



PRODUCT CATALOGUE

'To inspire through innovation, passion and quality'

ABOUT US

At **True Lens Services**, we specialise in the conversion, servicing, testing, and repair of film, broadcast, and professional lenses, catering to the needs of the film and television industries both in the UK and internationally.

Our comprehensive services encompass upgrading vintage lenses to seamlessly integrate with modern equipment, conducting preventative maintenance, and restoring damaged or worn lenses to optimal functionality.

Additionally, we can help source original donor lenses and provide complete lens sets, saving you time and eliminating the hassle of doing it yourself.



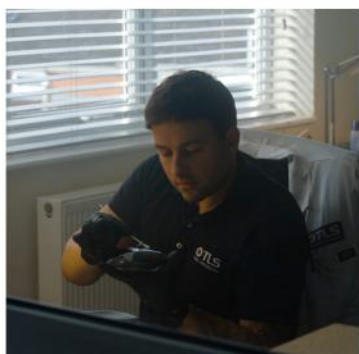
TLS Stores >

A range of lenses available to order, including remarkable TLS-developed lenses such as the Vega and Morpheus, as well as vintage lenses that have been rehoused and are ready to buy, without worrying about sourcing original donor lenses.



Lens Rehousing >

Enhance vintage lenses into modern standard to meet the demands of cinema environment. Each lens is re-engineered from the optical unit up and built individually by highly skilled technicians.



Lens Repair & Servicing >

First-class lens servicing and repair service with a fast turnaround for vintage and modern lenses. All servicing is done on high specification test and alignment equipment.

“When designing lenses,
first and foremost, we
prioritise **quality, reliability,
and precision**”

TRUE LENS SERVICES



TLS | STORE

At the TLS Store, you will find **a set of lenses that have been rehoused and are ready to buy**—no need to worry about the hassle of sourcing original donor lenses. Our store also features a remarkable lineup of cutting-edge TLS-developed lenses, including the versatile **Vega lens**, the **precise 60mm Macro**, and the **dynamic 80-200mm Morpheus lens**. But that's not all—we also offer essential equipment support to complement your gear. We have everything you need to maximise your equipment's potential and elevate your cinematography experience.



TLS | Vega

Fast, Versatile & Beautifully Engineered

The Vega lenses, a series of Full Frame cine prime lenses developed by TLS in response to the market's growing demand for lenses capable of covering the larger full frame digital camera format, were designed with filmmakers in mind and include a set of ten focal lengths ranging from 20mm to 135mm with apertures from T1.5 to T2, featuring a sharp yet smooth look with slight corner fall-off, stunning bokeh from a 16-blade circular iris, a narrow depth of field when wide open, floating elements for optimum optical performance, a dual cam system, 300 degrees focus rotation, stainless steel stops, accurate and repeatable dual focus scales in both imperial and metric, a shimmable PL mount, and consistent focus and iris gear positions relative to the PL mount across the range for smoother focal length changes on set.

FF Full-Frame	PL mount	NON-LINEAR CAM SYSTEM	16 blade circular iris	300° Smooth Focus Rotation	FAST T1.5-T2
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	20mm	24mm	35mm	50mm	58mm	85mm	105mm	135mm
Mount	PL	PL	PL	PL	PL	PL	PL	PL
T-Stop	T2	T1.5	T1.5	T1.5	T1.5	T1.5	T1.5	T2
Min. Object Distance typ.	8"	10"	12"	15"	18"	2'9"	3'3"	3'6"
Front Diameter (mm)	110mm	110mm	110mm	110mm	110mm	110mm	110mm	110mm
Total Length *(mm)	90mm	90mm	90mm	80mm	80mm	90mm	100mm	117mm
Total Length *(inches)	3 1/2"	3 1/2"	3 1/2"	3 1/8"	3 1/8"	3 1/2"	4"	4 5/8"
Weight**(g)	1360g	1410g	1570g	1060g	1200g	1440g	1800g	1710g
Weight**(lbs)	3lbs	3lbs 1oz	3lbs 5oz	2lbs 4oz	2lbs 10oz	3lbs 2oz	4lbs	3lbs 8oz

Nick Manley
DoP GBCT – London Kills

"I enjoyed working with the Vega's, they are **reliable, robust and they work far beyond their price point.** The Full Frame, with a potential T1.5 gives a super shallow depth, if needed, which enabled me to shoot on a 25mm in a small set and still throw the background out when necessary."

[Read the full story >](#)



[Explore more >](#)

* Total approximate length is measured from the flange to the front of lens
** Weight subject to change with further developments

TLS | 60mm Macro T3

The TLS 60mm Macro lens, covering full frame and achieving a 1:1 close focus ratio, is compact with a 95mm front diameter, utilises proven TLS mechanics and cam-driven focus, features a 16-blade circular iris for smooth bokeh at any stop, offers fully internal focusing, delivers sharp center images with slight corner softening, matches seamlessly with the TLS Vega range as an additional focal length for specific shots, allows for more lighting options at minimum object distance (MOD) due to its smaller front diameter, and is currently available only in PL mount.



Focal length	T Stop	Close Focus	Front Diameter	Mount	Coverage	Weight
60mm	T3-T32	<8" 1:1	95mm	PL	Full Frame	1210g 2b 10oz

FF

Full-Frame

PL

mount

**NON-LINEAR
CAM SYSTEM**

16

blade circular iris

300°

Smooth Focus Rotation

1:1

close focus ratio

[Explore more >](#)

TLS | 80-200mm Morpheus T2.8

The Morpheus, originally designed by TLS at the request of Arri Media to redesign an 80-200mm Nikon for the 2006 Bond feature and later refined and put into production, is a lightweight 2.3kg (5.07lbs) lens ideal for steadicam, handheld, small camera setups, and remotely operated rigs, offering superb optical performance optimized for digital cameras with AR coatings to reduce flares and veiling glare for deep, rich blacks and a wide contrast range, Extra Low Dispersion (ED) glass to minimize chromatic aberrations, a 9-leaf iris for round, out-of-focus highlights and pleasing organic bokeh, and ergonomics that reflect TLS's expertise in designing robust, user-friendly tools, featuring easy-to-read large scales and a consistent 110mm front diameter shared with the TLS Speed Panchro and Cooke prime range for quick and efficient on-set use.



FF

Full-Frame

PL

mount

**NON-LINEAR
CAM SYSTEM**

9

iris blades

110

Front diameter

Lightweight

2.3kg (5.07 lbs)

Focal length	T Stop	Weight	Close Focus	Front Diameter	Angle of View	Max Repro Ratio	Mount	Coverage	Iris Blades
80-200mm	T2.8-32	2.3 kg 5.07 lbs	1.5 Meters 4.9 Feet	110mm	30.2° - 12.3° 35mm film/sensor	1:5:9 at 200mm 1:14 at 80mm	PL	Full Frame	9

[Explore more >](#)

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Rehoused Lenses for Sale



Canon Rangefinder Set | 10 Lenses

- 19mm f3.5 FL R
- 25mm f1.8 LTM (35mm with VCL-HG0707 Sony adapter - image to follow)
- 28mm f1.8 LTM (35mm with Olympus adapter - image to follow)
- 35mm f1.5 LTM
- 40mm Canonet
- 50mm f0.95
- 58mm f1.2 FL
- 85mm f1.5 FL Amber
- 100mm f2
- 135mm f2.5

[Check Price >](#)



Canon FD SSC Full Set | 9 Lenses

- 20mm f2.8 SSC
- 24mm f1.4 SSC Asph
- 28mm f2 SSC
- 35mm f2 SSC
- 45mm FD-X f1.4 (Yashica lens)
- 55mm f1.2 SSC Asph
- 85mm f1.2 SSC Asph
- 100mm f2 FDn/NFD
- 135mm f2 FD

[Check Price >](#)



Canon FD L Full Set | 8 Lenses

- 18mm f1.4 FD-X (24mm with Angenieux adapter)
- 24mm f1.4 FD L
- 28mm f2.0 NFD
- 35mm f1.4 FD-X (Minolta A/F)
- 50mm f1.2 FD L
- 85mm f1.2 FD L
- 100mm f2 FDn/NFD
- 135mm f2 FD

[Check Price >](#)



Mamiya 645 Set | 8 Lenses

All available with speedbooster

- 19mm f3.5 N (35mm with Zunow adapter)
- 25mm f3.5 N
- 32mm f2.8 N
- 39mm f2.8 N
- 50mm f2.8 E
- 57mm f1.9 N
- 78mm f2.8 N
- 107mm f2.8 A

[Check Price >](#)



Petzval Set | 2 Lenses

- 58mm f1.9
- 85mm f2.2

[Check Price >](#)

“We re-engineer vintage lenses to suit modern day equipment, gives them a new lease of life for modern production.

What we are doing is breathing new life into that lens”

TRUE LENS SERVICES

REHOUSING PROCESS

BY TLS

● Initial Assessment

- TLS receives the lenses and conducts a brief assessment to evaluate their optical and physical condition.
- Feedback is provided based on the assessment.

● Component Preparation

- Each lens is addressed individually.
- Technicians select necessary components from assembly drawings.
- Over 95% of components are manufactured in-house at TLS headquarters in Leicestershire.
- Components are checked, prepped, and prepared for the next stage.

● Disassembly and Cleaning

- The lens is disassembled, separating the optical cell from the original mechanics.
- Original mechanics are set aside for return to the customer post-rehousing.
- The optical unit is serviced, cleaned, and the iris assembly is either reused or replaced.

● Lens Assembly

- Optical units are built into carriers that allow fore/aft movement within the chassis.
- Modules are loaded into the chassis and assembled.
- Back-focus is set, and the lens is checked for image projection, collimation, and tuned for optimal performance.

● Focus System Design

- TLS lenses feature a non-linear cam-based focus system with nearly 300 degrees of rotation.
- Floating element lenses use this design for a more evenly distributed focus scale.
- The system offers greater control with zero backlash or image shift.

● Serviceability and Durability

- The mechanical design ensures ease of servicing by in-house technicians or those with basic lens knowledge.
- Stainless steel stops enhance the lens's reliability and robustness.

● Final Build and Marking

- The lens is fully assembled, back-focused, and checked for image alignment and cleanliness.
- Focus and iris scales are marked on projection and T-scale bench.

● Engraving and Finishing

- The iris scale, focus scale, and cover sleeve are disassembled and taken for engraving.
- Engraving is done with precision, followed by painting based on lens series or customer specifications.
- Final assembly includes setting iris stops and a final optical performance check.

● Quality Control and Shipping

- The lens undergoes a final QC inspection.
- Once approved, it is packed and prepared for shipping back to the customer.

LENS REHOUSING



PRODUCT RANGE

- 01 Bausch & Lomb Super Baltars >
- 02 Canon FD >
- 03 Canon K35 >
- 04 Canon Rangefinder >
- 05 Cooke Speed Panchro >
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- 12 Mamiya 645 Speed Booster >
- 13 Petzvals >
- 14 Zeiss Super Speed MKI / B Speed >
- 15 Zeiss Super Speed MKII/III >
- 16 Zeiss Contax > New Project
- 17 Zeiss Standard Speed > New Project



TLS REHOUSING

Bausch & Lomb Super Baltar

TLS proudly introduces the Bausch and Lomb Super Baltar re-engineering project, covering the entire Super Baltar range from 20mm to 228mm. These lenses, revered cinematic staples from the 1950s used in filming classics like *The Godfather* and *The Birds*, have been re-housed by TLS to be compatible with modern PL mount 2K and 4K digital camera systems. Offering a distinctive retro aesthetic with warm, low contrasts and unique flare characteristics, the re-engineering process includes a new stainless steel PL mount, high-grade aluminum alloy and stainless steel housing, redesigned focus drive, engraved dual focus scales, and compatibility with electronic drives and follow focus units. TLS ensures the robustness and longevity of these lenses, preserving their iconic visuals while meeting the demands of contemporary digital filmmaking.

Key Features

- New stainless steel PL mount
- High-grade aluminium alloy and stainless steel housing
- New cam form focus drive
- High calibre focus and iris rings
- Engraved dual focus scales
- Standard 110mm front ring

TLS Bausch & Lomb Super Baltar	20mm	25mm	35mm	50mm	75mm	100mm	152mm	228mm
Mount	PL	PL	PL	PL	PL	PL	PL	PL
T-Stop	T2.3	T2.3	T2.3	T2.3	T2.3	T2.3	T3	T4
Min. Object Distance typ.	11"	9"	13"	14"	20"	3'3"	5'	2'
Front Diameter (mm)	125mm	110mm	110mm	110mm	110mm	110mm	110mm	110mm
Total Length *(mm)	90mm	133mm	91mm	109mm	118mm	134mm	169mm	203mm
Total Length *(inches)	3 1/2"	5 1/4"	3 9/16"	4 1/4"	4 5/8"	5 1/4"	6 5/8"	8"
Weight **(g)	1525g	2105g	1310g	1290g	1535g	1950g	2400g	2284g
Weight **(lbs)	3lbs 6oz	4lbs 7oz	2lbs 14oz	2lbs 13oz	3lbs 6oz	4lbs 5oz	5lbs 5oz	5lbs

* Total approximate length is measured from the flange to the front of lens

** Weight subject to change with further developments

[Explore more >](#)

TLS REHOUSING Canon FD



Canon FD lenses, manufactured from the early 1970s to the late 1980s, gained popularity for their high optical quality, closely matching the esteemed Canon K-35 cine lenses. Despite being designed for still photography, they were prized for their sharpness, color rendition, and overall image quality. To adapt them for cinema use, TLS rehoused these lenses, adding a circular iris for smooth bokeh and a non-linear cam focus system. TLS also developed FD-X (FD-Xtended) lenses, introducing new focal lengths (18mm, 35mm, 45mm, 70mm) and extending the range to 200mm. Most lenses feature a 110mm front diameter, except for the 18mm FD-X, which has a 143mm diameter. All lenses include standard PL mounts and nearly 300 degrees of focus rotation.

Key Features

- Common focus and iris gear positions relative to mount flange, same as K35's
- New circular iris design
- PL mount; back focus adjustable with standard shims.
- Nearly 300 focus rotation
- New cam form focus drive
- High-grade aluminium alloy and stainless steel housing

TLS Canon FD	10mm	14mm	18mm FD-X	20mm	24mm	28mm	35mm	50mm
Mount	PL	PL	PL	PL	PL	PL	PL	PL
T-Stop	2.9	2.9	1.6	2.9	1.5	2.1	2.1	1.3
Min. Object Distance typ.	7"	8"	10"	10"	12"	12"	12"	18"
Front Diameter (mm)	125	110	143	110	110	110	110	110
Total Length *(mm)	88	75	100	69	80	80	90	83
Total Length *(inches)	3" 7/16	3"	3" 15/16	2 3/4"	3 1/8"	3 1/8"	3 1/2"	3 1/4"
Weight **(g)	TBC	1300g	TBC	1100g	1300g	1200g	1300g	1300g
Weight **(lbs)	TBC	3lbs	TBC	2lb 7oz	2lb 14oz	2lb 10oz	2lb 14oz	2lb 14oz

TLS Canon FD	55mm	85mm	100mm	135mm	200mm
Mount	PL	PL	PL	PL	PL
T-Stop	1.3	1.3	2.1	2.1	2.9
Min. Object Distance typ.	2'	3'	2'2"	3'8"	4'7"
Front Diameter (mm)	110	110	110	110	110
Total Length *(mm)	73	94	98	119	130
Total Length *(inches)	2 7/8"	3 3/4"	3 7/8"	4 11/16"	5 1/8"
Weight *(g)	TBC	1700g	1500g	1670g	TBC
Weight *(lbs)	TBC	3lb 12oz	3lb 5oz	3lb 13oz	TBC



Edward Goldner , ACS
Love Me Season 2 Cinematographer

"TLS Canon FDs provided the **perfect amount of character** without creating too much distraction to the show's narrative. In addition to this, building a camera package that would allow my camera team to work efficiently and make our days of great importance. Things like **high build quality**, a well colour-matched lens set and an extensive range of focal lengths were all key criteria when I was considering options."

[Read the full story](#) >

[Explore more](#) >

* Total approximate length is measured from the flange to the front of lens

** Weight subject to change with further development

TLS REHOUSING Canon K35

The Canon K35 lenses were converted into TLS cam form, starting with the complex 18mm, 24mm, and 35mm lenses, followed by the 55mm and 85mm lenses with a fixed rear glass in a stainless steel PL mount. Renowned for their exceptional image quality and unique character, the TLS-rehoused K35 series includes dual cam systems for the 18mm, 24mm, and 35mm lenses, and single cam systems for the 55mm and 85mm lenses, all with a 300-degree extended focus scale. The cam-driven focus system and chassis-style housing allow for accessory attachment without affecting focus, ensuring accurate dual focus scales. Durable materials like aluminum alloy, stainless steel, and brass ensure a long serviceable life.

Key Features

- New stainless steel PL mount
- Dual cam system for 18mm, 24mm and 35mm
- 300 degree focus rotation
- New cam form focus drive
- High-grade aluminium alloy and stainless steel housing



TLS Canon K35	18mm (slow)	18mm	24mm	35mm	50mm	55mm	85mm
Mount	PL	PL	PL	PL	PL	PL	PL
T-Stop	T2.8	T1.5	T1.6	T1.4	T1.3	T1.3	T1.3
Min. Object Distance typ.	7"	12"	12"	12"	18"	2'	3'
Front Diameter (mm)	110mm	110mm	110mm	110mm	110mm	110mm	110mm
Total Length *(mm)	65mm	109mm	84mm	104mm	83mm	73mm	93mm
Total Length *(inches)	2 9/16"	4 1/4"	3 5/16"	4 3/32"	3 1/4"	2 7/8"	3 5/8"
Weight **(g)	1800g	1700g	1270g	1780g	1300g	1170g	1520g
Weight **(lbs)	3lbs 15oz	3lbs 12oz	2lbs 12oz	3lbs 14oz	2lbs 14oz	2lbs 9oz	3lbs 5oz

[Explore more >](#)

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TLS REHOUSING

Canon Rangefinder



The rehousing project began with the iconic Canon 50mm f0.95 'dream lens', known for its remarkable speed and unique amber-tinted single coated elements. Overcoming initial camera constraints, transitioned lenses to the LPL mount facilitated the creation of a full set of Canon 'dream' lenses, carefully selected for their single coated elements to ensure visual coherence. Spanning from 19mm to 135mm, the collection includes Canon Rangefinder and early FL lenses, with some focal lengths using different wide-angle adaptors for matching purposes. These lenses offer a distinct visual style characterized by abundant flares, sharpness in the center with lower contrast, and gradual fall-off, particularly noticeable on wider focal lengths and full-frame sensors. Enhanced close focusing capabilities, consistent 110mm front diameter, and identical focus and iris gear positions relative to the film plane are notable features across the set.

Key Features

- Common focus and iris gear positions relative to mount flange
- Available new circular iris design
- LPL mount; back focus adjustable with standard shims.
- 110mm common front ring diameter
- New cam form focus drive
- High-grade aluminium alloy and stainless steel housing

TLS Canon Rangefinder	50mm f0.95	19mm f3.5 FL	25mm f1.5	25mm f1.8	28mm f1.8	35mm f1.5	35mm f1.8
Mount	LPL	LPL	LPL	LPL	LPL	LPL	LPL
T-Stop	1.1	TBC	1.8	2.1	2.1	1.6	TBC
Min. Object Distance typ.	16"	TBC	8"	8"	8"	13"	TBC
Front Diameter (mm)	110mm	110mm	110mm	110mm	110mm	110mm	110mm
Total Length *(mm)	66.6mm	TBC	66.6mm	69.6mm	69.6mm	58.6mm	TBC
Total Length *(inches)	2 5/8"	TBC	2 5/8"	2 3/4"	2 3/4"	2 3/16"	TBC

TLS Canon Rangefinder	40mm Canonet f1.7	58mm f1.2 FL	85mm f1.8	85mm f1.5	85mm f1.8 FL	100mm f2
Mount	LPL	LPL	LPL	LPL	LPL	LPL
T-Stop	1.8	1.4	TBC	1.6	TBC	2.1
Min. Object Distance typ.	11"	19"	TBC	2'3	TBC	2'2
Front Diameter (mm)	110mm	110mm	110mm	110mm	110mm	110mm
Total Length *(mm)	66.6mm	66.6mm	86.6mm	86.6mm	TBC	101.6mm
Total Length *(inches)	2 5/8"	2 5/8"	3 13/32"	3 13/32"	TBC	4"

TLS Canon Rangefinder	135mm f2.5 SCFD	135mm f2.5 FL
Mount	LPL	LPL
T-Stop	2.8	2.8
Min. Object Distance typ.	3'6	3'6
Front Diameter (mm)	110mm	110mm
Total Length *(mm)	122.4mm	118.8mm
Total Length *(inches)	4 13/16"	4 11/16"



Brian Beckwith DOP

The Offset music production Ft. Travis Scott - Say My Grace.

"I choose to use TLS rehousing lenses because of **the quality**. They feel like a cinema lens and not a rehousing lens. I find The Cam-based focus system vs the traditional helicoid system is more friendly to modern day wireless follow focus systems and holds up better in extreme weather conditions."

[Read the full story](#) >

[Explore more](#) >

* Total approximate length is measured from the flange to the front of lens

** Weight subject to change with further developments

TLS REHOUSING

Cooke Speed Panchro

TLS has crafted a comprehensive range of CSP re-housings, updating models like the 18mm s1/s2/s3, 25mm s1/s2/s3, 32mm s1/s2, 40mm s1/s2, 50mm s1/s2, 75mm s1/s2, and 100mm DFP s1/s2. These renowned Cooke Speed Panchros, cherished from the 1930s to the 1950s, have been modernised by TLS with a new housing, maintaining the image character while improving functionality. TLS ensures smooth focus movement, zero image shift, and reliable performance, with positive stops on focus and iris rings for modern drive systems. Internally adjustable aperture stops and a shimmable stainless steel PL mount enhance functionality, while the lenses boast a 110mm front diameter, ensuring compatibility and coverage without vignetting. Constructed from stainless steel, brass, and aircraft-grade aluminum, TLS's re-housed Cooke lenses deliver both the classic aesthetic and durability for contemporary production demands.



Key Features

- Common focus and iris gear positions relative to mount flange.
- 110mm common front ring diameter.
- M105 front filter thread.
- PL mount; back focus adjustable with standard shims.
- New cam form focus drive
- High-grade aluminium alloy and stainless steel housing

TLS Cooke Speed Panchro	18mm S1/2	18mm S3	25mm S2	25mm S3	28mm S1/2	32mm S1/2	35mm S1/2
Mount	PL	PL	PL	PL	PL	PL	PL
T-Stop	T2.2	T2.2	T2.2	T2.2	T2.2	T2.3	T2.3
Min. Object Distance typ.	8"	8"	8"	8"	8"	9"	11"
Front Diameter (mm)	110mm	110mm	110mm	110mm	110mm	110mm	110mm
Total Length *(mm)	68mm	60mm	68mm	68mm	68mm	68mm	68mm
Total Length *(inches)	2 11/16"	2 3/8"	2 11/16"	2 11/16"	2 11/16"	2 11/16"	2 11/16"
Weight **(g)	1240g	820g	1220g	885g	TBC	840g	TBC
Weight **(lbs)	2lbs 12oz	1lbs 13oz	2lbs 11oz	1lbs 15oz	TBC	1lbs 14oz	TBC

TLS Cooke Speed Panchro	40mm S1/2	50mm S1/2	75mm S1/2	100mm DFP
Mount	PL	PL	PL	PL
T-Stop	T2.3	T2.3	T2.3	T2.8
Min. Object Distance typ.	13"	15"	2' 4"	2'
Front Diameter (mm)	110mm	110mm	110mm	110mm
Total Length *(mm)	68mm	78mm	88mm	146mm
Total Length *(inches)	2 11/16"	3 1/16"	3 7/16"	5 3/4"
Weight **(g)	870g	1025g	1240g	1620g
Weight **(lbs)	1lbs 15oz	2lbs 4oz	2lbs 12oz	3lbs 9oz

[Explore more >](#)

* Total approximate length is measured from the flange to the front of lens

** Weight subject to change with further developments

TLS REHOUSING

Cooke Double Speed Panchro

TLS rehousing for Cooke Double Speed Panchro lenses, such as the 75mm/T2.3 and 30mm/T3.0 models, offers cinematographers enhanced functionality and versatility while preserving optical quality. Maintaining common focus and iris gear positions ensures seamless integration into existing setups, while adjustments optimize performance for diverse shooting scenarios. Constructed from durable materials like aluminium alloy, stainless steel, and brass, these lenses ensure long-term reliability. With features like a cam-driven focus system and chassis-style housing, accessories can be easily attached without disrupting focus movements, facilitating adaptable rigging configurations. Coverage of the VistaVision format caters to various filmmaking needs. Through adjustable back focus and standard features, TLS rehousing guarantees superior performance, empowering filmmakers to realize their creative vision with confidence.



Key Features

- Common focus and iris gear positions relative to mount flange
- M95 front filter thread for 75mm/T2.3
- M120 front filter thread for 30mm/T3.0
- PL mount; back focus adjustable with standard shims.
- Coverage of the VistaVision format

TLS Cooke Double Speed Panchro	30mm	75mm
Mount	PL	PL
T-Stop	T3.0	T2.3
Min. Object Distance typ.	10"	2'4"
Front Diameter (mm)	125mm	110mm
Front filter thread	M120	M95

[Explore more >](#)

TLS REHOUSING

Cooke Telepanchro



Key Features

- 0.8 MOD focus and iris gears
- 110mm common front ring diameter.
- M105 front filter thread.
- PL mount; back focus adjustable with standard shims.
- Cam driven focus system
- Long serviceable life with durable materials

TLS Cooke Telepanchro	152mm	203mm
Mount	PL	PL
T-Stop	T3.2	T4.5
Min. Object Distance typ.	5'6"	7'8"
Front Diameter (mm)	110mm	110mm
Front filter thread	M105	M105

[Explore more >](#)



TLS REHOUSING Kowa R

Originally designed as still photo lenses for Kowa leaf shutter SLR cameras in the 1960s and 1970s, these rare and unique Kowa full-frame lenses produce low-contrast images with sharp centers and edge fall-off. Despite not being as fast as modern optics, they create stunning flares and excel on full-frame sensors. The iris control ring is built into the camera body, necessitating a full rehousing and new iris assembly for cine use. TLS rehousing replaces the original irises with matte finished 16-blade irises for smooth, round bokeh, and implements non-linear cam-driven focus for improved close focus. These lenses now feature 110mm fronts, nearly 300-degree focus rotation, zero image shift, and zero backlash. The rehoused lenses available are 19mm f4, 28mm f3.5, 35mm f2.8, 50mm f1.8, 100mm f2.8, 135mm f3.8, and 200mm f4.

Key Features

- Matte finished 16-blade iris
- Non-linear cam driven focus
- 110mm front ring diameter.
- Nearly 300-degree rotation focus
- Engraved dual focus scales
- High-grade aluminium alloy and stainless steel housing

TLS Kowa R	19mm	28mm	35mm	50mm	85mm	100mm	135mm
Mount	PL	PL	PL	PL	PL	PL	PL
T-Stop	T4	T3.6	T2.9	T1.9	T2.9	T3.6	T3.9
Format	FF	FF	FF	FF	FF	FF	FF
Min. Object Distance typ.	12"	9"	11"	16"	2'3"	3'	3'9"
Front Diameter (mm)	110mm	110mm	110mm	110mm	110mm	110mm	110mm
Weight **(g)	1021g	934g	916g	907g	1216g	1261g	1415g
Weight **(lbs)	2.25lbs	2.06lbs	2.02lbs	2lbs	2.68lbs	2.78lbs	3.12lbs

Jonathan Nicholas DOP Netflix Wrestlers TV Series



"The KOWA-Rs are **light and compact** making them ideal for doc and handheld coverage. Unlike many heavy FF primes out there, the KOWA-Rs look and feel like you have a S35mm prime on your camera with the benefit of full frame coverage. Plus, the ACs love the **robust build quality that TLS always delivers**. With matching front diameters, and smooth gears, the "vintage" is only in the image. Although the primes vary in T-Stops, the Venice's dual ISO was an ideal weapon to dig into this dark world."

[Read the full story.](#) >

[Explore more](#) >

* Total approximate length is measured from the flange to the front of lens

** Weight subject to change with further developments

TLS REHOUSING

Kowa Cine Prominar

The TLS rehoused Kowa Cine Prominar range includes lenses from 15mm to 100mm, originally manufactured in the late 1960s and known for their sharp, low-contrast optics with cooler color transitions and warmer flares. Used in iconic films like Rocky and The Godfather II, these lenses now feature new stainless steel PL mounts, high-grade aluminum alloy and stainless steel housing, and redesigned focus drives. The re-engineered lenses are robust and compatible with modern 4K digital camera systems, electronic drives, follow focus units, and matte boxes, preserving their classic visuals while ensuring excellent performance and longevity.

Key Features

- New stainless steel PL mount
- High-grade aluminium alloy and stainless steel housing
- New cam form focus drive
- High calibre focus and iris rings
- Engraved dual focus scales
- Standard 110mm front ring

TLS Kowa Cine Prominar	15mm	20mm	25mm	32mm	40mm
Mount	PL	PL	PL	PL	PL
T-Stop	T4	T2.6	T2.3	T2.3	T2.3
Min. Object Distance typ.	7"	11"	11"	11"	14"
Front Diameter (mm)	125mm	110mm	110mm	110mm	110mm
Total Length *(mm)	55mm	108mm	141mm	68mm	68mm
Total Length *(inches)	2 3/16"	4 1/4"	5 9/16"	2 11/16"	2 11/16"
Weight **(g)	985g	1630g	2020g	1075g	985g
Weight **(lbs)	2lbs 3oz	3lbs 9oz	4lbs 7oz	2lbs 6oz	2lbs 3oz

TLS Kowa Cine Prominar	50mm	75mm	100mm
Mount	PL	PL	PL
T-Stop	T2.3	T2.3	T2.6
Min. Object Distance typ.	20"	19'	3'3'
Front Diameter (mm)	110mm	110mm	110mm
Total Length *(mm)	68mm	88mm	128mm
Total Length *(inches)	2 11/16"	3 7/16"	5"
Weight **(g)	1010g	1365g	1845g
Weight **(lbs)	3lbs 4oz	3lbs	4lbs 1oz

Christian Sprenger ASC Atlanta Series

"One of the best aspects to using the TLS Kowa's is the **physical build quality** that we've all come to expect from a modern lens being applied to glass that is over 60yrs old. Mechanically, these lenses perform exactly the same as modern glass and for our camera crew they are **a dream come true**. These expertly rehoused lenses also require far less servicing meaning our production as a whole does not suffer the interruptions of our gear going down. ."

[Read the full story](#) >



[Explore more](#) >

* Total approximate length is measured from the flange to the front of lens
 ** Weight subject to change with further developments



TLS REHOUSING

Lomo Anamorphic

Originating from Soviet-era Russia in the early 1980s, the Lomo Round Front Anamorphic lenses feature a 2x squeeze for S35 film formats, creating a unique image with sharp centers, pleasing barrel distortion, and warm flares. Initially difficult to use with accessories due to their design, rehousing solves these issues by making them internally focusing without rotating elements, enhancing optical performance. Rehoused lenses achieve closer focus, have individually marked scales, and solid stainless-steel stops for focus and iris movements. The 50mm, 75mm, 100mm, and 135mm share a 143mm front diameter, while the 35mm has a 190mm diameter.

Key Features

- MOD closer than original Lomo lens
- 190mm/143mm front diameter gives internal focus capability without vignetting at infinity.
- Dual T scale markings on operation ring.
- Integral support system with 3/8 UNC.
- Thread support system standard bridges.
- Fully PL mount and supplied with front and rear caps on standard.
- 0.8 mod gearing on both focus and T Scale.
- Positive stops to focus and aperture.

TLS Lomo Anamorphic	35mm	50mm	75mm	100mm	150mm
Mount	PL	PL	PL	PL	PL
T-Stop	T2.5	T2.5	T2.5	T2.4	T4
Min. Object Distance typ.	2'10"	2'8"	2'8"	2'10"	5'8"
Front Diameter (mm)	190mm	143mm	143mm	143mm	TBA
Total Length *(mm)	176mm	168.5mm	202.5mm	235mm	TBA
Total Length *(inches)	6 15/16" (6.93")	6 41/64" (6.64")	7 31/32" (7.98")	9 1/4" (9.25")	TBA
Weight **(g)	4600g	2850g	3160g	3390g	TBA
Weight **(lbs)	10.14lbs	6.29lbs	6.97lbs	7.45lbs	TBA

[Explore more >](#)

* Total approximate length is measured from the flange to the front of lens

** Weight subject to change with further developments

TLS REHOUSING

Mamiya 645



The Mamiya 645 rehousing project by TLS offers Mamiya 645 Sekor C lenses with a standard rehousing or with a built-in speed booster, both featuring 95mm fronts. Originally designed for 6x4.5cm film, these lenses cover the Alexa 65 sensor and, with the speed booster, cover all full-frame sensors while increasing the lens speed by one stop. Developed in the 1970s, these lenses boast multi-layer coatings, sharp optics, smooth bokeh, and a balance between vintage and modern designs. The 0.71x speed booster concentrates light, increasing speed and reducing focal length (e.g., a 35mm lens becomes 25mm), adding a cinematic soft fall-off. The speed booster is removable, allowing the lenses to adapt to larger future sensors. TLS offers LPL and PL mount options, with interchangeable covers for accurate markings.

Key Features

- Common focus and iris gear positions relative to mount flange
- New circular iris design
- 95mm common front ring diameter
- PL or LPL mount; back focus adjustable with standard shims
- New cam form focus drive

TLS Mamiya 645	17mm	25mm	32mm	39mm	50mm
Mount	LPL	LPL	LPL	LPL	LPL
T-Stop	3.3	2.8	2.3	2.3	2.3
Min. Object Distance typ.	11"	12"	14"	16"	21"
Front Diameter (mm)	134mm	95mm	95mm	95mm	95mm
Total Length *(mm)	104	93.7	108.7 (C) 103.7 (CN)	93.7 (S/N) 108.7 (C)	93.7
Total Length *(inches)	4.1	3.7	4.3 (C) 4.1 (CN)	3.7 (S/N) 4.3 (C)	3.7

TLS Mamiya 645	57mm	57mm	78mm	107mm	107mm
Mount	LPL	LPL	LPL	LPL	LPL
T-Stop	2.3	1.6	2.3	2.2	2.6
Min. Object Distance typ.	2'1	2'1	3'7	3'9	3'9
Front Diameter (mm)	95mm	95mm	95mm	95mm	95mm
Total Length *(mm)	93.7	93.7	93.7	151.1	118.7
Total Length *(inches)	3.7	3.7	3.7	5.9	4.7

[Explore more >](#)

* Total approximate length is measured from the flange to the front of lens
 ** Weight subject to change with further developments



TLS REHOUSING

Mamiya 645 Speed Booster

The speed booster is a 0.71x adaptor for Mamiya 645 lenses that concentrates light onto a smaller surface area, increasing the lens speed by one f-stop (e.g., f2.8 becomes T2.3/f2) and reducing the focal length (e.g., 35mm becomes 25mm). This enhances the lens's optical performance by adding a soft fall-off towards the edges, creating a beautiful cinematic characteristic. Built into the rehousing, the speed booster is aesthetically unnoticeable and available in LPL and PL mounts.

Key Features

- Built in speed booster to provide a higher speed lens
- Common focus and iris gear positions relative to mount flange
- New circular iris design
- 95mm common front ring diameter
- LPL mount; back focus adjustable with standard shims
- New cam form focus drive

TLS Mamiya 645 inc. Speed Booster	17mm	19mm	25mm	32mm	39mm	50mm
Mount	LPL	LPL	LPL	LPL	LPL	LPL
T-Stop	3.3	T2-T22	2.8	2.3	2.3	2.3
Min. Object Distance typ.	11"	11"	12"	14"	16"	21"
Front Diameter (mm)	134mm	143mm	95mm	95mm	95mm	95mm
Total Length *(mm)	104	155mm	93.7	108.7 (C) 103.7 (CN)	93.7 (S/N) 108.7 (C)	93.7
Total Length *(inches)	4.1	2.6	3.7	4.3 (C) 4.1 (CN)	3.7 (S/N) 4.3 (C)	3.7

TLS Mamiya 645 inc. Speed Booster	57mm	57mm	78mm	107mm	107mm
Mount	LPL	LPL	LPL	LPL	LPL
T-Stop	2.3	1.6	2.3	2.2	2.6
Min. Object Distance typ.	2'1	2'1	3'7	3'9	3'9
Front Diameter (mm)	95mm	95mm	95mm	95mm	95mm
Total Length *(mm)	93.7	93.7	93.7	151.1	118.7
Total Length *(inches)	3.7	3.7	3.7	5.9	4.7

Nathan Thompson DOP

"When we received our Mamiya 645 lenses back **we were absolutely astonished!** On the exterior, the housing was stylistically designed with silver and green accents that set the lenses off. Even with the added speed booster, **the lenses' weight and sizing were light and compact.** The focus and **iris barrels were super smooth**, while still retaining the tiniest bit of resistance to nail a mark."



[Read the full story](#) >

[Explore more](#) >

* Total approximate length is measured from the flange to the front of lens

** Weight subject to change with further developments



TLS REHOUSING

Petzval

The Petzval lens, designed by Joseph Petzval in the early 1840s, is one of the first portrait lenses and is known for its unique "swirling bokeh" effect, created by its basic optical design. This effect was phased out with improved optical designs but has recently gained popularity for its artistic flair. Lomography revived this vintage lens through a Kickstarter program, crafting it with brass and a rack-and-pinion focus, and offering various shaped aperture blades for creative bokeh. TLS has further enhanced these lenses for cinematography by adding a 16-blade iris with a matte-black coating, resulting in two characterful lenses, the 58mm and 85mm, ideal for special portrait shots in film.

Key Features

- 110 mm common front ring diameter
- M105 front filter thread
- PL mount; back focus adjustable with standard shims.
- 16 blade manual iris.
- High-grade aluminium alloy and stainless steel housing

TLS Petzval	58mm	85mm
T Stop	2.1-16	2.3-22
Minimum object distance typ. (inches)	24	36
Front Diameter (mm)	110	110
Total Length * (inches)	2.68	3.5
Total length * (mm)	68	89
Weight ** (kg)	0.92	1.41
Weight ** (lbs)	2.03	3.11



Robby Ryan, BSC, ISC

Poor Things Cinematographer

Nominated for 'Best Cinematography' at the BAFTA's and the Academy Awards.

"We are always looking for old lenses now, because of the fact that people are trying to kind of like do something with the digital sensor to give it a bit more sort of quality. The Petzval give **lovely bokeh**, they're **unique** each one's got a unique sort of quality to the optic, and TLS make it look great and more suitable to the film."

[Read the full story](#) >

[Explore more](#) >

* Total approximate length is measured from the flange to the front of lens

** Weight subject to change with further developments



TLS REHOUSING

Zeiss Super Speed MKI / B Speed

The Zeiss B Speeds, or Super Speed MK1, released in the mid-70s, were among the fastest lenses of their time, with focal lengths of 18mm, 25mm, 35mm, 50mm, and 85mm at T1.4. Known for their distinctive triangular bokeh due to the triangular iris, these lenses elicit mixed reactions, so TLS offers rehousing with either the original triangular or a new circular iris design. Compact and robust, the lenses are rehoused into a 95mm front while maintaining the original cam-form system. The rehousing includes a new stainless steel PL mount, high-grade aluminium and stainless steel body, new cam-form focus drive, high calibre focus and iris rings, engraved dual focus scales, and a standard 95mm front ring. The optics remain unchanged, preserving their original visuals, while the updated units are compatible with electronic drives, follow focus units, and matte boxes, ensuring smooth and reliable operation.

Key Feature

- New stainless steel PL mount
- High-grade aluminium and stainless steel body construction
- New can form focus drive
- High calibre focus and iris rings
- Engraved dual focus scales
- Standard 95mm front ring

TLS B Speed	18mm	25mm	35mm	50mm	85mm
Mount	PL	PL	PL	PL	PL
T-Stop	T1.4	T1.4	T1.4	T1.4	T1.4
Min. Object Distance typ.	11"	10"<	14"	21"	3'
Min. Object Distance typ. (M)	0.28	0.25	0.34	0.52	0.95
Front Diameter (mm)	95mm	95mm	95mm	95mm	95mm
Total Length *(mm)	95mm	75mm	75mm	75mm	75mm
Total Length *(inches)	3 3/4"	3"	3"	3"	3"
Weight **(g)	1550g	1050g	1120g	940g	1550g
Weight **(lbs)	3lb 7oz	2lb 5oz	2lb 8oz	2lb 1oz	3lb 7oz

* Total approximate length is measured from the flange to the front of lens

** Weight subject to change with further developments

[Explore more >](#)



TLS REHOUSING

Zeiss Super Speed MKII/III

The Zeiss Super Speeds, renowned for their fast T1.3 aperture, were originally introduced as the B-Speeds, followed by the MK II and MK III versions. TLS now offers rehousing for these increasingly rare lenses, maintaining their compact form while enhancing focus accuracy with 300 degrees of rotation. The option to retain the original iris or replace it with a circular one provides versatility in bokeh. TLS also rehous the Zeiss Standard Speed 135mm T2.1, completing their range of vintage lens solutions.

Key Feature

- New stainless steel PL mount
- High-grade aluminium and stainless steel body construction
- New can form focus drive
- High calibre focus and iris rings
- Engraved dual focus scales
- Standard 95mm front ring

TLS Zeiss Super Speed MKII/III	18mm	25mm	35mm	50mm	65mm	85mm
Mount	PL	PL	PL	PL	PL	PL
T-Stop	TBD	T1.3	T1.3	T1.3	T1.3	T1.3
Min. Object Distance typ.	TBD	TBD	TBD	TBD	TBD	TBD
Front Diameter (mm)	95	95	95	95	95	95
Total Length *(mm)	95	75	75	TBD	TBD	TBD
Total Length *(inches)	3 1/4"	3"	3"	TBD	TBD	TBD
Weight ** (kg)	1.554	1.106	1.142	1.132	1.23	1.462
Weight ** (lbs)	3.43	2.44	2.52	2.5	2.71	3.22

* Total approximate length is measured from the flange to the front of lens

** Weight subject to change with further developments

[Explore more >](#)

New Project

Carl Zeiss Contax

reoused by  TLS

Legendary Character, Beautifully Made

Originally released in the 1970s, Contax lenses feature renowned T* coatings and an exceptional optical design. Designed initially for still photography, these lenses offer superb coverage and an organic character, setting them apart from modern optics. Often dubbed the ‘full frame super speeds’, they have earned this reputation for their outstanding performance, making them ideal for rehousing as cinema lenses.



300°
focus rotation

New
circular iris

Consistent
focus & iris
with camera

Repeatable, Individually
marked
focus scale

95mm
fixed front
(no telescoping)

Optically
aligned
to render their true
character

Exceptional contrast and beautiful flare
Legendary optics
Vintage for the future with robust, reliable
and accurate hand crafted reoused

[Explore more >](#)

TLS REHOUSING

Zeiss Standard Speed

New Project

The Zeiss Standard Speed lenses, though less known than the Zeiss Super Speeds, were industry workhorses and are experiencing a resurgence. With a slower T2.1 aperture, they perform well, offering good contrast and a vintage look on digital sensors. TLS initially rehoused the 135mm lens to complement the B-Speed and Super Speed sets and plans to release the 100mm and 40mm Standard Speeds in H2 2024, with the rest of the set following through 2024 and early 2025. While still in R&D, the goal is to maintain a 95mm front with matching iris and focus gear positions, making them ideal for S35 cameras seeking reliable, vintage optics.



Key Features

- Common focus and iris gear positions relative to mount flange
- New circular iris design
- PL mount; back focus adjustable with standard shims
- New cam form focus drive
- High-grade aluminium alloy and stainless steel housing



[Explore more >](#)

TLS Rehousing

Handcrafted Precision and In-House Manufacturing

Each lens is meticulously handcrafted individually, with all components (except bearings) made in-house, ensuring high-quality control.

Innovative Focus System

The non-linear cam-based design offers nearly 300 degrees of rotation for evenly distributed focus scales and minimised backlash.

Easily Serviceable and Durable Quality

The rehousing is easily serviceable and includes stainless steel stops, resulting in a robust and reliable cine lens.

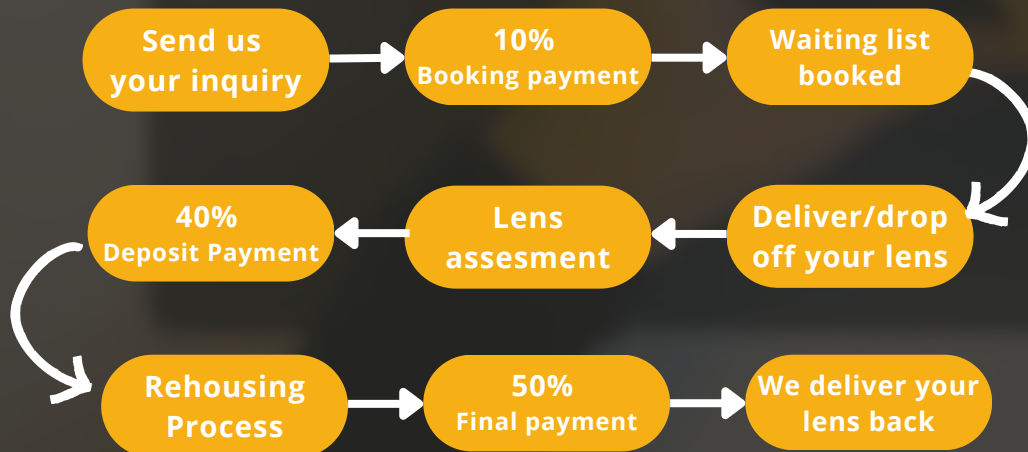
Accuracy and Customisation

Lenses are individually marked for focus and iris with options for custom paint, ensuring precise and tailored results.

Thorough Quality Control

Multiple stages of checks ensure optical performance, image alignment, cleanliness, and back-focus adjustments for the highest quality.

Booking Process



LENS REPAIR & SERVICING

- First-class lens servicing and repair with a fast turnaround.
- Experienced engineers handle a wide range of broadcast, professional, and cine lenses, including modern and vintage models.
- Utilises high-specification test and alignment equipment with manufacturer-recommended materials.
- Capabilities include repairing, servicing, and testing film and video lenses, as well as collimation and projection equipment.
- Competitive prices ensure projects are completed on time and within budget.

SPECIAL SERVICES

DE-YELLOWING
OPTICS



RECEMENTING
DOUBLET



RE-EDGE
BLACKING





DE-YELLOWING OPTICS

When dealing with vintage lenses, you may notice a 'warm' or yellow tint, often due to thorium—a radioactive material used in certain glass types until the 1970s—that tints the glass yellow as it decays. This yellowing not only affects the lens color but also reduces its T-stop, as the darkened optics allow less light to pass through. Fortunately, this process is reversible by **exposing the affected elements to UV light**, ideally by disassembling the lens and treating each element individually. While **this method can significantly improve the lens, returning it close to its original clarity**, it may not fully restore the widest T-stop, and results can vary, sometimes taking up to three weeks. The optimal time to de-yellow optics is during a service or rehousing process, as the lens will already be disassembled, making it more cost-effective and ensuring the T-scale reads accurately once completed.

BEFORE

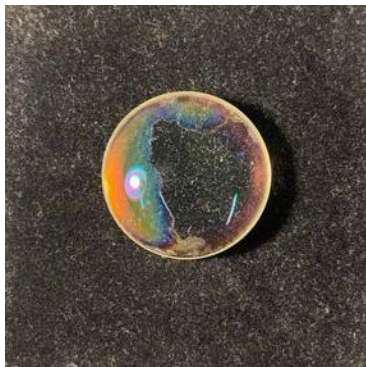


AFTER

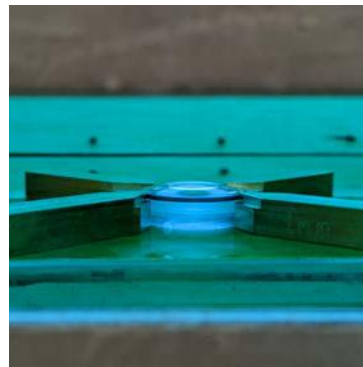


RECEMENTING ELEMENTS

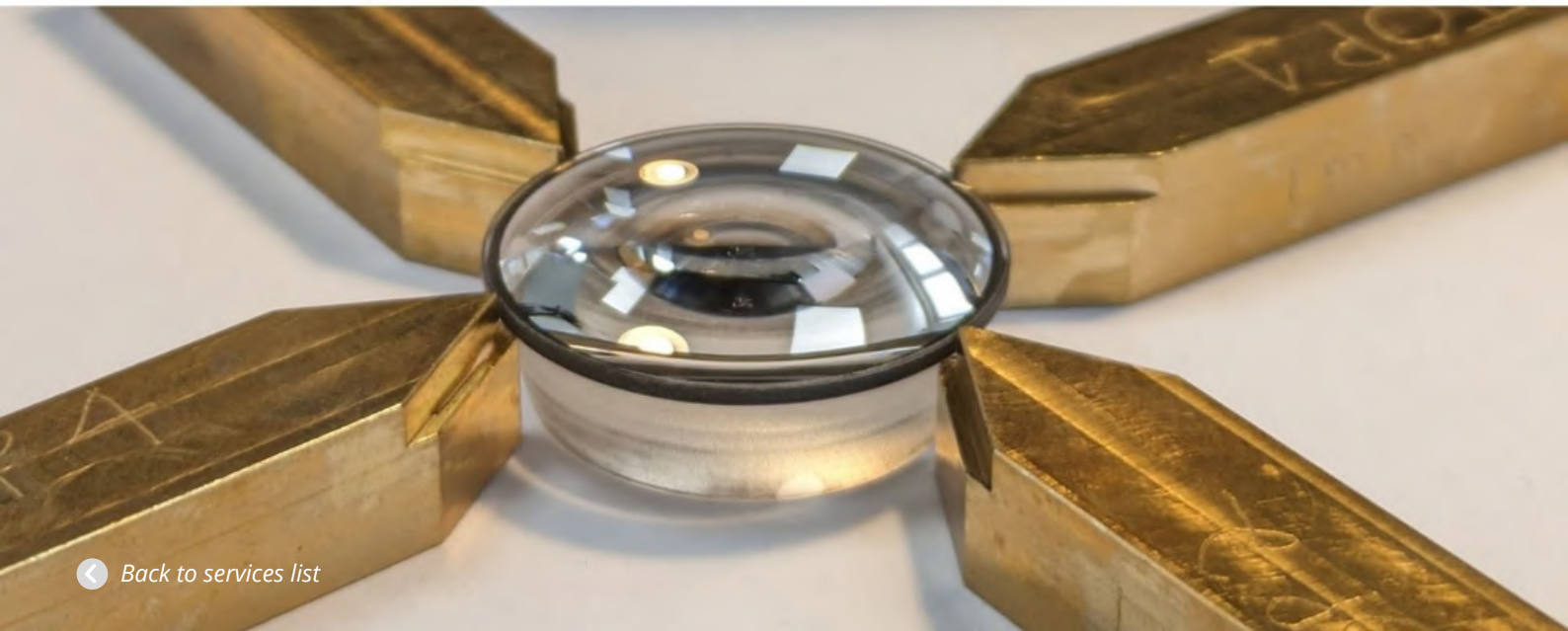
The process of separating and re-cementing doublets in vintage lenses involves addressing the degradation of the optical adhesive that binds two lens elements together. Over time, this adhesive can break down, leading to separation, often visible as a rainbow effect or tiny specs. To fix this, the doublet must be carefully **separated and re-cemented using modern optical cement**. The separation can be done through heating, which is risky due to the different expansion rates of the glass, or through a safer but slower chemical bath that can take up to 12 weeks. After separation, the old cement is removed, and **the elements are inspected for defects before re-cementing in a clean environment using UV light to cure the adhesive**. Proper alignment and cleanliness are crucial to avoid issues like bubbles. Once re-cemented, the doublet is re-edge blacked to prevent internal reflections, restoring the lens's optical performance.



24mm Canon K-35 internal doublet, displays the rainbow effect that can often appear



UV Light Process





RE-EDGE BLACKING OPTICAL ELEMENTS

Edge-blackening refers to the application of black paint to the outer edges of lens elements in an optical system to reduce stray light rays and prevent issues like flare and glare, which can degrade image quality. This paint adheres to the rough, ground edges of the lens elements, providing a matte finish that minimises internal reflections. Over time, edge-blackening can deteriorate, leading to visible defects such as blistering, flaking, or scratching, which can affect the lens's performance. If deterioration is detected, it's advisable to seek professional help to restore the edge-blackening by removing the old paint and applying a new coat with precision. The process requires **careful handling to ensure the paint's thickness does not interfere with the lens's fit and that no paint spreads onto the polished surfaces**. Once the paint has cured, **the element undergoes inspection before being reinstalled**.



Result After Services



| Knowledge Centre

Information hub on all things about lenses.

Within this Knowledge Centre we tackle questions that have been put forward to us by our customers



Individually marked vs batch produced focus scales

Why do True Lens services prefer to individually mark each lens? Find out in this weeks Knowledge Centre article the advantages and disadvantages of individually marked and batch produced focus scale lenses.

[Read more](#) >



Is the optical unit serviced during rehousing?

Yes, the optical unit will be serviced during the rehousing process of any lens as standard. Find out how and why.

[Read more](#) >



Edge-blacking, why it matters

What is edge-blacking and why does it matter. Find out all you need to know about edge-blacking in this weeks article.

[Read more](#) >



Shipping to TLS from abroad

Find out all you need to know about how to ship your lens to us, when you are shipping from outside of the UK.

[Read more](#) >



My lens has fungus and/or haze, what can you do?

Fungus and haze are two phrases that you may encounter when searching for vintage lenses online. What do these terms mean and what can be done to improve or remove it? Read on to find out more.

[Read more](#) >



What is a floating element optical design?

What are floating elements? How are elements floating within the mechanical system? Read on to find out all there is to know about floating elements in this article.

[Read more](#) >

[Read more](#) >

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