M02.3.2	Heavy Expanded Mobile Tactical Truck	The MIRCS is transported on its own dedicated Heavy Expanded Mobile Tactical Truck (HEMTT; prime mover) or similar transformational vehicle with a Load Handling System (LHS).
M02.4	MIRCS ISO Frame	The MIRCS components are mounted in an 8-foot (ft) wide x 8 ft high x 20 ft long ISO frame. **[ISO frame label and arrow appear]** A bale bar and rail system, integral to the frame, is provided to interface with the HEMTT-LHS **[Rail System and Bale Bar labels and arrows appear]** Forklift pockets are provided in the rail channels to allow the unit to be moved when empty or fully loaded. **[Forklift Pockets label and arrows appear]** Corner fittings are used to provide interface to the various ISO modes of transportation. **[Corner fittings label and arrow appears]**
M02.4.1	Show whole side of MIRCS, then zoom in on front mechanical area.	The front mechanical area contains the refrigeration unit, or RU, **[Refrigeration Unit label and arrow appear]** used to condition (cool or heat) the air inside of the Remains Storage Unit, or RSU. Below the RU is a 50-gallon fuel tank **[Fuel Tank label and arrow appear]** that provides fuel to the RU and Tactical Quiet Generator engines. The controls required to operate the RU are contained on the RU control enclosure **[RU**

		Control Enclosure label and arrow appear]. This enclosure along with the battery compartment **[Battery label and arrow appear]** is located on the roadside and below the RU. On the curbside of the front mechanical area are a technical manual holder **[Technical Manual Holder label and arrow appear]** and the hydraulic system pump **[Hydraulic system pump label and arrow appear]** and components used to raise and lower the side work platforms. The front mechanical area also contains provisions for storing the support jacks **[Supporting Level Jacks label and arrows appear]** used to support the MIRCS corners in the ground mode of operation and telescoping ladder used for general equipment access in the transport and trailer mounted operating modes.
M02.4.2	Show whole side of MIRCS, then zoom in on rear mechanical area. First view of RMA shows ECU and TQG. First view fades into second view to show rollers. Second view fades into third view to show ramp sections.	**[First view of rear mechanical area visible]** The rear mechanical area contains the Environmental Control Unit, or ECU **[Environmental Control Unit label and arrow appear]**, used to cool or heat the air inside the operator work areas. Below the ECU is the Tactical Quiet Generator **[Tactical Quiet Generator label and arrow appear][video of generator rolling out]** The TQG is mounted on a set of rollers. **[video disappears, second view appears][Rollers label and arrow appear]** that allow it to be pulled out from inside the ISO frame away

		from the ECU in the ground operation mode. This allows adequate airflow to both the ECU and the TQG and allows full access to all TQG compartments. The right wall of the rear mechanical area contains the connection points for electrical power, earth grounding, and the external water supply. The ECU control enclosure and ECU exhaust duct are located behind this wall. The rear mechanical area also contains provisions for stowing the ramp sections. **[first view of rear mechanical area disappears, second view appears][Ramp Sections label and arrow appear]**
M02.4.3	Platform and expandable soft wall extend to form the processing area.	A work platform **[callout]** and expandable soft wall **[callout]** is provided on the curbside of the MIRCS. In the stowed position the platform creates the left sidewall of the MIRCS. The platform contains hydraulic cylinders **[callout]** that lower and raise the platform into position. **[Platform begins to lower]** As the platform is lowered the soft wall starts to expand to form the remains processing area (PA) **[callout]**. Once expanded the area contains the space necessary to process up to two remains at a time. Direct access to the RSU **[callout]** is also obtained from the PA platform. The PA contains ventilation duct outlets **[callout]** that supply conditioned air from the ECU **[callout]**.
M02.4.4	Isolated view of the processing platform and area.	Up to four portable fluorescent lights **[callout]** can be placed in

		the soft wall ceiling to provide work lighting during processing operations. The floor surface of the PA platform is layered with non-skid flooring **[callout]**. The front side of the platform contains a grated drain **[callout]** that routes wastewater towards a waste port **[callout]**. The inboard side of the PA contains an opening that connects directly to the supply storage area where the personnel sanitization sink **[callout]** is located. The inboard PA wall also contains the utility hose connection **[callout]** used for equipment sanitization. The outboard side of the soft wall contains a door, which serves as an emergency egress point in ground operation and as the RSU access point when the MIRCS is in the transport or trailer mounted operating mode. The door contains a screened window **[callout]** that is used to provide fresh-air ventilation when the ECU is not operating.
M02.4.5	Platform and soft wall extend to form administrative area	A work platform **[callout]** and expandable soft wall is provided on the roadside of the MIRCS. In the stowed position this platform creates the right sidewall of the MIRCS. Similar to the PA platform, this platform contains hydraulic cylinders **[callout]** that lower and raise the platform into position. When the platform is lowered the soft wall expands to form the AA **[callout]** and vestibule area **[callout]**. A removable partition **[callout]** with a curtain door **[callout]** divides these two areas. Once expanded the AA area contains

		the space necessary to perform administrative duties associated with MA operations. The vestibule area **[callout]** provides a transition space that isolates all internal MIRCS work areas from the outside environment. The AA contains ventilation duct outlets **[callout]** that supply conditioned air from the ECU.
M02.4.6	Isolated view of the administrative platform and area.	Two portable fluorescent lights **[callout]** can be placed in the soft wall ceiling in the AA and one fluorescent light can be placed in the vestibule ceiling. The surface of the AA platform is layered with the same flooring material used on the PA platform. The inboard AA wall contains an area where work desks **[callout]** can be set-up. The end wall in the AA contains a weapons rack **[callout]** for holding up to eight rifles. The end wall bottom corner also has a weatherproof penetration **[callout]** to allow feed through of communication cabling. The inboard wall of the vestibule area contains a curtain door **[callout]** leading to the supply storage area and the PA. This wall also contains the MA control panel and ECU return air screen **[callout]** and thermostat controls **[callout]**. The outboard side of the soft wall in the vestibule contains the ingress/egress door **[callout]**. The door contains a screened window **[callout]** that is used to provide fresh-air ventilation when the ECU is not operating.
M02.4.7	View of MIRCS Remains Storage Unit (RSU)	**[first view of RSU visible]** The RSU is located in the center

		of the ISO frame. The RSU is an insulated compartment with an opening in its forward sidewall for the RU **[callout]**. This wall also contains a removable panel **[callout]** for RU maintenance and also doubles as an emergency egress point in the event that personnel are accidentally locked inside the RSU. The floor of the RSU is slanted from back to front and contains a drain **[callout]** that directs wastewater to the collection point. **[first view fades into second view]** The ceiling of the RSU contains a duct **[callout]** that directs the conditioned air from the RU towards the aft sidewall. This helps to distribute the air evenly through the RSU. **[second view fades into third view]** There are four doors **[callout]** on the RSU that open to the remains processing area. The doors contain seals **[callout]** and latches **[callout]** to ensure a tight, secure seal exists between the door and the RSU frame. **[third view fades into fourth view]** Behind each door are sets of roller tracks **[callout]** that form four columns of four rows. This allows for storage of up to sixteen remains. The remains are secured to mortuary trays that are in turn secured to the roller tracks. **[video: show a tray sliding into RSU]**
M02.4.8	Cutaway view of MIRCS Remains Storage Unit, showing airflow	Proper airflow through the RSU is critical to maintaining a consistent temperature in all

		areas of the RSU. This accomplished with the use of baffles **[callout]** on the RSU wall and on the bottom front roller track. These items ensure that an equal amount of air passes across each mortuary tray.
M02.4.9	Extract view of supply storage area from cutaway view of RSU.	On the rear side of the RSU is the supply storage area **[callout]**. This area contains shelving **[callout]** for MA related supplies. This area also contains the personnel sanitation sink **[callout]**, mirror **[callout]**, glove dispenser **[callout]**, and soap dispenser **[callout]**. The area under the sink contains the water system **[callout]**, water heater **[callout]**, and related plumbing. The MA operation, PA lights, and water system junction box **[callout]** electrical enclosures are also located within the storage shelving along with the on-board fire extinguisher **[callout]**. The supply storage area acts as an isolation or transition space to isolate the remains processing area from the administrative area and vestibule. Normal entry and egress for the PA is though the supply storage area when operating in the ground mode. This walkway doubles as the storage area for all the accessories and ancillary equipment used inside the MIRCS when the MIRCS is packed-up in the transport mode. At each end of the shelves (within the MA operation and PA lights enclosures) are electrical receptacles that supply power to the work area lighting and other

		equipment used for MA operations.
M02.4.10	Three views of the control system	[Photo image of electrical interface view visible] The control system provides the electrical interface between the on-board TQG or external power and MIRCS electrical and electronic components. The system consists of five waterproof electrical enclosures connected through as series of rigid and flexible conduit runs. The system includes controls and indicators that the operator uses when performing MA operations. [second view – photo image – visible] Electrical power enters a connection located at the right rear corner of the MIRCS in the rear mechanical area. Main power is then routed to the ECU enclosure. In the ECU control enclosure, power is split along a bank of circuit breakers and relays and distributed out to the RU control enclosure [callout], MA operation enclosure [callout], PA light enclosure [callout], and water system junction box [callout]. The ECU control enclosure [callout] also contains the electrical components and circuits required to operate the ECU. The RU control enclosure contains the components and circuits that are required to control RU operation. [Photo image of front mechanical area view visible] This enclosure is located in the front mechanical area. The RU

		enclosure also contains circuitry for the fuel system and portions of the MIRCS lighting system. The RU enclosure front panel contains the controls and indicators required to operate the RU.
M02.4.11	Three views of the control system	**[shelving unit view becomes visible]** The MA operation enclosure **[callout]** is located on the shelving unit and is accessible from the vestibule. The MA enclosure contains the circuitry necessary to control the MIRCS internal lighting. This enclosure also has the electrical receptacles that supply power to the AA and vestibule lights and surge protected receptacles that supply power for operating utility equipment. The PA lights enclosure **[callout]** is located on the shelving unit and is accessible from the PA. This enclosure has the electrical receptacles that supply power to the PA and supply storage area lights and surge protected receptacles that supply power for operating utility equipment. The water system junction box **[callout]** contains the electrical components used to control water system operation. This enclosure contains circuit breakers for all circuits within the MIRCS interior. The water system junction box is located in center of the supply storage area-shelving unit.
M02.4.12	Transition from front mechanical area to close up view of RU, then transition to rear view of RU.	**[first view visible]** The RU provides air to condition the remains in the RSU. The RU is located in the front mechanical area.

		[first view replaced by second view] The RU contains an engine and standby electric motor **[callout]** that drive a refrigeration compressor **[callout]**, condenser fan **[callout]**, and alternator **[callout]**. **[second view replaced by third view]** Evaporator fans at the back end of the RU pull air from the RSU and condition it by passing the air across an evaporator **[callout]** located in the RU outlet duct **[callout]**. The RU refrigeration system then heats or cools the air as necessary to satisfy the selected temperature.
M02.4.13	Transition from a view of the MIRCS rear mechanical area to close up of the ECU, then transition to air circulation animation.	**[Transition from rear mechanical view to ECU close up]** The ECU is located in the rear mechanical area. The ECU interfaces with a network of ducting incorporated in the MIRCS frame. The ECU provides temperature-controlled air at the required air quality to properly ventilate the AA, PA, vestibule, and supply storage area. **[Transition from close up view to air circulation animation]** The ECU is connected to an inlet filter via a fabric duct **[callout]** that brings in fresh outside air. The outside air blower **[callout]** pulls this air into the ECU. The air mixes with air that is re-circulating through the AA and is delivered to evaporators that direct the air to the AA and PA ducting **[callout]**. When the ECU refrigeration compressor **[callout]** and condenser **[callout]** are on,

		refrigerant flowing through the evaporators cools the ventilation air. When heating is required the refrigeration compressor turns off and electric heating elements **[callout]** at the evaporator outlets heat the air going into the AA and PA ducting. The exhaust blower **[callout]** located in the exhaust duct **[callout]** removes the air flowing into the PA from the MIRCS.
M02.4.14	Transition from full transport mode MIRCS (front mechanical view) to close up of cylinder on top of MIRCS. Cut to front mechanical view and then transition to close up of threaded side lock.	The hydraulic system is used to lower and raise the AA and PA platforms. A manual pump **[callout]** provides the pressure and flow needed to perform these operations. The pump is connected to a 2-gallon reservoir **[callout]** that stores the fluid used by the hydraulic cylinders. **[view of cylinder on top of MIRCS]** One cylinder is mounted at the top center of each platform to pull in on the platform when the platforms are being stowed. Cylinders are mounted on the sides of each platform **[callout]** to lower and raise the platforms. Valves **[callout]** located with the pump and reservoir in the front mechanical area controls the direction and movement of the cylinders. **[close up of side lock]** Threaded side locks **[callout]** keep the platform from moving during transport.
M02.4.15	View of front mechanical area with RU and fuel tank highlighted, transitioning to cutaway images of fuel port, fuel	The MIRCS fuel system provides fuel (JP-8, DF-1, or DF-2) to the engine on the RU and the fuel tank in the TQG.

	tank and grounding point.	Fuel for the system is stored in a 50-gallon fuel tank **[callout]**. The tank is mounted in the front mechanical area below the RU **[callout]**. The tank contains a fuel port for gravity refueling. Fuel from the tank flows through a fuel/water separator **[callout]** before it is provided to the RU and TQG **[callout]**. A spring-loaded valve **[callout]** is installed in the tank bottom to allow for tank draining. A grounding point **[callout]** is located in front of the fuel tank to ground the MIRCS to the refueling vehicle/equipment during refueling operations.
M02.4.16	Cutaway from aerial rear mechanical view to show water tank and then external water pump; transition to storage area.	The MIRCS water system provides hot and cold water to the remains processing area for individual and equipment sanitization. **[water tank view]** The system can be connected to the M149 400-gallon water tank trailer **[callout]**, other water storage containers, or to standard pressurized utility hose connection. **[transition to external water pump view]** A 20-ft supply hose **[callout]** is provided to connect the external water pump **[callout]** to the external source water source. The external water pump is connected to a second 20-ft supply hose **[callout]**, which is connected to a supply port located in rear curbside corner of the MIRCS. **[transition to storage area view]** Water is supplied to the water system 2-1/2-gallon water heater **[callout]** and personnel sink **[callout]** located in the

		supply storage area and the utility hose connection **[callout]** in the PA.
M02.4.17	Cutaway view of waste system.	All water used on the MIRCS can be contaminated during processing operations and must be collected as bio-hazardous waste. The RSU, PA platform, and sink all have drains **[callout all three]** that connect to piping that routes the waste out of the MIRCS. Drain piping connects ports on the ISO frame and PA platform to two 10-gallon waste containers **[callout]**. The RU also has drain piping to direct condensation to a 2-1/2 gallon waste container **[callout]**.
M02.4.18	Areal rear mechanical view of MIRCS with platforms extended; items highlighted as narrated.	The MIRCS lighting system consists of both portable and fixed lighting fixtures used to supply standard, blackout, and emergency lighting. Standard lighting consists of seven portable fluorescent light fixtures **[callout]** that are installed in the ceiling of the AA and PA soft walls when the MIRCS is set-up for ground operation. There are also two permanently mounted fluorescent light fixtures in the ceiling in the supply storage area. There are four combination emergency/blackout lights used with the MIRCS. These light fixtures use blue Light Emitting Diodes (LEDs) **[callout]** as the light source. Three fixtures are located to provide light near the ingress/egress doors in each working area. There is also one emergency/blackout fixture

		mounted in the ceiling of the supply storage area. **[highlight LED light fixtures]** The MIRCS also contains four LED light fixtures above the doors on the RSU. These fixtures provided light to assist personnel performing remains transfer operations in the transport mode.
M02.4.19	Mobile processing platform	Two Mobile Processing Platforms, or MPPs, are provided with each MIRCS. Each MPP contains a manual hydraulic system **[callout]** to allow for raising and lowering of remains on the processing trays **[callout]**. The MPP has four casters **[callout]**. All casters have foot-activated wheel brakes **[callout]** and swivel locks **[callout]**. The MPPs can be collapsed for storage and remains loading, then raised as necessary for transporting the remains into the MIRCS, processing operations, and transfer into the RSU. A pull handle **[callout]** is provided to assist in pulling the MPP up the ramp into the MIRCS. A foot pedal **[callout]** is used to operate the hydraulic pump. A second foot pedal releases the hydraulic pressure to allow the MPP to be lowered. An extension frame **[callout]** is provided to allow the MPP to be raised for the highest roller track height in the RSU.