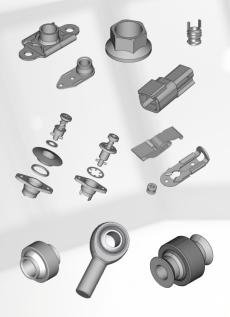


#### **ENGINEERING SUPPORT**

Ask for engineering support. We provide advice, best practices, bespoke solutions, 3D-models...



E: sales@kl-projects.be

T: +32 58 59 30 30





# Specialist supplier of fasteners, bearings, connectors and equipment.

Mainly serving customers in motorsports, prototyping and specialty vehicles.

KL-PROJECTS was founded in 2010 by Korneel Liefooghe. The company is based in Belgium very close to the city of Ypres, known for hosting the iconic Ypres Rally since 1965.

After working as a freelance car engineer in rally's accross Europe, Korneel soon chose to become a specialist supplier for fasteners used across motorsports applications. Over the years different products have been added to the linecard: rod ends & spherical bearings, connectors, cable ties...

KL-PROJECTS is serving customers of critical markets such as motorsports, prototyping, specialty vehicles, aerospace...

Typical customers of KL-PROJECTS are race car manufacturers, subcontractors, distributors and professional end users.

















# ROD ENDS & SPHERICAL BEARINGS

Every application has it's specific needs. We combine our expertise and a very wide stock range to provide the best bearings for our customers.







Only for motorsports applications we already stock more than 220 different sizes: standards, specials, upgrades...



















### **K-NUTS & ANCHOR NUTS**

Locking nuts by crimping / eliptical deformation. Hexagonal k-nuts have a reduced hex size.

Metric and imperial sizes are available from stock both in high strength steel and CRES.































# BLUEFAST® NUTS FREE OF CADMIUM AND CHROME VI

The BlueFast® environment friendly range supersedes the traditional aerospace cadmium plated parts for non-aerospace markets including motorsports and automotive.

Since January 2022, the BlueFast® k-nuts and anchor nuts are used in high performance applications and not only meet the ELV Directive but also provide designers with an environment friendly value added fastener solution.

3 crimp locking deformation is applied across the BlueFast® range of hexagonal k-nuts to ensure consistent locking performance on many different types of bolt and stud. To achieve this, and guarantee repeat performance, the locking torque is controlled and recorded for 15 cycles of each production batch.

## **BlueFast**.

by KL-PROJECTS







#### Technical drawings, 3D models & MDS entries

To offer a comprehensive support package for designers we have available, on request, technical drawings and 3D CAD models for fast integration into your design.

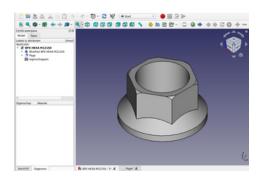
The automotive industry specifically requires the entry of each product in the MDS database in order to know and control all materials and substances in the end product.

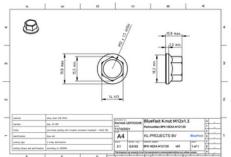


by KL-PROJECTS

- REACH / ROHS / ELV DIRECTIVE
- **CONSISTENT LOCKING PERFORMANCE**
- MADE IN EUROPE
- **AVAILABLE FROM STOCK**

More info: <a href="https://bluefast.com">https://bluefast.com</a>





ana III Version Rate	Supplier Militia, Chan Militar Man				
		Caccaged Militia Contributed Militia Street Militia Street Manham			
Name					
withon No., Sen. After Alo., Mannarillo.	Coalite search by supplier				
Preferency WC6 - Y		Supplier (Company / Drg. 40)			
Same Conditional Lacroporal Community Values	Suppler search is disabled.				
Coned	Cleat edited by me				
Name (80000000) 170 - 100000000	Assigned Dig Unit	*			
NAME AND ADDRESS OF THE PARTY O	Assert Contact	w)			
	Clever				
	Creme				
- Stew Miles					
	Parties No. Ion Me As. Matrix No.	(6) February	Suppler		
Name SER FL(AMORE) Starfast Stating within not 2 tags White 7 will storing	SEATURAMENTS.		10,790,00079		
Name  SER/ELEA WINDOWN Study on Study and the man 2 hope Wind of and during  SER/ELEA WINDOWN Study on Study and he may 2 hope Wind it and during	85A-0-2A-M04070 85A-0-2A-M05080	\$1000075762 / 2 \$1000075762 / 2	10,790,00075 10,790,00075		
Name  (Six F)_A reliability deserves feeting enther net   tags Whith / self-enting  (Six F)_A reliability deserves feeting enther net   tags Whith / self-enting  Six F)_A reliability deserves feeting enther net   tags Whith it self-enting  Six F)_A reliability deserves feeting enther net   tags Whith it self-entering	BEATLIAMOUN BEATLIAMOUN BEATLIAMOUN	2000000001 12 2000075702 12 200000000 12	N, PROJECTS N, PROJECTS N, PROJECTS		
Name \$15.0 () A wide (1) describe thesing winter not (neg retail ) set except \$15.0 () A wide (1) describe thesing winter not (neg retail ) set except \$15.0 () A wide (1) describe thesing winter not (neg retail ) set except \$15.0 () A wide (1) describe thesing winter not (neg retail ) describe (1) wide (1) with except \$15.0 () A wide (1) describe thesing winter not (neg retail ) describe (1) wide (1) with (1) with except \$15.0 () describe the (1) with (1) wi	BEARLIA MORES BEARLIA MORES BEARLIA MORES BEARLIA MORES	2000000001-2 200000000-2 20000000-2	NL PROJECTS NL PROJECTS NL PROJECTS NL PROJECTS		
Name \$16.0 () \$1.00(40) the draw heating without and \$1.00(100) the discharge \$16.0 () \$1.00(40) the draw heating without and \$1.00(100) the discharge \$16.0 () \$1.00(40) the draw heating without and \$1.00(100) the discharge \$16.0 () \$1.00(40) the draw heating without and \$1.00(100) the discharge \$16.0 () \$1.00(40) the draw heating without and \$1.00(40) the discharge \$16.0 () \$1.00(40) the draw heating without and \$1.00(40) the discharge \$16.0 () \$1.00(40) the draw heating without and \$1.00(40) the discharge \$16.0 () \$1.00(40) the draw heating without and \$1.00(40) the discharge \$16.0 () \$1.00(40) the draw heating without and \$1.00(40) the discharge \$16.0 () \$1.00(40) the draw heating without and \$1.00(40) the discharge \$16.0 () \$1.00(40) the draw heating without and \$1.00(40) the discharge \$16.0 () \$1.00(40) the draw heating without and \$1.00(40) the discharge \$16.0 () \$1.00(40) the draw heating without and \$1.00(40) the discharge \$16.0 () \$1.00(40) the draw heating without and \$1.00(40) the discharge \$16.0 () \$1.00(40) the draw heating without and \$1.00(40) the discharge \$16.0 () \$1.00(40) the draw heating without and \$1.00(40) the discharge \$16.0 () \$1.00(40) the draw heating without and \$1.00(40) the discharge \$16.0 () \$1.00(40) the draw heating without and \$1.00(40) the discharge \$16.0 () \$1.00(40) the draw heating without and \$1.00(40) the discharge \$16.0 () \$1.00(40) the draw heating without and \$1.00(40) the discharge \$16.0 () \$1.00(40) the draw heating without and \$1.00(40) the discharge \$16.0 () \$1.00(40) the draw heating without and \$1.00(40) the discharge \$16.0 () \$1.00(40) the draw heating without and \$1.00(40) the discharge \$16.0 () \$1.00(40) the draw heating without and \$1.00(40) the discharge \$16.0 () \$1.00(40) the draw heating without and \$1.00(40) the discharge \$16.0 () \$1.00(40) the draw heating without and \$1.00(40) the discharge \$16.0 () \$1.00(40) the draw heating without and \$1.00(40) the discharge \$16.00(40) the draw heating without and \$1.00(40) the discharge \$16.00(40) the draw heating w	BEA PLIJA MORODO BEA PLIJA MORODO BEA PLIJA MORODO BEA PLIJA MORODO BEA PLIJA MORODO	3054600001 / 2 3054675762 / 2 30540757671 / 1004 30540739614 / 2	HLPROJECTS HLPROJECTS HLPROJECTS HLPROJECTS HLPROJECTS		
Name \$10.0 () A VEX. (10.0 () Sharflest heating section and (1.5), VEX. (1.5) of statistics given by the A VEX. (1.5) of stati	\$14.0(_)4.40(0)00 \$14.0(_)34.40(0)00 \$14.0(_)34.40(0)00 \$14.0(_)34.40(0)0 \$14.0(_)34.40(0)0	300000000.12 3000075702.12 3000737071.12.03 300073903.12 300073903.12.03	KLPROJECTS KLPROJECTS KLPROJECTS KLPROJECTS KLPROJECTS KLPROJECTS		
September 1, 1997 - 199	SEA FILLER MERCHING SEA FILLER MERCHING SEA FILLER MERCHING SEA FILLER MERCHING SEA FILLER MERCHING SEA FILLER MERCHING SEA FILLER MERCHING	\$150000001; 12 \$150000000; 2 \$150000000; 2 \$150000000; 2 \$150000000; 2 \$150000000; 3 \$1500000000; 3 \$15000000000; 3 \$150000000000; 3 \$15000000000000; 3 \$15000000000000000000000000000000000000	N, PROJECTS N, PROJECTS N, PROJECTS N, PROJECTS N, PROJECTS N, PROJECTS N, PROJECTS		
Section 20	SEA FLUA MODING SEA MODING	\$150000001; (2) \$1500075700; (2) \$1500000000; (2) \$150075000; (2) \$150075000; (3) \$150075000; (4) \$15700000; (4)	III, PROJECTS		
Section 2 (1997) The analysis of the analysis	SEA PLA MONION MARILLA MODER BEARLA MODER	2004000001; -2 200402500; -2 200402500; -2 200402500; -0 200402600; -0 2004000; -0 200402600; -0 2004000; -0 200402600; -0 2004000; -0 200402600; -0 2004000; -0 2004000; -0 2004000; -0 200400000; -0 2004000000000000000000000000000000000	NJ PROJECTS NJ PROJECTS NJ PROJECTS NJ PROJECTS NJ PROJECTS NJ PROJECTS NJ PROJECTS NJ PROJECTS NJ PROJECTS		
Device 1  See 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1,	DATA TO A MODISTIPE  MATERIA A MATERIA  MATERIA A M	\$1000000001; 12 \$1000000000; 2 \$10000000000; 2 \$1000000000000000000000000000000000000	NJ PROJECTS NJ PROJECTS NJ PROJECTS NJ PROJECTS NJ PROJECTS NJ PROJECTS NJ PROJECTS NJ PROJECTS NJ PROJECTS NJ PROJECTS		
Description of the property of	SEA PLA MONION MARILLA MODER BEARLA MODER	\$1000000001-2 \$100005500-2 \$100005500-2 \$100005000-1 \$100005000-1 \$10000500-1 \$100000-1 \$100000-1 \$100000-1 \$100000-1 \$100000-1 \$100000-1 \$100000-1 \$1000000-1 \$10000000-1 \$10000000-1 \$100000000-1 \$10000000000	N, PRODUCTS N, PRODUCTS		
Device 1  See 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1,	BAA FLIA MORNIN MAA FLIA MORNIN BAA FLIA MORNIN	\$1000000001; 12 \$1000000000; 2 \$10000000000; 2 \$1000000000000000000000000000000000000	NJ PROJECTS NJ PROJECTS NJ PROJECTS NJ PROJECTS NJ PROJECTS NJ PROJECTS NJ PROJECTS NJ PROJECTS NJ PROJECTS NJ PROJECTS		
Service Servic	SEARLISA MONEY SEARLI	\$1000000000000000000000000000000000000	10, PRODUCTS 10, PRODUCTS		
User  Self-Line Ministry Business having wintow of Fago March 7 and recovery  Self-Line Ministry Business having wintow of Fago March 7 and recovery  Self-Line Ministry Business having wintow of Fago March 1 and recovery  Self-Line Ministry Business having wintow of Fago March 1 and recovery  Self-Line Ministry Business having wintow of Fago March 1 and recovery  Self-Line Ministry Business having wintow of Fago March 2 and recovery  Self-Line Ministry Business having wintow of Fago March 2 and recovery  Self-Line Ministry Business having wintow of Fago March 2 and recovery  Self-Line Ministry Business having wintow of Fago March 2 and recovery  Self-Line Ministry Business have been proportion of March 2 and recovery  Self-Line Ministry Business have been proportion of March 2 and recovery  Self-Line Ministry Business have been proportion of March 2 and recovery  Self-Line Ministry Business have been proportion of March 2 and recovery  Self-Line Ministry Business have been proported and office 3 and recovery  Self-Line Ministry Business have been proported and office 3 and recovery  Self-Line Ministry Business have been proported and office 3 and recovery  Self-Line Ministry Business have been proported and office 3 and recovery  Self-Line Ministry Business have been proported and office 3 and recovery  Self-Line Ministry Business have been proported and office 3 and recovery  Self-Line Ministry Business have been proported and office 3 and recovery  Self-Line Ministry Business have been proported and office 3 and recovery  Self-Line Ministry Business have been proported and office 3 and recovery  Self-Line Ministry Business have been proported and office 3 and recovery  Self-Line Ministry Business have been proported and office 3 and recovery  Self-Line Ministry Business have been proported and office 3 and recovery  Self-Line Ministry Business have been proported and office 3 and recovery  Self-Line Ministry Business have been proported and office 3 and recovery  Self-Line Ministry Business have been proporte	MA A DA MONEY MA	2000000001 2 200000500 12 200002500 12 20002500 12 20002500 12 20002500 12 20002500 12 20002500 12 20002500 12 20002500 12 20002500 12 20002500 13 20002500 13 20002500 13 20002500 13	IN, PRODUCTS IN, PROJECTS		
Deep 2011, 10 WOOT 10 Burlins though written to 1 high basis I and making the 1 and making	BEARLISA MINISTER BEARLISA MIN	2000000000 ; 2 3000000000 ; 2 3000000000 ; 2 3000000000 ; 2 300000000 ; 3 300000000 ; 3 300000000 ; 3 300000000 ; 3 3000000000 ; 3 300000000 ; 3 3000000000 ; 3 3000000000 ; 3 3000000000 ; 3 3000000000 ; 3	IN, PRODUCTS		
User  Self-Line Ministry Business having wintow of Fago March 7 and recovery  Self-Line Ministry Business having wintow of Fago March 7 and recovery  Self-Line Ministry Business having wintow of Fago March 1 and recovery  Self-Line Ministry Business having wintow of Fago March 1 and recovery  Self-Line Ministry Business having wintow of Fago March 1 and recovery  Self-Line Ministry Business having wintow of Fago March 2 and recovery  Self-Line Ministry Business having wintow of Fago March 2 and recovery  Self-Line Ministry Business having wintow of Fago March 2 and recovery  Self-Line Ministry Business having wintow of Fago March 2 and recovery  Self-Line Ministry Business have been proportion of March 2 and recovery  Self-Line Ministry Business have been proportion of March 2 and recovery  Self-Line Ministry Business have been proportion of March 2 and recovery  Self-Line Ministry Business have been proportion of March 2 and recovery  Self-Line Ministry Business have been proported and office 3 and recovery  Self-Line Ministry Business have been proported and office 3 and recovery  Self-Line Ministry Business have been proported and office 3 and recovery  Self-Line Ministry Business have been proported and office 3 and recovery  Self-Line Ministry Business have been proported and office 3 and recovery  Self-Line Ministry Business have been proported and office 3 and recovery  Self-Line Ministry Business have been proported and office 3 and recovery  Self-Line Ministry Business have been proported and office 3 and recovery  Self-Line Ministry Business have been proported and office 3 and recovery  Self-Line Ministry Business have been proported and office 3 and recovery  Self-Line Ministry Business have been proported and office 3 and recovery  Self-Line Ministry Business have been proported and office 3 and recovery  Self-Line Ministry Business have been proported and office 3 and recovery  Self-Line Ministry Business have been proported and office 3 and recovery  Self-Line Ministry Business have been proporte	BEARLISA MINISTER BEARLISA MIN	\$1000000000000000000000000000000000000	IN, PRODUCTS N, PRODUCTS		
Control (1997) and the strong centrol or of 1 typ sheel 1 and many and 1 typ sheel 2 and many and 1 typ sheel 3	(SA AL JA MORIDIO SA AL JA MO	(1994) (1	IN, PROJECTS IN, P		
See 3, 15, 16, 16, 16, 16, 16, 16, 16, 16, 16, 16	SEA TO JAM MINISTER SEA TO	\$1000000000000000000000000000000000000	IN, PRODUCTS N, PR		

#### **KEYLOCKING THREADED INSERTS**

## High strength threaded inserts typically used in alloys, light materials, steel and cast iron.

#### Characteristics:

- gives increased strength in low strength materials
- suitable for thread repair
- high cycle life with multiple tightening and loosening of the bolt or stud
- internal locking versions available: crimp deformation
- both metric & imperial threads available
- miniature, standard (thin wall) & heavy duty versions









AISI 303 stainless steel inserts with AISI 302 keys.

#### Internal threads:

metric: M - 5H

• imperial: UNJ - 3B

#### External threads:

• metric: M - 4h

• imperial: UN - 2A





Popular for gearbox housings & uprights.

### NAS & AN BOLTS



NAS 1100 / 6200 series bolts. NAS 1300 / 6600 series bolts. AN bolts.

### **RIVETS**



Blind rivets to be used with floating anchor nuts, Camloc receptacles...

### **NAS & AN WASHERS**



AN960 / NAS1149

Thin washers: .032" (0,8mm)
Thick washers: .063" (1,6mm)

### **SCHNORR WASHERS**





'S' type & 'VS' type Schnorr washers. Both available in black & zinc plated.

## **QUARTER TURN FASTENERS**

Camloc® 2600 / 2700 series: stud + washer + receptacle. Camloc® 4002 series: stud + washer + grommet + ring + receptacle. EHF5 and EHF6 series: self ejecting studs with a spring.

EHF5 + EHF6 series

0.6 mm grip





2600 / 2700 series

0.75mm grip per stud length

4002 series

0.75mm grip per stud length



























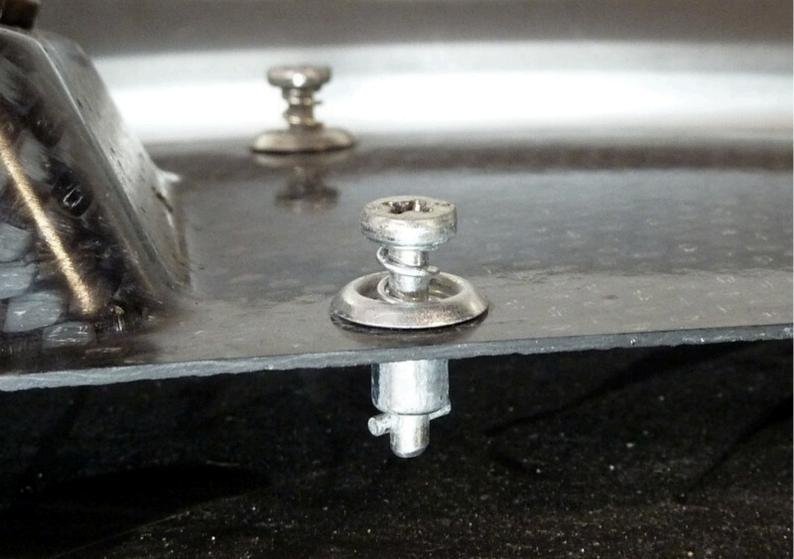














## LATCHES





Camloc® V934L, 1429L and V951L series. Slide latches are also very popular.

Many more options possible. Based on your needs, we can assist you in finding the best model.

















#### LIVE LOCK PANEL FASTENERS

High performance fastener system with spring-loaded ratchet design to ensure positive locking action and vibration resistance without relying on prevailing torque.



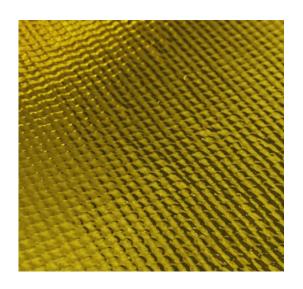
- exceptionally high cycle life
- high resistance against vibration
- fast operation: quad lead thread
- bigger grip range of 1.75mm (.069") per stud length
- receptacle offers radial float to accomodate mislaignment

CA18157 floating receptacle
C1810 floating receptacle

CA1820 flush head stud with hex recess

LM4943 low profile studs with hex recess (on request)

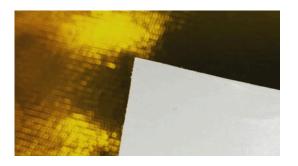
#### LIGHTWEIGHT HEAT REFLECTIVE 'GOLD FILM'



Typical applications: fire walls, air boxes, engine covers, side pods, suspension, under trays/floors, bulk heads and many more.

- can easily be cut and configured to each chassis style
- easy to repair since adheres to itself
- lightweight aerospace material
- easy to install and remove

There is up to to 21 °C (70 °F) gradient temperature drop across the 0.15 mm (6 mil) thick film during normal operating temperatures.



This film has a fire resistant pressure sensitive adhesive that incorporates a fiberglass backing for strength and tear resistance.

The fire-resistant adhesive used on the original gold film passes the FAA 12-second vertical burn test.

The colour of the fire-resistant adhesive is opaque white.

## **CONNECTORS, CONTACTS & WIRES**

#### Connectors for motorsports applicatoins & specialty vehicles

- Deutsch DTM up to 7.5A with size 20 contacts
- Deutsch DT up to 13A with size 16 contacts
- Deutsch HDP connectors
- Deutsch Autosport connection systems
- Fluid-Resistant Modified Elastomer Heat Shrink Boots
- Wire with silver plated copper strands: Spec 55, 22759/44







#### **CABLE TIES & MOUNTING BASES**





## Ty-Rap® premium cable ties with stainless steel locking barb

- black UV-resistant PA 6.6
- -40 °C to +85 °C
- different pack sizes
  - small packs: 100pcs (or 50pcs on large sizes)
  - large packcs: 1.000pcs (or 500pcs on large sizes)





Extra high temperature 'TYHT' cable ties with a temperature range of -40 °C to +150 °C available on request.

#### Mounting bases in PA 6.6 or aluminium





- black UV-resistant PA 6.6 or natural PA 6.6
- aluminium
  - very strong lightweight
  - gluing or screw mounting
  - ∘ -100 °C to +450 °C temperature range

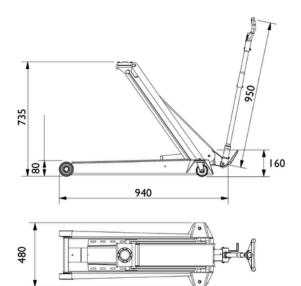
# DK13HLQ HIGH LIFT JACKS FOR RALLY SERVICING

For years, the DK 13 HLQ high lifter has been the first choice of all manufacturers and teams in the world rally championship.

- Very low minimum height of only 80 mm
- Wide and robust frame made of highstrength steel
- Fitted with quick-lift pedal for easy reach of lifting point
- Precise and safe control whilst lowering

Capacity	1.3 t
Minimum height	80 mm
Maximum height	735 mm
Frame length	940 mm
Handle Length	950 mm
Frame height	160 mm
Width	480 mm
Weight	39 kg











#### **WORKSHOP PROJECTS FROM A TO Z**

As a premium partner of BOXO Tools, KL-PROJECTS is able to provide full services for the installation of workshop furniture in existing environments or starting from scratch in new workshops, including bespoke solutions.

- definition of the customer needs.
- creation of a 2D & 3D simulation
- manufacturing of custom solutions
- delivery & installation

Full realisation of your project from A to Z by the own people of KL-PROJECTS.





