

TECHNICAL ORDER

DBW-SOP-MHU83-48-RSK-001

STANDARD OPERATING PROCEDURE GROUND SUPPORT EQUIPMENT ASSEMBLY PROCEDURE

RESKIT MHU-83 D/E LATE LIFT TRUCK

1/48 SCALE — KIT No. RSK48-0008 (LOWER) / RSK48-0009 (UPPER)

DOCUMENT NUMBER	DBW-SOP-MHU83-48-RSK-001
REVISION	REV 1.0 — JUL 2026
CLASSIFICATION	UNCLASSIFIED / HOBBY USE ONLY
APPLICABLE KIT	Reskit RSK48-0008 / RSK48-0009 (MHU-83 D/E, 1/48)
KIT MEDIA	Resin, 3D-Printed (support-mounted parts)
SUBJECT TYPE	USAF Munitions Handling Ground Support Equipment (GSE)
SKILL LEVEL	Intermediate to Advanced
EST. BUILD TIME	10–16 hours (excl. cure / paint dry time)
OPR	Dark Bench Works, LLC — New Port Richey, FL

WARNING

Uncured resin and cyanoacrylate are hazardous. Read Section 4 in full before starting work.

1.0 PURPOSE

This Technical Order establishes the standard procedure for the assembly, finishing, and quality verification of the Reskit MHU-83 D/E Late Lift Truck in 1/48 scale (kit numbers RSK48-0008, lower loading position, and RSK48-0009, upper loading position). It is issued to ensure a repeatable, damage-free build of a 3D-printed resin ground support equipment (GSE) subject suitable for flightline diorama use alongside 1/48 USAF aircraft.

The MHU-83 is a wheeled, hydraulically actuated munitions lift truck used by the USAF to raise, position, and load bombs, missiles, and stores onto aircraft pylons and bomb bays. The Reskit rendering is a static display replica; no parts are functional. Where kit-specific step numbers are cited, they refer to the Reskit instruction sheet packaged with RSK48-0008 / -0009.

2.0 SCOPE AND APPLICABILITY

This procedure applies to both loading-position variants of the 1/48 kit. The two kits share a common chassis, running gear, and operator station; they differ only in the geometry of the lift bed / loading table and its actuator position. Section 13 and Section 19 identify the steps that diverge by variant.

VARIANT	KIT No.	LIFT BED STATE	TYPICAL DIORAMA USE
Lower loading position	RSK48-0008	Bed lowered / retracted	In-transit, staged, or under-load on low stores
Upper loading position	RSK48-0009	Bed raised / extended	Actively mating a store to a pylon or bay

NOTE

The truck is nation- and airframe-agnostic. Reskit lists it as compatible with A-10, F-16, F-15, B-1, B-52, B-2, and C-130 subjects. Marking and color selection (Section 17) is what ties the finished model to a specific base and era.

3.0 REFERENCE DOCUMENTS

DOCUMENT	TITLE / SUBJECT
Reskit RSK48-0008 / -0009	Manufacturer instruction sheet (packaged with kit)
DBW-RSN-PNT-001	Resin Part Preparation, Priming, and Finishing
DBW-ACRY-PNT-001	Acrylic / Lacquer Paint Application Procedure
DBW-DIO-HAS-001	Hardened Aircraft Shelter Diorama Build (flightline context)
Reskit tech note	"How to Cut Supports From 3D Printed Parts" (Reskit)

4.0 SAFETY, PPE, AND HAZARD SUMMARY

WARNING

3D-printed resin parts may retain uncured or partially cured resin in recesses. Uncured photopolymer resin is a skin sensitizer and irritant. Wear nitrile gloves for all handling until parts are washed and post-cured. Do not sand resin dry — wet-sand to suppress dust, and wear a respirator.

4.1 Hazard / Control Summary

TASK / HAZARD	PRIMARY RISK	REQUIRED CONTROL
Handling uncured resin residue	Skin sensitization, dermatitis	Nitrile gloves; wash + post-cure before bare handling
Support removal (nippers / blade)	Cuts; flying resin fragments	Cut-resistant glove on non-tool hand; safety glasses
Sanding / seam cleanup	Inhalation of resin dust	Wet-sand only; N95/respirator; work over damp cloth
CA (cyanoacrylate) glue	Instant skin bonding; vapor sting	Nitrile gloves; ventilation; keep debonder on hand
CA accelerator / IPA	Flammable; eye/respiratory irritant	No open flame; ventilate; eye protection
Priming / painting (rattle or AB)	Solvent vapor inhalation	Spray booth w/ carbon filter; organic-vapor respirator

CAUTION

Resin is more brittle than styrene. Thin parts (tow-bar linkage, control levers, lift-arm pivots) snap under lateral load. Support only over a padded surface and never force a dry-fit.

5.0 TOOLS, MATERIALS, AND SUPPLIES REQUIRED

5.1 Mandatory Tools

- Fine flush-cut nippers / sprue cutters (micro size for support gates)
- No.11 scalpel or hobby knife with fresh blades
- Fine razor saw for heavier casting-block cuts
- Sanding sticks / wet-or-dry paper: 400 / 600 / 1000 / 2000 grit
- Small flat and round needle files
- Pin vise with assorted micro drills (0.3–0.8 mm) for pinning
- Tweezers (fine and self-closing / reverse-action)
- Steel rule and calipers for alignment checks
- Cutting mat and good task lighting / optivisor

5.2 Adhesives and Consumables

- Thin and medium CA (cyanoacrylate) glue — primary adhesive for resin
- CA accelerator (kicker) and CA debonder
- Two-part epoxy (5-min) for high-stress joints (axles, lift-arm pivots)
- Isopropyl alcohol (IPA) 91%+ for cleaning parts before glue/paint
- Gap-filling CA or catalyzed putty; Mr. Surfacer 500/1000 for seams
- 0.4–0.6 mm brass rod / wire for pinning load-bearing joints

5.3 Finishing Materials (see Section 17 for colors)

- Primer: Mr. Surfacer 1500 (grey or black) or equivalent lacquer primer
- Main color: per base/era — AGE Yellow (CONUS) or Olive Drab FS 34094 (USAFE)
- Detail colors: tire black, steel, brass, hydraulic-line silver, decal-red placards
- Clear coats: gloss (decal prep) and matte (final), plus enamel/oil weathering media

NOTE

The kit does not include glue, paint, or photo-etch. CA is the correct primary adhesive for resin; plastic cement will not bond resin parts.

6.0 KIT DESCRIPTION AND PARTS INVENTORY

The kit is delivered as resin parts printed on removable support rafts, bagged with the instruction sheet. Perform a full inventory before support removal — photograph the sprues/rafts as received so small parts can be traced back if they detach. Group parts by sub-assembly (Sections 11–14) in a divided tray.

6.1 Major Component Groups

GROUP	REPRESENTATIVE PARTS	SUB-ASSY
Chassis / frame	Main frame rails, cross-members, deck plate	A (\$11)
Running gear	Wheels, tires, axles, steering knuckles, fenders	B (\$12)
Lift bed / table	Loading table, lift arms, hydraulic rams, saddle	C (\$13)
Operator station	Seat, steering wheel/tiller, control levers, dash	D (\$14)
Drawbar / details	Tow bar, tie-downs, lights, placards, hand rails	D (\$14)

CAUTION

Do NOT remove parts from their support rafts during inventory. Supports protect fragile geometry in the bag; remove them only at the point of use in the relevant sub-assembly step.

7.0 GENERAL RESIN / 3D-PRINT HANDLING

Reskit parts are typically shipped washed and post-cured, but treat every part as if it may carry surface residue. Observe the following throughout the build:

- Wash any tacky or residue-bearing part in IPA, then post-cure briefly under UV before gluing or painting.
- Warm, brittle parts become workable: a 10–20 second dip in ~50°C water lets warped rails/arms be gently trued, then set in cold water.
- Never dry-sand; wet-sand to protect your lungs and to keep fine printed detail crisp.
- Pin any joint that will carry weight or leverage — CA alone is brittle at resin-to-resin butt joints.
- Keep a scrap-resin test coupon to trial primer and paint adhesion before committing to finished parts.

8.0 SUPPORT REMOVAL AND PART CLEANUP

Support removal is the highest-risk operation in the build. Work one part off its raft immediately before that part is needed, not in a batch. Follow the Reskit “How to Cut Supports” guidance.

STEP	ACTION
1	Identify the contact points where support pins meet the part. Note orientation before cutting.
2	With micro nippers, snip each support pin a short distance AWAY from the part surface — leave a small stub.
3	Return with a fresh No.11 blade or sanding stick and pare the residual stub flush to the surface.
4	Wet-sand the witness marks smooth (600 → 1000 grit); check under raking light for missed nubs.
5	Restore any surface detail lost during cleanup (rivets, tread) with a fine scribe or needle file.
6	Test-fit the cleaned part into its sub-assembly dry before proceeding to the next part.

WARNING

Cut supports away from your body and other hand. Resin stubs can flick under blade pressure. Safety glasses are mandatory for this section.

9.0 WARP CORRECTION AND PART CONDITIONING

Long, thin resin parts (frame rails, lift arms, tow bar) can carry a slight print or shipping bow. Correct warpage before assembly, never after — a glued-in bow locks the whole model out of true.

STEP	ACTION
1	Fill a cup with water at roughly 50–55°C (hot tap, not boiling).
2	Immerse the warped part 10–20 seconds until it becomes slightly flexible.
3	Gently flex the part straight against a steel rule or flat glass; hold the corrected shape.
4	Quench in cold water while still held straight to lock the new shape.
5	Re-check against the mating part; repeat if residual bow remains. Do not force.

CAUTION

Overheating cooks fine detail and can permanently distort a part. Keep dips short and test on a scrap raft first if unsure of your water temperature.

10.0 DRY-FIT AND TEST ASSEMBLY

Assemble the entire truck dry (no glue) at least once. This confirms part orientation, reveals seam gaps to be filled, and lets you plan a paint-before-assembly sequence for trapped areas (frame interior, under the deck, wheel backs).

- Establish which sub-assemblies must be painted separately before final union (Section 19).
- Mark hidden mating faces lightly with pencil to speed glue-up later.
- Identify every joint that needs pinning and pre-drill while parts are still loose.
- Confirm the four wheels sit on a common plane — shim/adjust axles now, not after paint.

11.0 SUB-ASSEMBLY A — CHASSIS / FRAME

The frame is the datum for the whole model; build it square and level first.

STEP	ACTION
1	Clean and true both main frame rails (Section 9); verify they are straight and identical length.
2	Dry-fit cross-members between the rails on a flat glass plate to guarantee a square, planar frame.
3	Bond cross-members with thin CA, checking for square at each joint; wick CA into the seam, then kick.
4	Add the deck / bed-support plate; confirm it seats flat with no rock.
5	Pre-drill axle-mount and lift-pivot locations per the dry-fit marks from Section 10.
6	Fill and sand any rail-to-crossmember seams before they are buried by later parts.

NOTE

Assemble the frame upside-down on glass so all four axle pads register to one plane. This is the single best guarantee the finished truck will sit flat.

12.0 SUB-ASSEMBLY B — RUNNING GEAR

Wheels, tires, axles, steering knuckles, and fenders. Keep wheels OFF until after painting (Section 19) — dry-fit and pin now, paint separately, unite last.

STEP	ACTION
1	Clean axle stubs and knuckles; test their fit in the pre-drilled frame mounts from Section 11.
2	Pin each axle to the frame with 0.5 mm brass rod set in epoxy for a durable, load-bearing joint.
3	Test-fit all four wheels and set the ride height so the truck sits level; shim as needed.
4	Clean tire/wheel mould and print seams; open any hub detail lost to supports.
5	Set wheels aside (bagged and labelled) for separate painting; do NOT glue yet.
6	Fit fenders/mudguards dry, confirm wheel clearance, then bond and blend their seams.

13.0 SUB-ASSEMBLY C — LIFT BED / LOADING TABLE

This is the sub-assembly that differs between the two kits. Build it to match your chosen loading position and freeze that geometry — the resin parts are cast for one position and are not articulated.

13.1 Common Steps

STEP	ACTION
1	Clean the loading table, lift arms, hydraulic rams, and saddle/cradle parts.
2	Dry-fit the lift-arm pivots to the frame; ream pivot holes only enough for a snug, square fit.
3	Pin the main lift-arm pivots with brass rod in epoxy — these carry the visual load of the bed.
4	Dry-fit the loading table / saddle to the arms and confirm it sits parallel to the deck.

13.2 Variant-Specific Geometry

KIT	LIFT-ARM SET	RAM STATE	BUILD NOTE
RSK48-0008 (LOWER)	Arms folded / retracted	Rams collapsed	Table sits low over the deck; short pivot travel
RSK48-0009 (UPPER)	Arms raised / extended	Rams extended	Support the raised table until glue cures; brace the arms

CAUTION

On the UPPER kit, the extended lift arms are cantilevered and fragile until fully cured. Prop the raised table with a soft support (blu-tack column) while epoxy sets — do not leave it hanging.

14.0 SUB-ASSEMBLY D — OPERATOR STATION AND DETAILS

Seat, steering / tiller, control levers, dash, drawbar, lights, tie-downs, hand rails, and data placards. These are the smallest, most fragile parts — remove from supports one at a time as installed.

STEP	ACTION
1	Install the operator seat and floor/dash parts; confirm clearance for the steering column.
2	Fit the steering wheel or tiller and the control-lever bank; these read strongly on a display piece — keep them crisp.
3	Attach the drawbar / tow bar; pin at the frame pivot if it is a butt joint (brass rod + CA).
4	Add lights, reflectors, tie-down rings, and hand rails; drill and pin any that will be handled.
5	Set aside decals/placards for after paint and gloss coat (Section 17).

WARNING

Control levers and the tow-bar linkage are the parts most often lost. Work over a tray, not open bench, and account for each part immediately after cutting it free.

15.0 SEAM FILLING AND SURFACE PREPARATION

STEP	ACTION
1	Inspect every glued seam under raking light; mark gaps and steps with a pencil.
2	Fill with gap-filling CA (fast) or Mr. Surfacer / catalyzed putty (fine steps).
3	Wet-sand filled seams flush (600 → 1000 → 2000) without erasing adjacent detail.
4	Re-scribe or re-punch any lost surface detail (panel lines, tread, weld beads).
5	Final-clean the whole model in IPA and let it flash off before priming.

16.0 PRIMING

Priming is mandatory on resin: it verifies seam work, gives paint a key, and unifies the surface. Prime sub-assemblies separately per the dry-fit plan (frame, wheels, lift bed, small details on a stick).

- Apply Mr. Surfacer 1500 (or equivalent lacquer primer) in light, even passes — resin detail is fine, so avoid flooding.
- Grey primer for lighter top colors (AGE yellow); black or oxide primer to warm an olive-drab finish.
- Inspect under strong light; correct any revealed seams and re-prime those areas only.
- Let primer cure fully (several hours minimum) before color — lacquer over uncured primer will craze.

NOTE

A pre-shade or black-primer base under olive drab / yellow builds instant depth and reads well on a small GSE subject that will be weathered heavily.

17.0 PAINTING AND MARKINGS

Color selection ties the truck to a base and era. Two authentic USAF schemes are given below. Select ONE and apply it consistently across the model and any companion diorama GSE.

17.1 Scheme Options

SCHEME	MAIN COLOR	TYPICAL CONTEXT
CONUS AGE standard	AGE / equipment Yellow (approx. FS 33538)	Stateside bases; high-visibility ramp equipment
USAFE overall green	Olive Drab FS 34094	1980s UK / Europe dispersed ops (per DBW USAFE reference)

NOTE

Per DBW operational reference, USAFE ground equipment at RAF Bentwaters / Woodbridge / Alconbury was frequently oversprayed overall Olive Drab (FS 34094) with black stencils — not CONUS yellow. Choose the green scheme to match a UK-based A-10 flightline diorama.

17.2 Detail and Markings

- Tires: near-black tire rubber, not pure black; dusty brown along the tread contact.
- Hydraulic rams / cylinders: polished steel or aluminium; keep the ram shafts clean-bright.
- Data / capacity placards and caution stencils: apply after a gloss coat for silvering-free decals.
- Seal decals with a second gloss pass before matte-coating and weathering.

18.0 WEATHERING

GSE lives outdoors and works hard — weather it more heavily than the aircraft it serves. Build the effects in layers from thin to heavy:

- Panel / recess wash (dark brown or black-brown enamel) to pop cast detail and welds.
- Chipping on wear edges — deck plate, steps, fender lips — with steel / dark base showing through.
- Hydraulic-fluid streaks below rams and fittings (gloss dark brown, streaked downward).
- Ground grime: dusty earth pigment up the wheels and lower frame; heavier for a UK wet-clay base (Suffolk red-brown).
- Optional light rust streaking and damp/moss tint for a UK-climate USAFE setting.
- Seal each pigment/oil stage lightly; finish matte, then re-gloss only the ram shafts and lenses.

19.0 FINAL ASSEMBLY AND LOADING-POSITION CONFIGURATION

STEP	ACTION
1	Unite the painted, weathered sub-assemblies: mount wheels to axles, set ride height level, glue.
2	Attach the lift-bed sub-assembly in the chosen position (LOWER 0008 / UPPER 0009) — confirm square to frame.
3	Fit remaining small details (levers, lights, tow bar) that were painted separately.
4	For a loaded scene, position the intended store on the saddle/table and check pylon height to the target aircraft.
5	Touch in any handling marks; apply a final localized matte coat over repairs.

CAUTION

Verify the loaded store's height against the specific aircraft pylon in your diorama BEFORE final-gluing the bed. The UPPER kit is cast for a fixed raised height that must match your airframe.

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INSPECTION, QA, AND RECORD OF COMPLETION

Perform a final acceptance inspection before the model is placed in a diorama or storage.

CHECK	ACCEPTANCE CRITERION	STATUS
Stance	All four wheels contact a flat plane; no rock	
Frame square	No visible twist; deck level	
Seams	No unfilled gaps or steps under raking light	
Detail integrity	Levers, tow bar, rails present and undamaged	
Finish	Even color; decals sealed; no silvering	
Weathering	Consistent with scene; not overdone on data plates	
Loading position	Matches variant (0008 low / 0009 up); store height OK	
BUILT BY		
DATE COMPLETED		
PART NUMBER (if catalogued)		
NOTES / DEVIATIONS		

— END OF TECHNICAL ORDER DBW-SOP-MHU83-48-RSK-001 —

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