

BMW Motorrad



BMW Motorrad
Power Cup 2005



Official UEM Cup

Technical Regulations 2005

BMW Motorrad Power Cup 2005

Our partners in 2005



INDEX

1. General conditions	4
2. Engine	6
2.1. Valves, valve control, valve timing	6
2.2. Injection and ignition.....	6
2.3. Air filter / air box / air ducts.....	7
2.4. Electrical system, cable harness, electrical connections.....	7
2.5. Alternator	7
2.6. Starter motor	7
2.7. Lubrication.....	8
2.8. Fuel	8
2.9. Cooling system.....	8
2.10. Clutch	9
3. Gearbox/drive.....	9
3.1. Gear changer / gearshift kinematics.....	9
3.2. Power transmission / rear wheel drive	9
4. Exhaust system.....	10
5. Chassis / vehicle as a whole	10
5.1. Fork, steering damper and front damper	10
5.2. Damper, tension strut and relay mechanism at rear	10
5.3. Front fender.....	10
5.4. Footrests	11
5.5. Rims with bracket	11
6. Design of start numbers	11
7. Fuel tank.....	12
8. Seat / tail unit.....	12
9. Fairing and bodywork.....	12
10. Engine trim	12
11. Handlebars	12

12. Brakes	13
13. Tyres	13
14. Main and rear frame	13
15. Additional fittings	14
16. Add-on parts	14
17. Dangerous motorcycles.....	14
18. Changes / component description.....	15

Appendix

Distribution of advertising space
Gilles footrest specifications

Technical Regulations - BMW Motorrad Power Cup 2005

1. General conditions

Motorcycles admitted for entry in the BMW Motorrad Power Cup 2005 must be of the type BMW K 1200 R (key number: 0005 845).

The motorcycle used must possess an original BMW vehicle identification number from the series group ZN...00073 to ZN...00123. This may not be subsequently altered. Any extension of this series group is subject to authorisation by the BMW Motorrad Power Cup Organisation. If it becomes necessary during a race event to reconstruct a vehicle as a result of extensive accident damage and/or severe engine or gearbox damage or if it has to be replaced by a new vehicle, this may only be undertaken with the approval of the BMW Motorrad Power Cup Organisation or the appointed technical inspector. In such a case, the assigned chassis number must be adhered to. A further technical inspection of the vehicle is required.

All permitted or required alterations to the vehicle are described in these technical regulations.

The fundamental principle is as follows:

In accordance with manufacturer tolerances, motorcycles must strictly correspond to the serial condition or delivery condition in all parts and regulations for the BMW Motorrad Power Cup 2005 as of April 18th 2005. Any modifications are prohibited unless they are explicitly permitted or described in the following.

Components may be exchanged between the main motorcycle and the spare motorcycle, however the inspector must be informed of such exchanges and they must be documented.

With the exception of the accessories detailed below, only BMW original parts may be used as listed in the technical manual and changes (initial delivery condition of the Power Cup motorcycle). All parts, with the exception of those contained in the racing kit and certain specially defined parts ranges for the BMW Motorrad Power Cup or additionally specified parts from the BMW Motorrad parts range must be of the type K 1200 R and their initial condition must be within the tolerances according to manufacturer stipulations.

With the exception of the permitted changes, the motorcycle must conform to the norms for road racing motorcycles prescribed by the FIM / UEM.

The racing kit includes:

Manufacturer	Type of article
BMW Motorrad:	<ul style="list-style-type: none">■ BMW K 1200 R.■ Stand system (front, rear and side)■ Crash pads■ Spare wheels (5)■ Race chassis kit■ Race cable se■ Race clutch■ Race cardan shaft■ Race cooling system■ Race engine management system

CFP Driesch carbon fibre parts (mandatory parts):	<ul style="list-style-type: none"> ▪ Lamp mask incl. windshield ▪ Hand protection ▪ Front fender ▪ Intake system blend panel, left and right ▪ Rear trim parts, incl. pillion passenger seat cover ▪ Engine spoiler ▪ Exhaust holder with insulation plate ▪ Radiator trim panels ▪ Clutch cover (2 units)
CFP Driesch carbon fibre parts (optional):	<ul style="list-style-type: none"> ▪ Wheel carrier trim panels ▪ Airbox cover ▪ Fuel tank cover ▪ Exhaust system protection ▪ Frame protectors
Metzeler (mandatory tyres):	<ul style="list-style-type: none"> ▪ Racetec sports tyres of the mixtures K1 (soft) and K2 (hard) <ul style="list-style-type: none"> - front: 120/70 ZR 17 - rear: 190/55 ZR 17 ▪ Rennsport Wet (Intermediate) <ul style="list-style-type: none"> - front: 120/70 R 17 - rear: 180/55 R 17 ▪ Racetec Rain (Strips) <ul style="list-style-type: none"> - front: 120/70 R 17 - rear: 180/55 R 17
Jama Engineering (mandatory parts): (cf. order form in appendix)	<ul style="list-style-type: none"> ▪ Laser exhaust system <ul style="list-style-type: none"> - silencer (part number: 50.5121.1) - manifold (part number: 31.7003.71) - silencer clamp (part number: 11.1106)
WP suspension sports chassis: (mandatory parts):	<ul style="list-style-type: none"> ▪ Spring strut, front and rear for the BMW K 1200 R Power Cup racing version
Gilles Tooling (mandatory parts):	<ul style="list-style-type: none"> ▪ Adjustable footrest (cf. parts list in appendix)
Gilles Tooling (Optional):	<ul style="list-style-type: none"> ▪ Optional: second pedal brake
Tellert Electronics (mandatory parts):	<ul style="list-style-type: none"> ▪ Gearshift system part number: CTS 5/BMW (status: 5.3.6)
2D Data Recording (mandatory parts):	<ul style="list-style-type: none"> ▪ Lap timer incl. shift indicator, type K 1200 R
Castrol (mandatory):	<ul style="list-style-type: none"> ▪ Lubrication and maintenance products

2. Engine

The engine identification number must be visible and legible.

The engine casing and all elements of the original BMW Power Cup motorcycle engine must be used.

All elements of the engine (incl. the casing), seals, add-on parts and their arrangement must be in their original condition and within the manufacturer's tolerance range (see manufacturer's specifications).

In particular, any change effected by removing or adding any material, such as the addition or removal of seals, balancing components, etc. is expressly prohibited, unless especially provided for in the present regulations or provided for within the manufacturer's specifications relevant to serial production vehicles.

The measurements and weights of all components must correspond strictly to the serial production status or delivery condition of April 18th 2005 of the Power Cup motorcycle (deviations only within manufacturer tolerances).

The engine ventilation system must remain in its original condition. In addition, all collector reservoirs must be mounted as in initial delivery condition of April 18th 2005.

All screws for oil outlet screws, oil inlet screws, connection pipes for the oil cooler circulation system, screw covers for oil-bearing pipes and tubes must be secured with wire to prevent accidental opening.

The use of engine oil additives is not permitted.

Side engine caps are to be protected from damage by means of crash pads and covers (as for delivery condition of 18.04.2005 incl. any additions).

The cylinder head must remain lead sealed on the left to the lower engine casing (screw connection).

2.1. Valves, valve control, valve timing

The diagram must correspond to the original diagram. The valves, camshafts and the entire valve control system with all parts must be in original condition and may not be altered, lightened or polished.

The measurements and weights of the parts must correspond to the original parts (cf. manufacturer's specifications).

Valve clearance may be freely determined, but see manufacturer's recommendation.

2.2. Injection and ignition

The injection and ignition system must correspond to the serial production condition. The programming of the BMW Power Cup engine control unit may not be altered. As part of the technical inspection, engine control units can be exchanged by the inspector responsible.

2.3. Air filter / air box / air ducts

All elements of the air intake system (ducts, air filter, air box, sealing parts and casing) must be in the original state of the described model and remain within manufacturer tolerances. The air intake connector of the air filter box at the right may be removed. The intake snorkel must remain in place.

2.4. Electrical system, cable harness, electrical connections

The cable harness of the relevant vehicle type must be retained in unaltered condition from the initial delivery state of the Power Cup motorcycle of April 18th 2005. No additional switches, components or cables may be connected or added. Shortening by cutting off is not permitted.

The following changes have been made in terms of the electrical features:

- Deactivation of the electrical safety system for the side stand by bridging.
- Main race cable harness (without headlamps, rear light and indicators).
- Additional cable harness for shift system (ignition cable and gear potentiometer cable).
- Additional cable harness for camber gauge and ring aerial incl. camber gauge and additional ring aerial.
- Control module information panel incl. 2D lap timer.
- Control unit for gearshift system by Tellert.

The switches for brake lights and side support switch may be removed.

Electrical connections and components must correspond to delivery condition as of April 18th 2005 and must remain connected to each other.

In the event of damage due to a crash during the event, cables can be repaired by an appropriate method under the supervision of a technical inspector or the BMW Power Cup Organisation.

A replacement with an original part must be undertaken by the next event.

2.5. Alternator

The alternator and its wiring must confirm to the original condition and remain within manufacturer tolerances of the model described. The starter motor must be capable of starting the engine at all times.

2.6. Starter motor

The starter motor, its wiring and regulation must be in the original condition of the model described and remain within manufacturer tolerances. The alternator must supply the appropriate electrical current to the battery at all times during engine operation as per manufacturer specifications. Additional electrical units are not permitted.

2.7. Lubrication

The entire engine lubrication system including the oil pump, the oil and oil cooling circulation system must remain in the original condition of the model described and must not be altered. The use of Castrol lubrication products is mandatory.

2.8. Fuel

Only unleaded fuel as defined by FIM guideline specifications may be used. The use of products (additives or oils) to increase the octane rating is not permitted. During the season, unannounced fuel checks and analyses can be made at any time during an event.

If it is discovered that a fuel or oil is being used which does not conform to the regulations, the rider or team co-ordinator must bear the costs of the check (cf. FIM guidelines as per handbook).

2.9. Cooling system

2.9.1. Oil coolant

The original oil coolant must be used in unmodified form. A permanent metal protection grid is to be permanently mounted at the air inlet side of the oil cooler to protect against foreign bodies from entering.

2.9.2. Water cooling system/coolant

The original main radiator with ventilator, trim panels, connection channels and water pump must correspond strictly to delivery condition as of April 18th 2005. No alterations or additional components whatsoever are permitted to improve the supply of cooling air or coolant. Only pure water or a mixture of water and ethyl-alcohol are permitted as liquid engine coolants apart from engine oil.

The following changes to the cooling system have been made and are obligatory:

- removal of the thermostat and closure of short circuit connection
- removal of stone chip protection and grid in front of radiator
- use of a cap “opening pressure 2.0 bar”.

No additional temperature insulation or protection mats, panels or tape is allowed on the vehicle.

The cap of the expansion tank is to be secured against unforeseen opening. A wide protective grid in the lower section (up to 50 % of the radiator) is allowed. Good air through-flow must be ensured.

2.10. Clutch

Original parts of the respective model are permitted (the deburring, smoothing, polishing, roughening, adjustment, addition or removal of material is prohibited). The transmission unit, input and output cylinders and from the hand lever to the clutch, must remain in its original condition.

3. Gearbox/drive

The gearbox of the respective model must be used in its original condition. No alterations are permitted. The addition, adjustment, polishing and removal of material is not prohibited.

All screws for oil outlet screws, oil inlet screws and connection pipes for the oil cooler circulation system must be secured with wire to prevent accidental opening.

The gearbox elements used must be employed as original components of the respective model. No processing is permitted. The number of gears and the gear ratio must be maintained in their original condition. The number and the dimensions of the gear bearings must be maintained in their original condition. All seal elements must be maintained in their original condition. Castrol lubricants authorized by the manufacturer must be used without additives.

3.1. Gear changer / gearshift kinematics

In addition to the use of the entire gearshift mechanism, outside and inside, in standard condition, the following is also permitted to adapt the gear shift system to racing conditions:

Alteration of the gear lever to the opposite direction with respect to the standard gear shift by means of Gilles footrest and Tellert gearshift system.

The additional add-on parts must be bolted to existing mounting points, connector points etc. of the surrounding original parts. Welding to serial production parts is not permitted.

3.2. Power transmission / rear-wheel drive

All elements of the power transmission (cardan shaft) from the exit point of the gearbox to the rear axle gears must be in their original condition. Deburring, processing, polishing, adjustment, addition or removal of material is prohibited.

All screws for oil outlet screws, oil inlet screws, connection pipes for the oil cooler circulation system must be secured with wire (no clips) to prevent accidental opening.

The casing and bearing elements, cogs and resulting final drive ratio, seals, screw connections, etc. of the secondary drive (rear axle) must be in their original condition. The gear ratio (number of teeth) is set at 11/32. Authorisation of any other gear ratio (number of teeth) is the responsibility of the BMW Power Cup Organisation.

The measurements and weight of the parts must be that of the original parts (see manufacturer's specifications).

Gear clearance may be freely determined, but see manufacturer recommendations.

The "Race" cardan shaft is authorised as installed in delivery condition of April 18th 2005.

The use of authorised Castrol lubricants is prescribed, without additives.

4. Exhaust system

The use of the Laser Power Cup Race exhaust system is prescribed.

- Silencer (part number: 50.5121.1)
- Manifold (part number: 31.7003.71)
- Silencer clamp (part number: 11.1106)

The noise limit is 125 dB/A with a tolerance of 2 dB/A after the race.

Noise levels are determined according to FIM regulations. However, measurements are taken using a close-up method at ½ rated engine speed (measuring speed: 5100 rpm).

5. Chassis / vehicle as a whole

5.1. Fork, steering damper, front damper

The Race chassis as per delivery condition of April 18th 2005 is mandatory. The Race chassis is distinguished from the serial chassis of the K 1200 R in the following points:

- WP suspension strut, front (spring rate: 130/148)
- Wheel carrier
- Longitudinal control arm, below

Any components not listed here must correspond to serial production status in terms of measurements and installation position.

5.2. Damper, tension strut, relay mechanism at rear

The Race chassis as per delivery condition of April 18th 2005 is mandatory. The Race chassis is distinguished from the serial chassis of the K 1200 R in the following points:

- WP suspension strut, rear (spring rate: optionally either 95/205 or 105/205)
- Triangular plates of progressive relay mechanism

Any components not listed here must correspond to serial production status in terms of measurements and installation position.

5.3. Front fender

Exchange of standard fender for CFP Driesch carbon fender.

Mounting as per delivery condition of April 18th 2005.

5.4. Footrests

The use of the system mounted as per delivery condition of April 18th 2005 is mandatory. The height and installation position of the footrests and the gear and brake lever can be freely chosen from among the original mounting points.

Polished edges of the footrests must be rounded off. Surface treatment by roughening is permitted.

5.5. Rims with bracket

Original parts at front and rear only – Sport version.

front: 3.5 x 17

rear: 6.0 x 17

Polishing the outer edge of the rim surface as far as the spokes is permitted, removal of material beyond this points prohibited.

Bracket and covers may not be changed.

6. Design of start numbers

The digits of the start numbers must display sufficient contrast to the background on which they are mounted. The prescribed positions are (see FIM handbook):

- on the cover of the rear seat (tail unit), left and right
- in the middle of the front trim

The choice of typeface and background is unrestricted but in their form and design the numbers must be clearly legible from an appropriate distance

Guide to dimensions for the digits:

Minimum dimensions	front	rear
Minimum height	14.0 cm	11.0 cm
Minimum thickness	2.5 cm	2.0 cm
Minimum width	8.0 cm	6.0 cm
Minimum gap	1.5 cm	1.0 cm

7. Fuel tank

Only as original component of the relevant type with all inner components such as fuel pump, filter and piping. No alteration is permitted to the filler neck.

The use of retention foam for the entire volume of the tank is obligatory.

The fuel tank ventilation outlets must end in one or more firmly attached collection containers with a capacity of at least 125cm³. The containers must be mounted beneath the seat or trim so that they are not visible from outside.

8. Seat / tail unit

The seat and tail unit must be the original or initial delivery condition of April 18th 2005. Slight alteration by raising or changing of the upholstery is permitted provided the original silhouette of the seat is largely maintained.

A second tail unit shape is offered as an optional alternative.

The colour and design of the seat cover is unrestricted.

9. Fairing and bodywork

All body parts remaining on the vehicle must correspond to the serial production status in material and design, unless they are parts which have been released from restriction by the BMW Power Cup Organisation (see Article 1).

10. Engine trim

Mounting of the engine trim supplied as a kit is mandatory. It must comprise two bores, each of 20 mm diameter. In dry weather, these holes must be closed by means of a plug or similar. In wet weather they are to be left open.

The bottom edge of all other openings must be at least 50 mm above the trim base. Regardless of this, the engine trim must take at least 5 litres of liquid in a horizontal position when the above-mentioned holes are closed.

11. Handlebars

Only original handlebars and attachment. The hand levers must be original parts of the relevant model. The use of original hand panels is compulsory. All operating parts such as kill switch etc. must be retained in their original condition and be fully functional. In addition to the original grip rubbers, all those of the relevant type from the original BMW Motorrad parts program are permitted.

12. Brakes

In all cases, a motorcycle must be used without ABS.

The brake units at front and rear must remain in the original condition of the K Series model described. Use of brake Castrol brake fluids is prescribed. The type of brake fluid is unrestricted (recommended: DOT 4 Castrol). The brake pads must be original parts of the respective caliper type.

The screws of the brake calipers must be fixed at front and rear with the aid of rigid metal safety wire (no clips) to prevent accidental opening.

Exchange of the original brake hoses with accessory brake tubes ("steel flex") is permitted. Two separate tubes must be fitted between the main cylinder and the 2 brake calipers. These may not be installed underneath the fork bridge.

13. Tyres

Tyres of the brand METZELER are mandatory and must be of the following dimensions:

- front (dry tyre): 120 / 70 ZR17
- rear (dry tyre): 190 / 55 ZR17
- front (rain tyre): 120 / 70 R17
- rear (rain tyre): 180 / 55 R17

The following mixture and types are to be used:

- dry tyre, soft (Racetec K1)
- dry tyre, hard (Racetec K2)
- intermediate (Rennsport wet)
- rain tyre (strips: Racetec Rain)

The use of electrically operated heated blankets is permitted. Batteries containing acid to operate electric blankets are not permitted outside the BMW paddock (pre-start, pit lane, start line-up etc.) Dry storage batteries (boosters) and generators up to 1.0 kW are approved for use outside the BMW paddock.

14. Main and rear frame

The main and rear frame must remain in original condition. In the event of damage occurring to the frame, appropriate repair is permitted but must be inspected and authorised by the technical inspector as part of a repeated technical inspection.

The frame number must be available and mounted.

15. Additional equipment

Data transfer between the rider or motorcycle and the team/box, radio communication, chassis and engine data recording or storage and access during or after training sessions or races is not permitted.

For test runs by BMW VIP riders/motorcycles which are not part of the scoring system, BMW reserves the right to implement data recording for testing purposes and discussion. Other general changes can also be implemented for testing purposes during a test phase.

16. Add-on parts

The following must be removed:

- Main and side stand
- Direction indicators
- Horn
- Rear mirror
- Pillion passenger footrests, incl. stabiliser
- Registration number holder and rear light unit
- Headlamp
- Tools with attachment
- Speedometer

17. Dangerous motorcycles

If in the course of an event, defects to a motorcycle occur or are present which could harm to the rider, or other participants or individuals, this motorcycle is to be excluded from further participation in training or races.

18. Changes / component description

All parts not listed here must correspond to delivery condition as of April 18th 2005.

Any modifications which are not mentioned in the present regulations (appendix) are deemed to be not admissible.

The responsible BMW Motorrad Power Cup organisers or assigned technical inspector reserve the right to exclude participants and vehicles from the competition in accordance with FIM/UEM rules if any regulations are breached.

It should be noted that neither the motorcycles used in the BMW Motorrad Power Cup nor the elements contained in the racing kit are covered by the standard contractual manufacturer guarantee for serial production vehicles.

In the case of any irregularities with respect to the interpretation of the present technical regulations, it is expressly recommended that participants contact the persons listed below. The German version of the regulations is the binding version.



Johannes Diemer
Project Manager
Weirather-Wenzel & Partner S.L.
Tel: +34-659-865 308
jdiemer@wwp-group.com



Berthold Hauser
General Manager Motorsport
BMW Motorrad
Tel: +49-170-8501972
berthold.hauser@bmw.de



Andreas Ederer
Motorsport
BMW Motorrad
Tel: +49-172-8188771
andreas.ederer@bmw.de

Munich, May 2nd 2005

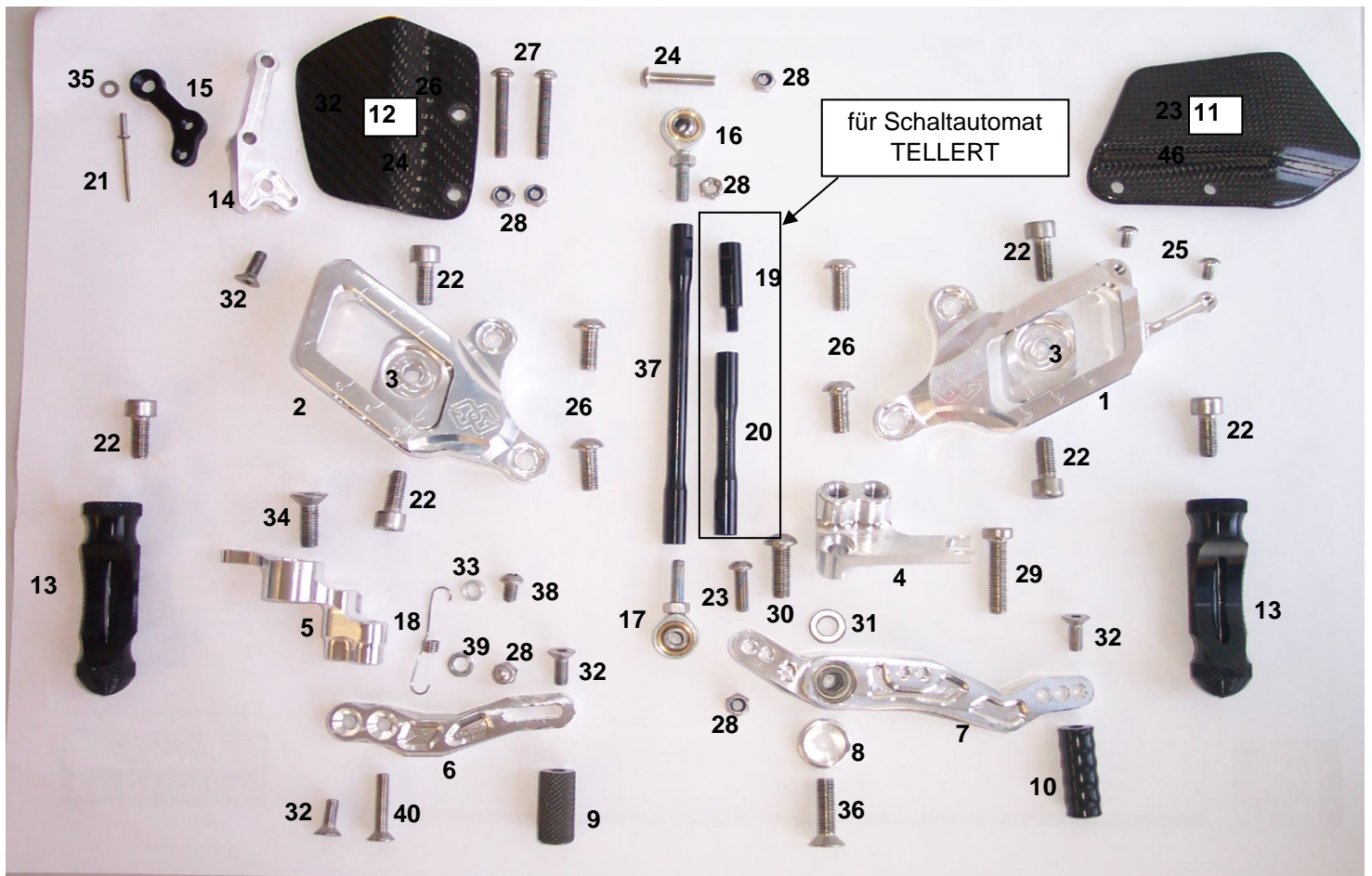
Subject to errors, omissions and alterations.

Appendix

Distribution of advertising space



© SCHMID-Design



Pos.	Description	Part-No.	Qty.
1	Grundplatte links	B01GL-*	1
2	Grundplatte rechts	B01GR-*	1
3	Verstellstein	VST01-*	1
4	Schalthebel Halter	USH-B01-*	1
5	Lagerbock rechts	UL03R-*	1
6	Bremshebel	UB04-*	1
7	Schalthebel	US07-*	1
8	Blende Schalthebel	BL01-*	1
9	Tretstück Bremsseite	UTR01	1
10	Tretstück Schaltseite	UTR02	1
11	Fersenschützer links	CAR 01L	1
12	Fersenschützer rechts	CAR01R 6-40	1
13	Fußraste	UF01	2
14	Halter Bremszylinder	UHB24-*	1
15	Halter	HA05-B	1
16	Gelenkkopf rechts	GAKFR6	1
17	Gelenkkopf links	GAKFL6	1
18	Feder	FE48	1
19	Adapter Schaltwelle	USWAD01-*	1
20	Schaltwelle	USW08-*	1

Pos.	Description	Part-No.	Qty.
21	Niete	BN-3,0	1
22	Schraube	M8x20-912	4
23	Schraube	M6x20-7380	4
24	Schraube	M6x30-7380	1
25	Schraube	M5x8-7380	2
26	Schraube	M8x20-7380	4
27	Schraube	M6x40-7380	2
28	Sicherungsmutter	M6-985	5
29	Schraube	M8x35-7380	1
30	Schraube	M8x25-7380	1
31	Scheibe	ULS-8,4-125	1
32	Schraube	M6x16-7991	4
33	Distanzscheibe	Ds10-6,2-3	1
34	Schraube	M8x25-7991	1
35	Scheibe	ULS-4,5-125	1
36	Schraube	M8x35-7991	1
37	Schaltwelle	USW03-*	1
38	Schraube	M6x12-7380	1
39	Scheibe	ULS-6,4-125	1
40	Schraube	M6x30-7991	1

-* = colour; G = gold ; T = titanium ; B = black