

TECHNICAL ORDER

DBW - MRHBBY - PNT - 002

TECHNICAL ORDER — PAINT SYSTEM REFERENCE
GSI CREOS “MR. HOBBY” — COMPLETE PRODUCT SYSTEM

MR. COLOR · AQUEOUS · ACRYSION · SURFACERS · CLEARS · THINNERS
PRODUCT LINES, USAGE & THINNING — ALL DBW FINISHING

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SUBJECT TYPE	Paint System Reference — GSI Creos Mr. Hobby
SCOPE	All Mr. Hobby product lines, usage, and thinning
COMPANION TOS	DBW-PNT-001 · DBW-ACRY-PNT-001 · DBW-RSN-PRNT-001
SUPERSEDES	DBW-PNT-002 REV A (same content, prior number); prior DBW-PNT-002 (thinning-ratios only) — content expanded
OPR	Dark Bench Works, LLC — New Port Richey, FL

LINE DISCIPLINE

Each paint line uses ITS OWN thinner. Mr. Color (lacquer) thinners are NOT for Aqueous or AcrySION. GGX “Double GX” clears must use GGX Thinner. See Sections 6 and 7.

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RECORD OF CHANGES

This page records every revision to this Technical Order. Revisions after initial release are issued by USAF page-replacement — only the affected pages are reissued, supported by an updated List of Effective Pages and per-page revision marks.

REV	DATE	DESCRIPTION OF CHANGE	AUTHOR
A	16 SEP 2026	RECREATED / EXPANDED initial release. Re-authored in the current DBW standard T.O. format as a complete GSI Creos Mr. Hobby product-system reference (paint lines, surfacers, thinners, clears, finishing aids, usage & ratios); the prior PNT-002 covered thinning ratios only. Product data reflects the current manufacturer lineup — verify against the specific product label before use. (Issued as DBW-PNT-002.)	J. Driver
B	01 OCT 2026	RENUMBERED to the updated DBW naming convention: DBW-PNT-002 → DBW-MRHBBY-PNT-002 (manufacturer code MRHBBY = Mr. Hobby). Document number updated on the cover, spec table, running headers, and END-OF-T.O. line; Supersedes entry updated. NO technical content changed. All pages reissued, because the document number appears on every page.	J. Driver

LIST OF EFFECTIVE PAGES

PAGE	REV	DATE	PAGE	REV	DATE
1 (Cover)	B	01 OCT 2026	5	B	01 OCT 2026
2	B	01 OCT 2026	6	B	01 OCT 2026
3	B	01 OCT 2026	7	B	01 OCT 2026
4	B	01 OCT 2026	8	B	01 OCT 2026

NOTE

RECREATED / EXPANDED DOCUMENT — Re-authored in the current DBW standard format as a complete GSI Creos “Mr. Hobby” product-system reference (the original PNT-002 covered only thinning ratios). Product data reflects the current lineup and manufacturer-recommended ratios; verify against the specific product label, as GSI Creos revises formulations. Companion to T.O. DBW-PNT-001 (Paint System SOP) and DBW-ACRY-PNT-001 / DBW-RSN-PRNT-001.

1 PURPOSE AND SCOPE

This Technical Order is the Dark Bench Works reference to the complete GSI Creos “Mr. Hobby” (formerly Gunze Sangyo) product system — the paint lines, surfacers, thinners, clears, and finishing aids DBW uses — and how to use each. It explains what each product family is, which thinner it takes, the manufacturer-recommended airbrush and brush ratios, and the compatibility rules that keep the lines from fighting each other. It covers product selection and technique, not colour-by-colour charts (see the Mr. Color / Aqueous conversion tables referenced in DBW-PNT-001).

2 SAFETY AND VENTILATION

WARNING

Mr. Color, Mr. Surfacers (solvent), the GX/Super Clear lacquers, and all lacquer thinners are flammable and emit organic-vapor VOCs. Airbrush them only in a spray booth or with an organic-vapor (OV/P100) respirator and ventilation, away from open flame.

CAUTION

Aqueous Hobby Color and Acrycion are lower-odour and water-based, but still contain a mild solvent and should be sprayed with ventilation and gloves. Water-based does not mean fume-free when airbrushed.

3 THE MR. HOBBY SYSTEM AT A GLANCE

FAMILY	BASE	BEST FOR	THINNER
Mr. Color	Lacquer (solvent)	Widest colours; hardest, smoothest, most durable finish	Mr. Color / Leveling Thinner
Aqueous Hobby Color	Water-based acrylic	Low-odour brush & airbrush; glossy self-levelling	Aqueous Thinner (or distilled water)
Acrycion	Water-based acrylic	Lowest-odour, fast-drying; beginner/indoor safe	Acrycion Thinner / Solvent-R
Metallics (Super Metallic / GX / Mr. Metal)	Lacquer	Chrome, aluminium, buffable steel finishes	Mr. Color / Leveling Thinner
Mr. Weathering Color	Enamel-type	Washes, filters, pin-washes; wipes back with dedicated thinner	Mr. Weathering Color Thinner
Surfacers / Primers	Lacquer or water-based	Fill, prime, unify surface before colour	Matched to base (see Section 5)
Clears / Top Coats	Lacquer	Gloss for decals; matte/satin final seal; UV-cut	Leveling / GGX Thinner

4 PAINT LINES

4.1 Mr. Color (Lacquer)

The flagship line: the widest colour range and the hardest, smoothest, most durable finish, which is why it is the DBW default for airbrushed base coats. Solvent-based (“hot”) — it bites into styrene and cured coats. Airbrush 1 part paint : 1–2 parts Mr. Color Thinner (or Leveling Thinner for a smoother, slower-drying flow); brush 1 : 0.8–1. Use Leveling Thinner for gloss coats and to stop nozzle-tip dry; Mr. Rapid Thinner speeds drying and suits matte and metallic colours.

4.2 Aqueous Hobby Color

Water-based acrylic, reformulated in 2020 for safety and user-friendliness. It carries a mild solvent for adhesion, levels well, and dries to a light-textured gloss. Brush application usually needs no dilution; for airbrush, reduce 1 : 1–1.5 (up to ~150% thinner) with Aqueous Thinner (T-110/T-111) or distilled water. Adjust sheen with H-40 Flat Base at roughly 5–10%. Do NOT thin with Mr. Color/Leveling/Rapid lacquer thinners.

4.3 Acrycion

The newest water-based line — lowest odour, faster-drying than Aqueous, and the safest for indoor/beginner work. Airbrush 3 parts paint : 1 part Acrycion Thinner, or 1 : 1 with Acrycion Solvent-R for a flatter, glossier, more airbrush-friendly result. Clean up with water. Acrycion is the most sensitive to cross-contamination — keep it to its own thinners and clean tools well between lines.

4.4 Metallics — Super Metallic, Metallic GX, Mr. Metal Color

Lacquer metallic ranges. Super Metallic and Metallic GX spray like Mr. Color (1 : 1–1.5, Leveling Thinner) for aluminium, chrome, and titanium looks over a gloss-black base. Mr. Metal Color is a buffable metallic: spray thin, let flash, then BUFF with a soft cloth/cotton bud to raise a polished metal sheen — do not clear-coat until buffing is complete or the effect is lost.

4.5 Mr. Weathering Color

A ready-to-use, enamel-type medium for washes, filters, and pin-washes. Flow it into recesses, let it set, and wipe back the excess with Mr. Weathering Color Thinner (or odourless mineral spirits) over a cured gloss/satin coat. Keep it off bare acrylic that has not been sealed — the dedicated thinner can lift unsealed water-based colour.

4.6 Gundam Color / GX Color

Pre-matched lacquer colours for Gunpla/mecha (Gundam Color) and the high-pigment, high-gloss GX line (including GX clears and candy colours). Both spray as Mr. Color. GX gloss colours make an excellent base under Super Metallic and candy clears.

5 SURFACERS AND PRIMERS

PRODUCT	GRADE / USE
Mr. Surfacer 500	Coarsest — fills deeper scratches, seams, and file marks
Mr. Surfacer 1000	Standard all-purpose primer/filler; the DBW default
Mr. Surfacer 1200	Finer — light imperfections, pre-gloss prep
Mr. Finishing Surfacer 1500	Finest; grey / black / oxide-red / white for pre-shade base control
Mr. Mahogany Surfacer	Warm-tone base under reds, woods, and warm metallics
Base White 1000	Bright white foundation for high-chroma colours
Mr. Metal Primer	Etching primer for photo-etch, brass, and white-metal
Mr. Aqueous Surfacer	Water-based, low-odour surfacer for brush/indoor use

Thin solvent-based surfacers ~1 : 1 with Mr. Color or Leveling Thinner for airbrush; brush straight from the bottle for spot-filling. Aqueous Surfacer takes Aqueous Thinner (1 : 1 airbrush, ~2 : 1 brush). Prime resin per T.O. DBW-RSN-PRNT-001.

6 THINNERS AND ADDITIVES

THINNER / ADDITIVE	USE WITH	EFFECT
Mr. Color Thinner (T-101/102/103/104)	Mr. Color, GX, solvent surfacers	Standard reduction (sizes 50–400 ml)
Mr. Leveling Thinner (T-106 / T-108)	Mr. Color, GX, clears	Slower dry, self-levelling, brush-mark-free gloss — DBW default
Mr. Rapid Thinner	Mr. Color (matte / metallic)	Faster dry; good for flat and metallic coats
Mr. Retarder Mild	Mr. Color	Slows dry further in hot/dry conditions; prevents blush
Aqueous Thinner (T-110 / T-111)	Aqueous Hobby Color, Aqueous Surfacers	Water-based reduction; distilled water also works
Acrycion Thinner / Solvent-R	Acrycion only	Acrycion Thinner (3:1) or Solvent-R (1:1) for flatter/glossier
GGX Thinner	GGX (“Double GX” / LG-series) clears	REQUIRED for GGX clears — see Section 7

CAUTION

LINE DISCIPLINE — each line uses its OWN thinner. Mr. Color / Leveling / Rapid (lacquer) thinners must NOT be used with Aqueous or Acrycion; they break the water-based binder. Aqueous and Acrycion each take their own dedicated thinner (or, for Aqueous, distilled water).

7 CLEARS AND TOP COATS

CLEAR	SHEEN / USE
GX100 Super Clear III UV-Cut	Gloss — durable decal base and gloss finish; UV protection
Mr. Super Clear (Gloss / Semi-Gloss / Flat)	General bottle & spray top coats over cured colour
Premium Top Coat	Higher-clarity gloss for show finishes
GGX “Double GX” (LG-series, e.g. LG113 Matt)	High-durability clears — GLOSS and MATT variants

Standard sequence: gloss clear (GX100 / Super Clear Gloss) to seal colour and bed decals silvering-free → weathering → matte or satin clear to finish. Thin lacquer clears with Leveling Thinner (~1 : 1–1.5).

WARNING

GGX (“Double GX” / LG-series) clears — including the GGX Matt (LG113) — MUST be thinned with Mr. Color GGX Thinner, NOT regular or Leveling Thinner. Regular thinner under-dissolves the GGX resin and the pigment/flattening agent clumps. Note also that “Mr. Color 400” denotes a 400 ml bottle SIZE — three different 400 ml thinners exist (regular, Leveling, GGX); read the label, not just the size.

8 MASTER THINNING-RATIO TABLE

Manufacturer-recommended starting ratios (paint : thinner). Adjust for climate, airbrush, and pressure.

LINE	AIRBRUSH	BRUSH	THINNER
Mr. Color (lacquer)	1 : 1 to 1 : 2	1 : 0.8 to 1 : 1	Mr. Color / Leveling; Rapid for matte/metallic
Aqueous Hobby Color	1 : 1 to 1 : 1.5 (up to 150%)	undiluted / slight	Aqueous Thinner (or distilled water)
Acrycion	3 : 1 (Thinner) / 1 : 1 (Solvent-R)	undiluted / slight	Acrycion Thinner or Solvent-R
Mr. Surfacer (solvent)	~1 : 1	from bottle	Mr. Color / Leveling Thinner
Mr. Aqueous Surfacer	1 : 1	~2 : 1	Aqueous Thinner
GX / Super Clear (lacquer)	1 : 1 to 1 : 1.5	—	Leveling Thinner
GGX ("Double GX") clears	per label	—	GGX Thinner ONLY

9 CEMENTS, MASKING & FINISHING AIDS

PRODUCT	USE
Mr. Cement S / SP / Deluxe	Liquid styrene cement — S is thin/capillary, SP has a fine metal needle
Mr. Mark Setter / Mr. Mark Softer	Decal solutions — Setter improves adhesion, Softer conforms to detail
Mr. Masking Sol / Neo	Liquid mask for canopies and complex edges
Mr. Dissolved Putty	Brushable putty for seams and pinholes; thins with Mr. Color Thinner
Mr. Color Levelling / Tool Cleaner	Airbrush and tool cleanup for lacquers

10 COMPATIBILITY & LAYERING RULES

- Lacquer over cured acrylic — OK. Mr. Color and lacquer clears go safely over fully-cured Aqueous/Acrycion.
- Acrylic over lacquer — OK. Aqueous/Acrycion and their clears go over cured Mr. Color.
- Do NOT spray hot lacquer over UN-cured acrylic — it lifts. Cure the acrylic fully, or lay a light "mist-and-build" first coat, or bed it under an acrylic clear.
- Never cross-thin lines — lacquer thinners break water-based paint; water-based thinners will not properly reduce lacquer.
- GGX clears take GGX thinner only; other clears take Leveling Thinner.
- Prime before colour on resin and metal (Section 5); resin prep per DBW-RSN-PRNT-001.

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DBW STANDARD PRACTICE — QUICK-REFERENCE CARD

STEP	DBW GO-TO
Prime	Mr. Surfacer 1000 grey (or 1500 black/grey for pre-shade), ~1:1 Leveling Thinner
Base colour	Mr. Color lacquer, 1:1–1.5 Leveling Thinner, 15–18 PSI
Gloss (pre-decal)	GX100 Super Clear III / Super Clear Gloss, 1:1–1.5 Leveling Thinner
Decals	Mr. Mark Setter then Mr. Mark Softer
Wash / weather	Mr. Weathering Color, wiped back over the gloss coat
Final seal	Mr. Super Clear Semi-Gloss or Flat (GGX Matt + GGX Thinner for a tough matte)
Cleanup	Mr. Color Tool Cleaner (lacquer); water (Aqueous / Acrycion)

- One thinner per line — never cross lacquer and water-based thinners.
- Leveling Thinner is the DBW default for gloss and smooth airbrush flow.
- GGX clears → GGX Thinner only; “400” on a bottle is a size, not a type.
- Cure water-based fully before a hot lacquer coat goes over it.

— END OF TECHNICAL ORDER DBW-MRHBBY-PNT-002 —

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