



MOTO GUZZI



GHEZZI-BRIAN

SPECIAL PROJECT 2017 - 2020

MGST-01

SIMON THACKERAY

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Go to contents page.



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CONTENTS



MGST-01

25 years ago, Moto Guzzi S.p.A produced its last sports bike, the 1100 Sport Injection. The Ghezzi Brian concept provides the bodywork to transform this 1990's classic into a modern Italian café racer.

The project combines the best cycle components from around the world with extensive use of Titanium, CNC engineering, to produce a lightweight superbike powered by the iconic V-Twin engine.

What you can't buy, has to be made.

Simon Thackeray



01

FRAME, FORKS & WHEELS

The engineering shop door first opened with the forks. I asked my mate Chris with an engineering workshop, access to CNC lathes and mills etc if he could modify the Guzzi yokes to accommodate some Ohlins. He said no! Why have cast aluminium set when you can have CNC ones produced from aluminium billet? So the standard of the bike was set.

GHEZZI-BRIAN

OHLINS
PRESSURIZED

A390155118 KBA
M811/001225470K2

OHLINS
PRESSURIZED



USING THE ENGINE AS THE STRESSED MEMBER, THE CHROME-MOLYBDENUM
SINGLE STEEL FRAME WEIGHS JUST 7KG.



FORKS FROM SWEDEN. BRAKES FROM ISLE OF MAN, CALLIPER HANGERS FROM CALIFORNIA, CNC WHEELNUT AND TITANIUM SPINDLE FROM YORKSHIRE.



FORKS - ORIGINAL WHITE POWER USD FORKS WERE LONG. 800MM LONG. FORTUNATELY, OHLINS LISTED 800MM FG324'S FOR CUSTOM BIKE BUILDERS.



ALUMINIUM FUELS TANK, OIL COOLER, SWINGING ARM FROM GHEZZI BRIAN.



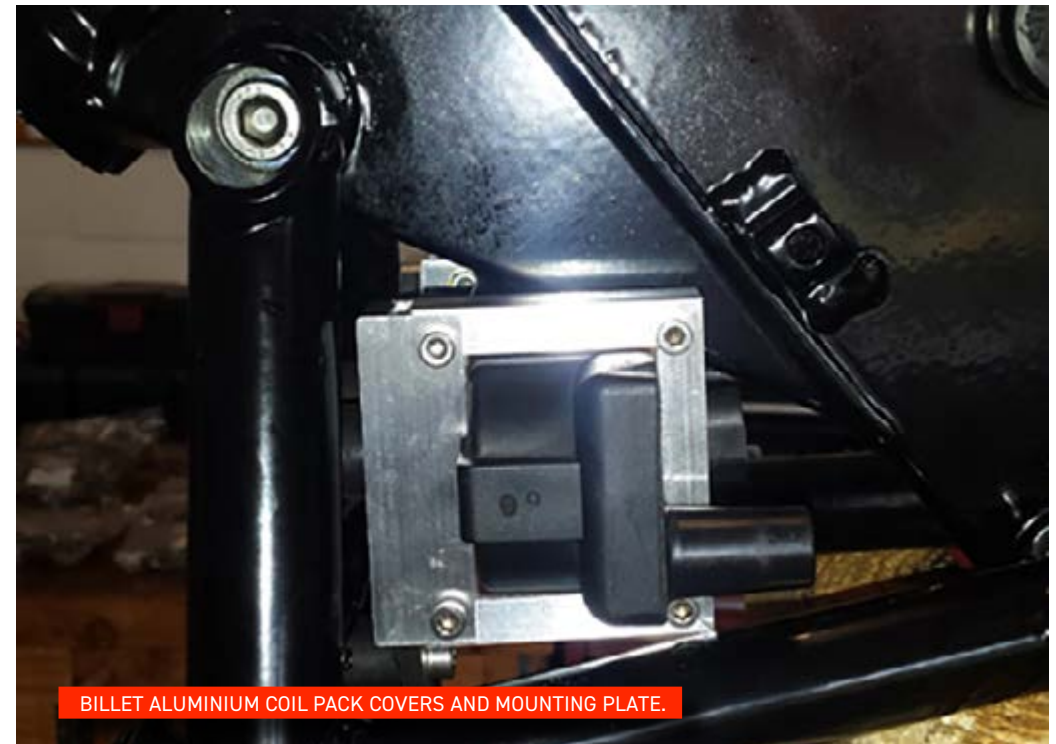
CHANGE TO TITANIUM SWINGING ARM PIVOT POINTS REPLACE ORIGINAL STEEL ITEMS, LOCKED IN PLACE WITH ALUMINIUM LOCK NUT.



CUSTOM LOWER SUBFRAME BY GHEZZI BRIAN TO ACCOMMODATE GPONE SWINGING ARM.



50MM BILLET ALUMINIUM BOTTOM YOKE WITH BORED OUT 250MM TITANIUM STEM.



BILLET ALUMINIUM COIL PACK COVERS AND MOUNTING PLATE.



MARCHESINI LIGHTWEIGHT WHEELS FINISHED SATIN BLACK WITH POLISHED RIMS.

02

YOKES

Beauty can only come from billet aluminium and CNC engineering.

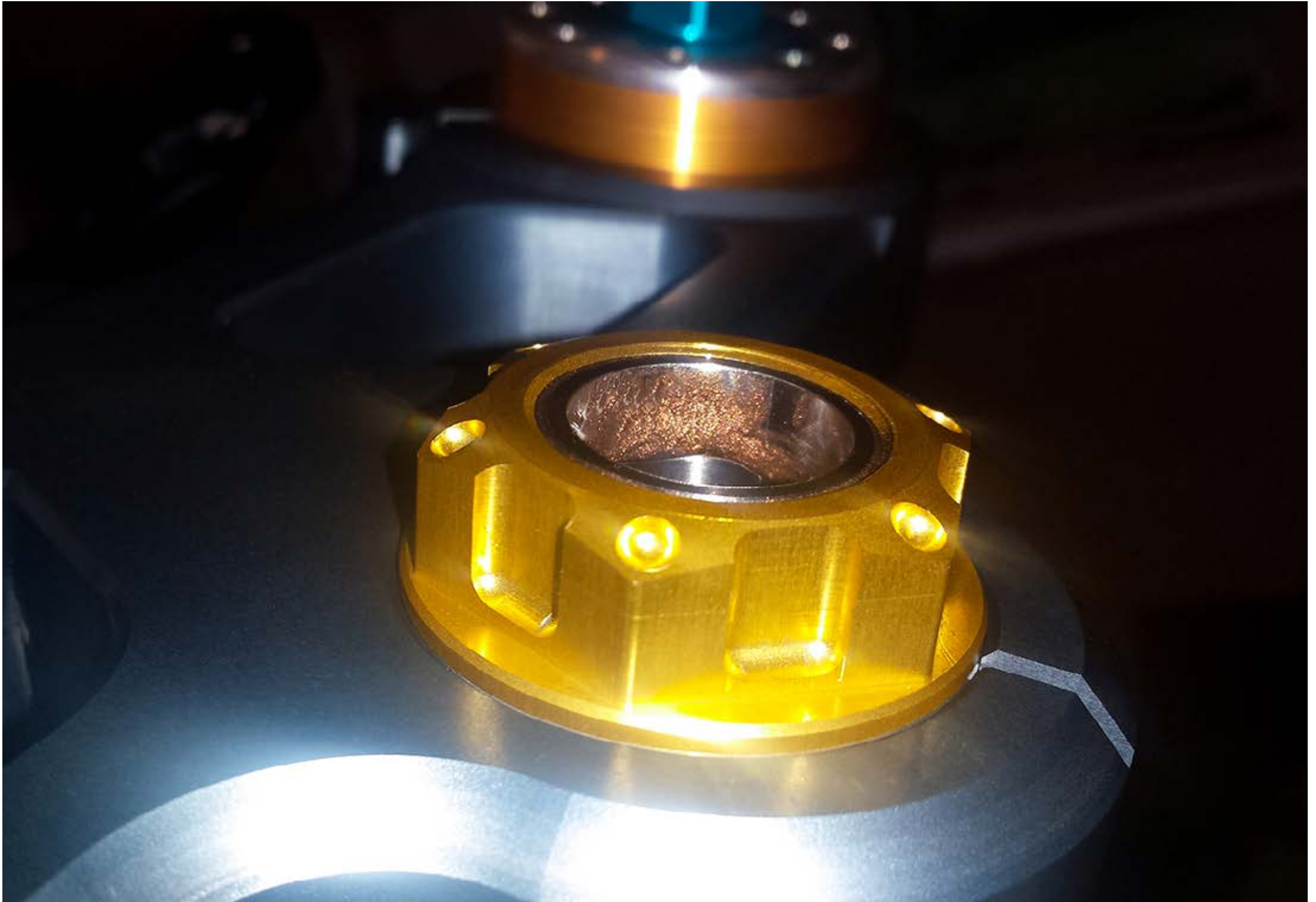




SEVERAL HOURS AND SEVERAL KILOS OF ALUMINIUM REMOVED TO PRODUCE THE YOKES.
THE GUZZI'S STEERING GEOMETRY DICTATED THE SPECIAL 25MM FORK OFFSET TO BE
COMBINED WITH THE 210MM CENTRES OF THE FORKS.



CNC TRIPLE CLAMPS - BEEFIER, STRONGER THAN ORIGINALS BUT STILL WEIGHT SAVING.





RENTAL RACE CLIP ON'S.



03

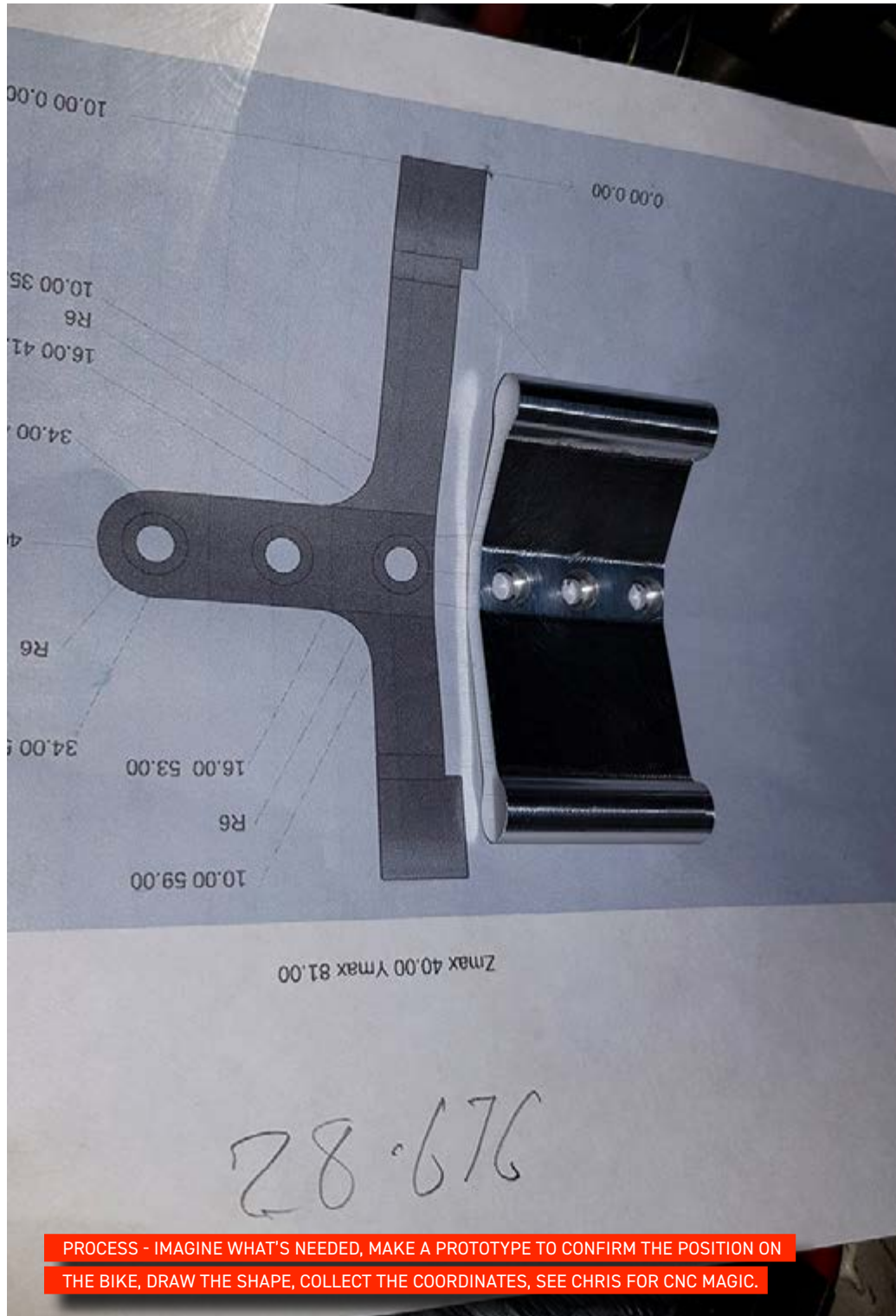
FENDER BRACKET

How to mount Ducati 848 fender to FG324 forks...





OHLINS REPLY WHEN I ASKED ABOUT THE FENDER MOUNTING BRACKETS, THESE ARE CUSTOM FORKS FOR CUSTOM BIKE BUILDERS SO MAKE YOUR OWN. FORTUNATELY CHRIS SAVED THE DAY WITH HIS STATEMENT, IF YOU CAN DRAW IT, HE CAN MAKE IT.



04

CATCH BOTTLE

For the gearbox overflow - has to be billet Acrylic.





ORIGINAL 1100 SPORT GEARBOX WOULD OVERFLOW / BREATHE INTO THE AIRBOX. WITH NO AIRBOX,
NO CHANCE. SO ADD CATCH BOTTLE AND NON RETURN VALVE MOUNTED BEHIND FAIRING.



05

TANK

One piece tank cover combined seat unit.

GHEZZI-BRIAN

A close-up photograph of a motorcycle's fuel tank and seat area. The tank is black with the name 'GHEZZI-BRIAN' printed in white, bold, sans-serif capital letters. Below the tank, a bright red seat unit is visible, curving downwards. The lighting is dramatic, highlighting the contours and textures of the plastic and the vibrant red of the seat.



ALUMINIUM FUEL TANK INCLUDING ELECTRIC FUEL PUMP.









06

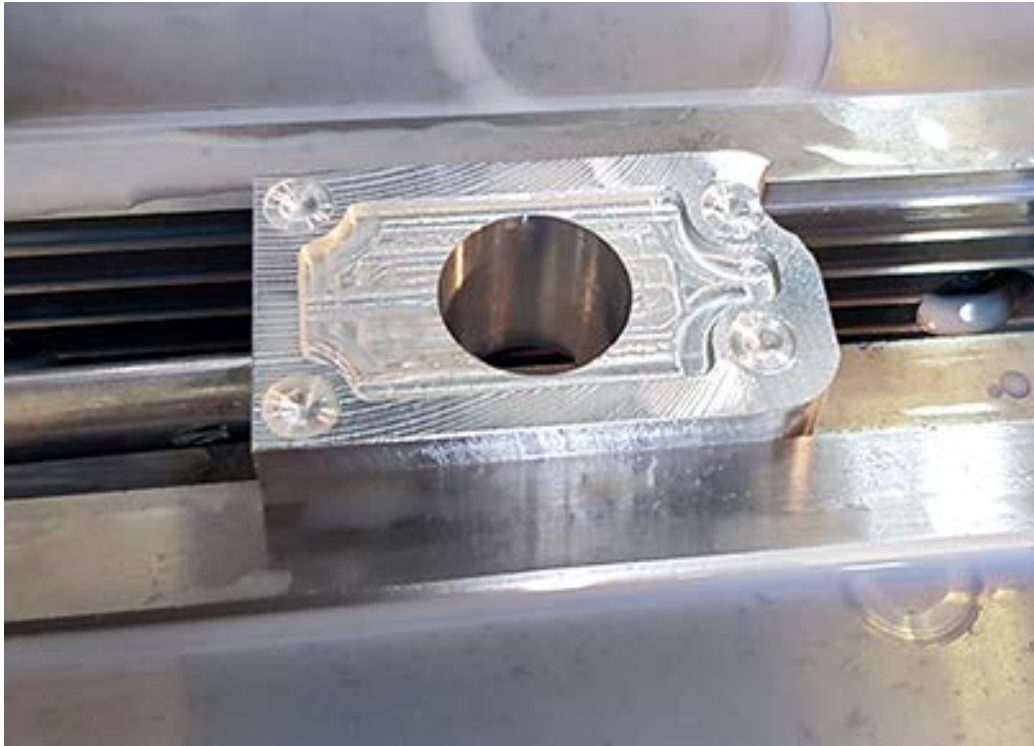
SWINGING ARM

A disaster that became an opportunity to shine.

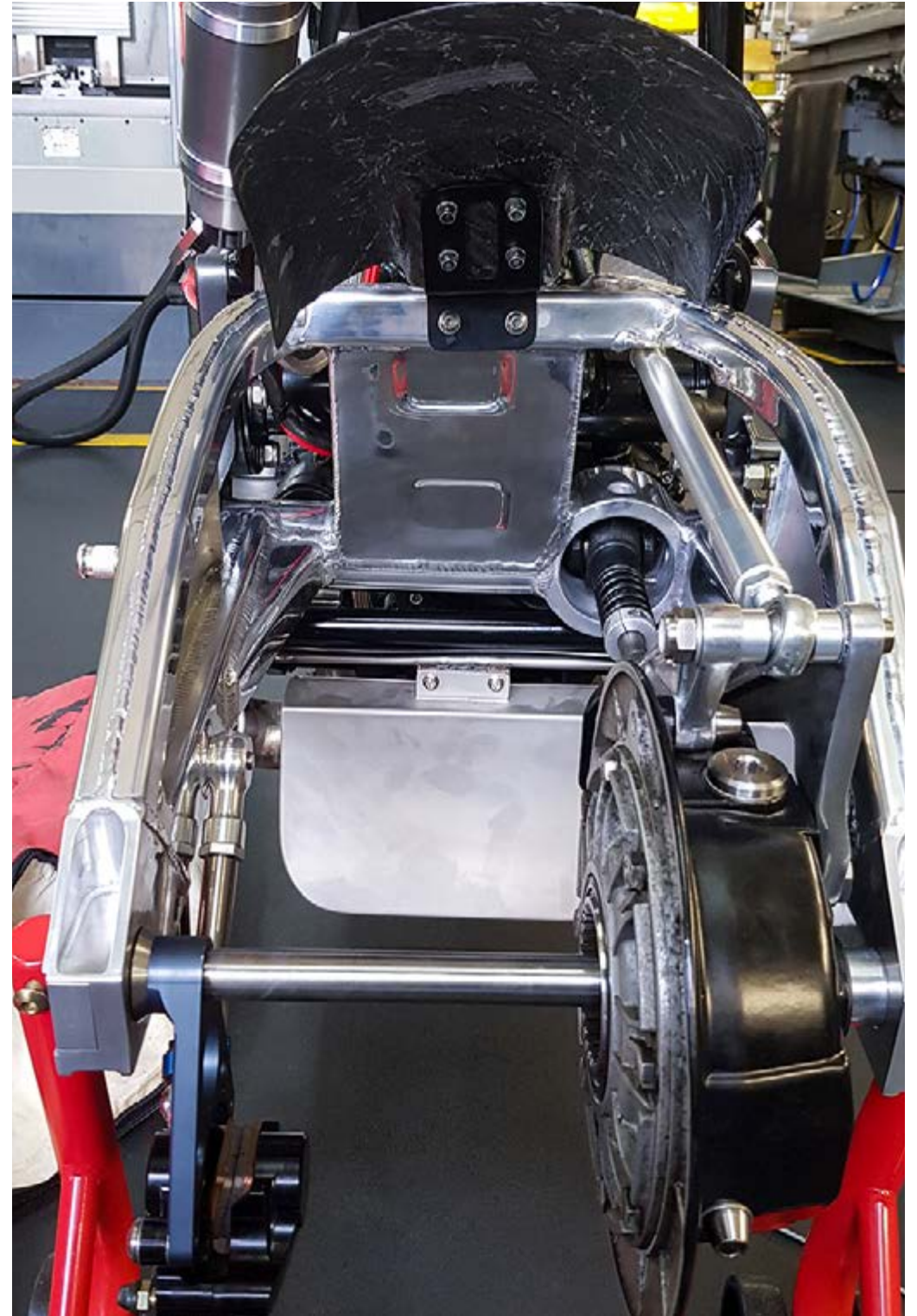


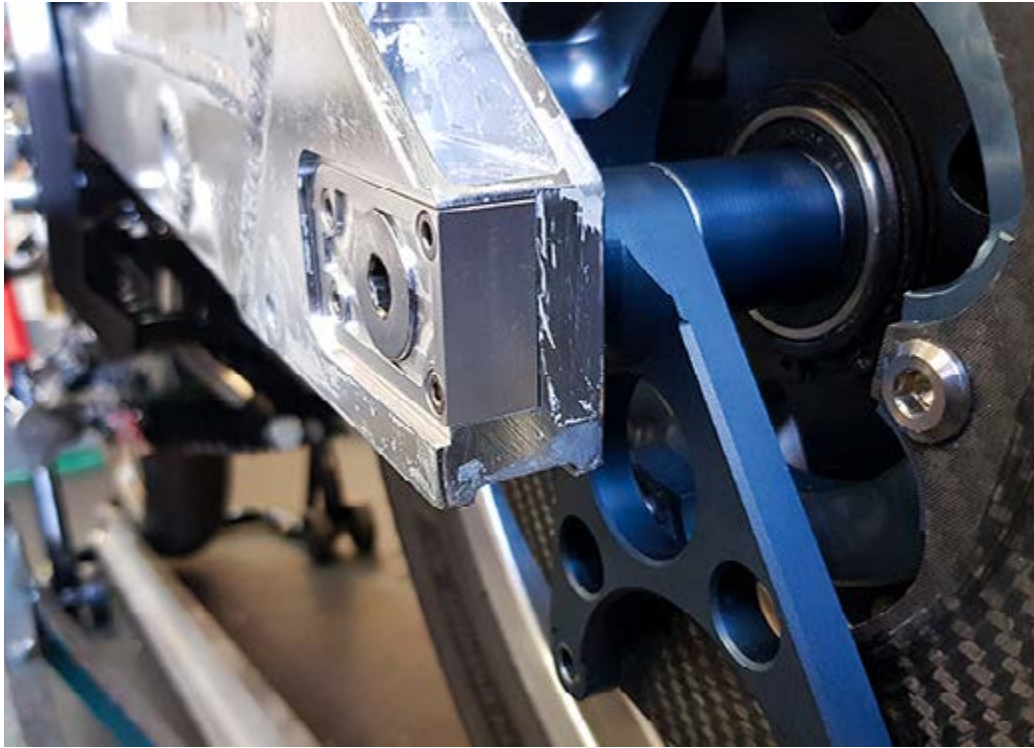


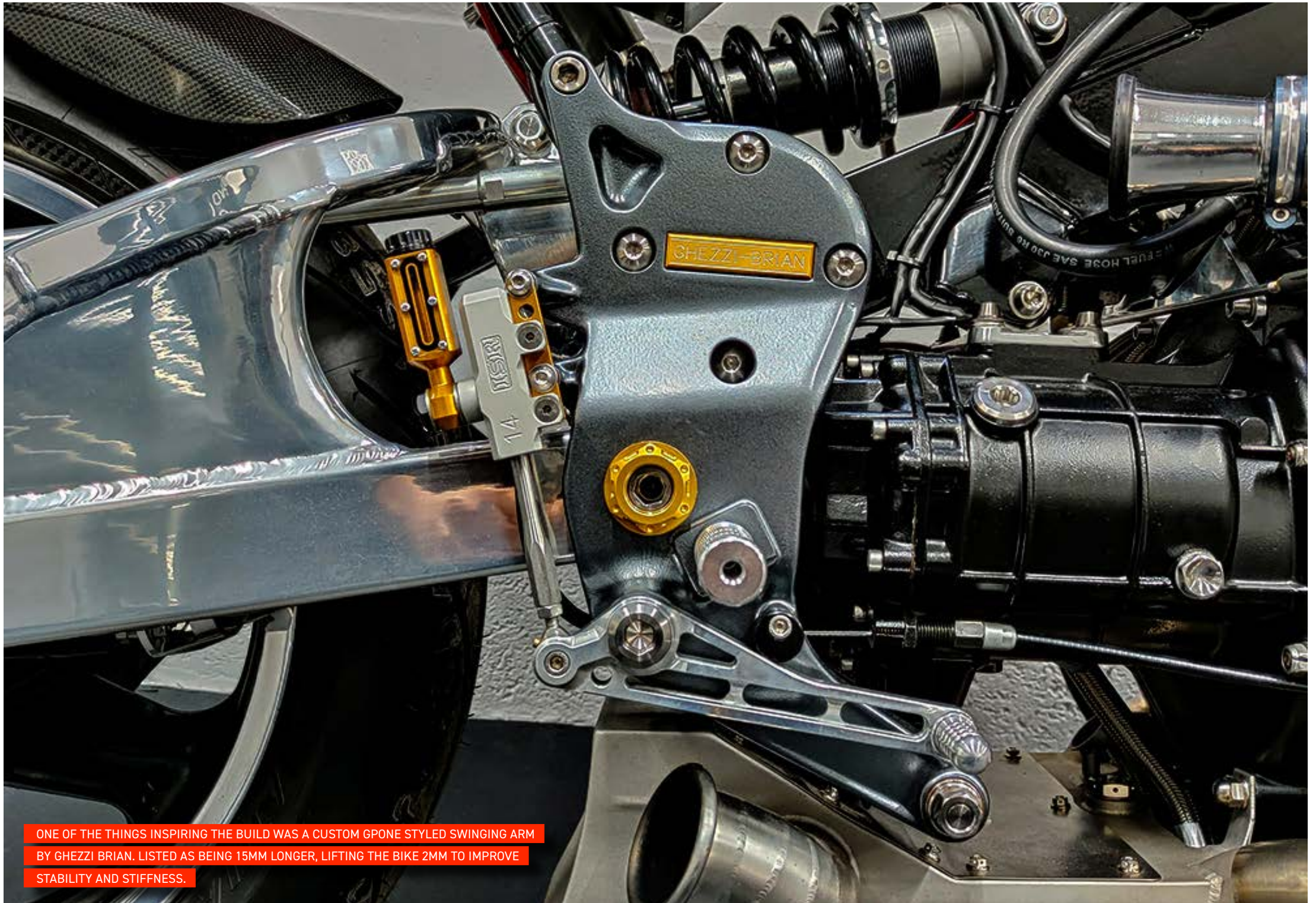
UNFORTUNATELY, A MANUFACTURING ERROR WAS HIGHLIGHTED WHEN THE SWINGING ARM WAS FITTED MAKING THE FRONT WHEEL 60MM OUT OF LINE WITH THE REAR. CHECKING DIMENSIONS, THE SWINGING ARM PIVOT POINT TO WHEEL SPINDLE WAS 409MM LEFT SIDE AND 413MM RIGHT SIDE. FORTUNATELY, CHRIS IS EXPERIENCED IN MOVING HOLES.



EXTENSIVE MACHINING RESULTED IN THE PAINTED SILVER FINISH WAS NO MORE - SO THE ENTIRE UNIT WAS MIRROR POLISHED TO BECOME A THING OF REAL BEAUTY GIVING PERFECT ALIGNMENT.







ONE OF THE THINGS INSPIRING THE BUILD WAS A CUSTOM GPONE STYLED SWINGING ARM BY GHEZZI BRIAN. LISTED AS BEING 15MM LONGER, LIFTING THE BIKE 2MM TO IMPROVE STABILITY AND STIFFNESS.

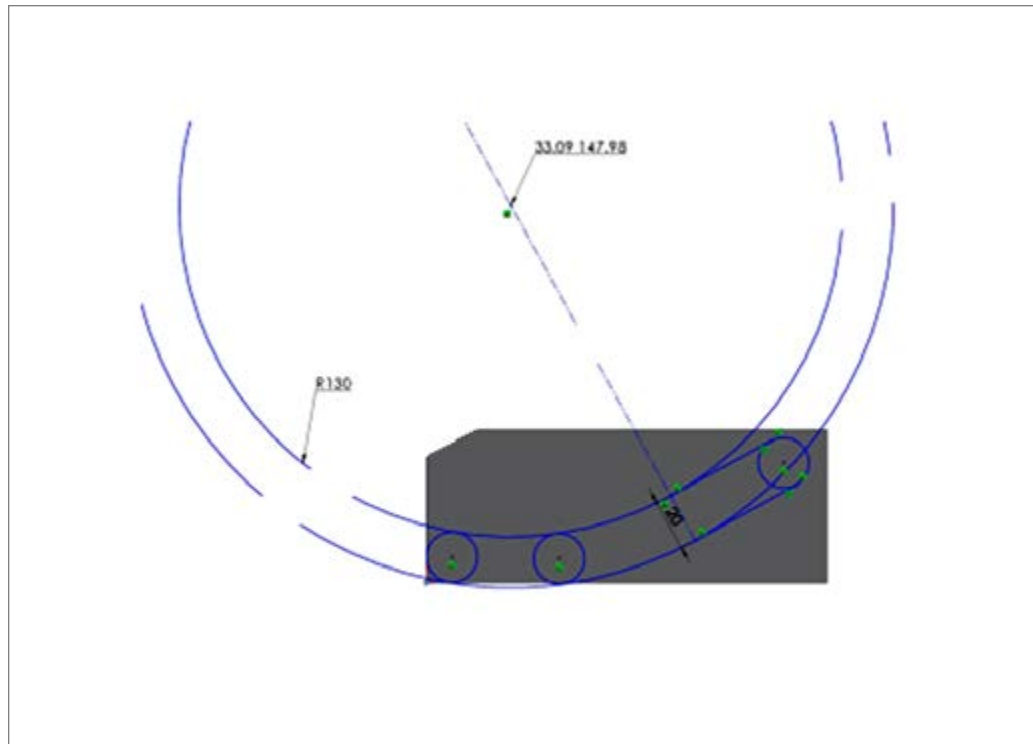
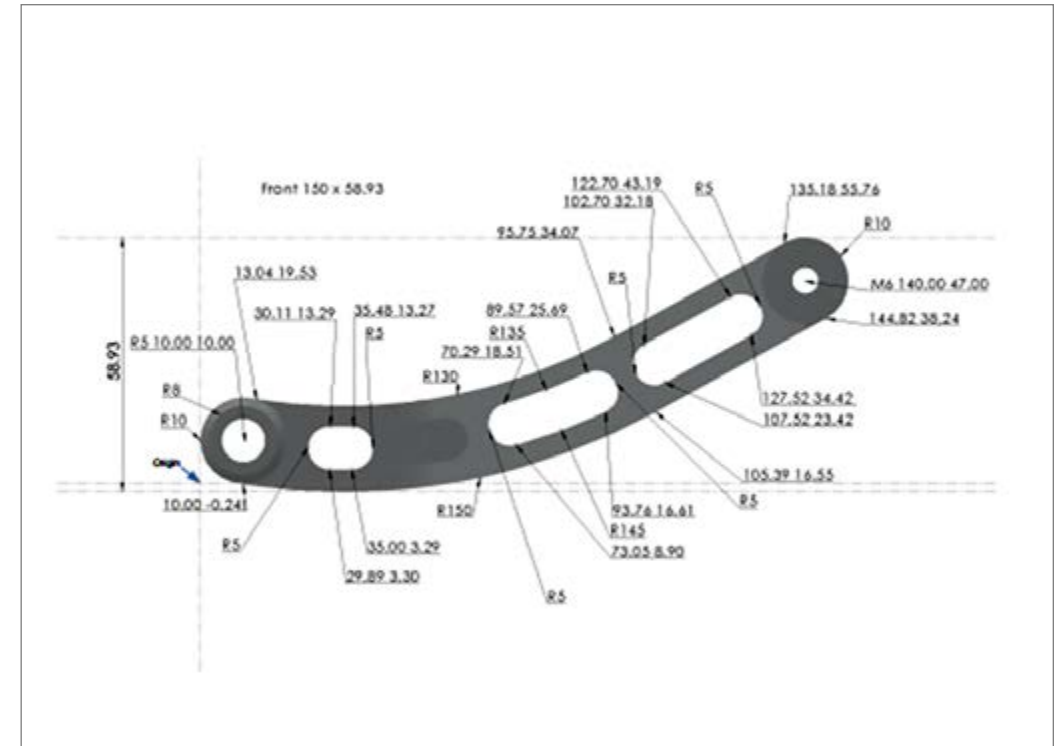
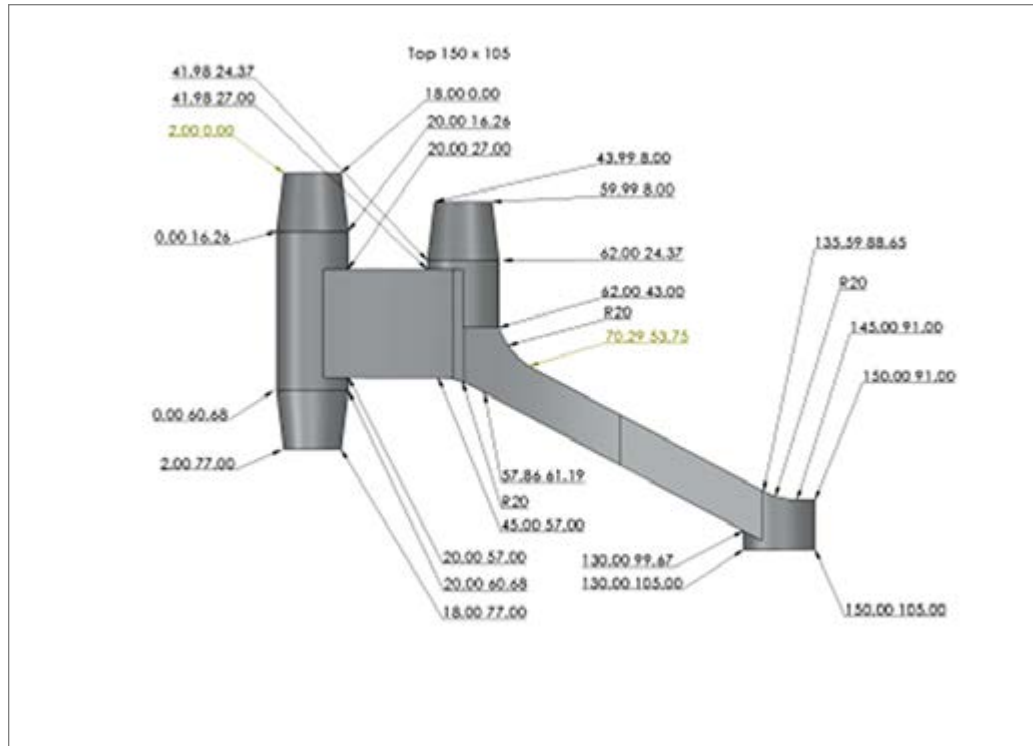


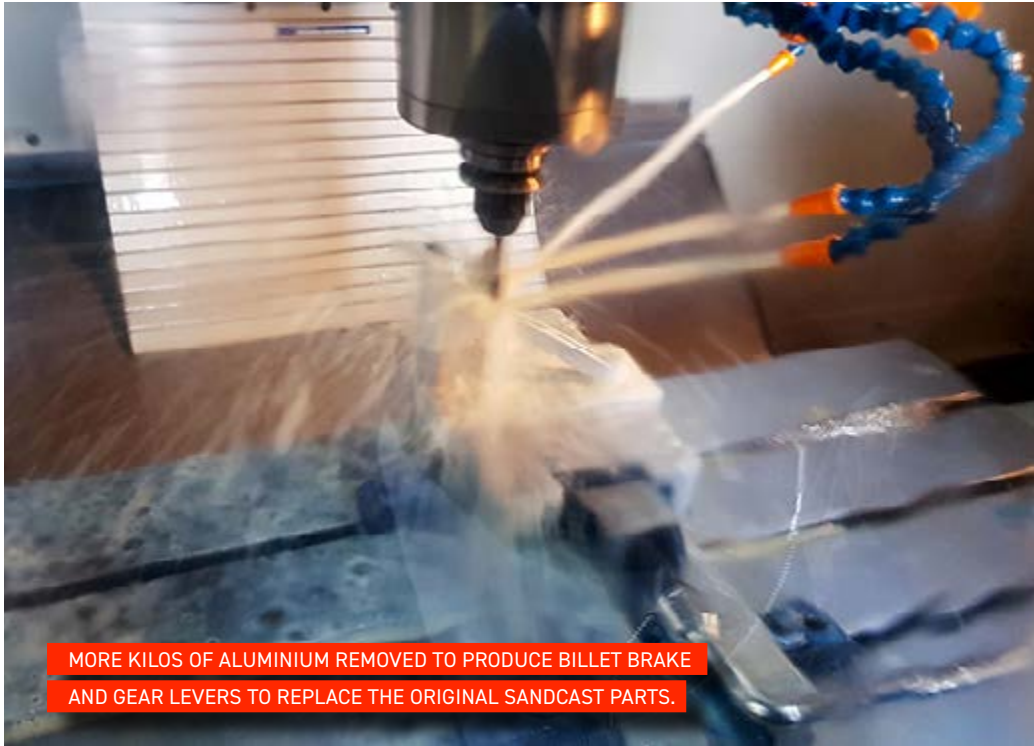
07

GEAR LEVER

What did he say, if I can draw it, he can make it.... sure?









I WAS THINKING ABOUT THE GEARLEVER PEG DESIGN WHEN RIDING MY BMW GS ADVENTURE
WHEN I LOOKED DOWN AND SAW IT AND THOUGHT THAT'S THE ONE!

I DREW IT, CHRIS PROGRAMMED IT AND THE CNC LATHE MADE IT - IN ABOUT 2 MINUTES...



08

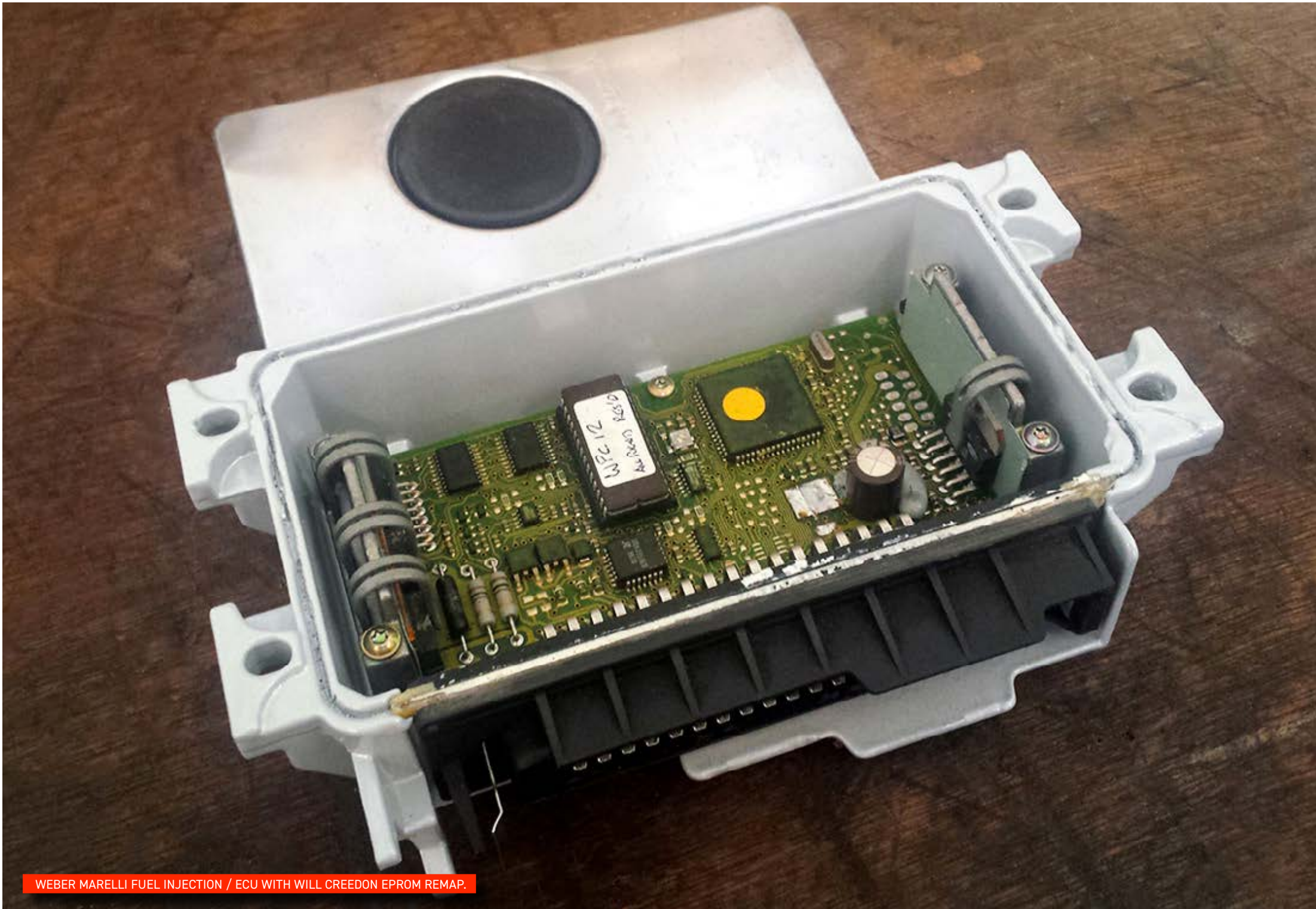
ELECTRICS

Being an electronic engineer, my specialist subject round.

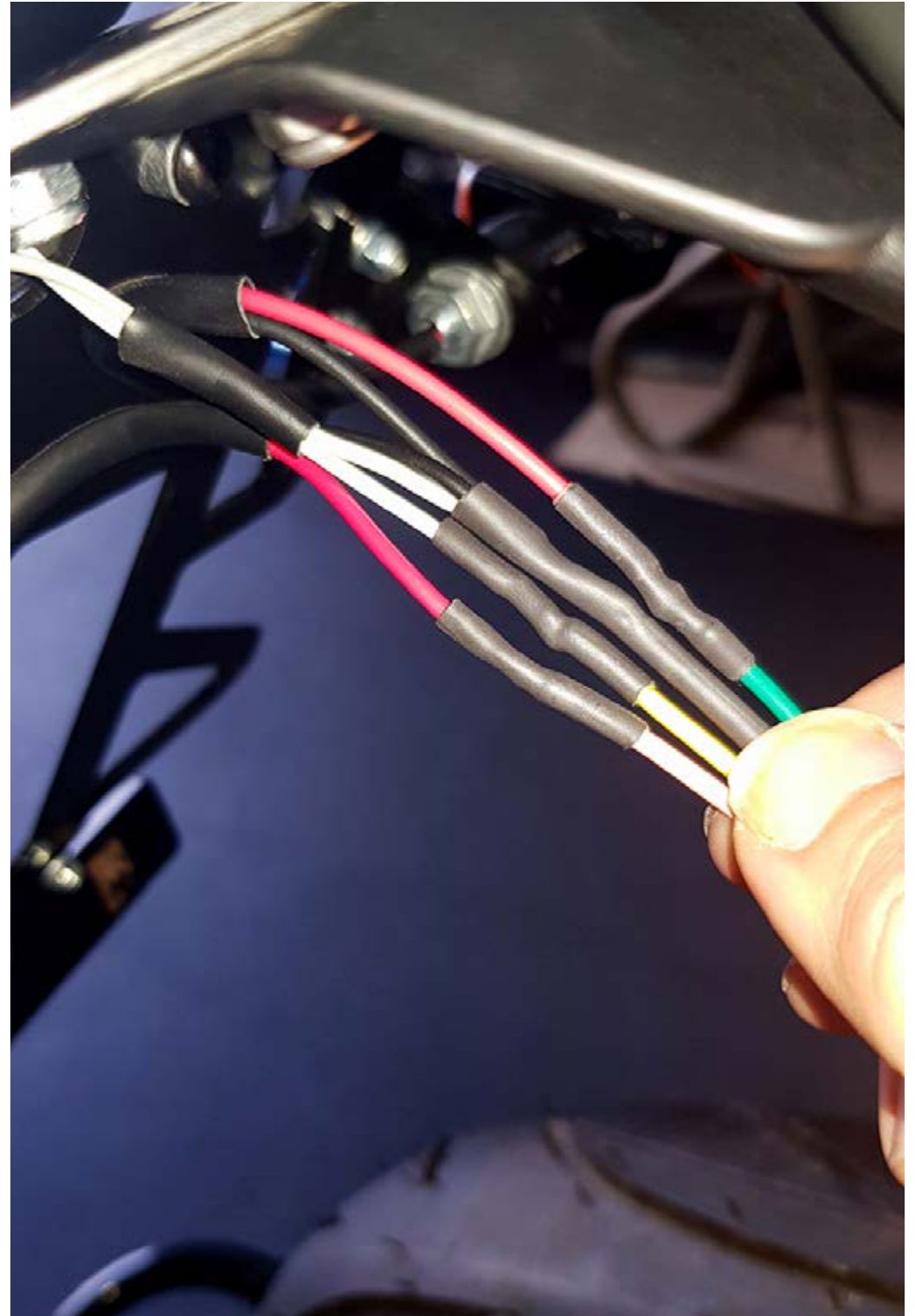
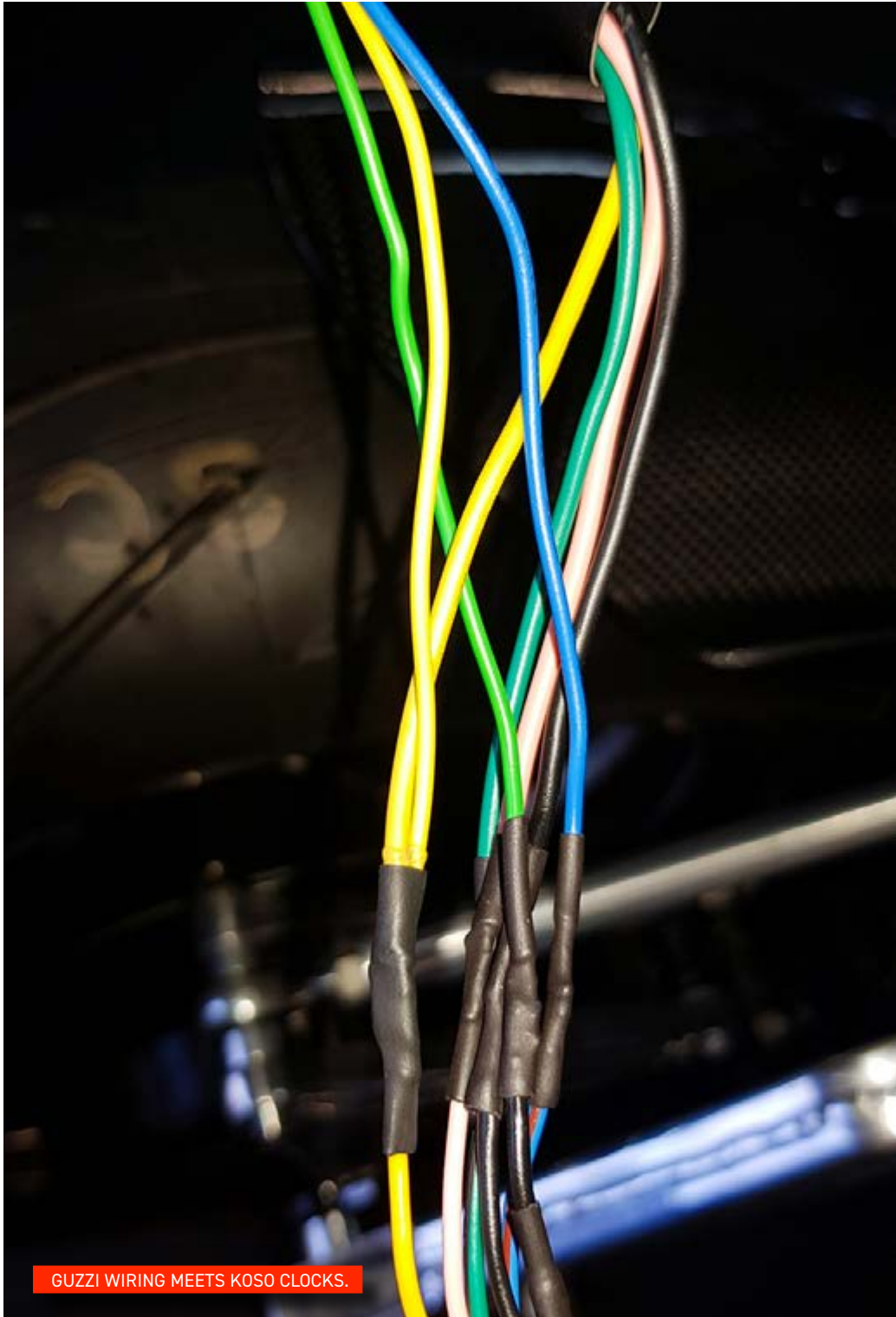


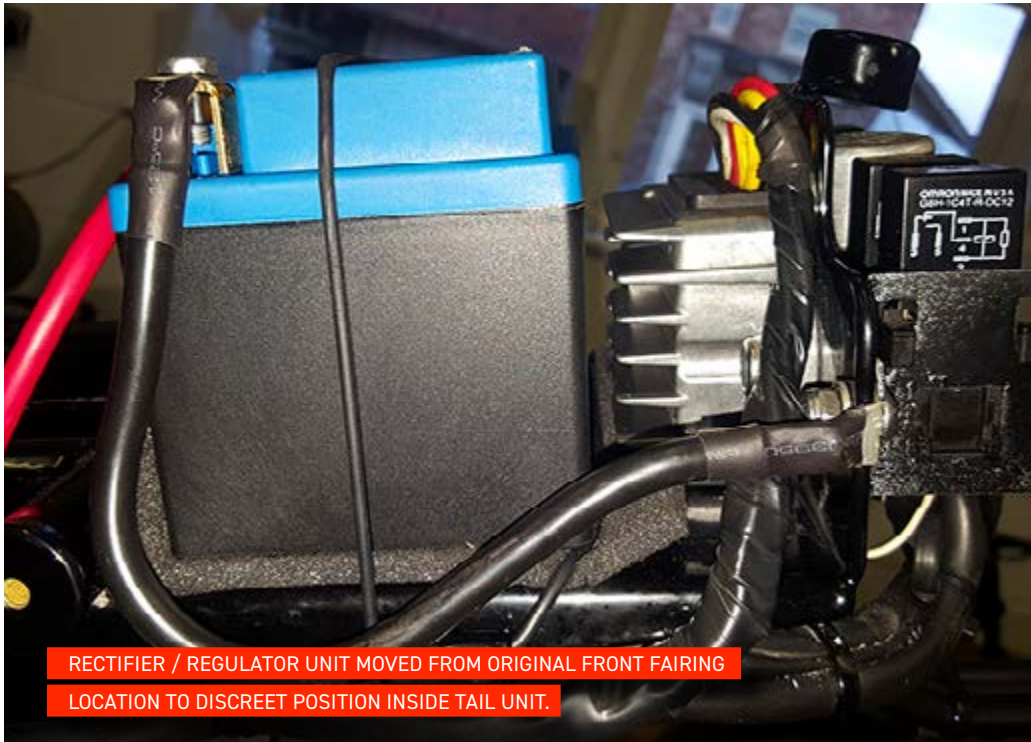
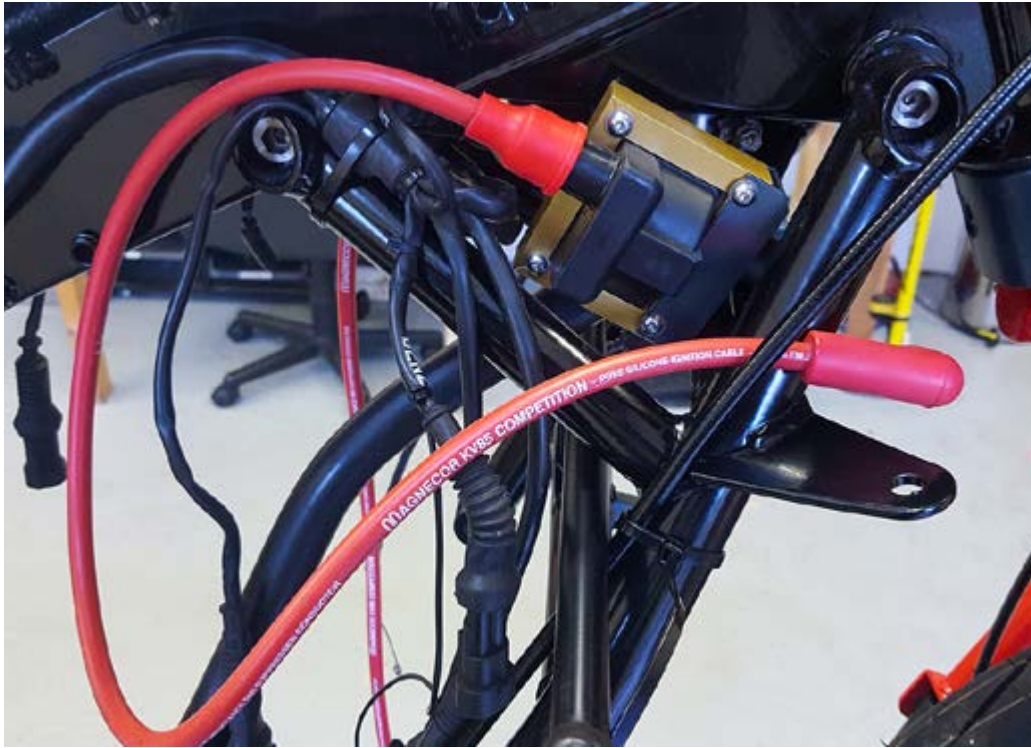


LITHIUM ION BATTERY 900G REPLACES ORIGINAL 5KG LEAD ACID TYPE WITH MORE POWER AND SMALLER SIZE.



WEBER MARELLI FUEL INJECTION / ECU WITH WILL CREEDON EPROM REMAP.





009

FRONT BRAKES

The ultimate in performance, manufactured to World Superbike specification with billet aluminium six piston calipers. 330mm narrow track ductile iron discs for maximum thermal efficiency with lightweight design to minimise unsprung weight and gyroscopic effects.





BREMBO RADIAL RCS FRONT BRAKE MASTER CYLINDER, 19MM BORE,
ADJUSTABLE 18/20 RATIO WITH LONG FOLDING LEVER.



CUSTOM BRAKE LINE CLAMPS SECURING GOODRIDGE RACE BRAKE LINES.







10

REAR BRAKE

Guzzi original 285mm disc 1.5kg, carbon
210mm 916 disc 92g. End of conversation.



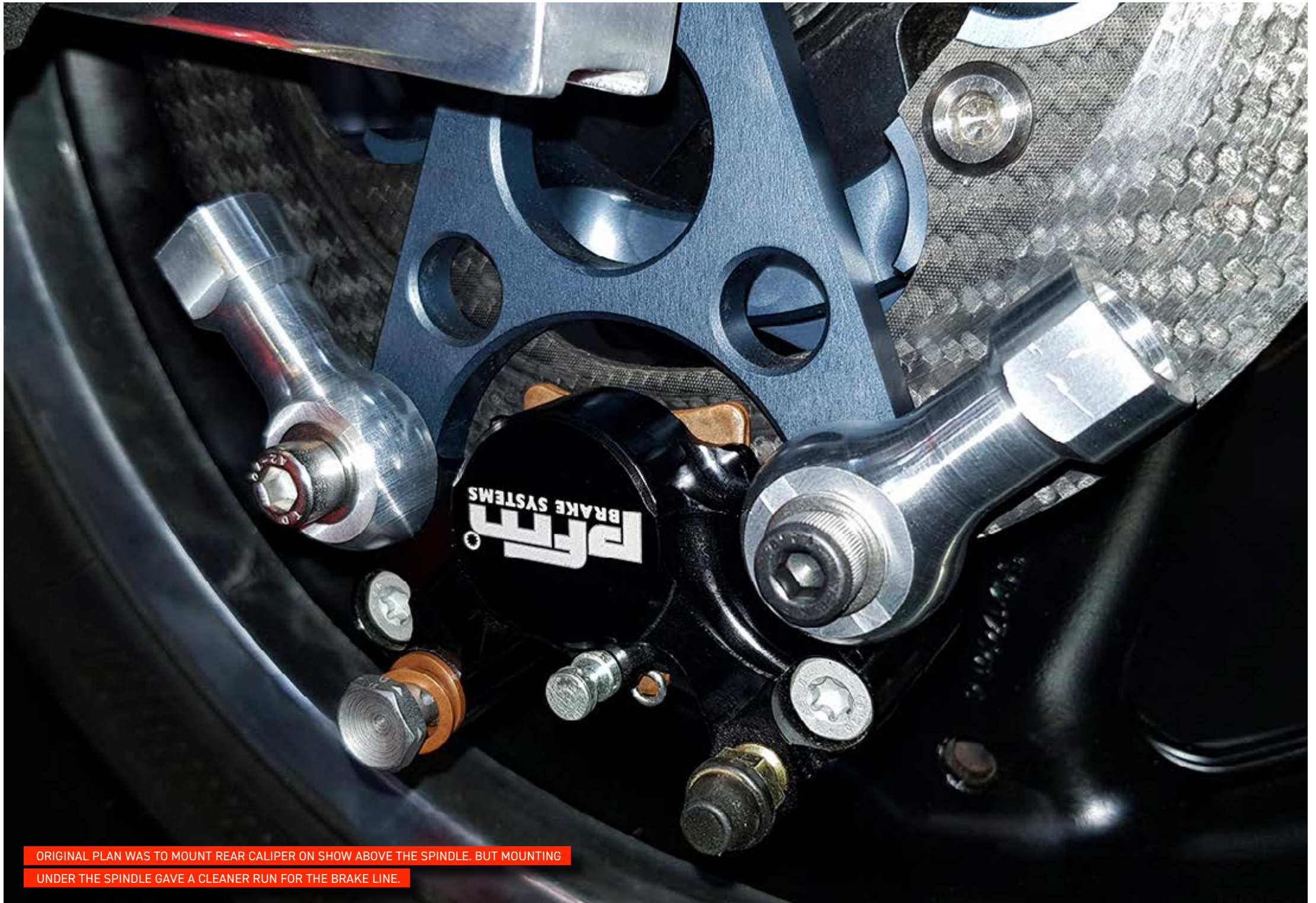


REAR MASTER CYLINDER CARRIER.

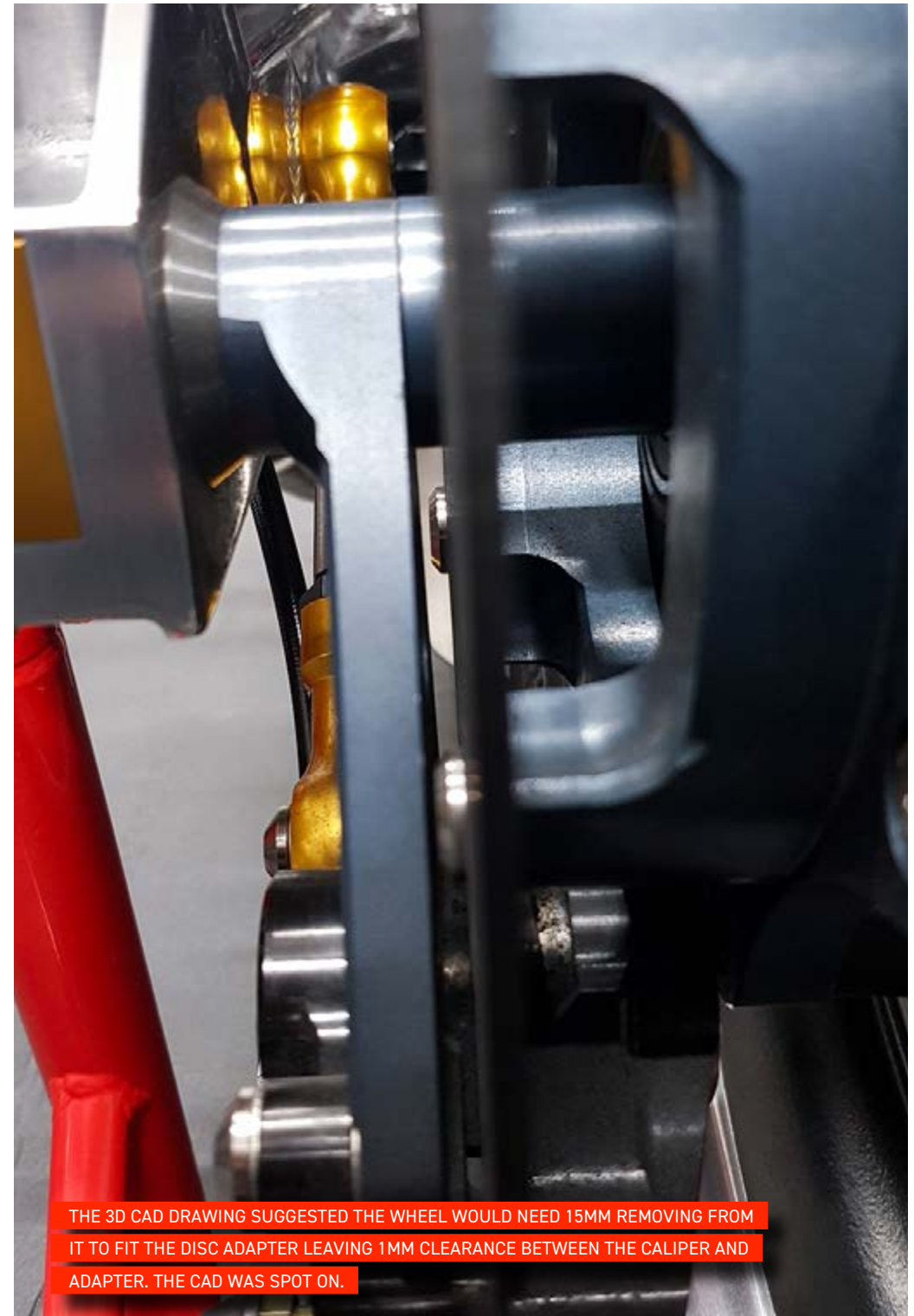


TORQUE ARM ROD ENDS.





ORIGINAL PLAN WAS TO MOUNT REAR CALIPER ON SHOW ABOVE THE SPINDLE. BUT MOUNTING UNDER THE SPINDLE GAVE A CLEANER RUN FOR THE BRAKE LINE.





PFM LIGHTWEIGHT BILLET RACE REAR CALIPER WEIGHING JUST 440G INCLUDING PADS.



ADAPTING 916 CARBON DISC TO MARCHESINI WHEEL.





TITANIUM TORQUE ARM CLAMPS CALIPER CARRIER.

11

DRIVE BOX

No ordinary shaft drive allowed.





MILD STEEL UJ COVER REPLACED WITH BILLET ALUMINIUM ITEM.



COMPLETE DRIVE SHAFT CHROME PLATED NEEDING REPLACEMENT CROSS JOINT
 NOT AVAILABLE FROM MG. ITEM IDENTIFIED AS CR15 BY DELLA CONCORDIA, SOURCED
 FROM A CANADIAN AGRICULTURAL SUPPLIER.





12

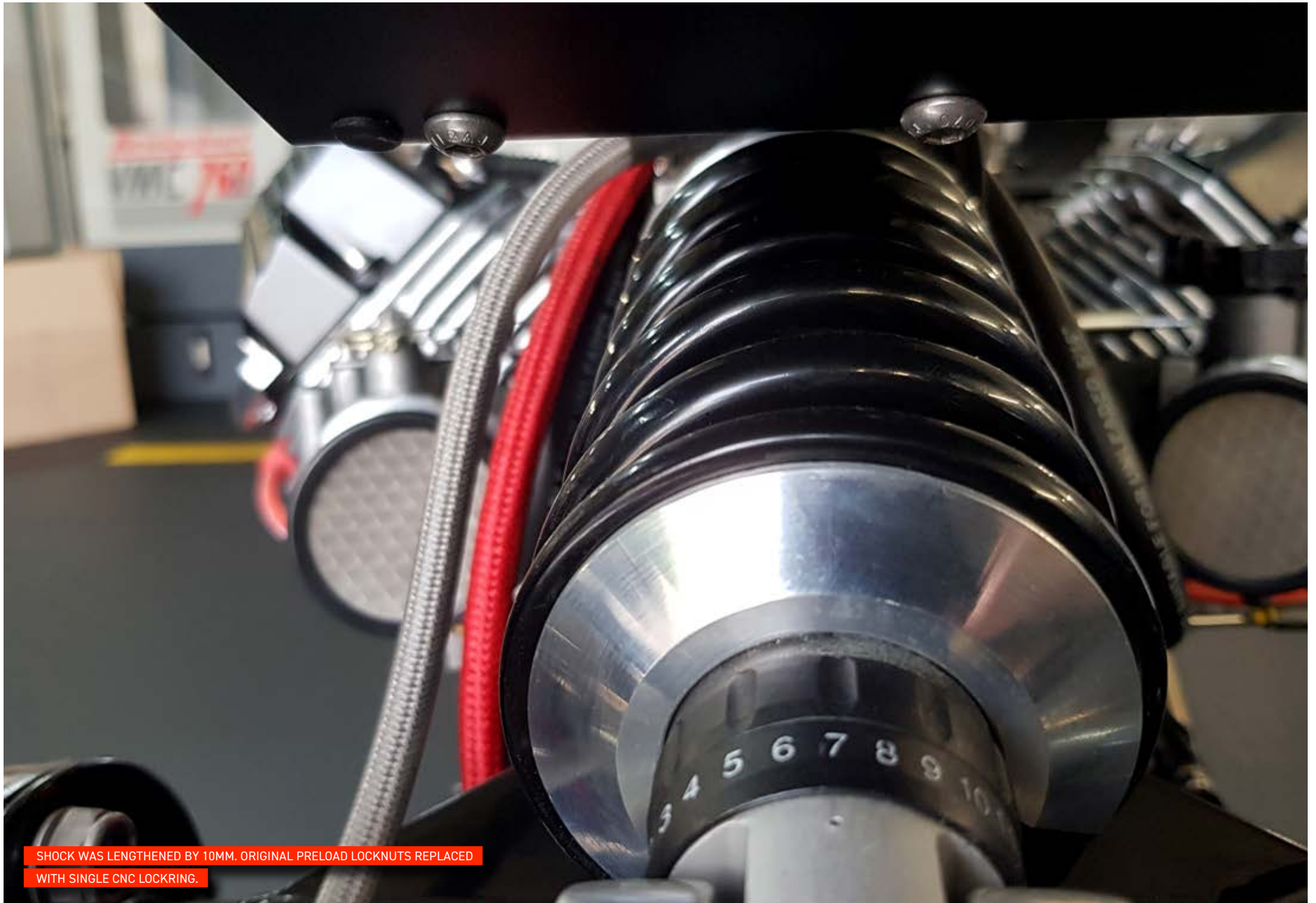
SHOCK

White Power shock rebuilt, repainted to become a Black White Power.









SHOCK WAS LENGTHENED BY 10MM. ORIGINAL PRELOAD LOCKNUTS REPLACED WITH SINGLE CNC LOCKRING.

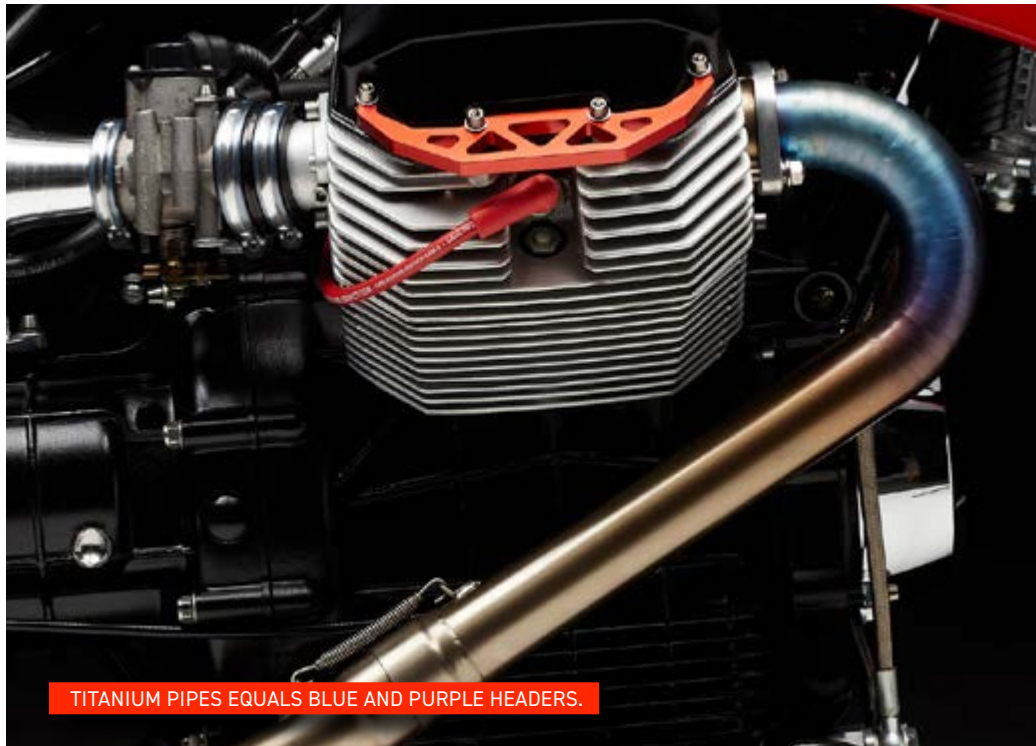
13

EXHAUST

"I can make it however you want" – Charles CSK Exhaust

The exhaust could make or break the design of the bike. A box silencer type was needed to do away with big end cans hiding the swinging arm but Quad D no longer produced one for Guzzi's so it would need to be made. If the lines of the downpipes failed to follow the rest of the lines of the bike, we could have been looking at an exhaust disaster. Charles was briefed on what was needed with drawings and dimensions. Three weeks later, he'd nailed it including Titanium pie cut headers.

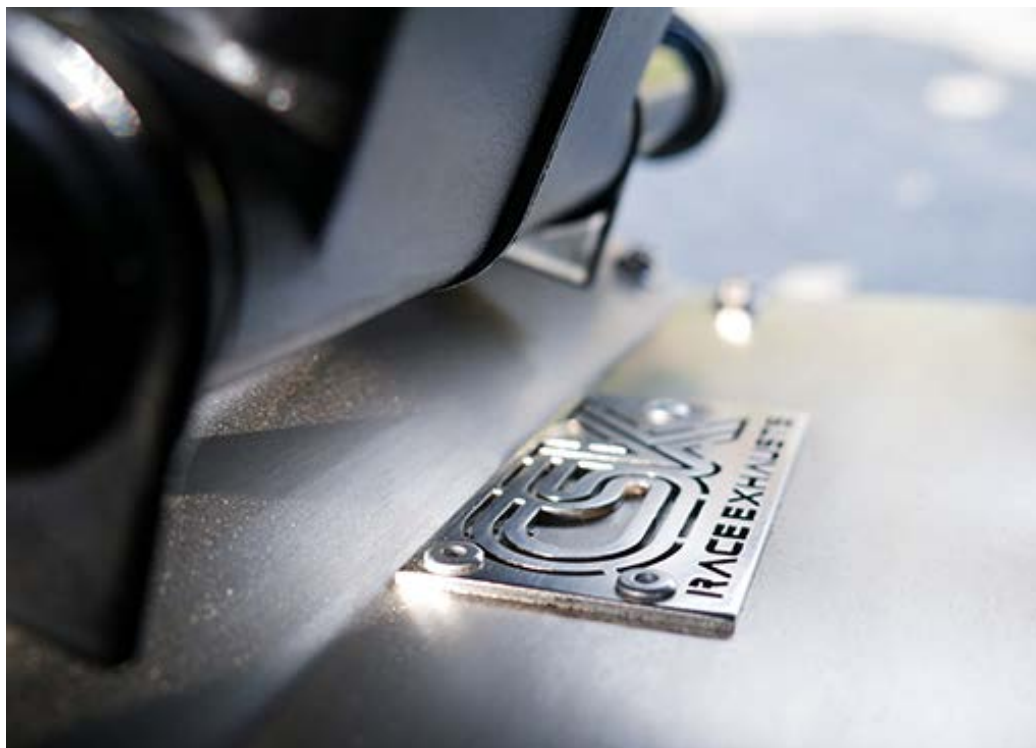




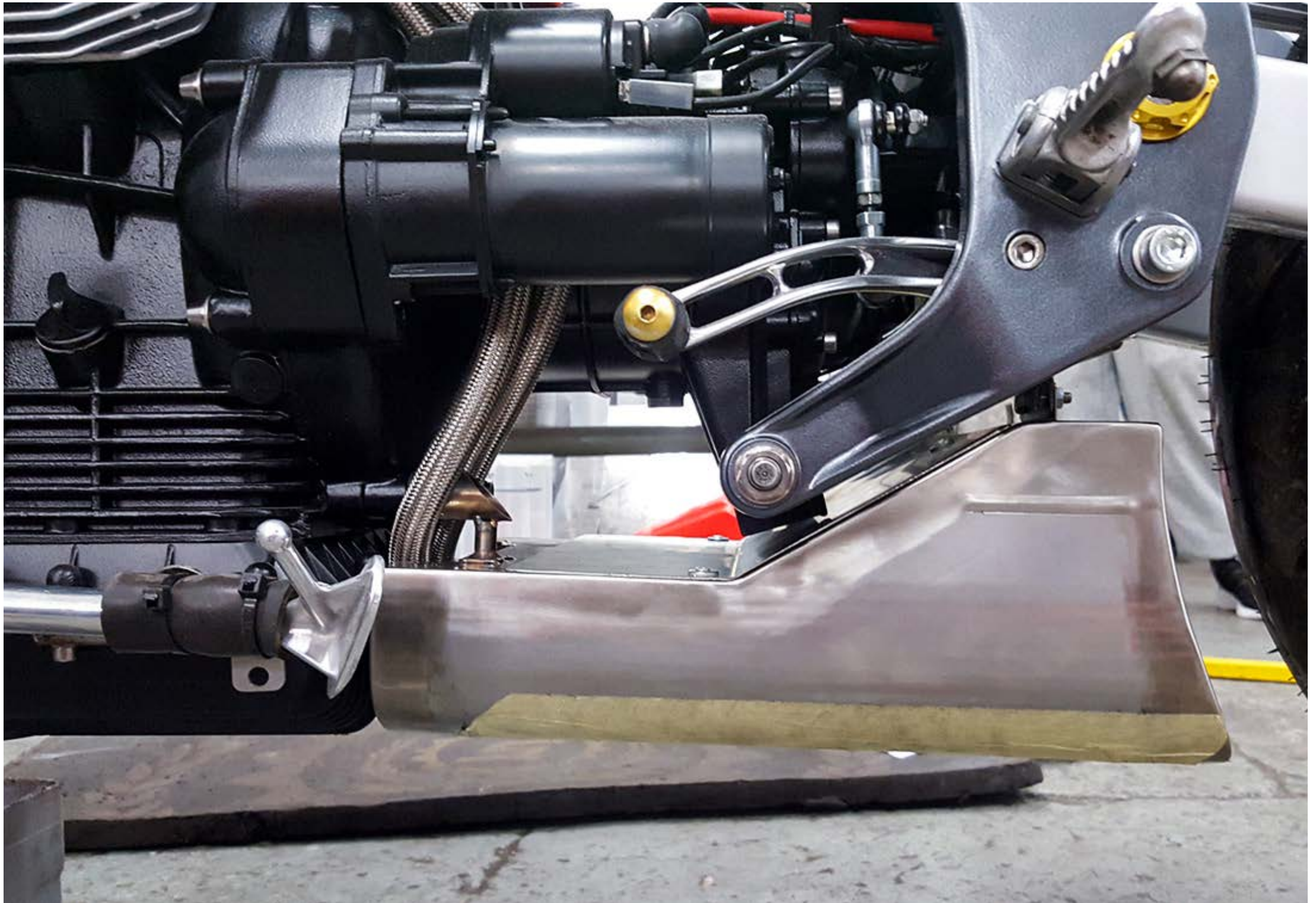
TITANIUM PIPES EQUALS BLUE AND PURPLE HEADERS.



STAINLESS STEEL COLLECTOR BOX / SILENCER.



GUZZI AMPLIFICATION.





CHARLES CHECKING THE ANGLES.

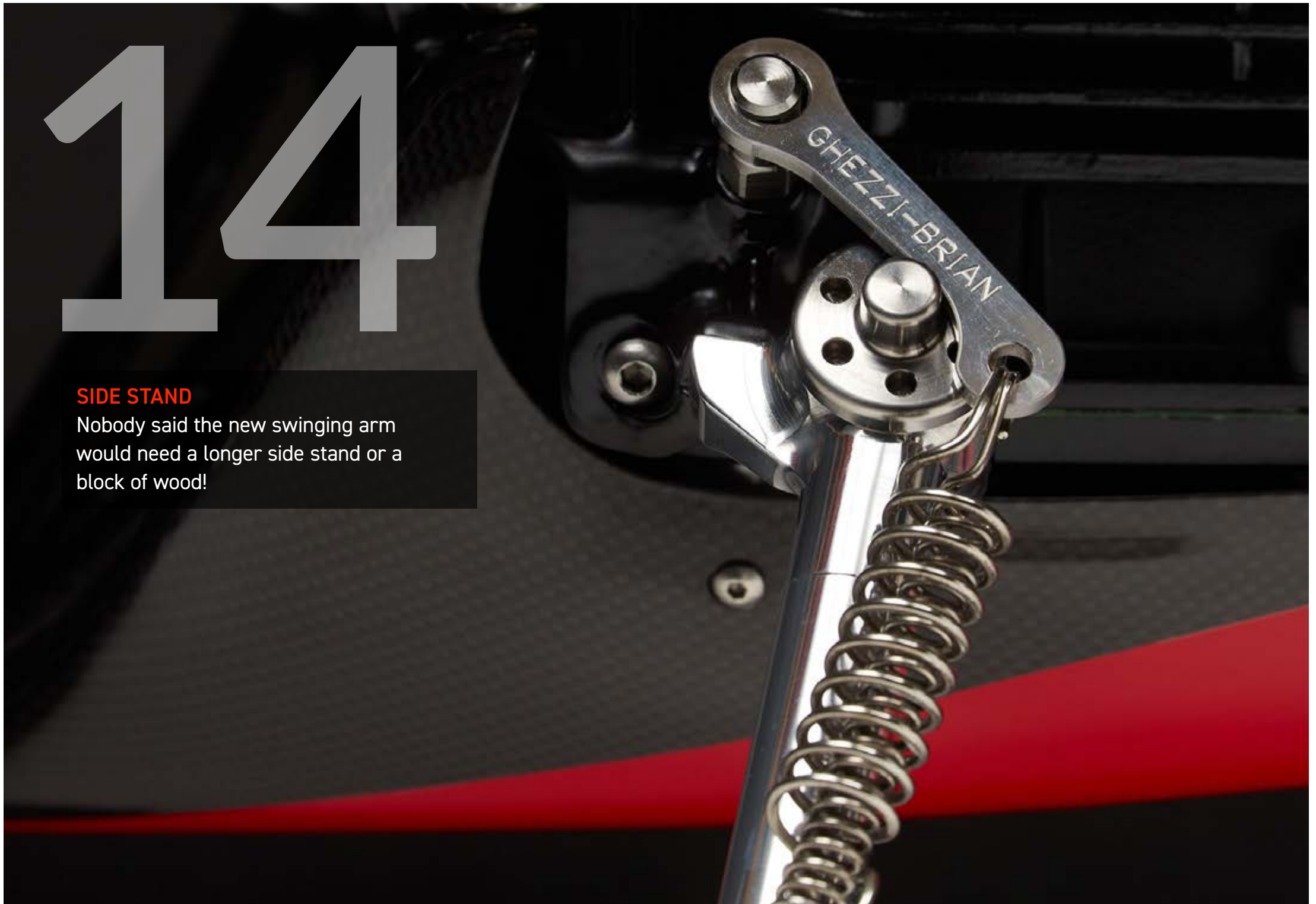


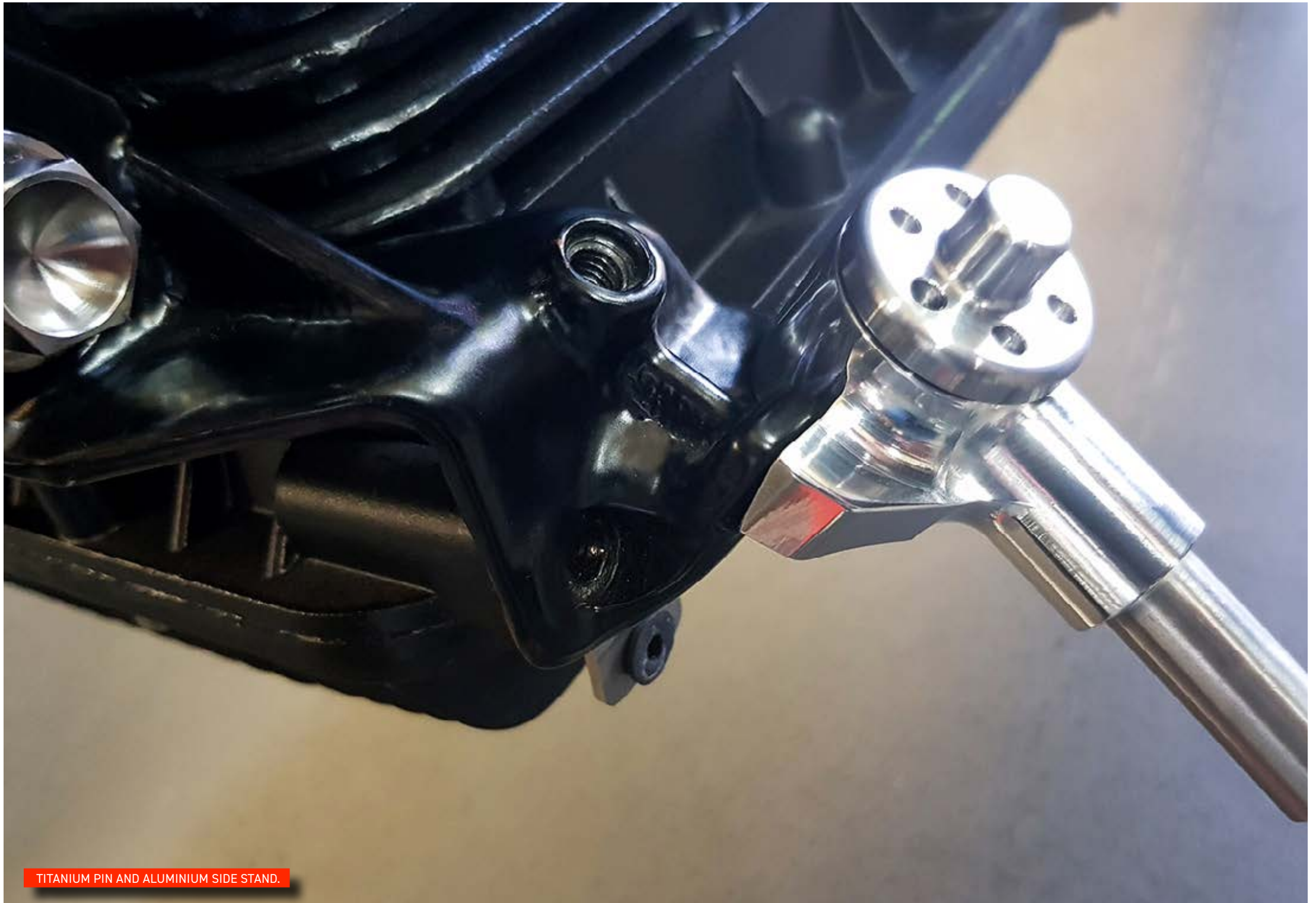
17 PIECES OF TITANIUM PIE PER HEADER.

14

SIDE STAND

Nobody said the new swinging arm would need a longer side stand or a block of wood!

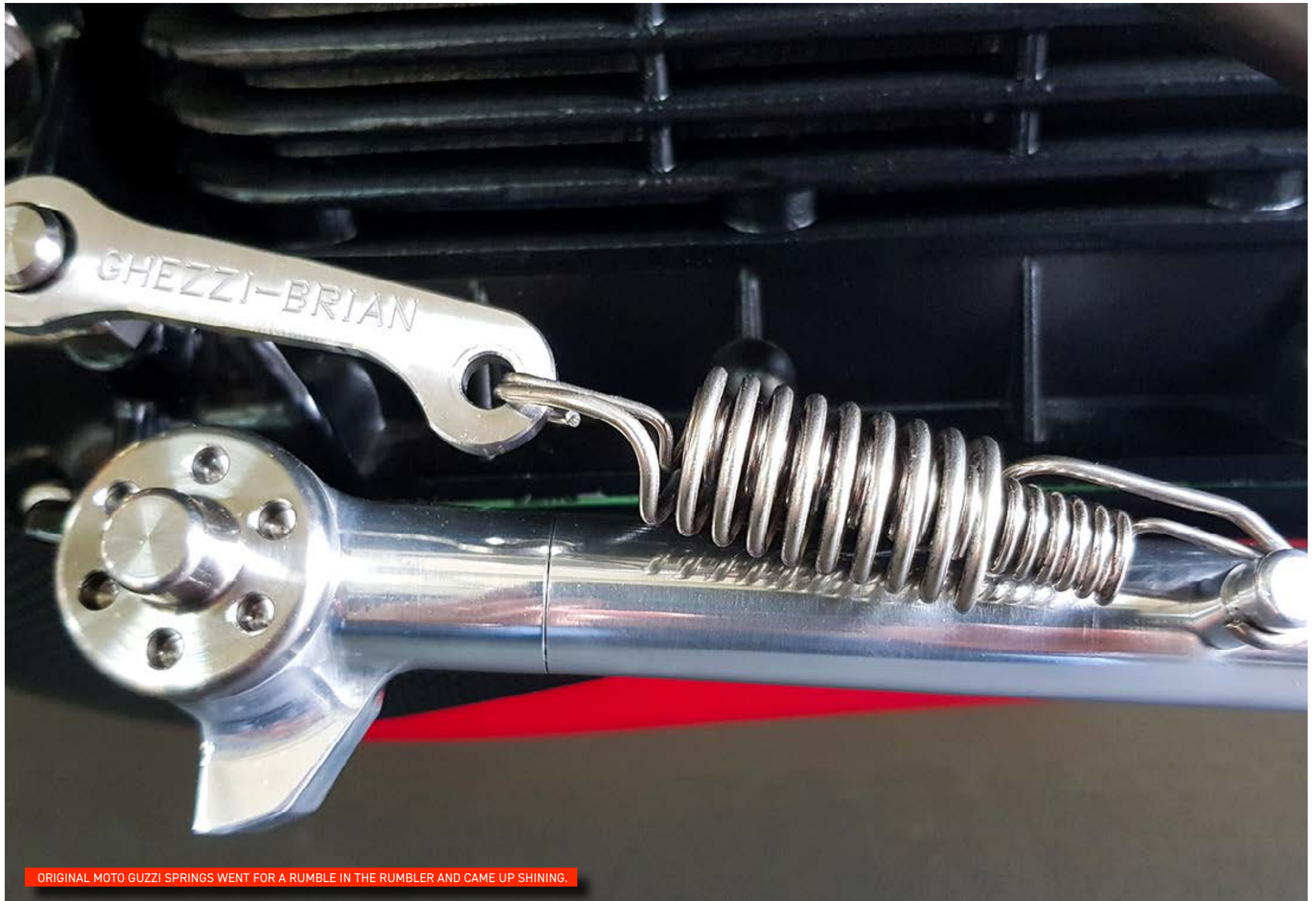




TITANIUM PIN AND ALUMINIUM SIDE STAND.



ALUMINIUM SIDE STAND 50MM LONGER THAN ORIGINAL.



ORIGINAL MOTO GUZZI SPRINGS WENT FOR A RUMBLE IN THE RUMBLER AND CAME UP SHINING.

15

DASHBOARD

Mr Porsche was right, engine speed is the primary instrument, everything else is just nice to know.





KOSO CLOCKS ALLOW ORIGINAL MILEAGE TO BE PROGRAMMED
AND SET ALONG WITH SHIFT INDICATORS.



16

ENGINE

After 65000 miles, the engine was just run in.

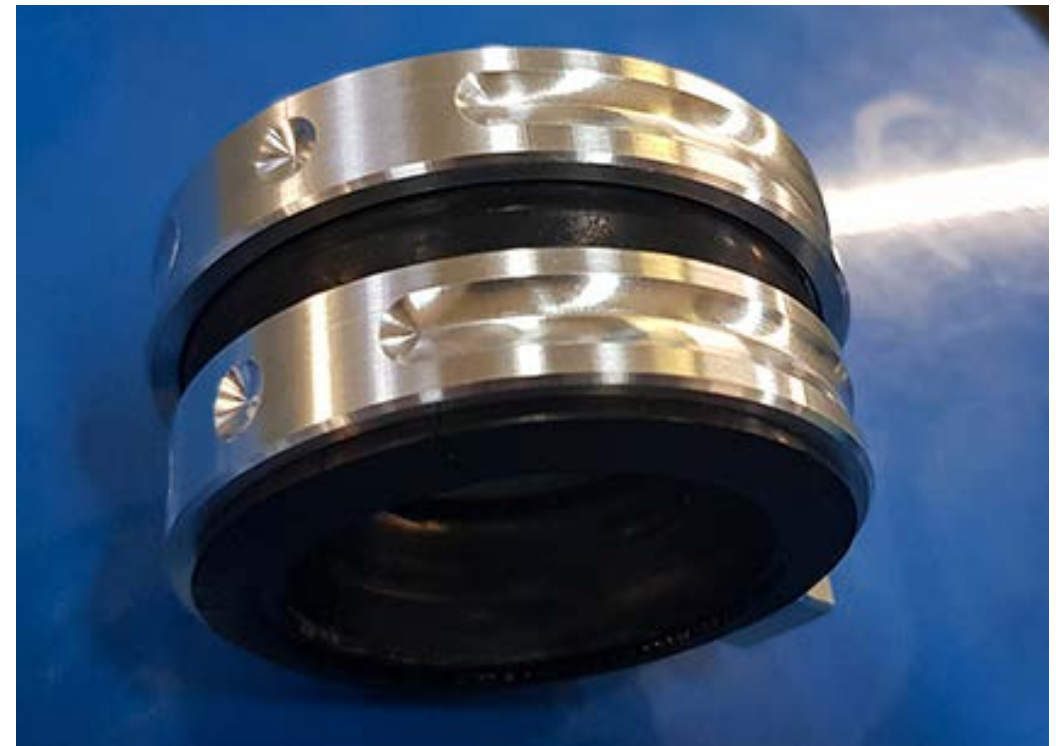




CHROME ALTERNATOR COVER FROM GUTSIBITS. HIGH LEVER OIL COOLER FROM GHEZZI BRIAN ALLOWS GHEZZI BRIAN CARBON BELLY PAN.



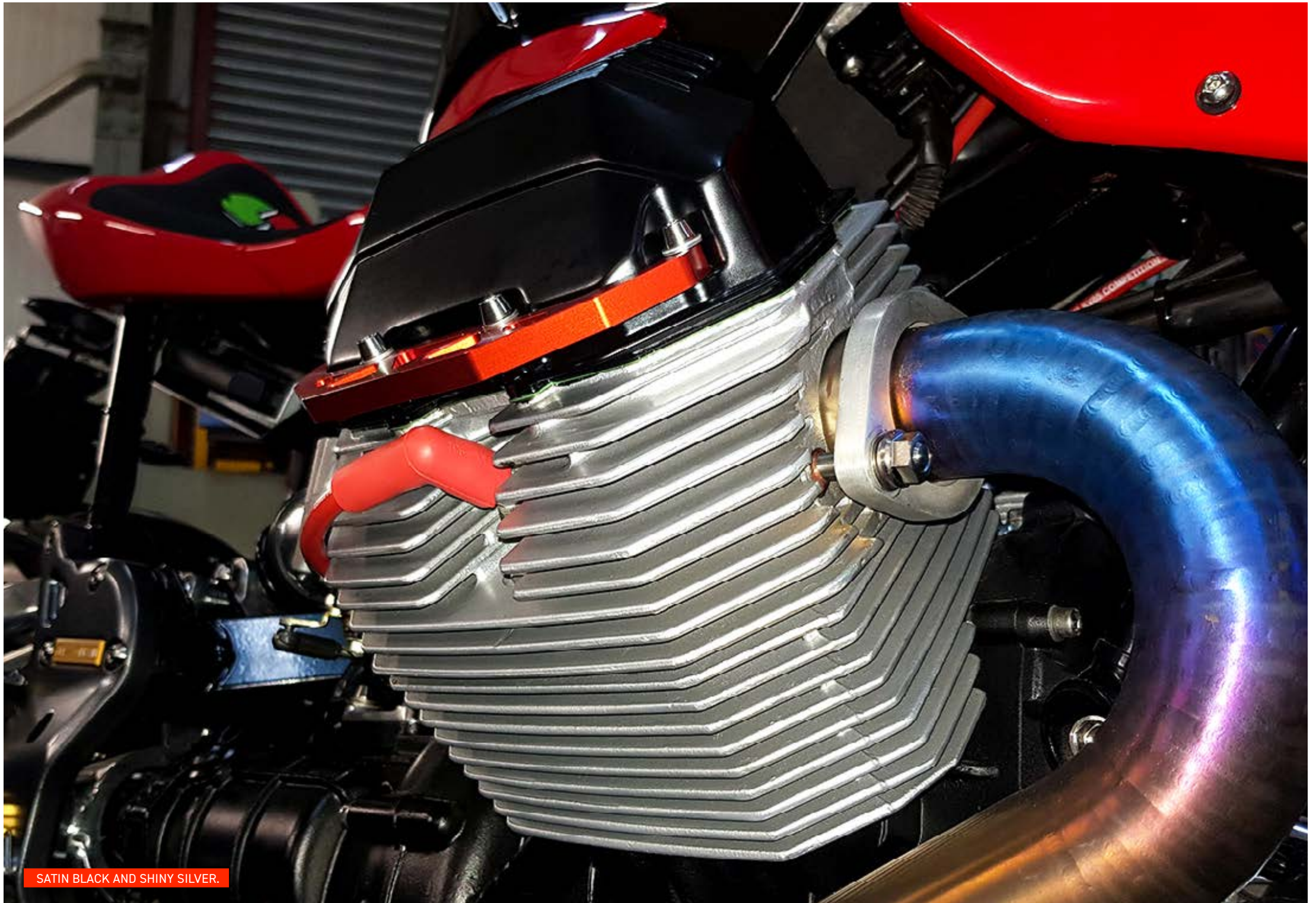
BILLET ALUMINIUM CLAMPS REPLACE JUBILEE CLIPS.





GEARBOX WAS LEAKING FROM PUSHROD SEALS AND OUTPUT SHAFT. NIGEL AT NBS NOTICED THE HARDENING ON 3RD GEAR WAS GONE SO REBUILT THE UNIT USING SERVICEABLE GEARS FROM HIS SECOND HAND COLLECTION.





SATIN BLACK AND SHINY SILVER.



RED ALUMINIUM ROCKET GUARDS ARE SURELY DECORATIVE RATHER THAN FUNCTIONAL.

17

BODYWORK

The Ghezzi Brian bodywork arrived supplied as polyester. During a “by the way” conversation at the dinner table, my youngest boy casually told me he could make a mould from it and then make the fairing in carbon. Err, OK then, crack on...







ANOTHER BIG WEIGHT SAVING USING CARBON OVER POLYESTER.

18

FRONT









LEFT





200

RIGHT







21

REAR

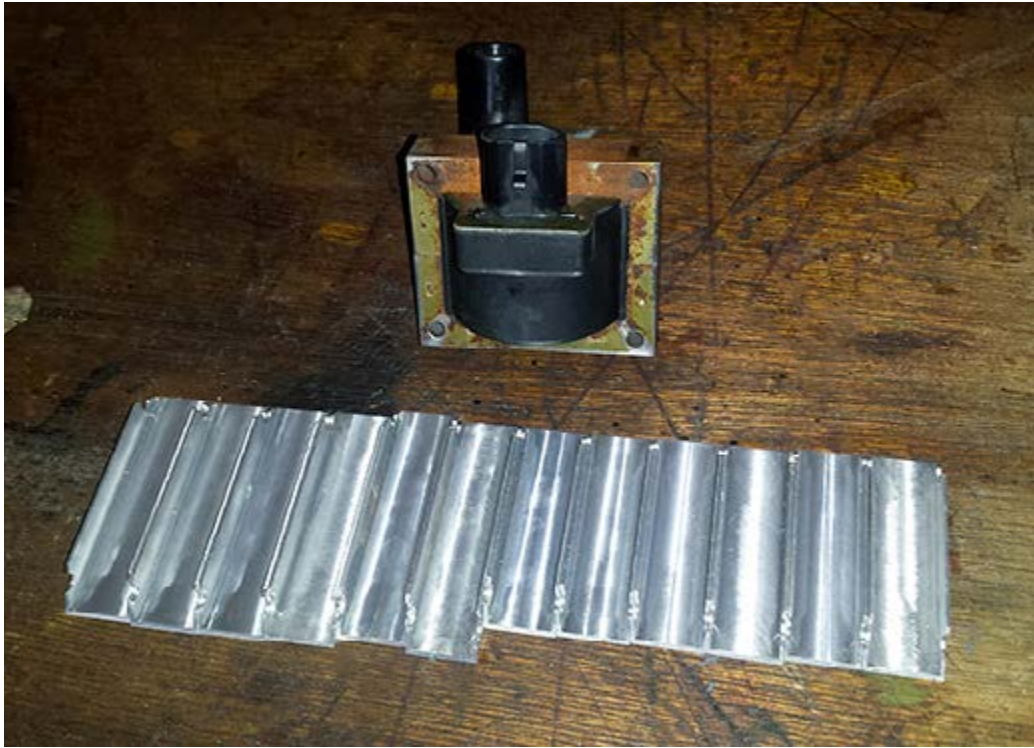




22

MISCELLANEOUS









23

THE PREQUEL

The Moto Guzzi 1100 Sport Injection was bought new in October 1997 as a 12 month interim bike before buying a 916. It took 10000 miles to learn to ride the quirky V-twin. The 916 test ride was a let down so the Guzzi journey continued. It was a bike that inspired you to go out and ride. After countless track days, 1000 miles in a day ride, trips to all points of UK, eventually the yellow paint was showing the 35000 miles of wear. So the bodywork went to Dream machine to be painted in R1 Yamaha blue. Another 30000 miles later, with the clutch needing replacing for the 3rd time, a more extensive refurbishment was needed. Enter the Ghezzi Brian Sport Monza conversion...



24

ACKNOWLEDGEMENTS

Bruno "Brian" Saturno - Ghezzi Brian
- Creator of the Sport Monza

Chris - Lowton Engineering - CNC pilot and master of metals enabling bike building at a different level

Charles - CSK Exhausts

Nigel - NBS - Gearbox and Drive box rebuild

Andy - Parnaby Motorcycles - Bodywork paint

Alan - Jennings Motorcycles - Engine and Wheels paint

Wal - West Performance - Brakes

Ian - ProBikeART - Studio Photography

Aldo - Scintilla Design - Creator of this eBook!





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SIMON THACKERAY



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