lockout/energy control information must illustrate perimeter guarding and identify all potentially hazardous energy sources, locations of energy control devices that are pertinent to employee safety and the methods used to operate the devices. The intent is to provide an accurate representation of the location, and type of lockout/energy control devices provided to any person entering or working around a machinery/equipment or automated systems.
7. The graphic must be a plan view showing the outline of the perimeter guarding, fixture base, the part, the transfer device, robots, gantries, operator work stations and all other process equipment. Interfacing (adjacent) equipment shall be identified on the plan view graphic in phantom (dashed lines) and equipment/operation name.

8. Stand alone machines/conveyors that have their electrical panel (PIP) fed through another systems PIP shall be identified in the supplying system's plan view graphics.

9. All safety devices such as, but not limited to, safety interlocks, emergency pull cords, light screens, scanners, interlocked safety pins and safety mats must be shown on the lockout graphic.

10. Emergency stops, cycle stops, safety hatches, and safety interlocks shall be identified on the plan view, but not tagged/labeled at their location.

11. In addition to the green/white home position label, safety pins shall have insertion points identified by a black/yellow "tiger stripe" label. The tiger stripe requirement is to assist the worker in locating the insertion point, and shall not be identified on the plan view.

12. Robot and gantry motion envelopes, (the restricted spaces) shall be accurately shown, along with all robot points.

13. All lockout/energy control devices shall be identified as to their function and maximum energy levels.

14. Secondary electrical disconnect devices for similar processes can be grouped in one row, provided the voltages are the same.

15. Water and Coolant shall be identified as hazardous energy if line pressures are greater than 60 PSI.

16. Pneumatic systems shall be identified as hazardous if line pressures are greater than 30 PSI or if a hazard is created at any pressure.

17. Hydraulic or Coolant systems that can be isolated with no stored energy as a result of opening an electrical disconnect, shall have the disconnect identified on the hydraulic or coolant method of operation row.

18. Every illustration shall show a correct representation (you are here) relative to part flow.
19. Inert gases (refrigerant) shall be identified if greater than 60 PSI. However, all flammable gases shall be identified regardless of line pressure.

20. Stored energy shall be identified by red arrow pointing at the energy label on the plan view.

21. Graphics that were in place on machinery / equipment prior to the release of this revision of SMI 107, DO NOT have to be updated solely to meet the revised symbol library requirements specified in this SMI provided the graphics accurately represent the machine / equipment they are attached to.

22. Changes / modification to the machinery / equipment that take place after the release of this revision of SMI 107, DO require that the system graphics be updated to reflect the symbol library as shown in this revision.

23. Approved graphic symbols, color designations, and sample graphics are included in the Lockout/Energy Control Graphics Library.
## Chrysler Group LLC

### Graphic Library / ECPL - Energy Control Power Lockout

<table>
<thead>
<tr>
<th>SYMBOL</th>
<th>LOCATION / DESCRIPTION</th>
<th>ENERGY SOURCE</th>
<th>METHOD OF OPERATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Main Electrical Power Interface Panel 480 VAC</td>
<td>Electrical</td>
<td>Place disconnect handle in the off position. Attach lockout device.</td>
</tr>
<tr>
<td>A</td>
<td>Power Interface Panel - 480 VAC <em>No Main Electrical Panel in this System.</em></td>
<td>Electrical</td>
<td>Place disconnect handle in the off position. Attach lockout device.</td>
</tr>
<tr>
<td>E - D</td>
<td>Robot Controller Disconnect 480 VAC</td>
<td>Electrical</td>
<td>Place disconnect handle in the off position. Attach lockout device.</td>
</tr>
<tr>
<td>E - G</td>
<td>Weld Control Timer Disconnect 480 VAC</td>
<td>Electrical</td>
<td>Place disconnect handle in the off position. Attach lockout device.</td>
</tr>
<tr>
<td>H</td>
<td>Safety Switch Disconnect 480 VAC</td>
<td>Electrical</td>
<td>Place disconnect handle in the off position. Attach lockout device.</td>
</tr>
<tr>
<td>Ap</td>
<td>Air Lockout ??? PSIG</td>
<td>Pneumatic</td>
<td>Pull/Push to dump, or turn handle to isolate. Attach lockout device.</td>
</tr>
<tr>
<td>Ww</td>
<td>Water In ??? PSIG</td>
<td>Water</td>
<td>Close manual valve. Attach lockout device.</td>
</tr>
<tr>
<td>Se</td>
<td>Sealant ??? PSIG</td>
<td>Sealant</td>
<td>Close manual valve. Attach lockout device.</td>
</tr>
<tr>
<td>Hw</td>
<td>Hydraulic ??? PSIG</td>
<td>Hydraulic</td>
<td>Close manual valve. Attach lockout device.</td>
</tr>
<tr>
<td>Hv</td>
<td>Hydraulic ??? PSIG</td>
<td>Hydraulic</td>
<td>Place disconnect handle A in the off position. Attach lockout device.</td>
</tr>
<tr>
<td>Gs</td>
<td>Gas ??? PSIG</td>
<td>Gas</td>
<td>Close manual valve. Attach lockout device.</td>
</tr>
<tr>
<td>Sm</td>
<td>Steam ??? PSIG</td>
<td>Steam</td>
<td>Close manual valve. Attach lockout device.</td>
</tr>
<tr>
<td>Cc</td>
<td>Coolant ??? PSIG</td>
<td>Coolant</td>
<td>Close manual valve. Attach lockout device.</td>
</tr>
<tr>
<td>Cc</td>
<td>Coolant ??? PSIG</td>
<td>Coolant</td>
<td>Place disconnect handle A in the off position. Attach lockout device.</td>
</tr>
<tr>
<td>Cs</td>
<td>Chemical ??? PSIG</td>
<td>Chemical</td>
<td>Close manual valve. Attach lockout device.</td>
</tr>
<tr>
<td>Ls</td>
<td>Lube Oil ??? PSIG</td>
<td>Lube Oil</td>
<td>Close manual valve. Attach lockout device.</td>
</tr>
<tr>
<td>Ss</td>
<td>Safety Pin (Storage Location or Remote Handle)</td>
<td>Mechanical</td>
<td>Insert or activate safety pin to isolate mechanical motion. Attach lockout device.</td>
</tr>
<tr>
<td>Ss</td>
<td>Safety Block (Storage Location)</td>
<td>Mechanical</td>
<td>Insert safety block to isolate mechanical motion.</td>
</tr>
<tr>
<td>E-Canada</td>
<td>Zone Stop <strong>Used in Canada</strong></td>
<td>Electrical</td>
<td>Push button and attach lockout device.</td>
</tr>
<tr>
<td>E-Canada</td>
<td>Emergency Stop/ Cycle Stop</td>
<td>Electrical</td>
<td>Push button and attach lockout device.</td>
</tr>
<tr>
<td>E-Canada</td>
<td>Emergency Stop</td>
<td>Electrical</td>
<td>Push button and attach lockout device.</td>
</tr>
<tr>
<td>E-Canada</td>
<td>Cycle Stop</td>
<td>Electrical</td>
<td>Push button and attach lockout device as required.</td>
</tr>
<tr>
<td>E-Canada</td>
<td>Safety Interlock</td>
<td>Electrical</td>
<td>Pull interlock from receptacle and attach lockout device as required.</td>
</tr>
<tr>
<td>or</td>
<td>Machine/Gantry Safety Hatch</td>
<td>Mechanical</td>
<td>Close gantry safety hatch and attach lockout device.</td>
</tr>
</tbody>
</table>

---

**SAFETY**
The symbols below are for reference only. Use only as needed.

EXHIBIT – A Lockout Graphics Library (continued)
NOTE: This lockout graphics policy shall apply to all new machinery/equipment programs initiated after the revised SMI-107 issuance date. All processes currently operating with a graphic shall continue to comply with Safety Bulletin S-43 (previous lockout graphics policy). The requirements under the revised SMI-107 policy will only apply to existing processes if machine/equipment modification, relocation, or replacement occurs that changes the energy control requirements.

The lockout/energy control graphic design formats included in this SMI must be adhered to. Any OEM not following the prescribed format will be removed from the approved supplier list. Chrysler Engineering or Safety Department Representative not following the prescribed format may be subject to disciplinary action.

EXHIBIT B – Sample Graphics (Symbols & Color Specifications)

ASSEMBLY
### Powertrain Safety Lockout/Energy Control Locations

**Chrysler LLC - Trenton, MI - Phoenix Project**

**Komatsu Crankshaft Internal Miller**

Refer to Local Lockout Procedure Regarding Lockout / Energy Control Requirements

<table>
<thead>
<tr>
<th>SYMBOL</th>
<th>LOCATION / DESCRIPTION</th>
<th>ENERGY SOURCE</th>
<th>METHOD OF OPERATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Main Electrical Disconnect - 480 V</td>
<td>Electrical</td>
<td>Place disconnect handle in the OFF position. Attach lockout device.</td>
</tr>
<tr>
<td>Air</td>
<td>Air Lockout - 80 PSIG</td>
<td>Pneumatic</td>
<td>Push/pull to dump, or turn handle to isolate. Attach lockout device.</td>
</tr>
<tr>
<td>Hyd</td>
<td>Hydraulic 80 PSIG</td>
<td>Hydraulic</td>
<td>Place disconnect handle in the OFF position. Attach lockout device.</td>
</tr>
<tr>
<td>Oil</td>
<td>Lube Oil 80 PSIG</td>
<td>Lube Oil</td>
<td>Place disconnect handle in the OFF position. Attach lockout device.</td>
</tr>
<tr>
<td>☑️</td>
<td>Emergency Stop</td>
<td>Electrical</td>
<td>Push button and attach lockout device.</td>
</tr>
<tr>
<td>☑️</td>
<td>Cycle Stop</td>
<td>Electrical</td>
<td>Push button and attach lockout device.</td>
</tr>
<tr>
<td>☑️</td>
<td>Safety Interlock</td>
<td>Electrical</td>
<td>Pull interlock from receptacle and attach lockout device.</td>
</tr>
</tbody>
</table>

**Location:**

Col. L-09

Op. 20-1

BT # AAA299115

Komatsu S/N 11401

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**S A F E T Y**

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## Refer to Local Lockout Procedure Regarding Lockout / Energy Control Requirements

<table>
<thead>
<tr>
<th>SYMBOL</th>
<th>LOCATION / DESCRIPTION</th>
<th>ENERGY SOURCE</th>
<th>METHOD OF OPERATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Main Electrical Disconnect 480 VAC</td>
<td>Electrical</td>
<td>Place disconnect handle in the OFF position. Attach lockout device.</td>
</tr>
<tr>
<td>B</td>
<td>Transformer Disconnect 480 VAC</td>
<td>Electrical</td>
<td>Place disconnect handle in the OFF position. Attach lockout device.</td>
</tr>
<tr>
<td>C</td>
<td>Remote Disconnect 480 VAC</td>
<td>Electrical</td>
<td>Place disconnect handle in the OFF position. Attach lockout device.</td>
</tr>
<tr>
<td>D</td>
<td>Remote Disconnect 480 VAC</td>
<td>Electrical</td>
<td>Place disconnect handle in the OFF position. Attach lockout device.</td>
</tr>
<tr>
<td>Air</td>
<td>Air Shut-off 9 Bar</td>
<td>Pneumatic</td>
<td>Push / Pull to dump or turn handle to isolate. Attach lockout device.</td>
</tr>
<tr>
<td>Wtr</td>
<td>Water - in Shut-off</td>
<td>Water</td>
<td>Close manual valve and attach lockout device.</td>
</tr>
<tr>
<td>Wtr</td>
<td>Water - Out Shut-off</td>
<td>Water</td>
<td>Close manual valve and attach lockout device.</td>
</tr>
<tr>
<td>Gas</td>
<td>Gas 130 PSI</td>
<td>Gas</td>
<td>Close manual valve and attach lockout device.</td>
</tr>
<tr>
<td>️</td>
<td>Emergency Stop</td>
<td>Electrical</td>
<td>Push button and attach lockout device.</td>
</tr>
<tr>
<td>🚗</td>
<td>Cycle Stop</td>
<td>Electrical</td>
<td>Push button and attach lockout device.</td>
</tr>
<tr>
<td>🛠️</td>
<td>Safety Interlock Switch</td>
<td>Electrical</td>
<td>Pull interlock from receptacle and attach lockout device.</td>
</tr>
</tbody>
</table>
HEAT TREAT FURNACE SEQUENCE GRAPHIC -

Chrysler Group LLC

HEAT TREAT FURNACE
Sequenced Lockout/Energy Control Shutdown Procedure

Note: Equipment must be shut down in sequential order. Isolate each hazardous energy source that you are exposed to in the proper order. If uncertain, contact your Supervisor.

Refer to Local Lockout Procedure Regarding Lockout / Energy Control Requirements

<table>
<thead>
<tr>
<th>SEQ</th>
<th>SYMBOL</th>
<th>LOCATION / DESCRIPTION</th>
<th>ENERGY SOURCE</th>
<th>METHOD OF OPERATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Gas</td>
<td>Endothermic Gas Shutoff</td>
<td>Gas</td>
<td>Close manual valve. Attach lockout device.</td>
</tr>
<tr>
<td>2</td>
<td>Gas</td>
<td>Natural Gas Shutoff</td>
<td>Gas</td>
<td>Close manual valve. Attach lockout device.</td>
</tr>
<tr>
<td>3</td>
<td>A</td>
<td>Main Electrical Disconnect 480 V</td>
<td>Electrical</td>
<td>Place disconnect handle in the ‘OFF’ position. Attach lockout device.</td>
</tr>
<tr>
<td>4</td>
<td>B</td>
<td>Lighting Disconnect 110 V</td>
<td>Electrical</td>
<td>Place disconnect handle in the ‘OFF’ position. Attach lockout device.</td>
</tr>
<tr>
<td>5</td>
<td>D</td>
<td>Filtration Unit &amp; Door Motor Disconnect 480 V</td>
<td>Electrical</td>
<td>Place disconnect handle in the ‘OFF’ position. Attach lockout device.</td>
</tr>
<tr>
<td>6</td>
<td>Air</td>
<td>Air Lockout 80 PSIG</td>
<td>Pneumatic</td>
<td>Pull to dump, or turn handle to isolate. Attach lockout device.</td>
</tr>
<tr>
<td>7</td>
<td></td>
<td>Safety Pin (Storage Location)</td>
<td>Mechanical</td>
<td>Insert or activate safety pin to isolate mechanical motion. Attach lockout device.</td>
</tr>
<tr>
<td>8</td>
<td>Wtr</td>
<td>Water In 60 PSIG</td>
<td>Water</td>
<td>Close manual valve. Attach lockout device.</td>
</tr>
</tbody>
</table>

SAFE T Y

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XX. EXPLANATION OF LOCKOUT/ENERGY CONTROL LOCK LABELS

At the request of a number of plants, the Corporate Safety Office has made a change to the lockout/energy control policy (SMI-107) pertaining to the identification of personnel who use lockout/energy control locks. The method we have used for years is the "Danger" plastic tag that has a picture of the authorized employee on it and is used in conjunction with the lockout lock. However, a number of companies have been marketing a label making system that enables you to produce a label with a worker’s picture attached that is small enough to be applied around a lock. The label has all the significant information on it that our danger tag has and has the advantage of not being cumbersome to carry. After reviewing some of the lock label making systems that our Plant Safety Departments have purchased, we have duplicated it using our existing software (PowerPoint) which will enable attaching an employee's digital picture. To help identify classifications, SMI-107 requires that lock labels be standardized into three general colors.

**GREEN** will designate the "Adjunct Employee" classification for all of Advance Manufacturing Engineering.

**ORANGE** will designate the "Adjunct Employee" classification for all remaining groups within Chrysler Group LLC.

**BLUE** will designate OPTIONAL contractor lock label within Chrysler Group LLC; ref. SMI-163, Appendix E.

**WHITE** will designate the “Authorized Employee” OR “Department Lock” for all Chrysler Group LLC.

Lockout locks that have been issued to AME personnel and include the appropriate colored label will be considered approved for use at any Chrysler Group LLC facility. If more than one lock is required to adequately isolate multiple energy sources, the Adjunct Employee shall contact the Plant Safety Department to be issued additional locks. One restriction placed on the Adjunct Employee is that a worker with this classification can not lock a process out and enter the system without being accompanied by a Plant Authorized Employee. This restriction is necessary to ensure that all plant specific energy shut down procedures are known and followed by everyone who locks out. Adjunct Employees who request a Plant Authorized Employee classification (White) must complete the following requirements:

1. For new processes that are unique/not similar to the plant or have different energy isolation procedures, the Adjunct Employee shall meet with the Original Equipment Manufacture and receive training on specific lockout procedures. The Chrysler Adjunct Employee must receive written verification from the OEM that includes the following information:
   - The Name of the Employee Trained.
   - The Equipment for which the Employee was trained on.
   - The OEM representative conducting the training.
   - The Date of the Training.

2. If the process doesn't have energy isolation procedures that are unique/not similar to the plant, then the Adjunct Employee shall meet with the Plant Safety Department and be trained on any specific procedures that may be in place for that facility.

After completing item 1 or 2, the Plant Safety Department shall issue the Adjunct Employee a plant lock that can be used for Authorized Worker lockout purposes and will only be good for use at the issuing plant. Below are examples of lock labels that have been produced using our internal system:
XXI. CHANGE HISTORY

Document Revision History:

Revision: 23  Date of Last Revision: 5/26/2015  Last Approval Date: 5/26/2015

<table>
<thead>
<tr>
<th>Document Author:</th>
<th>Process Owner/Document Manager:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lisa Gunn / LAG64 / T4998</td>
<td>Stephen Perrott / SDP1 / T8345SP</td>
</tr>
</tbody>
</table>

Reason for Change: To update the SMI with current information and standardized Guidelines
<table>
<thead>
<tr>
<th>Revision</th>
<th>Sec/ Para Changed</th>
<th>Change Made</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>XVIII - Requirements for all Lockout/Energy Control graphics</td>
<td>Updated Approved Vendor List for Graphics</td>
<td>6/25/2004</td>
</tr>
<tr>
<td>2</td>
<td>XX - Change History</td>
<td>Added Change History Section</td>
<td>6/25/2004</td>
</tr>
<tr>
<td>3a</td>
<td>III - Definitions XIV - Training</td>
<td>Modified Authorized, Adjunct &amp; Affected, added definitions for e-stop and cycle stop.</td>
<td>8/1/2005</td>
</tr>
<tr>
<td>3b</td>
<td>Attachments</td>
<td>Added Periodic Inspection form, Troubleshooting checklist, Lock Removal form and 5-Minute LO Safety Talk for Affected employees. Added Trouble Shooting Decision Matrix Appendix “E”.</td>
<td>8/1/2005</td>
</tr>
<tr>
<td>3c</td>
<td>I - Purpose</td>
<td>Expanded the purpose of the document to define what the main elements of the procedure are and clarify specific training requirements.</td>
<td>8/1/2005</td>
</tr>
<tr>
<td>3d</td>
<td>V - General</td>
<td>Revised general section and moved Adjunct and Authorized sections to Section IV Responsibilities Removed item b(i)(1) through b(i)(4)</td>
<td>8/1/2005</td>
</tr>
<tr>
<td>3e</td>
<td>VII - Group Lockout / Energy Control</td>
<td>Revised section to include use of group lockbox</td>
<td>8/1/2005</td>
</tr>
<tr>
<td>3f</td>
<td>XV - Annual Validations</td>
<td>Terminology changed to Annual Validations from Annual Validations</td>
<td>8/1/2005</td>
</tr>
<tr>
<td>3g</td>
<td>XXII - Requirements for all lockout graphics</td>
<td>Updated approved supplier list for contact for Graphtec Industries.</td>
<td>8/1/2005</td>
</tr>
<tr>
<td>3h</td>
<td>XII - Troubleshooting by Observation</td>
<td>Added a reference to the new Troubleshooting Decision Matrix.</td>
<td>8/1/2005</td>
</tr>
<tr>
<td>3i</td>
<td>XIII - Outside Personnel - Contractors</td>
<td>Added bullet item # 3 to address contract supervisors</td>
<td>9/20/2005</td>
</tr>
<tr>
<td>4</td>
<td>Entire document</td>
<td>Revised all DaimlerChrysler notations to Chrysler</td>
<td>10/1/2008</td>
</tr>
<tr>
<td>5a</td>
<td>III - Definitions</td>
<td>Item 1.a.iii: Added: available online class: MTSSMI107</td>
<td>10/1/2008</td>
</tr>
<tr>
<td>5b</td>
<td>III - Definitions</td>
<td>Item 1.a.vi: Added: Issuance of Multiple Lockout Hasps</td>
<td>10/1/2008</td>
</tr>
<tr>
<td>5c</td>
<td>III - Definitions</td>
<td>Item 3.a.i: Added: /Energy Control</td>
<td>10/1/2008</td>
</tr>
<tr>
<td>5d</td>
<td>III - Definitions</td>
<td>Added item #6: Entry</td>
<td>10/1/2008</td>
</tr>
<tr>
<td>5e</td>
<td>III - Definitions</td>
<td>Item 9: Added a: Department (Equipment) Lock</td>
<td>10/1/2008</td>
</tr>
<tr>
<td>6</td>
<td>V - General</td>
<td>Item 1.a: Removed provision for “tag-out”</td>
<td>10/1/2008</td>
</tr>
<tr>
<td>7</td>
<td>VII - Group Lockout</td>
<td>3: Added: Requirement for Authorized Employee(s) entering the affected area (guarded perimeter), where lockout is required, to apply their own personal lock before/while entering.</td>
<td>10/1/2008</td>
</tr>
<tr>
<td>8a</td>
<td>XI - Minor Servicing Tasks</td>
<td>Added: the word “validated” in item #1</td>
<td>10/1/2008</td>
</tr>
<tr>
<td>8b</td>
<td>XI - Minor Servicing Tasks</td>
<td>Added: Items # 6-8</td>
<td>10/1/2008</td>
</tr>
<tr>
<td>Item</td>
<td>Section</td>
<td>Change Description</td>
<td>Date</td>
</tr>
<tr>
<td>------</td>
<td>---------</td>
<td>--------------------</td>
<td>------</td>
</tr>
<tr>
<td>9a</td>
<td>XIV – Training &amp; Communication</td>
<td>Item 1.a: changed subpart iii to reference on-line training</td>
<td>10/1/2008</td>
</tr>
<tr>
<td>9b</td>
<td>XIV – Training &amp; Communication</td>
<td>Item 1.c: changed subpart iii to reference energy control</td>
<td>10/1/2008</td>
</tr>
<tr>
<td>10</td>
<td>XVIII – Requirements for Lockout/Energy Control Graphics</td>
<td>Item 4: Changed Supplier requirement to deliver graphics in “editable” format and restrict updating graphics to only “engineers knowledgeable in lockout graphics development”</td>
<td>10/1/2008</td>
</tr>
<tr>
<td>11</td>
<td>Exhibits A &amp; B</td>
<td>Updated Graphics Library and multiple sample graphics</td>
<td>10/1/2008</td>
</tr>
<tr>
<td>12</td>
<td>List of Chrysler Approved Suppliers for Lockout/Energy Control Graphics</td>
<td>Updated list of approved Chrysler Lockout Graphics suppliers: eliminated Premier Autoworkers, Inc. and added St. Claire, Inc.</td>
<td>10/1/2008</td>
</tr>
<tr>
<td>13</td>
<td>XIX – Explanation of Lockout/Energy Control Lock Labels</td>
<td>Changed format from Visio to Power point. Added Blue, Contractor and White, Department Lock labels.</td>
<td>10/1/2008</td>
</tr>
<tr>
<td>14</td>
<td>Approved, Chrysler, LLC Lockout Labels</td>
<td>Added White w/yellow border Department Lock label</td>
<td>10/1/2008</td>
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<tr>
<td>15</td>
<td>Appendix B – Emergency “Safety Lock” Removal Request</td>
<td>Added “Union/Management” to the Safety Representative signature line</td>
<td>10/1/2008</td>
</tr>
<tr>
<td>16</td>
<td>Appendix C – Authorization for Observation/Troubleshooting</td>
<td>Added “Union/Management” to the Safety Representative signature line</td>
<td>10/1/2008</td>
</tr>
<tr>
<td>17</td>
<td>Appendix F</td>
<td>Added Lockout Minor Service Task Decision Matrix</td>
<td>10/1/2008</td>
</tr>
<tr>
<td>20</td>
<td>XII - Troubleshooting</td>
<td>Paragraph 3, added “Where currently provided”</td>
<td>4/22/2009</td>
</tr>
<tr>
<td>22</td>
<td>Entire document</td>
<td>Formatting changes</td>
<td>7/22/2011</td>
</tr>
<tr>
<td>23</td>
<td>Page 25</td>
<td>Renumbered revision levels to be in sequence</td>
<td>7/27/2011</td>
</tr>
<tr>
<td>24</td>
<td>Entire Document</td>
<td>Replaced Chrysler LLC with Chrysler Group LLC Added “REQUIREMENTS FOR LOCKOUT/ENERGY CONTROL GRAPHIC SUPPLIERS”</td>
<td>05/22/2014</td>
</tr>
<tr>
<td>25</td>
<td>Requirements for LOEC Graphic Suppliers</td>
<td>Removed List of Suppliers</td>
<td>05/23/2014</td>
</tr>
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</table>
Appendix A

Date ______________

LOCKOUT/ENERGY CONTROL REQUIREMENTS
FOR AFFECTED EMPLOYEES

OSHA safety standard 1910.147 (lockout/tagout) requires all employers to develop a written procedure to assure the safety of employees during and after repair or service of machinery.

The lockout/tagout standard requires employers to utilize procedures for placing personal locks on energy isolation devices which will prevent unexpected energization, start-up or release of stored energy while machinery is being repaired or serviced. Chrysler’s Lockout/Energy Control procedure has been in effect for many years to address these requirements.

OSHA’s standard further requires that annually all employees and their supervisors be reminded of the procedure and be instructed not to attempt to operate machinery whenever a lock or "do not operate" tag is affixed to it or to the device controlling the energy sources. No attempt should be made to remove the lock or tag that is attached to a machine or other device. If you have questions concerning these instructions, please direct them to your supervisor, a maintenance supervisor or to plant safety personnel.

There are many reasons for you to comply with the Lockout/Energy Control procedure:

1. **It's a matter of life or death.** Failure to follow Lockout/Energy Control procedures can lead to very serious injuries or death in the workplace.
2. **It's an OSHA requirement.** The standard requires us to lock out and tag out equipment before servicing or maintenance.
3. **Everyone needs to be aware.** Machine operators and even workers who walk by equipment need to understand and respect the lockout process and know never to interfere with the locks or tags.
4. Authorized personnel need to know exactly how to apply the procedures step-by-step before servicing or repairing equipment.

**It is important to remember that only the person who originally attached the lock can remove the lockout device.**

Outside contractors must also have a lockout/energy control procedure. All employees must comply with both Chrysler and outside contractor energy control procedures, locks, and tags.
Emergency “Safety Lock” Removal Request

Date: ______________________  Time: ___________________

Area Manager: ____________________________  CID #: __________

Supervisor: ____________________________  CID #: __________

Department: ____________________________

Equipment Locked Out: ____________________________
(Be specific – Make, Model, Serial #, Line, or Station)

Location of Lock: ____________________________
(Be specific – column location)

Lock # to be Removed & EE Name: ____________________________

Reason for Lock Removal: ____________________________

Before proceeding with lock removal,
☑ Verify the employee that applied the lock is not available at the work place.
☑ Conduct a visual inspection to determine that all employees are clear of all circuits and equipment.

Once the requirements for removal have been met, the requesting Area Manager will enter the Tool Stores area to request the necessary key for lock removal. All keys removed should be returned immediately. Inform the authorized employee that applied the lock that his/her lock has been removed and the reason for removal.

Print  Skilled Trades/Maintenance Area Manager  Signature

Print  Department/Operations Manager  Signature
AUTHORIZATION FOR OBSERVATION/TROUBLESHOOTING

Date:___________  Shift:_______  Time:_____________  Dept:_________

Machine:______________  Location /(Bay#):____________

Purpose for Troubleshooting by Observation
________________________________________________________________________________
________________________________________________________________________________
________________________________________________________________________________
________________________________________________________________________________
________________________________________________________________________________

Authorized Employees:
________________________________________________________________________________
________________________________________________________________________________

Approval for Troubleshooting by Observation Activities

Maintenance Supervisor: ________________________________

Department Supervisor: ________________________________

Safety Representative: ________________________________
(Union/Management)

Completion of Troubleshooting by Observation

Completion date/time: ________________________________

I have ensured that the troubleshooting by observation work performed was conducted in accordance with this procedure and all safeguards have been returned to their original effectiveness.

Management Representative: ________________________________

NOTE: PLEASE POST SIGNED COPY AT THE WORK SITE WHERE THE TROUBLESHOOTING BY OBSERVATION OCCURS.
Appendix D

CHRYSLER GROUP LLC
LOCKOUT/ENERGY CONTROL ANNUAL VALIDATION REPORT

This validation report is designed to ensure that the lockout/energy control procedure and the requirements of the OSHA standard are being followed. This annual validation shall be conducted by an authorized member of management other than the one(s) utilizing the energy control procedure. The validation shall include a review between the inspector and authorized employee, of that authorized employee’s responsibilities in accordance with the energy control procedure (the validation must be done unannounced.)

Department ________________________________ Date __________________________

Machine / Equipment under maintenance ________________________________

Authorized Employee(s)
Name ________________________________ CID# ________________________________
Dept. ____________ Trade ____________

Types of energy being isolated (Check below):
Electrical _______ Chemical ___________ Hydraulic _______ Pneumatic _______
Mechanical _______ Steam ___________ Gas ___________ Other _______

1. Has machine / equipment being isolated had a formal hazard assessment to identify all sources of energy present? YES NO

2. If machine / equipment energy(s) cannot be controlled by a single source, are specific procedures posted? YES NO

3. Have authorized employee(s) received formal training and show satisfactory knowledge of procedure requirements? YES NO

4. Have authorized employee(s) been issued locks, tags and hasps? YES NO

5. Did authorized employee(s) verify machine / equipment energy (s) were isolated before conducting maintenance? YES NO

6. Is the current LO/EC procedure (specific graphic) adequate? YES NO

7. Lockout Validation conducted for WSOT _____ S-58 _____ NTC Audit _____ Annual Validation _____

Comments: ________________________________________________________________
________________________________________________________________________
________________________________________________________________________

Plant ________________________________
Appendix E

Condition requires workers to conduct service or maintenance on Machines/Equipment

Will workers be exposed to unintended hazardous motion?

Yes

Evaluate task and determine the type of energy control procedure required

- Power Off
  - Lockout Condition Power Off, Verified & Locked Out
    - Follow Corporate and Plant Lockout Procedures

- Power On/Controlled
  - Task is Routine, Repetitive & Integral to process
    - Alternative measures required (interlock system)
  - Problem cause unknown
    - Power on assessment required
  - Set Up & Calibration required with Power on, condition not covered by Minor Service Task List or Troubleshooting as tools may be required

No

Workers are not exposed to unintended hazardous motion No Lockout needed

- Service or Maintenance Task Complete

- Verify safety systems have been properly restored

- Complete Appendix C and Troubleshooting Procedure Implemented

- A process specific for the operation which ensures no exposure to unexpected hazardous motion must be developed with assistance of LJHSC and added to Plants Lockout policy

Lockout Minor Service Task Decision Matrix

1. Identified Work Task
2. Is the task performed on a regular and routine basis (at least daily)?
   - Yes
   - No
3. Contact with point of operation or path of hazardous motion – no alternative protective means in place?
   - Yes
   - No
4. Are guards or other safety devices removed or bypassed to perform this task?
   - Yes
   - No
5. Alternative protective means prevent exposure to unexpected energization or activation of the equipment?
   - Yes
   - No
6. Is the task performed within line-of-sight of the equipment controls?
   - Yes
   - No
7. Task is not a “minor service task” - Refer to local lockout / energy control requirements for troubleshooting and special procedures
   - End
8. Employees must be trained on Minor Service Task List
   - End
9. Minor Service Task List approved by LJHSC and LEPC Co-Chairs and forwarded to NJC
   - End
Appendix G

Lockout Entry Clarifications – Frequently Asked Questions

1. **Q:** Would placing your hands on top of a fence line where your fingers are inside the work cell constitute an “entry” violation?
   - **A:** No. Under this situation, the employee is not breaking the plane where a fixed guard or other safety device would normally protect entry. This assumes access to a pinch point or hazardous motion is located a minimum of 36 inches away from the top of the fence or perimeter line.

2. **Q:** If your foot goes into the work cell accidentally, for example while standing at an open gate talking with someone inside the work cell, is this a violation?
   - **A:** No. It is recognized that there may be situations where personnel may “accidentally” cross the perimeter or interrupt a presence-sensing device and fault the process. These situations should be reviewed by the LJHSC, and if accidental, **IS NOT** a violation.
3. **Q:** Will passing a tool “over” or “under” the fence to someone inside the work cell be a violation?
   - **A: No.** Passing a tool “over”, “under”, or “through” the fence to someone who is inside a locked out work cell would not place an employee in a hazardous area as long as there is minimal intrusion incidental to passing the tool.

4. **Q:** Will trouble shooting of equipment be considered a violation?
   - **A: No.** Troubleshooting of equipment and the process to troubleshoot is covered in SMI-107. As long as the process as defined in SMI-107 is followed during these activities, there is no violation.

5. **Q:** How about minor servicing tasks? Are they a violation?
   - **A: No.** Minor service tasks are those activities defined by a plant which meet the criteria for minor service as defined in SMI-107. These tasks do not require the use of lockout provided alternative protective measures are in place and thus would not be considered a violation of the policy.

6. **Q:** Will stepping into an operator's station where safety devices are active during automatic line operation be considered a violation?
   - **A: No.** As long as the work cell perimeter is not violated, there is no entry. Stepping into the operator’s station when the cell is locked out, while it may be provided with safety mats, light screens, etc., to stop migration into the area during automatic operation, is not considered a violation of the cell’s perimeter (i.e., hard guarding or low barrier fence).
7. **Q:** Is stepping over a low barrier at an operator station a violation even with the line under lockout?

- **A:** Yes. A low barrier is a component of the system perimeter, and if crossed by an employee, who has not applied their lock, would be considered a lockout violation.
Low barrier area – migrating across or through the perimeter defined by low barriers **IS** a violation.

Operator’s station **IS NOT** within the perimeter

System perimeter

Safety mats

Light screens

Crossing the system perimeter without proper lockout **IS** a violation.
8. **Q:** Operators often have to reach over a low barrier to load parts to a fixture or robot end effector. Is this a violation?

- **A:** No. The operator’s part loading does not require breaking the plane of an open or removed guard and **IS NOT** a lockout violation.

9. **Q:** Will testing of equipment at operator stations, for example primary light screens and mats, be considered a lockout violation?

- **A:** No: Equipment testing for verification of operation (not troubleshooting) or which is part of a safety review (SMI-105) is not considered a violation of the policy when there is no bodily entry inside the protected perimeter.

10. **Q:** Will entering the perimeter of a work cell, which has large sections of guarding removed, be considered a violation?

- **A:** Yes. Even with perimeter guarding removed, the original fence lines define the areas where employees can safely work without lockout. During maintenance...
activities, it is the plant’s responsibility to implement controls (caution tape, barricades, etc.,) which clearly define the work cell perimeter to avoid accidental employee entry into a hazard zone. The method selected by the plant for controlling these work areas must be standardized for the plant, and employees who could potentially work in these areas must be made aware of the selected control methods.

11. Q: An employee enters the guarded perimeter of a machine/operation to perform a minor servicing task that is on the Facility’s, approved Minor Servicing Task List. The machine/operation has been previously locked out by another employee performing a task that requires a lock (not on the Minor Servicing Task List); however, the second employee does not apply a lock because he/she is performing an approved minor servicing task. Is this a lockout violation?
   - A1: Yes. If a machine/operation is locked out because work that requires a lock is being performed, all other entries within that machine/operation’s guarded perimeter require the application of the entrant’s lockout lock.
   - A2: If an employee is in the process of performing an approved minor servicing task (without a lock) and a second employee applies a lock to perform a task not on the Minor Servicing Task List (requires the use of a lock) while the first employee is still in the guarded perimeter, then the second employee is in violation of the lockout policy, not the first.

*It is the responsibility of an employee initiating lockout to ensure that all employees (affected by the lockout) are informed and prepared for such action.

NOTE: These situations apply only to work cells and equipment that have received a full SMI-105 safety review and approval.

Corporate Safety Office