REBORN ACCORDING TO AVIATION STANDARDS



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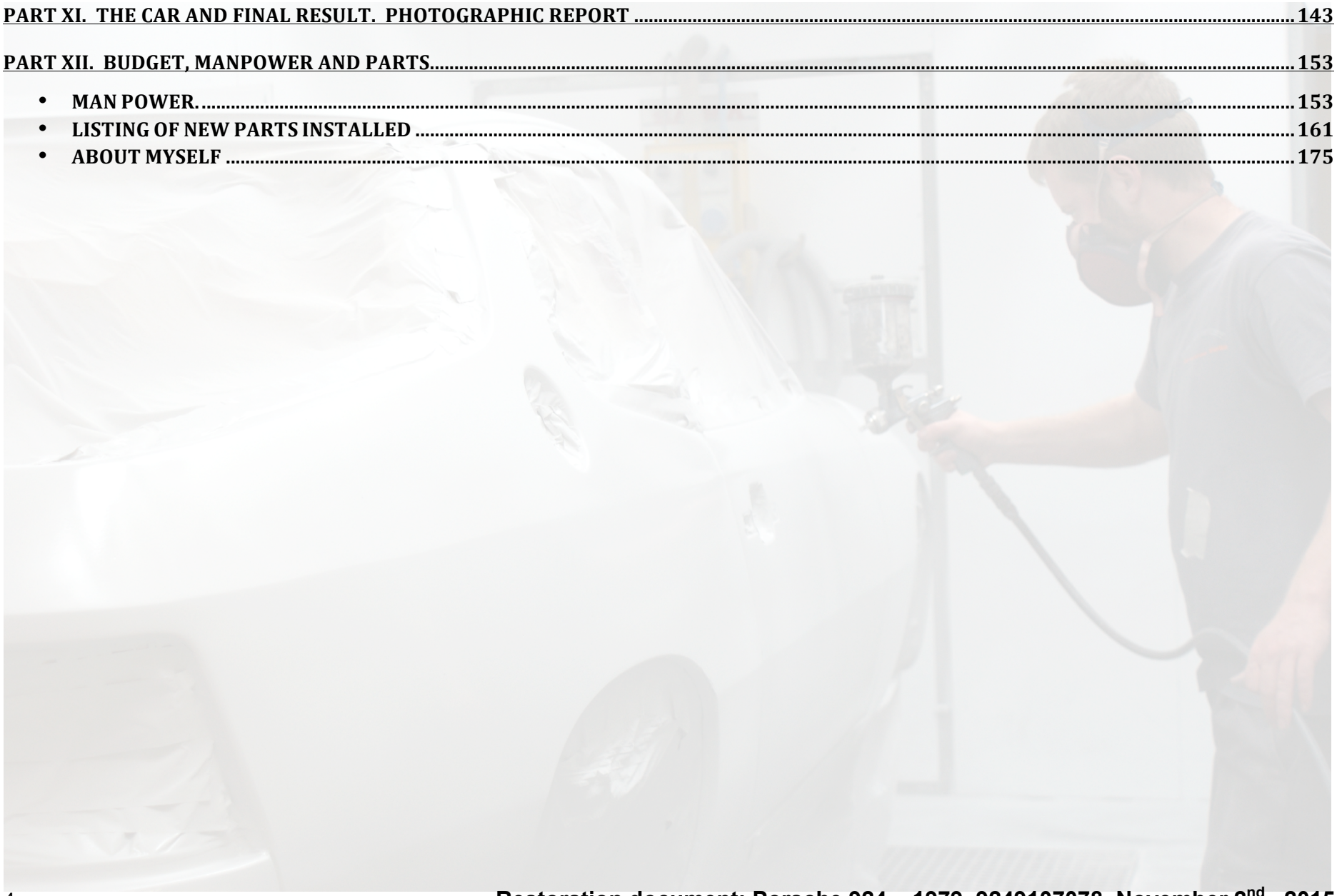
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INTRO

The 924 tends to be the forgotten member of the Porsche family, and this is probably the reason why there are not many 924´s with this level of work. This is an important document that shows the extent of some of the processes. Before starting, I study the OEM manuals and prepare the work area and required tools to complete the job and continue with a meticulous and organized disassembly.
The goal was to perform a complete overhaul from the smallest nut and bolt to the most critical component and the result speaks for itself. Rebuilding a Porsche 924 has been a complex task that required over 900 man-hours of hands-on work and many more hours trying to fight obsolescence management for many components that were no longer available. I enjoy as much as the hands-on work, the preparation and development of the report with the only hope in mind to give the readers the snap shots behind the scenes. When you see this car in the street, you will never realize of the work involved unless you take the time to go through this document.

Aviation is very strict with overhaul standards on all kinds of components, and I wanted to apply this processes to the reconstruction of this beautiful 924. I hope you appreciate this report and hope that all of you get the chance to meet what I believe to be one of the best 924's in the world. Unfortunately, the bigger brothers (911 or 356) take most of the attention and the reconstruction processes all over the world tend to forget that the 924 has a great design with a lot of history and successes like their family members. I hope you enjoy my work and look forward to hear from you!

This reconstruction processes involve a lot of family members and professionals and the recognition of the work needs to be given to all of them, that as a group helped with the completion of this rewarding job.
Without further ado, here is a piece of my work. Not everything can be recorded in black and white, but this is a good start; enjoy…

THE VEHICLE

This is a1979 Porsche 924. It is a forgotten piece of history within the classics, with little relevance in this demanding industry where collectors do not invest a lot of time or energy to dig into the history of the car. The 356 or the 911 are the big brothers that gain most of the attraction and dedication, but the 924 has sufficient pedigree to draw more attention. This is one of the reasons why this restoration has been very challenging, because of the little demand for this models that end up dying in savage yards with little recognition to their role in Porsche´s history. The 924 is a beautifully designed vehicle with a very well balanced design thanks to the innovative distribution of the transmission and engine. Whoever ends up driving this 924, will experience a unique and unforgettable sensation when getting into the controls of this unique reconstruction.

FRAME ID: **9249107078**
POWERPLANT ID: **XK027866**
MATCHING NUMBERS: The goal was to complete the reconstruction with the original components, and the engine was in critical condition. It has taken a long time on the road and on the telephone trying to allocate the required parts to make this engine run again. Every single part of this car is worth a lot, but the engine is a masterpiece as I do consider this one to be a full overhaul according to aviation manufacturer´s requirements. As you will read throughout the report, we managed to find the required parts to bring it back to life. The frame underwent an outstanding and complete overhaul just like the engine, and the rotisserie was by all means a key element in the entire process.
COLOUR: Málaga RED, code H5H5.
WHEELS: 14 inch.
INTERIOR: The original car was delivered with Synthetic beige leather and natural leather on front seats. Code: TG. Both, the synthetic and the natural leather were in very poor conditions as well as the carpet. I tried hard to recover them, but I ended up restoring the full upholstery with high quality materials as detailed within the report. I would have preferred to keep the original material, but this was not an option, considering the extent of the overall overhaul.
GEARBOX: four-speed type: YR07039

MILEAGE: These vehicles had a lot of recorded issues with the odometers, as they ended up failing and losing track of the real car mileage. When I took the car, the odometer was not working at all and was stuck in 34.190 km. I really do not know, what is the real car mileage but going through the annual government inspections, we can see that from 2007 until 2012 the mileage was the same and on previous years, they never took the time to record it. We will never know for sure, how many kilometers were driven on the car, but the only thing I can assure you is that the car starts a new life from now on, as it will take you back in time when delivered from the dealer…

PORSCHE

CERTIFICADO DE AUTENTICIDAD

PORSCHE IBÉRICA, S.A., como importador oficial para España y Portugal de los vehículos de la marca Porsche,

INFORMA:

Que el vehículo de la marca Porsche con número de bastidor **9249107078**, fue fabricado originalmente con las siguientes especificaciones:

Modelo:	924
Versión:	Coupé (477011)
Año/modelo de fabricación:	1979
Tipo de motor:	924 XK
Número de motor:	XK027866
Número de cilindros / cilindrada	4 / 1.984 cc
Potencia:	92 kW (125 CV a 5.800 rpm)
Caja de cambios:	Manual, 4 velocidades (número YR07039)
Suministrado de origen en:	Luxemburgo, en Abril de 1979
Color de carrocería:	Rojo (código H5H5)
Interior:	Cuero sintético beige / asientos delanteros en cuero natural (código TG)
Opciones:	442 – Antena, un altavoz en salpicadero, dos altavoces traseros. 568 – Cristales tintados

Y para que así conste a los efectos oportunos, se firma el presente documento en Madrid, a 4 de Septiembre de 2014.

PORSCHE IBÉRICA, S.A.

PORSCHE IBERICA, S.A.
Avda. de Burgos, 87
28050 MADRID
C.I.F. A-28672103

PORSCHE 0324

José María Ruano
Homologaciones

El presente Certificado de Autenticidad para el vehículo con bastidor **9249107078** es sólo válido con la etiqueta de autentificación número **0324.**

Porsche Ibérica, S.A. - Importador Exclusivo - Avda. de Burgos, 87 - 28050 MADRID

Registro Mercantil: tomo 6.042, general 5.082, folio 1, sección 3, hoja 50.142, C.I.F. A-28672103

CERTIFICATE OF AUTHENTITY: One of the key aspects in this reconstruction was the intent to keep all original components and overhaul them in order to bring them to "worthy" conditions. A long time was invested to reconstruct each component in order to achieve a great end result. Nicknames such as the "Porsche of the poor's" gave him the wrong reputation, when in reality was designed with the greatest sports design and with a Porsche heart thanks to its perfect balanced frame. Classic lovers did not invest a lot of time in these vehicles, but whoever owns this 924, will definitely draw a lot of attention on the next classic event they attend.

The key elements in this reconstruction process have been:

1. Use of original Porsche maintenance manuals, wiring diagrams and illustrated parts catalogs
2. Use of required tools and facilities
3. All parts were purchased from Porsche except those that were no longer available via the Porsche network
4. Full component overhaul according to OEM specifications

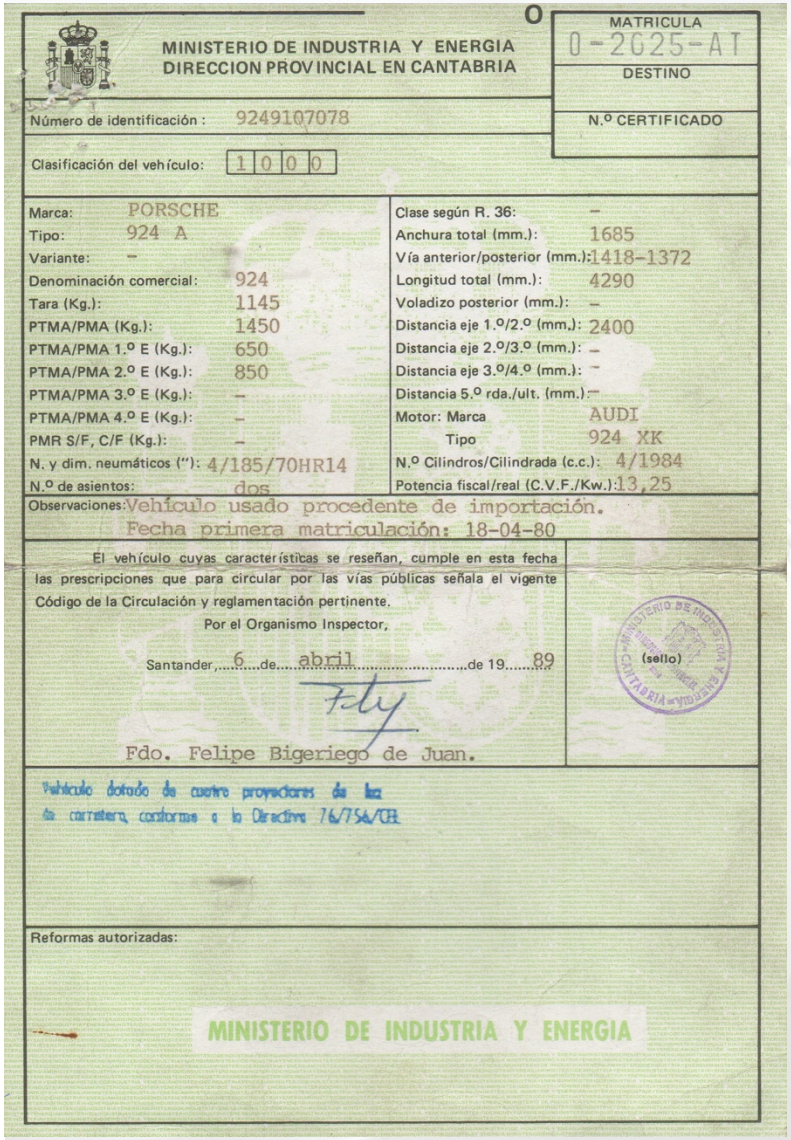
ENGINE ID PHOTO: **XK027866**



CHASIS ID PHOTO: **9249107078**



THE VEHICLE´S HISTORY



MINISTERIO DE INDUSTRIA Y ENERGIA
DIRECCION PROVINCIAL EN CANTABRIA

MATRICULA: O-2025-AT
DESTINO:
N.º CERTIFICADO:

Número de identificación: 9249107078
Clasificación del vehículo: 1000

Marca:	PORSCHE	Clase según R. 36:	–
Tipo:	924 A	Anchura total (mm.):	1685
Variante:	–	Vía anterior/posterior (mm.):	1418-1372
Denominación comercial:	924	Longitud total (mm.):	4290
Tara (Kg.):	1145	Voladizo posterior (mm.):	–
PTMA/PMA (Kg.):	1450	Distancia eje 1.º/2.º (mm.):	2400
PTMA/PMA 1.º E (Kg.):	650	Distancia eje 2.º/3.º (mm.):	–
PTMA/PMA 2.º E (Kg.):	850	Distancia eje 3.º/4.º (mm.):	–
PTMA/PMA 3.º E (Kg.):	–	Distancia 5.º rda./ult. (mm.):	–
PTMA/PMA 4.º E (Kg.):	–	Motor: Marca	AUDI
PMR S/F, C/F (Kg.):	–	Tipo	924 XK
N. y dim. neumáticos (*):	4/185/70HR14	N.º Cilindros/Cilindrada (c.c.):	4/1984
N.º de asientos:	dos	Potencia fiscal/real (C.V.F./Kw.):	13,25

Observaciones: Vehículo usado procedente de importación.
Fecha primera matriculación: 18-04-80

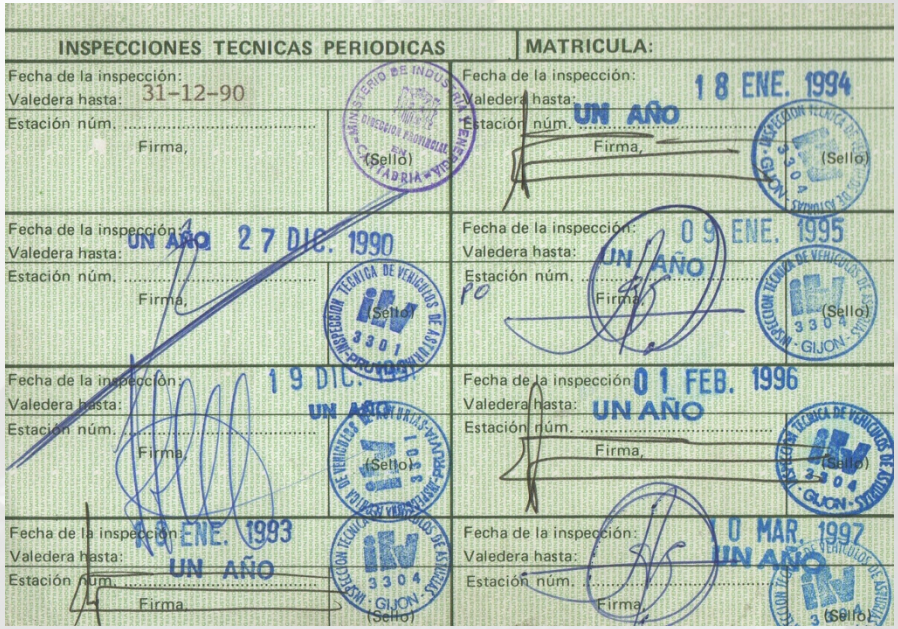
El vehículo cuyas características se reseñan, cumple en esta fecha las prescripciones que para circular por las vías públicas señala el vigente Código de la Circulación y reglamentación pertinente.
Por el Organismo Inspector,
Santander, 6 de abril de 19 89
(sello)
Fdo. Felipe Bigeriego de Juan.

Vehículo dotado de cuatro proyectores de luz de carretera, conformes a la Directiva 76/756/CEE

Reformas autorizadas:

MINISTERIO DE INDUSTRIA Y ENERGIA

The car was purchased and delivered April 18th 1980 in Luxenbourg and was then imported into Spain in 1989.
The first state inspection is performed in Asturais (Spain), December 27th, 1990 and the car was always owned by the same person while in Spain with the first registration being April 14th, 1989.



INSPECCIONES TECNICAS PERIODICAS — MATRICULA:

Fecha de la inspección: Valedera hasta: 31-12-90 Estación núm. ... Firma, (Sello)	Fecha de la inspección: 18 ENE. 1994 Valedera hasta: UN AÑO Estación núm. ... Firma, (Sello)
Fecha de la inspección: UN AÑO 27 DIC. 1990 Valedera hasta: Estación núm. ... Firma, (Sello)	Fecha de la inspección: 09 ENE. 1995 Valedera hasta: UN AÑO Estación núm. ... Firma, (Sello)
Fecha de la inspección: 19 DIC. Valedera hasta: UN AÑO Estación núm. ... Firma, (Sello)	Fecha de la inspección: 01 FEB. 1996 Valedera hasta: UN AÑO Estación núm. ... Firma, (Sello)
Fecha de la inspección: 19 ENE. 1993 Valedera hasta: UN AÑO Estación núm. ... Firma, (Sello)	Fecha de la inspección: 10 MAR. 1997 Valedera hasta: UN AÑO Estación núm. ... Firma, (Sello)



INSPECCION TECNICA DE VEHICULOS
HOJA ADICIONAL

MATRICULA
O-2025-AT

Certificado de Características | HOJA N.º 2

N.º .....

INSPECCIONES TECNICAS PERIODICAS

Fecha de la inspección: 10 MAR. 1998
Valedera hasta/por: UN AÑO
N.º Informe Inspec.....
Firma, (Sello)

Fecha de la inspección: 18 JUL 2004
Valedera hasta/por: 19 JUL 2005
N.º Informe Inspec.....
Firma, (Sello)

Fecha de la inspección: 2 ABR. 1999
Valedera hasta/por: UN AÑO
N.º Informe Inspec.....
Firma, (Sello)

Fecha de la inspección: 25 JUL 2005
Valedera hasta/por: 25 JUL 2006
N.º Informe Inspec.....
Firma, (Sello)

Fecha de la inspección: - 8 MAYO 2000
Valedera hasta/por: UN AÑO
N.º Informe Inspec.....
Firma, (Sello)

Fecha de la inspección: 24 JUL 2006
Valedera hasta/por: 24 JUL 2007
N.º Informe Inspec.....
Firma, (Sello)

Fecha de la inspección: 28 MAYO 2001
Valedera hasta/por: UN AÑO
N.º Informe Inspec.....
Firma, (Sello)

Fecha de la inspección: 18 JUL 2007
Valedera hasta/por: 18 JUL 2008
N.º Informe Inspec.....
Firma, (Sello)
34190 Km.

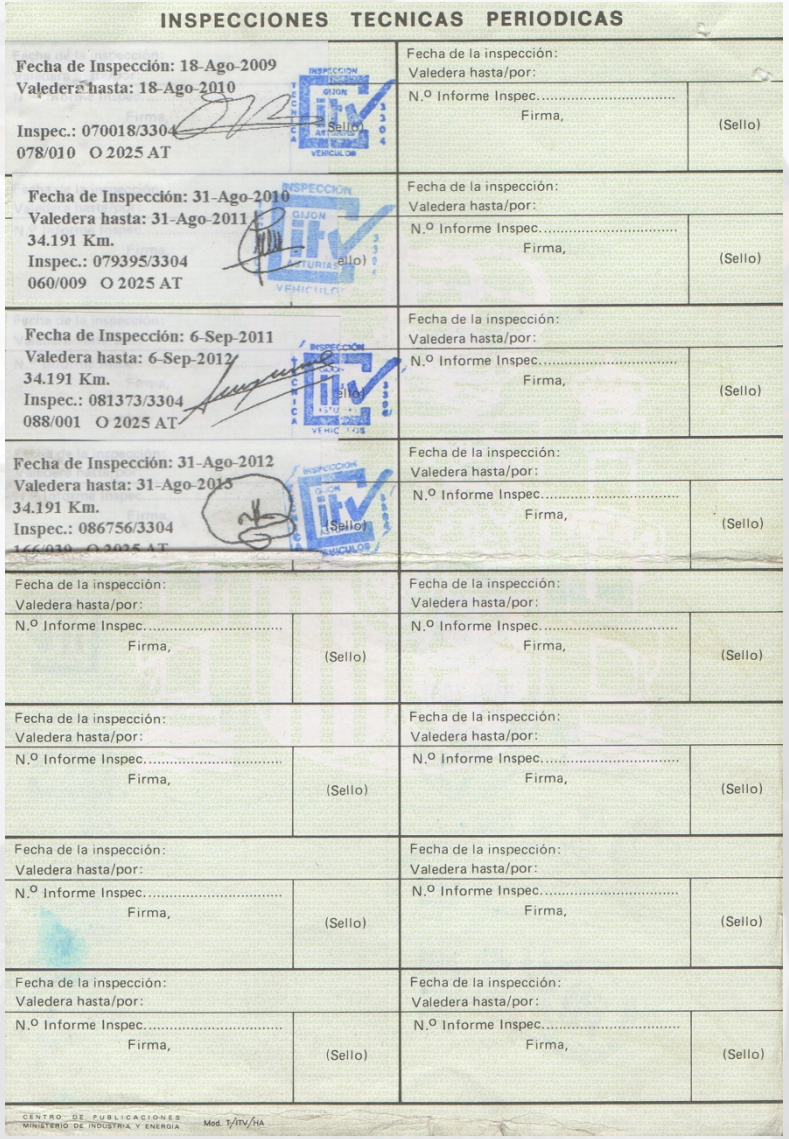
Fecha de la inspección: 15 JUL 2002
Valedera hasta/por: 15 JUL 2003
N.º Informe Inspec.....
Firma, (Sello)

Fecha de la inspección: 25 JUL. 2008
Valedera hasta/por: 25 JUL 2009
N.º Informe Inspec.....
Firma, (Sello)
34.190 km

Fecha de la inspección: 24 JUL 2003
Valedera hasta/por: 24 JUL 2004
N.º Informe Inspec.....
Firma, (Sello)

Fecha de Inspección: 12-Ago-2009
DESFAVORABLE
34.190 Km.
Inspec.: 068764/3304
038/007 O 2025 AT
(Sello)

NOTA.–Este documento no es válido si no va acompañado de la Tarjeta de Inspección Técnica del Vehículo.



INSPECCIONES TECNICAS PERIODICAS

Fecha de Inspección: 18-Ago-2009
Valedera hasta: 18-Ago-2010
Inspec.: 070018/3304
078/010 O 2025 AT
(Sello)

Fecha de la inspección:
Valedera hasta/por:
N.º Informe Inspec.....
Firma, (Sello)

Fecha de Inspección: 31-Ago-2010
Valedera hasta: 31-Ago-2011
34.191 Km.
Inspec.: 079395/3304
060/009 O 2025 AT
(Sello)

Fecha de la inspección:
Valedera hasta/por:
N.º Informe Inspec.....
Firma, (Sello)

Fecha de Inspección: 6-Sep-2011
Valedera hasta: 6-Sep-2012
34.191 Km.
Inspec.: 081373/3304
088/001 O 2025 AT
(Sello)

Fecha de la inspección:
Valedera hasta/por:
N.º Informe Inspec.....
Firma, (Sello)

Fecha de Inspección: 31-Ago-2012
Valedera hasta: 31-Ago-2013
34.191 Km.
Inspec.: 086756/3304
(Sello)

Fecha de la inspección:
Valedera hasta/por:
N.º Informe Inspec.....
Firma, (Sello)

CENTRO DE PUBLICACIONES MINISTERIO DE INDUSTRIA Y ENERGIA Mod. T/ITV/HA

YEAR	INSPECTION PLACE	DATE OF INSPECTION	RESOLUTION	REGISTRERED MILEAGE	OWNERSHIP
1990	Cantabria	31-December-1990	Favorable	No indicado	Two owners, one in Luxembourg and a second one in Spain.
1990	Pruvia – Asturias (3301)	27-December-1990	Favorable	No indicado	
1991	Pruvia – Asturias (3301)	19-December-1991	Favorable	No indicado	
1992	No realizada				
1993	Gijón (3304)	18-January-1993	Favorable	No indicado	
1994	Gijón (3304)	18-January-1994	Favorable	No indicado	
1995	Gijón (3304)	9-January-1995	Favorable	No indicado	
1996	Gijón (3304)	1-February-1996	Favorable	No indicado	
1997	Gijón (3304)	10-March-1997	Favorable	No indicado	
1998	Gijón (3304)	10-March-1998	Favorable	No indicado	
1999	Gijón (3304)	12-April-1999	Favorable	No indicado	
2000	Gijón (3304)	8-May-2000	Favorable	No indicado	
2001	Gijón (3304)	28-May-2001	Favorable	No indicado	
2002	Gijón (3304)	15-July-2002	Favorable	No indicado	
2003	Gijón (3304)	24-July-2003	Favorable	No indicado	
2004	Gijón (3304)	19-July-2004	Favorable	No indicado	
2005	Gijón (3304)	25-July-2005	Favorable	No indicado	
2006	Gijón (3304)	24-July-2006	Favorable	No indicado	
2007	Gijón (3304)	18-July-2007	Favorable	34190 km	
2008	Gijón (3304)	25-July-2008	Favorable	34190 km	
2009	Gijón (3304)	12-August-2009	Desfavorable	34190 km	
2009	Gijón (3304)	18-August-2009	Favorable	No indicado	
2010	Gijón (3304)	31-August-2010	Favorable	34191 km	
2011	Gijón (3304)	6-September-2011	Favorable	34191 km	
2012	Gijón (3304)	31-August-2012	Favorable	34191 km	
2013	NONE	NONE	NONE	N/A	Owned by Santiago Rodríguez and stored until the overhaul was initiated and completed
2014	NONE	NONE	NONE	N/A	
2015	NONE	NONE	NONE	N/A	

GETTING READY

As any other reconstruction challenge, we follow strict processes and always aim to recover as many original components as possible in order to bring them back to OEM specifications. Our goal is to bring back the original car with little or no modifications with the objective to get the feeling we are driving the original car.



The people, the tools and the facilities are key to make each reconstruction process successful.

Our team is formed by OEM trained professionals that know how to approach all tasks of the reconstruction such as:

- Project management, logistics, reporting, tool design and development, obsolescence management and finally time management.
- Poweplant know-how and experience
- Frame, chassis, paint and sheet metal know-how and experience
- Upholstery and interior
- Electrical
- Troubleshooting

This report is broken into different sections that will help the reader understand the origins, the end result and everything in between.





PART I. REPORT OF DISCREPANCIES

PART I. REPORT OF DISCREPANCIES

Once the vehicle arrives to our facilities we perform a visual inspection and a more in detail inspection in order to ascertain the extent of the repair and an estimate cost analysis.

First visual inspection:

- Car is delivered with an spacer between the spark plug and the cylinder head number #4 in order to reduce engine compression. We are not sure of the reason for this spacer until we perform the engine overhaul at a later time. Without this spacer the engine does not start.
- Severe corrosion within the rear bonnet due to the poor state of the seals and trunk lock grommets.
- Very soft suspension, in later inspections we find out that the 4 struts are broken and do not hold any pressure.
- Very spongy breaks and with little response. At later inspections we find front brake pads retainer springs broken and rear drums heavily corroded.
- Corrosion found within the battery area.
- Very poor quality of the body paint with many signs of orange skin, paint drops and painted door seals and front and rear lights. Terrible paint job done sometime in the past to cover imperfections and corrosion areas.
- The rear trunk bonnet struts do not hold the weight of the glass.

Test Drive:

- Battery unserviceable.
- Difficulties to start the engine. Poor quality of the starter; the fuel pump relay is inoperative and the in tank pump is not providing sufficient fuel flow to obtain a sustainable engine combustion.
- Engine is weak and has great difficulties to start. On highway test drive, it is difficult to maintain 120 km/h and we loose power on uphill conditions. Tach indicates that engine is able to reach red line, but engine is very weak.
- Good stability but weak suspension.
- Cabin heat is always active. Controls unable to quit heating systems. We later on find out that the cabin linkage is loose and cabin heat exchanger is broken leaking fluid in the cabin.
- No position lights, no blinkers and no rear light. We later on find out that body ground terminals are corroded and some terminals are loose and brittle.
- When selecting left blinker, wiper is activated randomly. We later on find out that controls connections and terminals are loose and some are broken.
- Erratic indications on speedometer and inoperative odometer. We later on find out internal gears are worn out and primary cable is loose

Discrepancies found during the reconstruction process:

Frame:

- Internal doorframes are corroded on the lower part due to water leakage from poor window seals.
- Serious corrosion found on internal rear trunk beams due to water leaking via the rear bonnet lock grommets.
- Corroded floor area within passenger area, towards engine firewall area.
- Spare wheel compartment is corroded due to water leaking from poor rear window bonnet seals and grommets.
- Several corrosion areas found within engine compartment.
- Corrosion within the battery compartment area.
- Weak and cracked door hinges supports.

Ware and tear of critical areas:

- Clutch whole support through the firewall is heavily cracked and almost broken. This could have caused complete loose of clutch.
- Seals, grommets and silent-blocks. All seals cracked and dried out with no sealing properties. Engine silent-blocks were heavily corroded and cracked with no capacity to absorb vibrations. Alternator silent block broken causing a loose alternator and weak alternator belt. Engine fuel pump silent blocks broken.
- The general condition of the hardware is poor and heavily corroded.

Power plant

- Broken #4 piston.
- #4 cylinder walls out of tolerance and heavily scratched.
- #4 Cylinder head deteriorated with metal particles from the piston and segments.
- Main crankshaft bearings supports out of tolerance. It is decided to go next oversize (0,25), but we were unable to find oversized bearings, therefore a new crankshaft is purchased with new standard bearings. The process to find these bearings was a critical part of this reconstruction process. The bearings were in very poor condition heavily scratched due to poor lubrication.
- Water pump impellers broken and pump almost seized.
- As mentioned before, the engine silent blocks are broken and the lack of the original ones forced us to install new generation silent blocks that are stiffer but provide a direct driving condition with a better felling on the road.

Fuel

- Underbody return fuel line broken with lose of fuel and severe safety conditions.
- Inoperative fuel pump.
- Fuel accumulator internal spring seized.

Electrical

- Broken or brittle wires on soldered terminals areas. Cables within engine compartment area rigid and brittle and with broken insulation.
- Body ground terminals corroded and poor conductivity with high resistivity values.

Frame:

- Suspension:
  - Fron and rear struts broken.
  - All Silent-Blocks, grommets and seals brittle and or broken.
  - Rear R/H torsion bar seized within frame due to heavy corrosion. 25 mm bars are installed instead of the original 23.5 mm, due to lack of the original ones.
  - Rear external torsion bar axles deteriorated and out of tolerance with heavy corrosion.
- Front brake pistons seized due to corrosion.
- Rear drums deformed and broken in several areas of the drum.
- One wheel out of tolerances.

Transaxle

- Uneven movement of driveshaft. We tried to compare it with other units, but they all suffer from the same problems. Given their length and engine torque requirements, they end up bending more or less. This part is no longer available, so we installed the one in better condition.
- We find large quantities of metal particles within the differential internal housing coming from the gearbox area. These particles come from the gear key lock units.

Interior:

- Seats: Leather in poor condition, broken and cracked. Cushion areas are deformed with lumbar areas.
- Carpet: extremely dirty and worn out with fungus due to exposure to liquids.
- Dashboard. Heavily cracked due to exposure to sunlight.

- Ventilating ducting system. Very dirty and large accumulation of dust. They are treated with and ozone product to clean from odors.

This report tries to show the steps taken in order to correct some of the found discrepancies, but it is difficult to include everything into this report.

The quality of a vehicle or any mechanical device shows with time and aging, and the ability to perform as it was designed. Therefore, it is important to note the state in which this vehicle entered into our facilities and most importantly that it did so in operating conditions. It was difficult to understand that a vehicle in operating conditions was going to be in such a terrible condition and with so many safety issues. The quality of this car is proven after so many years operating under difficult conditions. One this complete remanufacturing process is completed it will certainly bring the feeling that you are driving a complete new vehicle. Many of the discrepancies found during the reconstruction process would have never been found. The problem with this family of vehicles is that people do not spend a lot of money to repair them given their low market value and they end up dying in junkyards and out of our roads. Give the 924 a chance to survive and a chance to be an important part of the Porsche history.

I am very proud of the overall reconstruction process and given the extent of the repair, it could easily be part of a collector's private museum. There are not so many 924 in the world with this restoration level. If you like the 924's, you must see this car, and if you are one of those that do not think much about the 924, you also need to see this unit. Weather you like the 924's or you hate them, this one will definitely draw your attention and will make you want one. It is a fantastic car.

The following pages try to display with photos some of the most important reconstruction steps as well as the found discrepancies.

PART II. CLEANING AND REPAIR



PART II. CLEANING AND REPAIR

Every reconstruction process starts with an organized work area and an in depth cleaning routine of all components as well as the work area and surroundings.
Every single part and component that needs to be overhauled and brought back within OEM tolerances needs to be thoroughly cleaned in order to obtain the correct measurements and the best results. Blasting at low pressures helps bringing to surface not only the imperfections that may be hidden behind paint, or corrosion but also behind grease, oily surfaces, dust and after all, any kind of dirt.

The following are the most critical areas:

- Body:
    - *Interior*: The interior of these vehicles tends to be forgotten as it is often covered with carpet and the seats and not many people may have the ability to check behind "the scenes" after the reconstruction is completed. The cleaning and reconstruction process in this vehicle has been exhaustive and the interior has been meticulously blasted, sanded and treated with dissolvent to remove ALL residues form the original isolation plates. These plates are heavy and with a high level of sticky and difficult to remove compound. The most important goal in this reconstruction is to bring the car back to it´s original state of delivery, and for this reason I invested a long time to clean the carpet, but only to find out it was not reusable considering the level of reconstruction completed in the overall vehicle.
    - *Undercarriage*: Complete removal of the original surface treatment and application of later generation products designed to better protect the underbody.
    - *Exterior*: Preparing and old 36-year-old vehicle that has been repainted several times in its life, takes some time. But then again, it all starts with a meticulous cleaning technic.
- Mechanical: Every single component, from the smallest ones to the largest ones are carefully cleaned before they are being prepared for the applicable blasting processes.

CLEANING THE FRAME. INTERIOR





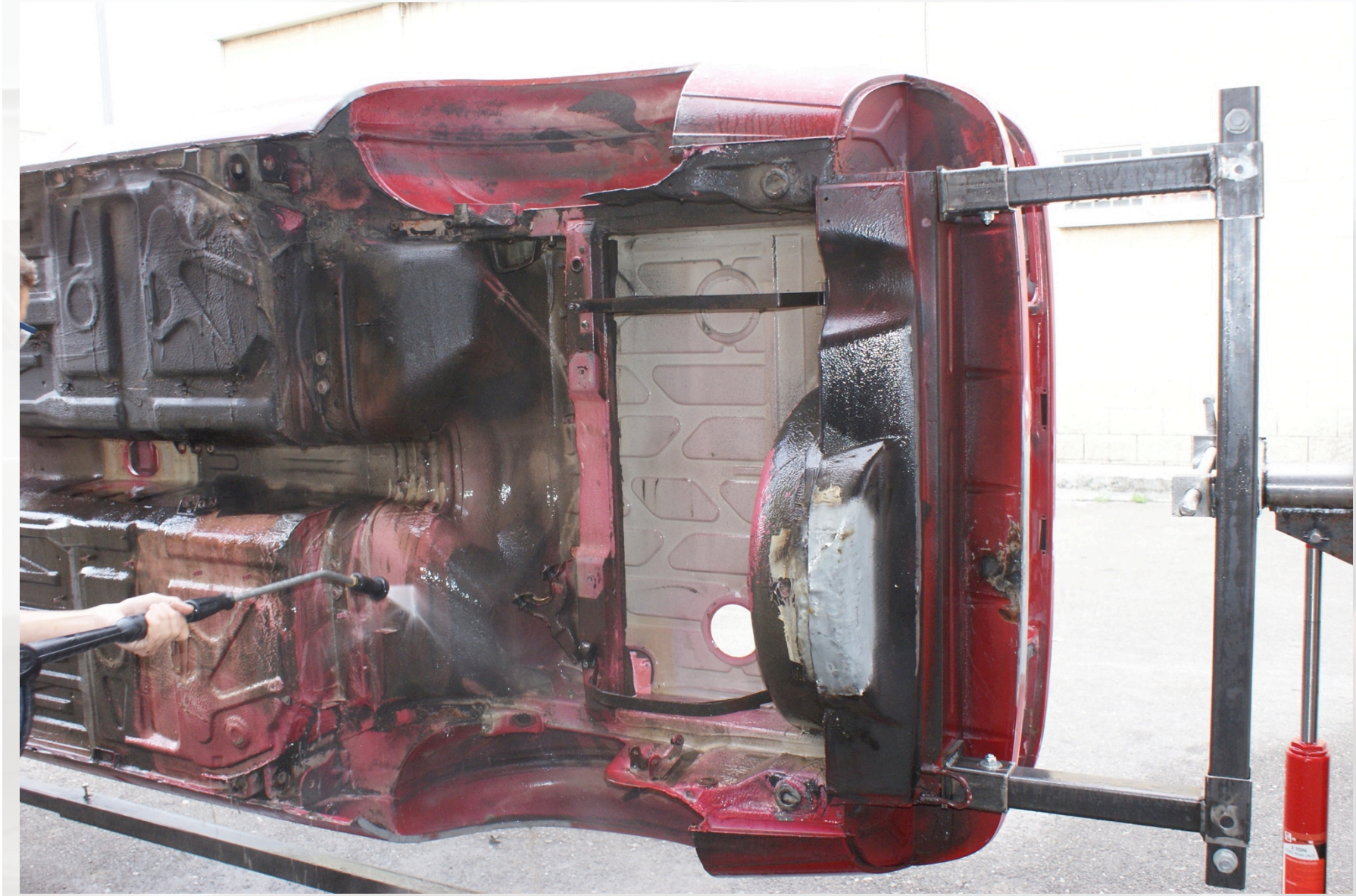
The internal surfaces have been cleaned from any residues of the former fiber thermal blankets and the isolation plates. They were once glued in the fnterior and all together with their sticky nature makes it difficult to remove all traces of these materials.

The trunk floor and the central tube where the transaxle is located were protected with the factory installed heat shields due to the location of the exhaust, and the removal has been teadious, but the result was very rewarding not only to the eyes, but also after the car was completed, given the impressive levels of acoustic and heat confort levels
Una vez que el interior . Removing the original plates, helped discover corrosion lyaing behind the mentioned plates.





CLEANING DE FRAME: UNDERCARRIAGE



CLEANING ALL MECHANICAL COMPONENTS.

All mechanical components are removed, leveled and cleaned prior their blasting processes. Depending if they are cast iron or aluminum based, we apply aluminum silicate or armex blasting.





CLEANING THE INTERIOR: CARPET





As mentioned before, I try to recover all the components, nevertheless, the carpet was very worn out and with high levels of humidity leading to a favorable envoriment for fungus to grow. After investing such a long time cleaning the entire carpet and leather, I had to take the difficult decision to replace it with new carpet fitted for this vehicle.

PART III. FRAME RESTORATION

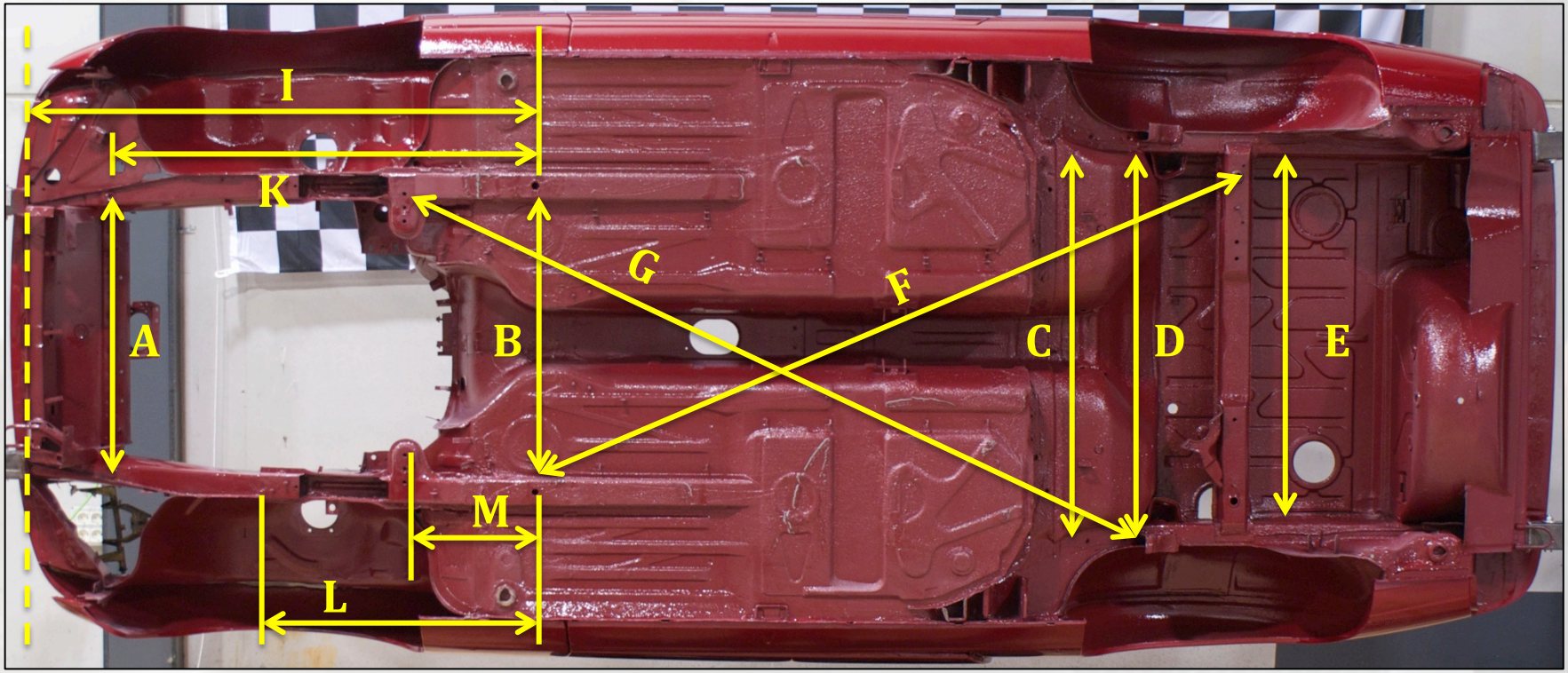


PART III. FRAME RESTORATION

CHASIS AND FRAME

DIMENSSION	ORIGINAL MEASSURE (mm)	OBTAINED MEASSURE (mm)
A	710 +/-3	710
B	758 +/- 1	758
C	1032 +/-2	1032
D	1032 +/-2	1032
E	1022 +/-3	1021
F	1978 +/-5	1977

DIMENSSION	ORIGINAL MEASSURE (mm)	OBTAINED MEASSURE (mm)
G	2042 +/-5	2041
H	1075 +/-5	1074
I	1360 +/-5	1358
K	1145 +/-5	1142
L	684 +/-3	686
M	330 +/-3	332



CHASIS COMPONENT CONDITIONS. None of the rubber-based components in the vehicle were in "worthy" condition. All the engine and suspension silent blocks were completely worn out and broken apart in some cases…



The Left Hand engine mount has an internal spring that helps dampening the engine vibrations. This spring was broken and corroted beyond limits and the rubber based material was delaminated and cracked. The Silent block chosen elements are a bit stiffer, helping the exhaust system and providing a firm but conformateble ride. Several components in the vehicle were replaced by new generation ones, but due to the lack of the original parts. I



GEAR BOX AND REAR SUSPENSISON SILENT-BLOCKS. Gearbox units were replaces as they were delaminating and separating form the metal parts. After cleaning the rear suspension units, we find them in good condition and are treated with rubber-based lubricants to recover their properties . Once cleaned, the metal parts are protected again with epoxy based black paint.



Gear box silent blocks



Rear suspension main silent blocks.



Rear suspension axle blocks.

REAR AXLE STRUTS AND TORSION BARS. The overall condition of the rear suspension was in very poor condition and severely corroded. The rear axle struts and the torsion bars are replaced with new parts and the struts are also replaces since the mounted ones did not hold the pressure. The rear eccentric bolts were useless and frozen making impossible any adjustment on the rear axle, so they are replaced with new ones.



The Right Hand torsion bar is severlly corroded within the rear axle strut It was completely frozen and impossible to remove. Both parts are replaced with new ones. A lot of water and moisture filters through the side links, leading to this corrosion issues.



Severe delamination corrosion in the entire part. The eccentric rear adjustment bolts are completely frozen and useless. The adjustment bolts were replaced with new ones.



The external diameter of the side suspension axle struts are elongated, deformed and deeply corroded. The rubber adapters lost all their elastic properties and were not protecting the torsion bars from humidity. These parts were replaced with new ones.

SEVERAL SAMPLES OF SURFACE CONTROL TREATMENT
SAMPLE I. CORROSSION FOUND IN CABIN FLOOR AREA

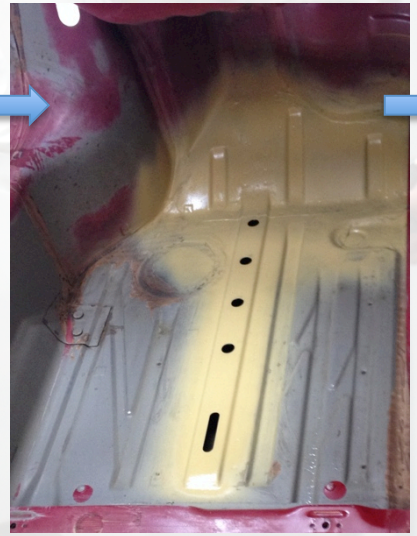


STEP 1: After corrosion is located, we remove all traces of the former isolation material in order to proceed with a proper treatment and to obtain a fully naked frame



STEP 2: The area is cleaned with dissolvent, sanded and a protective anty corrosive treatment is applied.

STEP 3: Additional surface treatment additives are applied.



STEP 4: Preparation for the priming and final surface treatment.



The Right nad side door area was showing signs of delamination and corrosion due to the exposure to the engine coolant that was leaking from the cabin heat exchange unit located above the central console. This area was covered with a thick foam part that was blocking the heat form the firewall. This foam part was very deteriorated due to the exposure to the coolant liquid. The rubber hoses going through the firewall into the heat exchanger were cracked and loose leading to a constant dripping of collant into the floor area.





STEP 5: Once in the owen, a first epoxy primer coat is applied followed with special sealant on the inspection panels and junction areas.



STEP 6: A first coat of paint is applied inside the owen at 24 degrees, followed with a second coat that is dried at 60 degrees during 46 minutes.





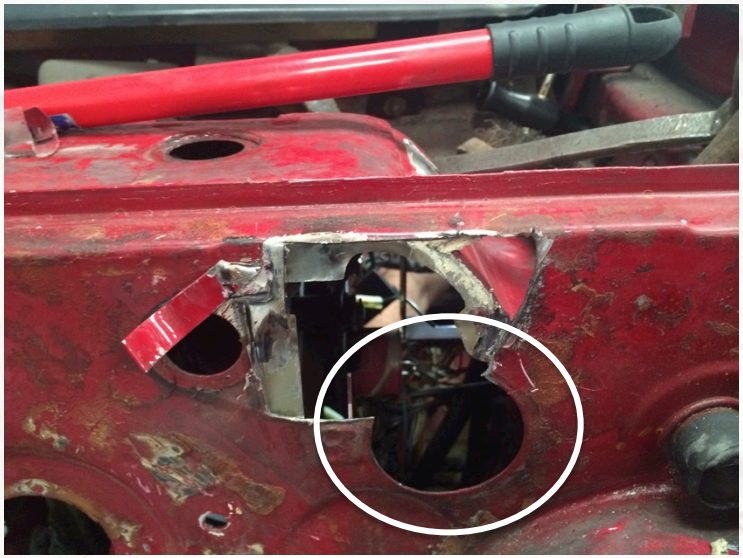
SAMPLE II. CORRISSION FOUND IN SPARE TIRE COMPARTMENT.

This area was clearly affected by corrosion due to the poor condition of the trunk seals that were leaking water into the lower part of the trunk and spare tire compartment. All affected areas were treated with the same level of detail and each process was applied meticulously in order to obtain a good final look and an even better protected area. It is important to show this processes with these photos in order to give an idea of all the processes behind the end result.






SAMPLE III. CLUTCH BROKEN SUPPORT THROUGH THE FIREWALL



This photo shows the hole where the cable clutch is guided through the firewall. After 35 years of applying pressure over and over again, the firewall was cracked in this critical area that could have caused a complete faiture of the clutch. We had to cut the cracked sheet metal and welded again after reworking it to make sure it was straight and reinforced.



Once the new piece is welded, and a corrosion protection is applied, it is primed, prior sanding the entire engine compartment area, which will be entirely primed and painted.

SAMPLE IV. WHEEL HOUSING TREATMENT.

I



Cleaning the protecting the wheel housing is a must in order to apply the necessary sealant within the areas that join with the cabin compartment. This is necessary to avoid moisture or water penetration in the cabin area

II



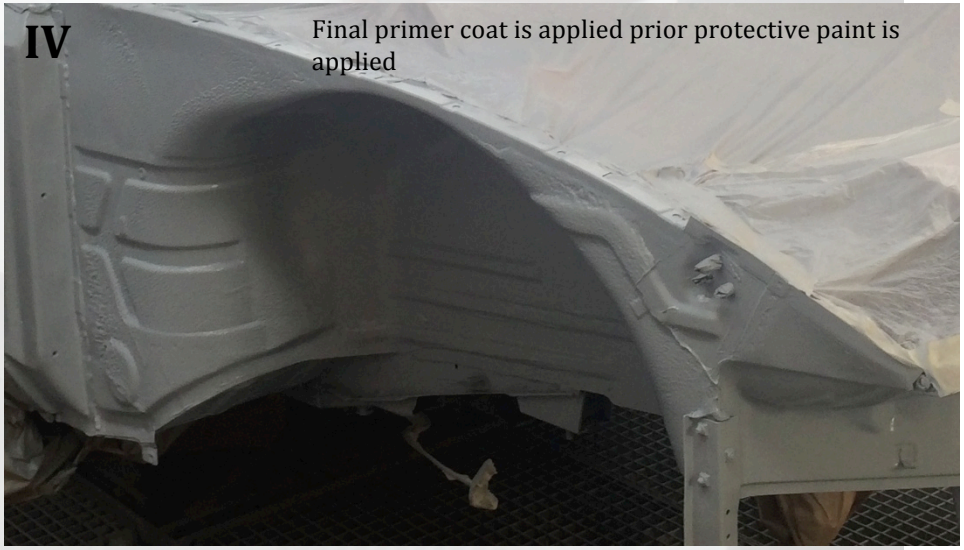
III

Once cleaned, primer is applied followed by another coat of sealant in the junction areas.



IV

Final primer coat is applied prior protective paint is applied



V

Protective paint is applied over the epoxy primer in all the wheel housing and underbody areas.



SAMPLE V. UNDERBODY TREATMENT AND FINAL PROTECTIVE PAINT APPLICATION



STEP I: High pressure cleaning and aluminum silicate balsting applied to areas with signs of corrosion.

STEP II: Full decontamination and removal of the original protective paint, prior the protective primer and final paint is applied.



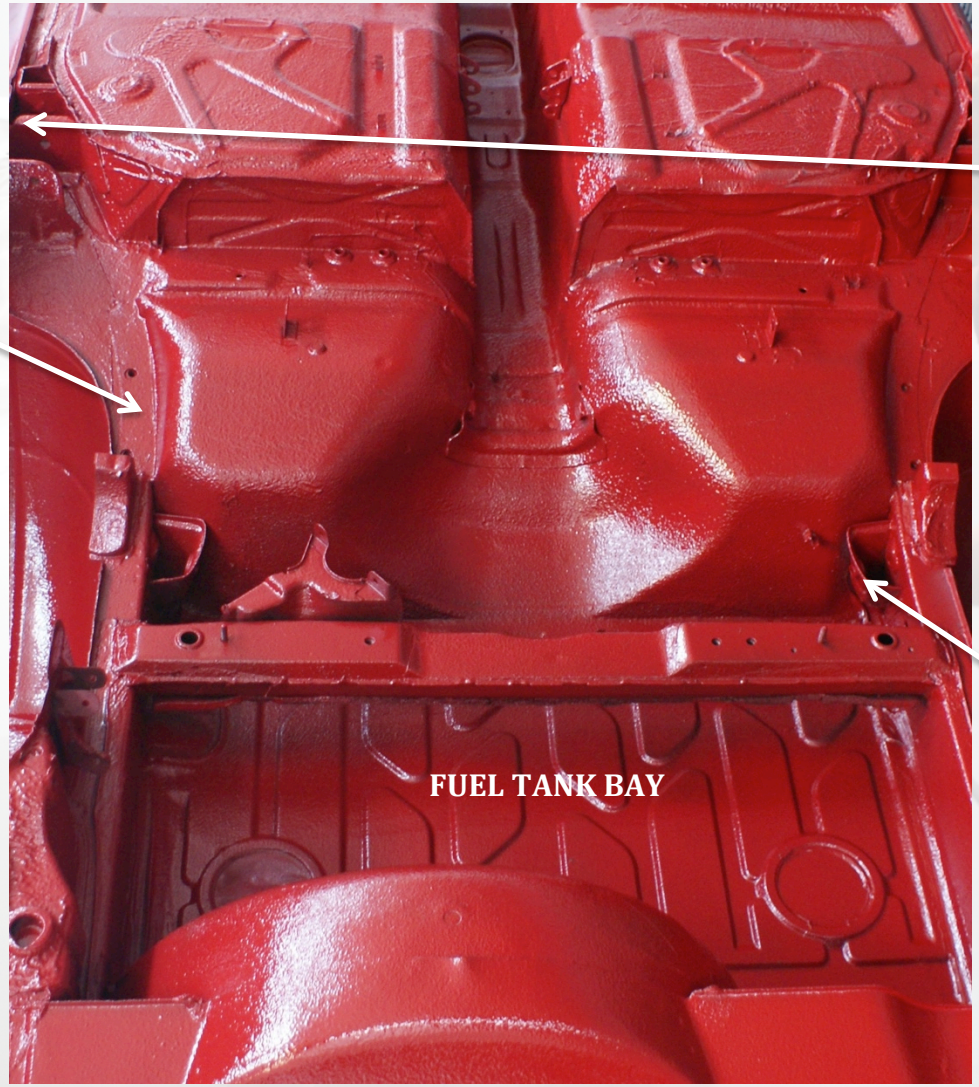
PASO III: Fully expoxy primed prior application of the final 3M protective paint.

PASO IV: The entire underbody is painted to match the vehicle color.

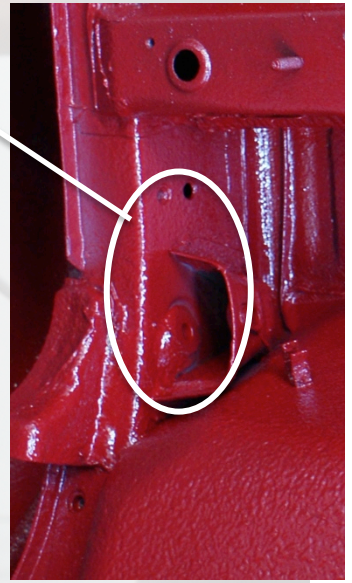
SAMPLE VI. SURFACE TREATMENT OF REAR SUSPENSION ATTACHING POINTS.






FUEL TANK BAY





SAMPLE VII. FRONT WING AND DOOR TREATMENT

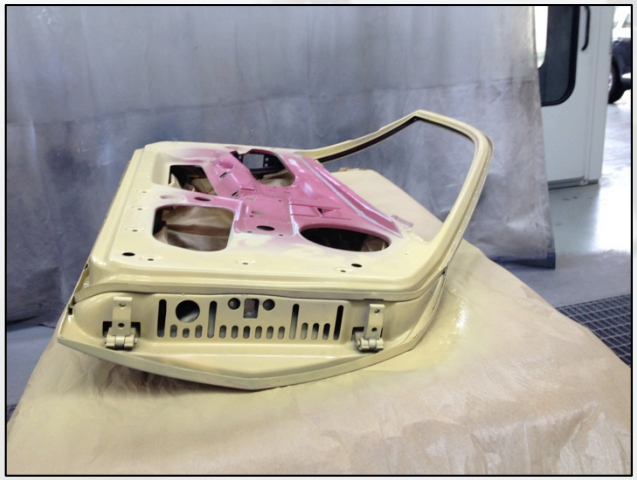


Cleaning, blasting, priming, and protective paint. This areas suffer a lot from dirt accumulation and a good treatment is necessary.





The internal lower parts of the doors were in bad condition and with severe corrosion due to the accumulation of water from the window operation and poor coniditon of window seals.



SAMPLE VIII. The car is removed from the rotisserie in order to prepare the bumper areas. The wheel housings are treated with the protective paint prior installing the side wings.



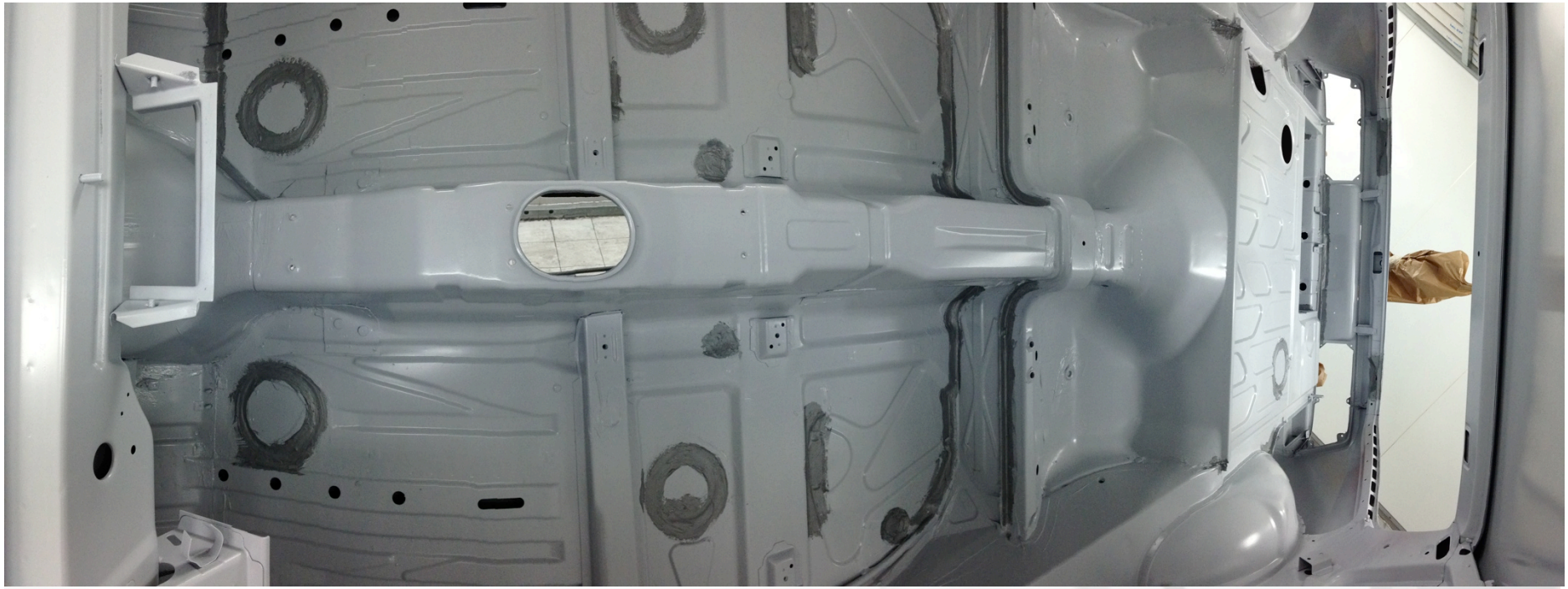
PAINT AND FRAME PROTECTION

Preparation of the INTERIOR in the oven. The overall condition of the interior was good except for the floor are in the passenger side as indicated on the photo. Once this are was treated, the interior was ready for final priming and painting.



Primer application in the entire cabin area and sealant is applied in an inspection panels and junction areas.













EXTERIOR.

It took some time to remove 35 years of poor care and quite a few coats of paint and filler to cover defects. Side wings, hood and doors were in poor shape. The hood was replaced. There was no need to blast the body since there were no signs of corrosion, but at the end of the process, it took us a long time to remove all defects and obtain a fully clean body prior the application of final coatings. Unfortunately, the side wings and doors were no longer available, and these parts took a long time to recover, specially to recover the original lines and to have them precisely aligned altogether.



STEP I: Removing all imperfections from the body and the application of polyurethane products to equlizae the surface smoothly. Searching and recovering the longitudinal lines took some time, but the end result was rewarding. Finding the lines in the most front side of the wings with the pop up head lights was challenging.



STEP II: We apply a polyurethane based filler all over the body in order to detect any imperfections.





STEP III: We sand the entire body again which then leaves a very thin coat of the polyurethane based filler helping us define all possible imperfections much better.

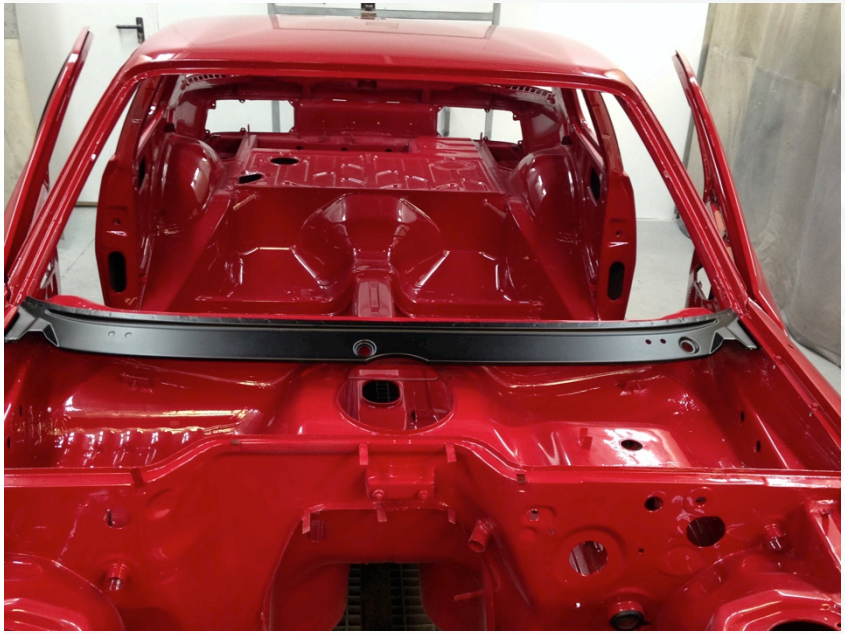
step IV: Paint rigging is applied prior the application of the final paint coat. This process helps us determine the final condition of the body and to repair any possible defects found within this final stage. One last sanding is performed followed by a meticulous cleaning and degreasing process in the owen.





STEP V: These are the most rewarding steps in the body restoration as we start to see the state in which the body will look like. One first coat of R&M paint is applied and dried in the owen during 11 minutes at 70 degrees. Once dried, a second coat is applied under the same conditions. We are finally ready for the last phase, after almost 200 hours of work in the reconstruction of the frame itself.

STEP VI: We apply two coats of the final lacquer after drying it at 90 degrees during 25 minutes and we also let it dry during the night. The following day, we detect some imperfections on the lacquer itself, and we opt to sand it and apply a final coat with the same steps that finally leaves a great result.



STEP VII: After performing one last check of the final quality, we proceed to paint the black areas as displayed on these two photos. We are finally ready to begin the final assembly of the car.



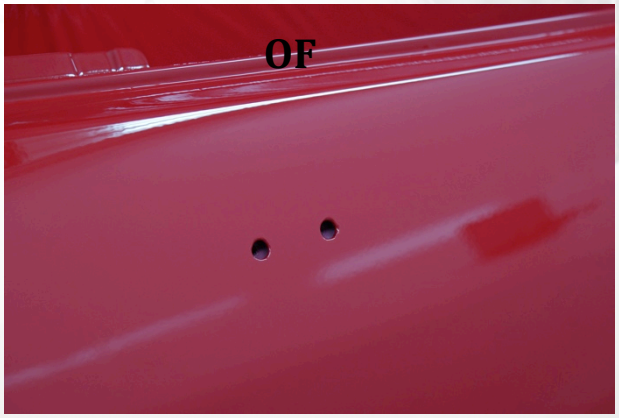
THE CLASSIC

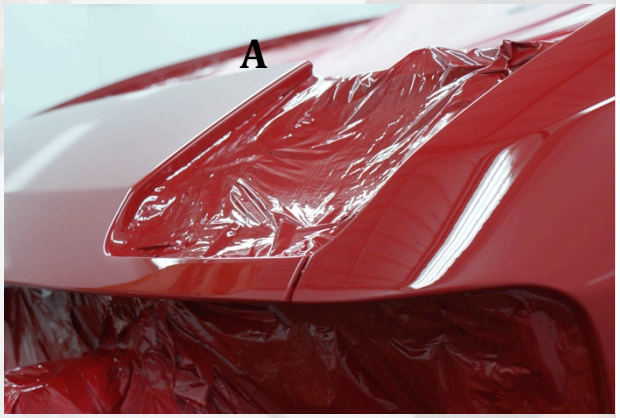



















QUALITY AND ATTENTION TO DETAIL


PRECISSION


COMMITMENT


PASSION

PART IV: COMPONENT REPAIR



PART IV: COMPONENT REPAIR

BLASTING AND PRIMING OF COMPONENTS

We invested a great deal of time to restore and overhaul ALL components in order to recover as much of the original parts as possible. Due to the corrosion, we opted to use blasting techniques at low pressures (3 to 4 bars) using Armex for the aluminum based parts and aluminum silicate for all the cast iron parts.
Applying aluminum silicate blasting leaves all parts free of any residues and corrosion but these parts need to be epoxy primed immediately after the blasting is complete, because if we do not do so, the parts will become corroded again.
We opted no to blast the body itself, since it had little signs of corrosion.

THE PROCESS

The blasting process follows these steps:
1. - Disassembling all components completely in order to avoid damage to mechanical components and to reach to all areas easier during the blasting.
2. - Removing all traces of paint and rust with aluminum silicate at 3 to 4 bars of pressure. Delicate areas such as the internal part of the gearbox housing are blasted with Armex that is less abrasive. All aluminum parts were blasted several times with Armex in order to keep the original color of the aluminum and bring the best of each part. The blasting on all aluminum parts was first done with deteriorated aluminum silicate, which is less aggressive followed by a final blast with Armex.
3. - It is very important to blow all blasted parts with air in order to remove all traces of metal powder from all parts. This is very important in certain components such as the engine air intake, which was blasted inside and outside.
4. - All cast iron parts are epoxy primed after being blasted.
5. - A final coat of two-component polyurethane paint (black or silver) is applied on all cast iron components.

List of blasted and overhauled components with reference to the Porsche Parts Catalog Illustration and item numbers.

QTY	ILLUSTRATION	ITEM	P/N	DESCRIPTION	AVAILABILITY	BLASTING	PRIMER	PAINT	NOTES
1	101-10		047103101E	Cylinder block		Aluminum Silicate	Epoxy	Black. High temperature paint	Immersed on acid bath, polished cylinders and blasted outside block and painted to original specs.
5	101-10		059103113	Block lids	NLA	N/A	N/A	N/A	Made new ones in 10mm aluminum blocks
1	102-00		048105255A	V-Belt pulley Simple		Aluminum Silicate	Epoxy	Black	
1	103-00	18	047 103 475	Cylinder head cover		Armex soda			
1	103-00	6	047 103 353 C	Cylinder head		N/A	N/A	N/A	Clean on acid bath. Avoid blasting
1	103-05	8	048 109 123	Cover for toothed belt		Aluminum Silicate	Epoxy	Black	
1	105-00	2	059 121 031	V-Belt pulley water pump		Aluminum Silicate	Epoxy	Black	
1	105-05	23	048 121 117	Thermostat housing		Armex soda			
1	105-05	25	059 121 121	Lid thermostat housing		Armex soda			
1	105-05	44	477 121 413 B	Bracket support expansion tank		Aluminum Silicate	Epoxy	Black	
1	106-00	3	047 129 545	Bracket support air cleaner mounting		Aluminum Silicate	Epoxy	Black	
1	106-00	9	047 129 547	Bracket support air cleaner mounting		Aluminum Silicate	Epoxy	Black	
1	107-10	9	047 133 191 D	Fuel lines support		Aluminum Silicate	Epoxy	Grey Aluminum	
1	107-10	11	047 133 201	Intake manifold		Armex soda			Aluminum base color. After treatment, the part is washed on a washing machine for mechanical parts in order to avoid rests of aluminum powder on the intake
1	109-00	7	477 199 305 C	Left hand engine mount		Aluminum Silicate	Epoxy	Black	
1	109-00	8	477 199 308 C	Right hand engine mount		Aluminum Silicate	Epoxy	Black	
1	201-00	6	477 201 129 B	Fuel filler neck		Aluminum Silicate	Epoxy	Black fuel resistant	

QTY	ILLUSTRATION	ITEM	P/N	DESCRIPTION	AVAILABILITY	BLASTING	PRIMER	PAINT	NOTES
1	201-00	1	477 201 021 F	Fuel tank		Aluminum Silicate	Epoxy	Black	
1	201-00	15	477 201 311 B	Left hand fuel tank retaining strap		Aluminum Silicate	Epoxy	Black	
1	201-00	16	477 201 302	Right hand fuel tank retaining strap		Aluminum Silicate	Epoxy	Black	
1	201-14	11	477 209 295 A	Fuel pump support		Aluminum Silicate	Epoxy	Grey Aluminum	
1	201-14	9	477 209 291	Pressure accumulator support		Aluminum Silicate	Epoxy	Grey Aluminum	
1	202-00	14	477 253 139	Exhaust "U" clip		Aluminum Silicate	Epoxy	Black	
1	202-00	15	944 111 307 00	Exhaust support		Aluminum Silicate	Epoxy	Grey Aluminum	
1	202-00	19	477 253 245	Exhaust support		Aluminum Silicate	Epoxy	Grey Aluminum	
1	202-15	10	477 253 255 B	Rear silencer support 4 speed trans.		Aluminum Silicate	Epoxy	Black	
1	202-15	11	477 253 253 C	Rear silencer support 4 speed trans.		Aluminum Silicate	Epoxy	Black	
1	202-15	17	477 253 139	Exhaust "U" clip		Aluminum Silicate	Epoxy	Black	
1	202-15	18	944 111 307 00	Exhaust support		Aluminum Silicate	Epoxy	Grey Aluminum	
1	202-15	20	477 253 149 C	Exhaust support		Aluminum Silicate	Epoxy	Grey Aluminum	
1	301-00	7	477 521 230 B	Central transaxle tube 4 speed trans.		Aluminum Silicate	Epoxy	Black	
1	301-00	7	478 521 230 B	Transmission housing		Armex soda			
1	301-00	2	477 521 211 B	Clutch housing		Armex soda			
1	301-00	1	477 521 145 A	Clamping sleeve axle to trans. Primary		Aluminum Silicate	Epoxy	Black	
1	302-00	1	088 301 103 C	Transmission and diff. case		Armex soda			Aluminum base color
1	302-00	4	088 301 211 C	Transmission end plate housing		Armex soda	Epoxy	Black	
1	302-00	7	088 301 453	Lid cover for gear shift rod		Armex soda			Aluminum base color
1	305-00	4	088 409 131 C	Differential cover plate		Armex soda			Aluminum base color

QTY	ILLUSTRATION	ITEM	P/N	DESCRIPTION	AVAILABILITY	BLASTING	PRIMER	PAINT	NOTES
1	306-00	6	477 399 167 B	L/H Suspender bracket trans. Mounting		Aluminum Silicate	Epoxy	Black	
1	306-00	6	477 399 168 C	R/H Suspender bracket trans. Mounting		Aluminum Silicate	Epoxy	Black	
1	401-00	14	477 407 321 J	Cross member front suspension		Aluminum Silicate	Epoxy	Black	
2	401-00	1	477 407 153 F	Front suspension wishbone arm		Aluminum Silicate	Epoxy	Black	
2	401-00	5	477 407 169	Front suspension silent-block clip		Aluminum Silicate	Epoxy	Black	
1	401-05	1	477 407 311 G	L/H Steering knuckle		Aluminum Silicate	Epoxy	Black	Not applied on axle surfaces
1	401-05	1	477 407 312 G	R/H Steering knuckle		Aluminum Silicate	Epoxy	Black	
1	401-05	7	477 405 691	L/H roller bearing cap. Speedometer link		Aluminum Silicate	Epoxy	Black	
1	401-05	7	477 405 692	R/H roller bearing cap		Aluminum Silicate	Epoxy	Black	
1	402-00	2	944 343 031 14	L/H vibration damper. Front strut		Aluminum Silicate	Epoxy	Black	
1	402-00	2	944 343 032 14	R/H vibration damper. Front strut		Aluminum Silicate	Epoxy	Black	
2	402-00	8	133 412 341	Concave washer front struts		Aluminum Silicate	Epoxy	Black	
2	402-00	11	477 412 345	Front strut bearing flange		Aluminum Silicate	Epoxy	Black	
1	403-00	15	477 419 951 F	Steering drive shaft		Aluminum Silicate	Epoxy	Black	Not applied to crosstree axles
1	403-00	1	477 419 061 C	Steering gear		Aluminum Silicate	Epoxy	Black	Not applied to pinion and rack. Internal components greased accordingly
1	403-00	2	477 419 803 B	Steering gear tie rods		Aluminum Silicate	Epoxy	Black	Not applied to threaded ends
1	403-05	7	477 419 505 J	Steering column		Aluminum Silicate	Epoxy	Black	
1	403-05	13	477 419 563 B	Steering column tube		Aluminum Silicate	Epoxy	Black	
1	403-05	8	411 417 605	Steering column support ring		Aluminum Silicate	Epoxy	Grey Aluminum	

QTY	ILLUSTRATION	ITEM	P/N	DESCRIPTION	AVAILABILITY	BLASTING	PRIMER	PAINT	NOTES
1	501-00	1	477 500 053	Rear axle carrier		Aluminum Silicate	Epoxy	Black	
1	501-00	7	477 501 035 D	L/H rear axle link		Aluminum Silicate	Epoxy	Black	
1	501-00	7	477 501 036 D	R/H rear axle link		Aluminum Silicate	Epoxy	Black	
2	501-00	14	113 511 227 B	Rear axle link lid		Aluminum Silicate	Epoxy	Black	
1	501-05	15	944 331 059 00	L/H Bearing flange. Rear axle		Armex soda			Aluminum base color
1	501-05	15	944 331 060 00	R/H Bearing flange. Rear axle		Armex soda			Aluminum base color
1	501-10	9	113 501 303	Drum brakes lid support		Aluminum Silicate	Epoxy	Black	
5	601-00	1	477 601 029 A	14 " aluminum alloy wheels		Aluminum Silicate	Epoxy	Silver Porsche wheel	
1	602-00	5	477 615 107	L/H Front brake floating caliper		Aluminum Silicate	Epoxy	Grey Aluminum	
1	602-00	5	477 615 108	R/H Front brake floating caliper		Aluminum Silicate	Epoxy	Grey Aluminum	
2	602-00	1	477 407 165 B	Front brake cover plates		Aluminum Silicate	Epoxy	Black	
1	603-00	7	113 609 439 E	L/H rear drum brakes caliper carrier		Aluminum Silicate	Epoxy	Black	
1	603-00	7	113 609 440 E	R/H rear drum brakes caliper carrier		Aluminum Silicate	Epoxy	Black	
1	604-00	1	477 611 015 A	Brake master cylinder		Aluminum Silicate	Epoxy	Black	Not applied to threaded ends
1	604-05	11	477 612 107 B	Brake booster		Aluminum Silicate	Epoxy	Black	
1	604-05	10	477 611 945	Intermediate brake booster assy plate		Aluminum Silicate	Epoxy	Black	
1	701-00	2	477 711 107 B	Gear shift rod		Aluminum Silicate	Epoxy	Black	
1	701-10	1	477 711 305 B	Parking brake lever		Aluminum Silicate	Epoxy	Black	
1	701-10	13	477 711 339 B	Parking brake tooth sector		Aluminum Silicate	Epoxy	Black	

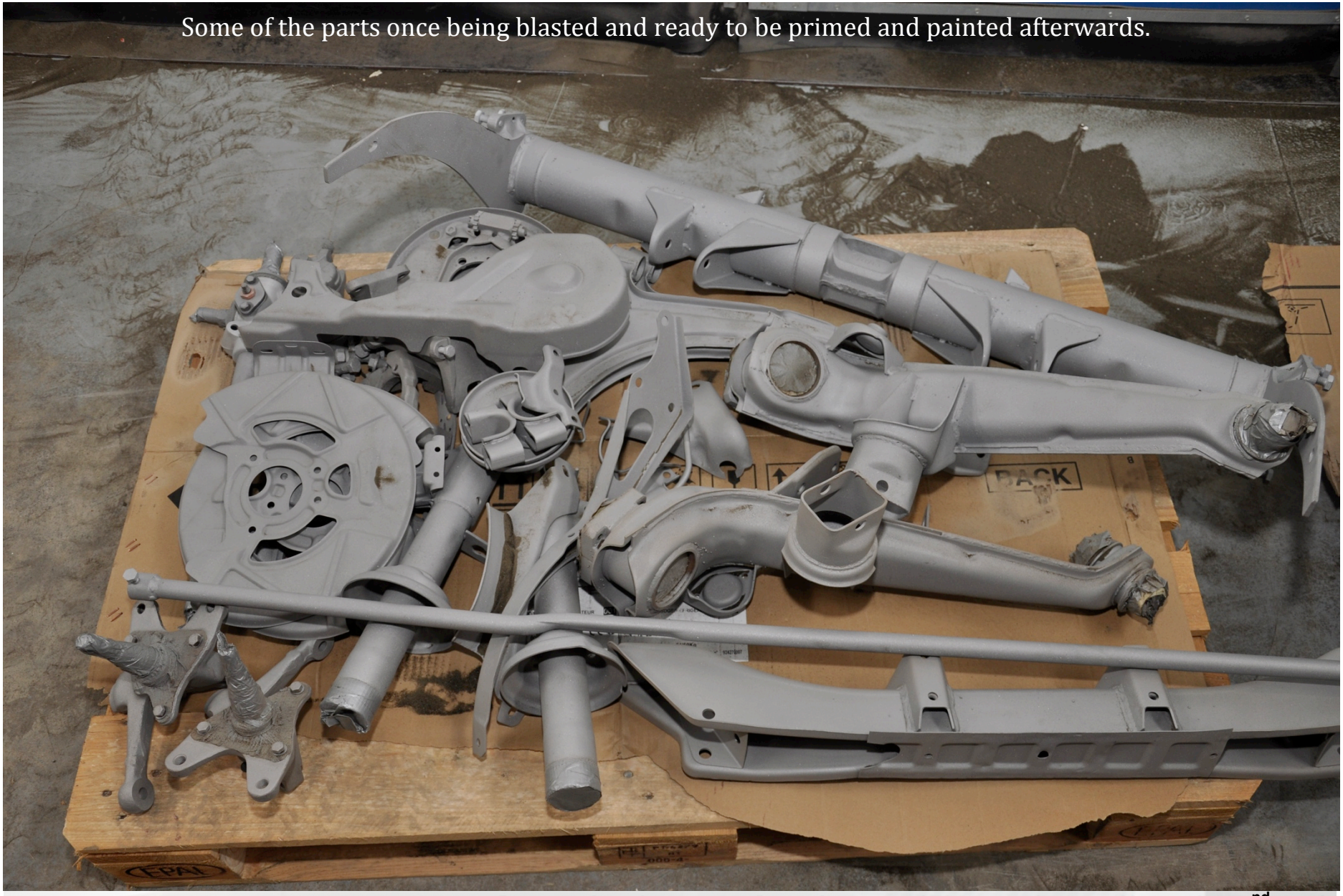
QTY	ILLUSTRATION	ITEM	P/N	DESCRIPTION	AVAILABILITY	BLASTING	PRIMER	PAINT	NOTES
1	702-00	11	477 721 315 A	Clutch pedal		Aluminum Silicate	Epoxy	Black	
1	702-00	1	823 721 141	Brake pedal		Aluminum Silicate	Epoxy	Black	
1	702-00	17	477 721 399 A	Clutch cable support frame		Aluminum Silicate	Epoxy	Black	
1	702-00	27	019 141 719	Clutch release lever		Aluminum Silicate	Epoxy	Grey Aluminum	
1	702-10	1	477 721 545	Accelerator lever shaft		Aluminum Silicate	Epoxy	Black	
1	801-05	35	477 813 139	Silencer heat shield		Aluminum Silicate	Epoxy	Grey Aluminum	
1	801-05	38	477 803 393	Upper heat shield exhaust header		Aluminum Silicate	Epoxy	Grey Aluminum	
1	801-05	39	477 803 394	Lower heat shield exhaust header		Aluminum Silicate	Epoxy	Grey Aluminum	
1	801-05	20	477 803 275	Transverse strut. Front chassis		Aluminum Silicate	Epoxy	Black	
1	801-05	32	477 803 291	Transverse strut. Rear chassis		Aluminum Silicate	Epoxy	Grey Aluminum	
1	801-05	43	477 809 497	Heat shield oil filter		Aluminum Silicate	Epoxy	Black	
2	801-10	11	477 805 592	Cowl panel support. Front windshield		Aluminum Silicate	Epoxy	Black	
1	803-05	1	477 827 027 G	Rear window frame. Hinged.		Aluminum Silicate	Epoxy	Black	
2	803-05	6	477 827 305 B	Hinge rear window frame		Aluminum Silicate	Epoxy	Black	
2	804-05	10	477 837 037	Door handle black		Aluminum Silicate	Epoxy	Black	
2	805-00	2	477 845 023 A	Side window rails		Aluminum Silicate	Epoxy	Black	
1	806-00	10	477 805 615	Pop up headlight control shaft		Aluminum Silicate	Epoxy	Black	
1	806-00	13	477 805 617	Pop up headlight bearing bracket		Aluminum Silicate	Epoxy	Black	
1	806-00	14	477 805 622	Pop up headlight bearing bracket		Aluminum Silicate	Epoxy	Black	

QTY	ILLUSTRATION	ITEM	P/N	DESCRIPTION	AVAILABILITY	BLASTING	PRIMER	PAINT	NOTES
1	806-00	1	944 750 605 00	L/H Pop up headlight swivel frame		Aluminum Silicate	Epoxy	Black	
1	806-00	1	944 750 606 00	R/H Pop up headlight swivel frame		Aluminum Silicate	Epoxy	Black	
2	806-00	26	477 805 651	Pop up headlight lever		Aluminum Silicate	Epoxy	Black	
1	809-05	1	477 857 501 B	Door mirror plane L/H only		Aluminum Silicate	Epoxy	Black	
1	810-00	5	477 853 343	Upper molding front windshield		Aluminum Silicate	Epoxy	Black	
1	810-00	6	477 853 019	L/H side molding front windshield		Aluminum Silicate	Epoxy	Black	
1	810-00	6	477 853 020	R/H side molding front windshield		Aluminum Silicate	Epoxy	Black	
1	902-05	19	046 903 255 A	Alternator support clamp with dumper		Aluminum Silicate	Epoxy	Black	
1	902-05	4	046 903 143 A	Alternator rear support clamp		Aluminum Silicate	Epoxy	Grey Aluminum	
1	902-05	12	046 903 187 A	Alternator rear protector cap		Aluminum Silicate	Epoxy	Black	
1	902-10	7	047 911 045	Starter heart shield		Aluminum Silicate	Epoxy	Black	
1	902-10	10	047 911 061	Support starter heat shilled		Aluminum Silicate	Epoxy	Black	
1	902-10	1	059 911 023 F	Starter housing		Aluminum Silicate	Epoxy	Black	
1	902-10	1	059 911 023 F	Starter front end		Armex soda			Aluminum base color
1	902-15	4	477 915 315	Rear battery support clip		Aluminum Silicate	Epoxy	Black	
1	902-15	7	914 611 233 10	Front battery tension support terminal		Aluminum Silicate	Epoxy	Black	
1	903-05	5	111 953 519 G	Windshield wiper lever ONLY		Armex soda	Epoxy	Black	
1	903-05	2	111 953 513 F	Direction indicator lever ONLY		Armex soda	Epoxy	Black	
1	903-15	1	191 951 113 A	Horn low pitched		Aluminum Silicate	Epoxy	Grey Aluminum	
1	903-15	1	944 637 103 01	Horn high pitched		Aluminum Silicate	Epoxy	Grey Aluminum	

QTY	ILLUSTRATION	ITEM	P/N	DESCRIPTION	AVAILABILITY	BLASTING	PRIMER	PAINT	NOTES
1	903-15	1	171 951 199 B	Horn connecting support		Aluminum Silicate	Epoxy	Grey Aluminum	
1	904-00	1	477 955 041 B	Windscreen wiper frame		Aluminum Silicate	Epoxy	Black	
136	**Parts overhauled and blasted with aluminum silicate or armex**								

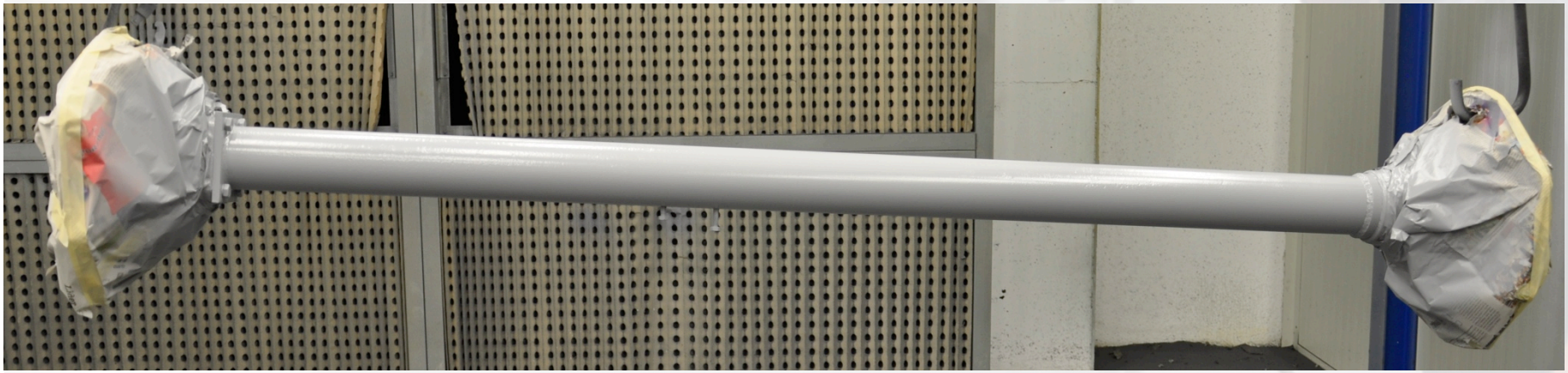
The following pages show some of the overhauled and blasted components, but I cannot include every single part within this report, as the entire process will take to long on paper.

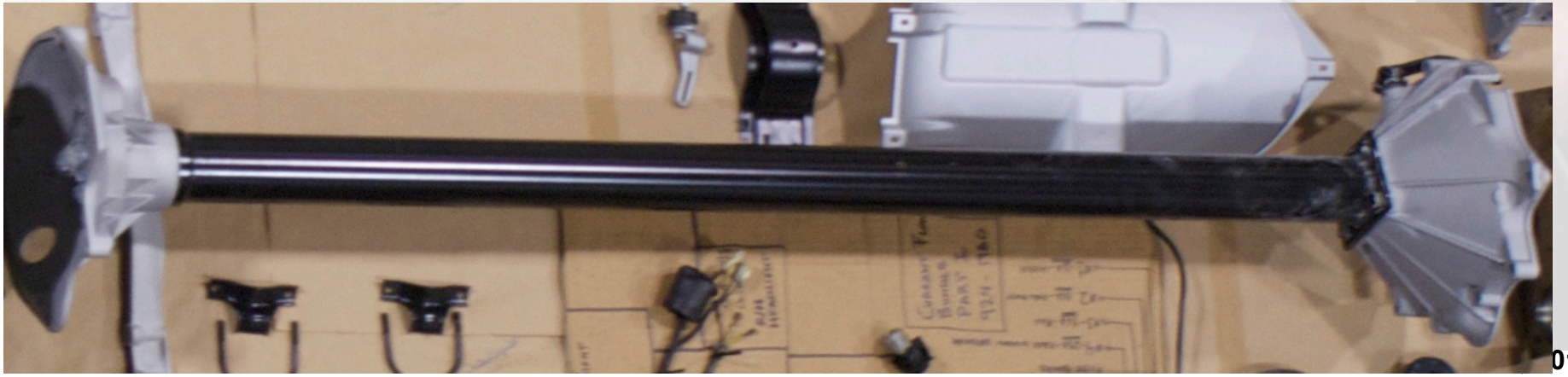



Some of the parts once being blasted and ready to be primed and painted afterwards.
PACK

RESTORATION OF THE TRANSAXLE.

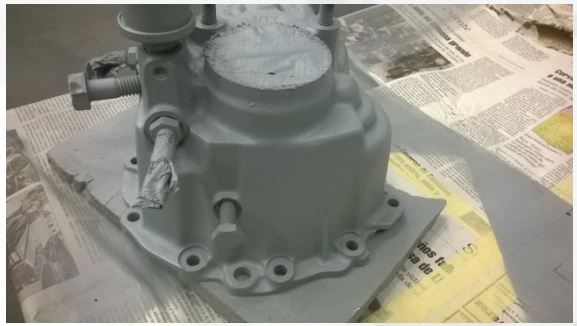






RESTORATION OF THE GEAR BOX AND DIFFERENTIAL HOUSING







FUEL TANK RESTORATION

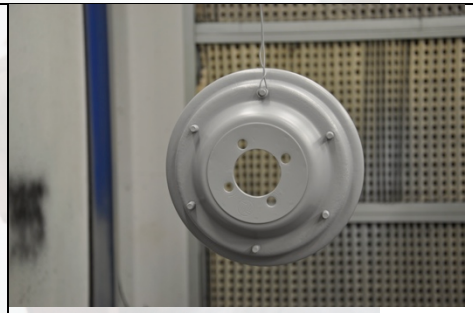






SAMPLE PHOTOS OF THE RESTORATION PROCESS IN SEVERAL COMPONENTS

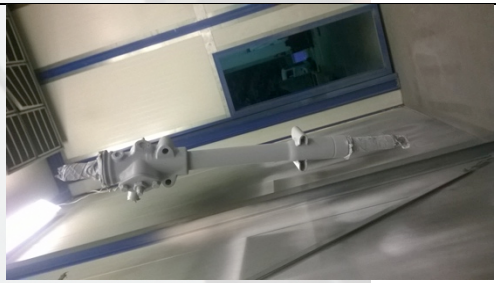






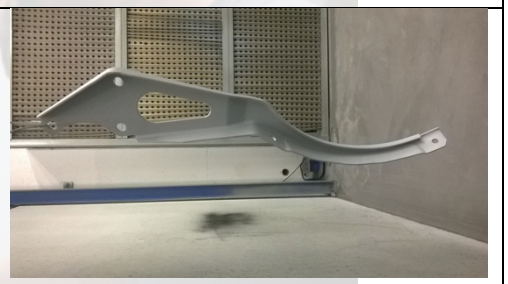


















WHEELS





The five rims are blasted with Armex inside and outside and blasted again with low grain aluminum silicate powder that will help clean the surface but will help sand the surface in order to obtain a smooth result after primed several times and finally painted with Porsche alloy color 8Z8 (Brillantsilver metal). Excellent and high quality Result.

PART V: MECHANICAL RESTORATION

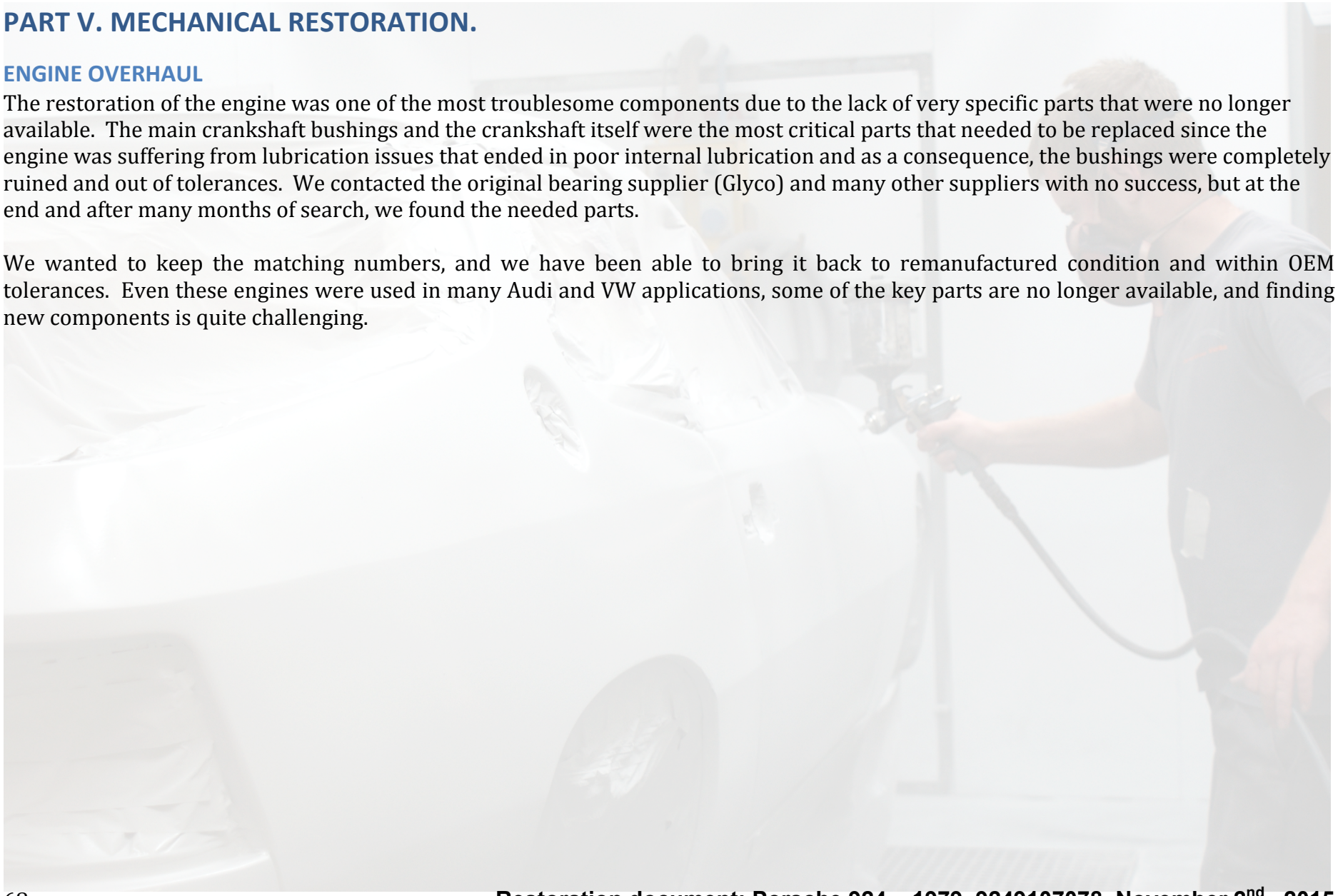


PART V. MECHANICAL RESTORATION.

ENGINE OVERHAUL

The restoration of the engine was one of the most troublesome components due to the lack of very specific parts that were no longer available. The main crankshaft bushings and the crankshaft itself were the most critical parts that needed to be replaced since the engine was suffering from lubrication issues that ended in poor internal lubrication and as a consequence, the bushings were completely ruined and out of tolerances. We contacted the original bearing supplier (Glyco) and many other suppliers with no success, but at the end and after many months of search, we found the needed parts.

We wanted to keep the matching numbers, and we have been able to bring it back to remanufactured condition and within OEM tolerances. Even these engines were used in many Audi and VW applications, some of the key parts are no longer available, and finding new components is quite challenging.

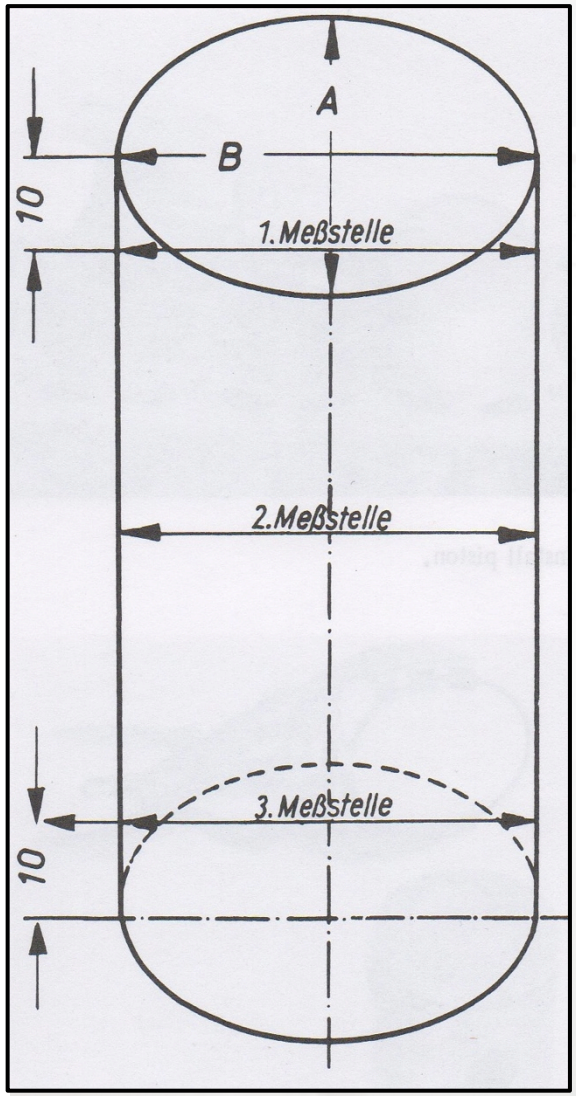


FIRST LOOK AT THE ENGINE. It is difficult to understand the condition of a vehicle until you really open all components at which point in time you get a full picture of the damage. Please note that this engine was running when driven into our facilities!!!!

The three piston segments were broken apart and melted within the piston and the debree was projected all over the cylinder walls and cylinder head. The reconstruction of the number 4 cilinder was possible thanks to the installation of a new cylinder wall and new piston. All the sgments were replaced with new ones and the vale seats were cleaned and brought within OEM specs.





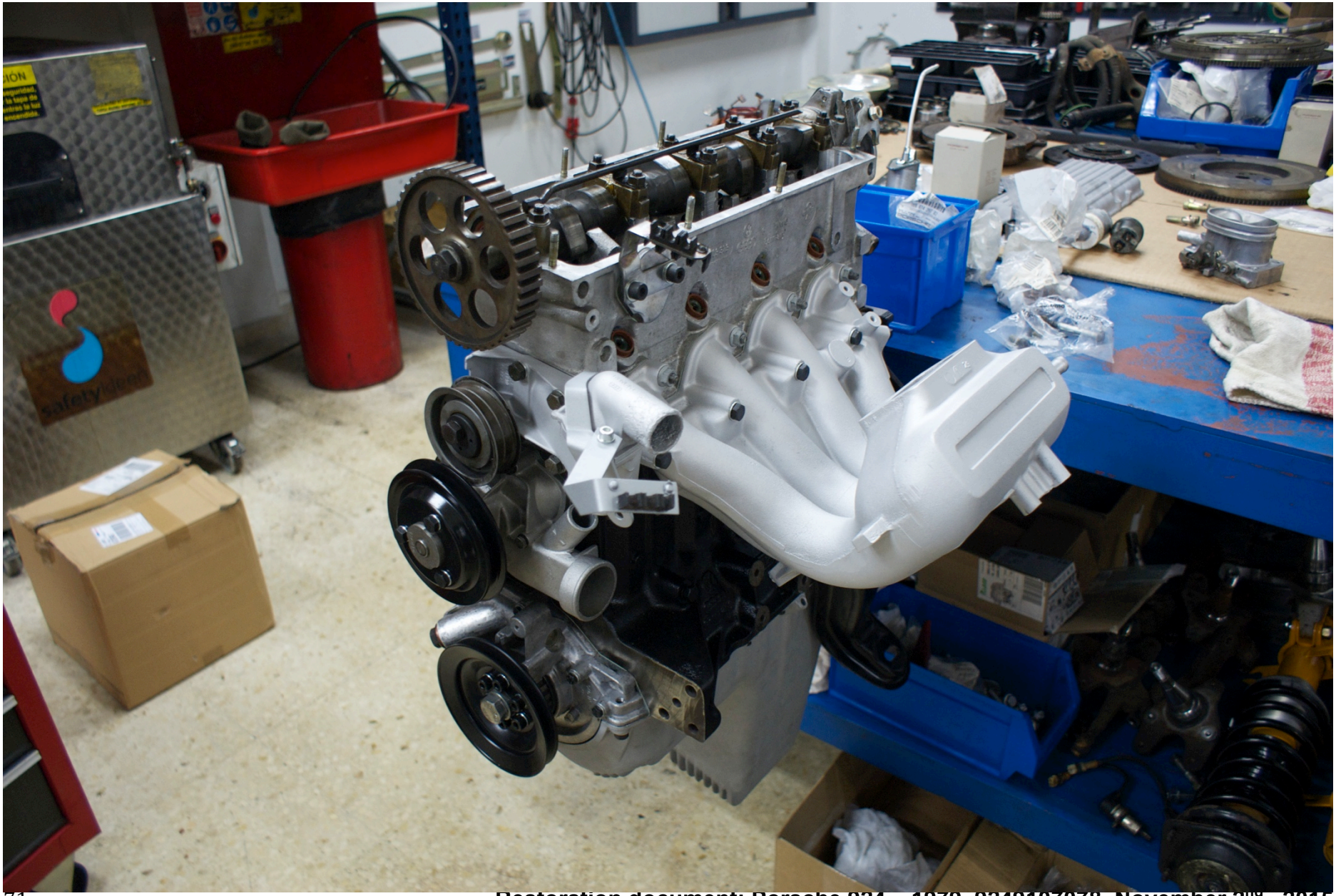


PISTÓN	MEDIDA A			MEDIDA B		
	Pos. 1	Pos. 2	Pos. 3	Pos. 1	Pos. 2	Pos. 3
I						
II						
III						
IV						

Posición	PISTÓN		BIELA (815 gr -927 gr)	
	PESO (gr). Max. 14 gr. Diff.	Diferencial de peso entre pistones	BIELA (gr.) Max. 8 gr. Diff.	Diferencia del peso entre bielas
I	489	10 gr.	880	3 gr.
II	491		878	
III	490		881	
IV	481 (Nuevo)		879	

Posición	PISTÓN PIN	BUSHING BIELA	HOLGURA	CILINDRO / PISTÓN
	Diámetro (23.996 – 24.000 mm)	Diámetro (24.012 – 24.018 mm)	Radial play (0.01 – 0.02 mm)	Holgura entre 0.03 mm – 0.08 mm
I				
III				
IV				

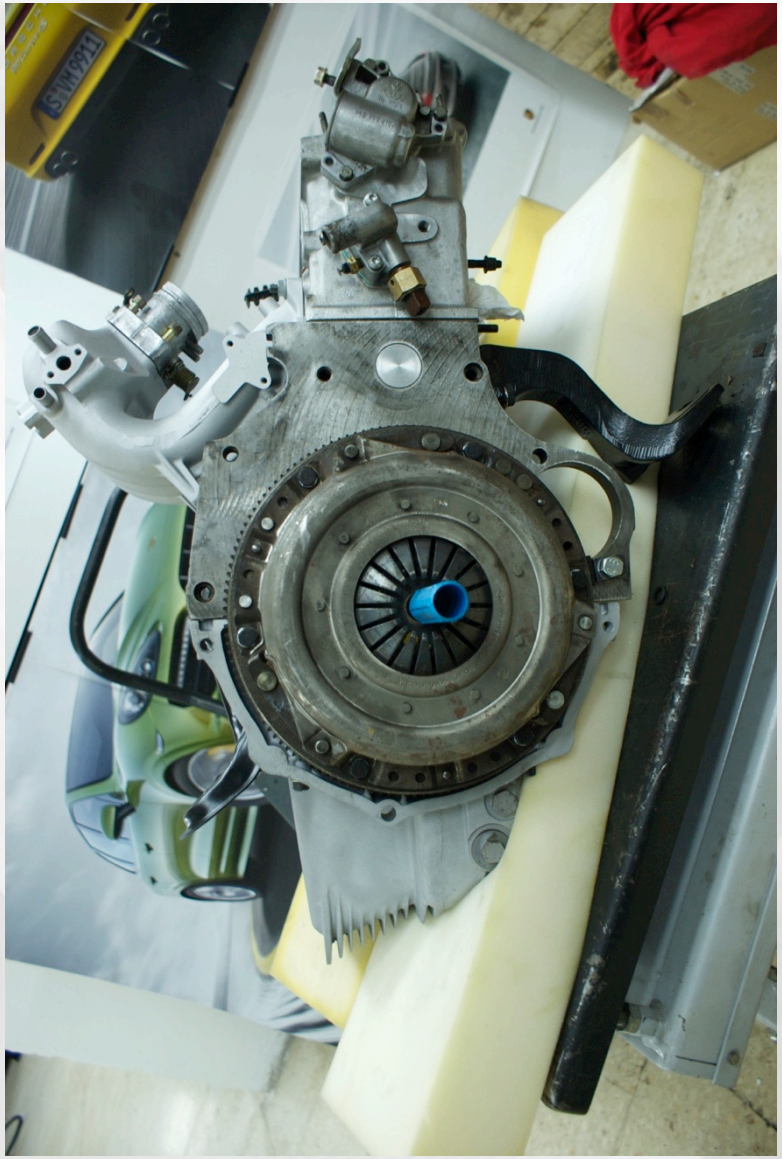
Posición	SEGMENTO I (mm)		SEGMENTO II (mm)		SEGMENTO III (mm)	
	Clearance 0.04 – 0.1	Gap 0.3 – 1.0	Clearance 0.04 – 0.1	Gap 0.3 – 1.0	Clearance 0.04 – 0.1	Gap 0.3 – 1.0
I						
II						
III						
IV						

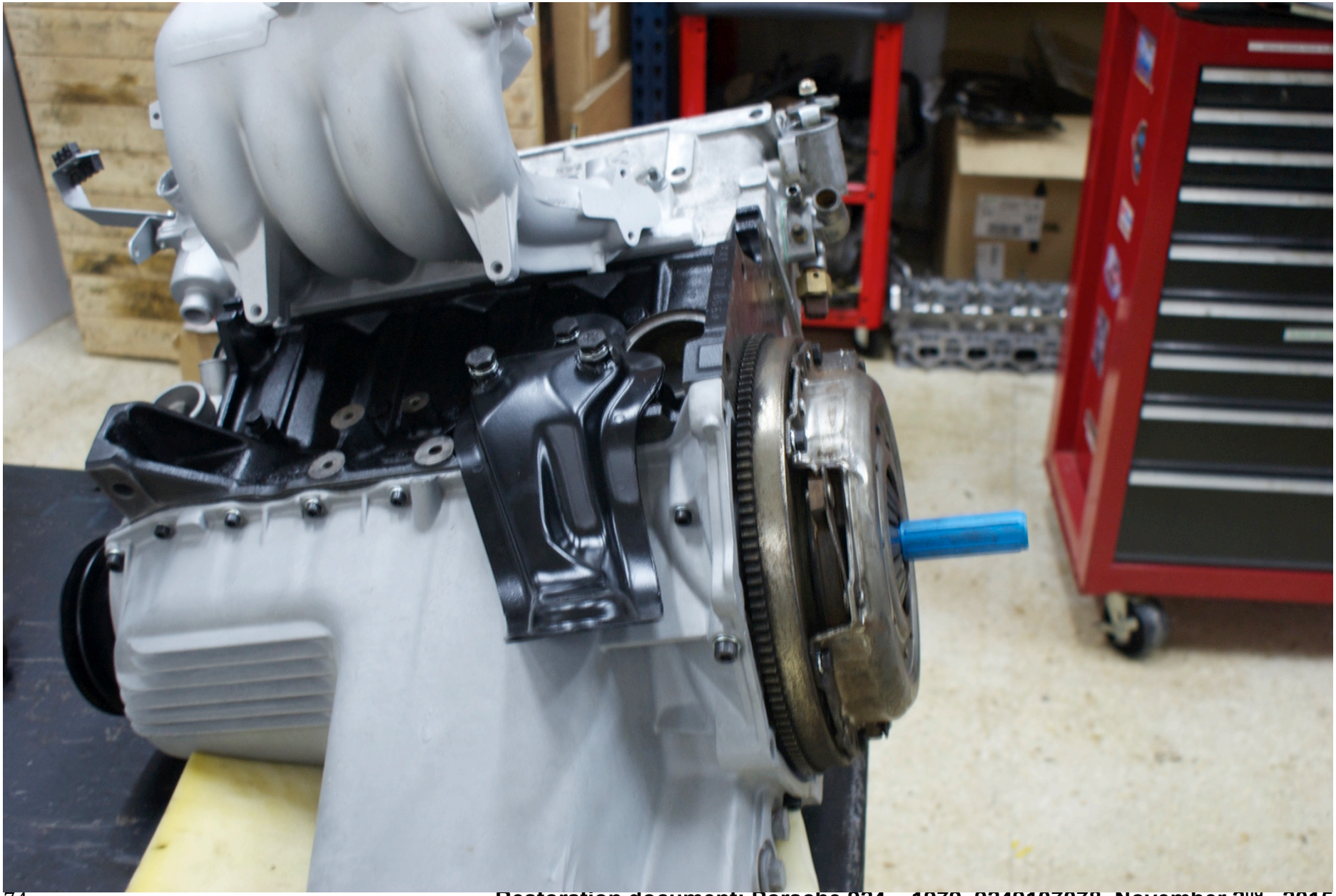



DORMER



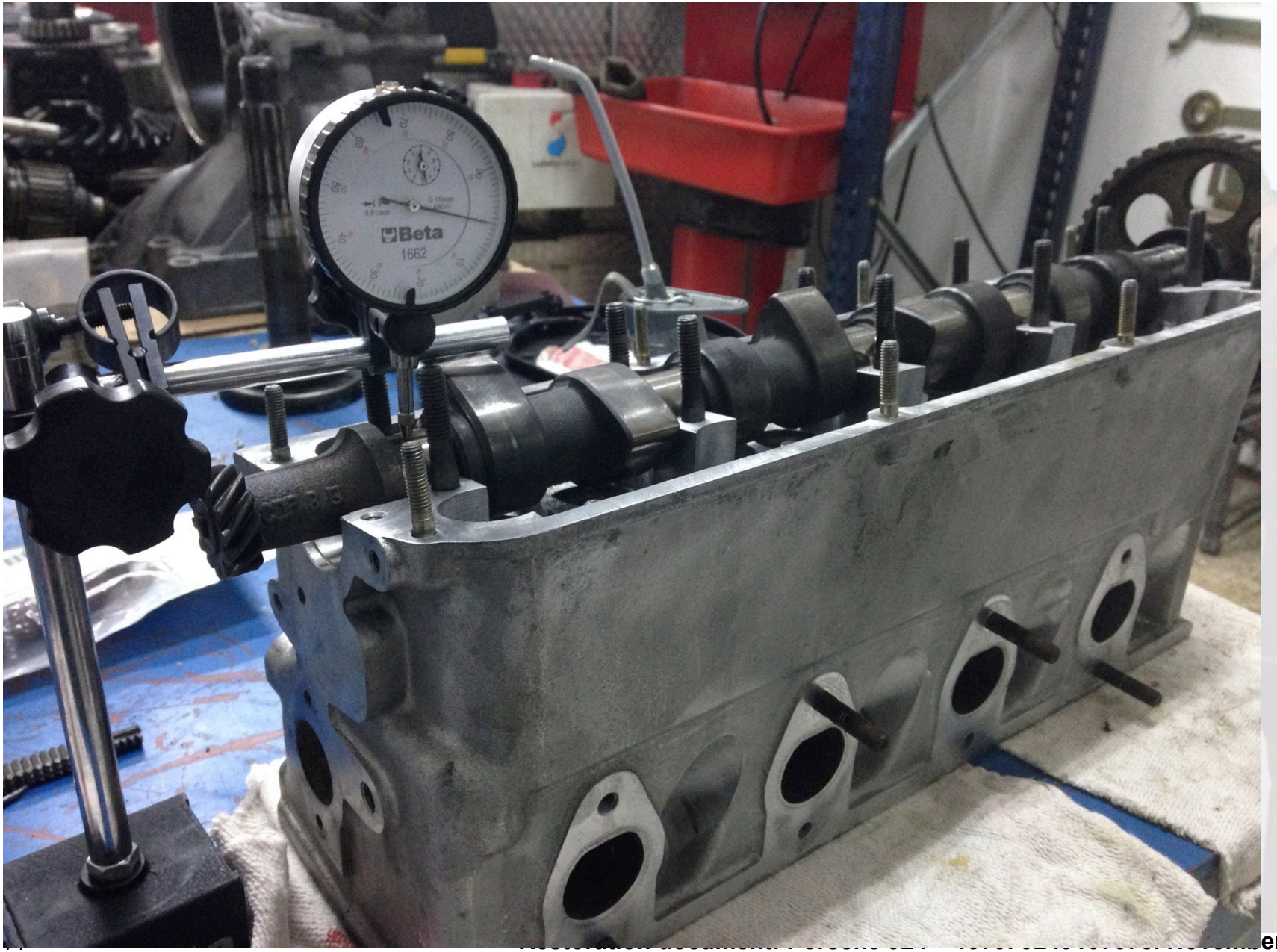




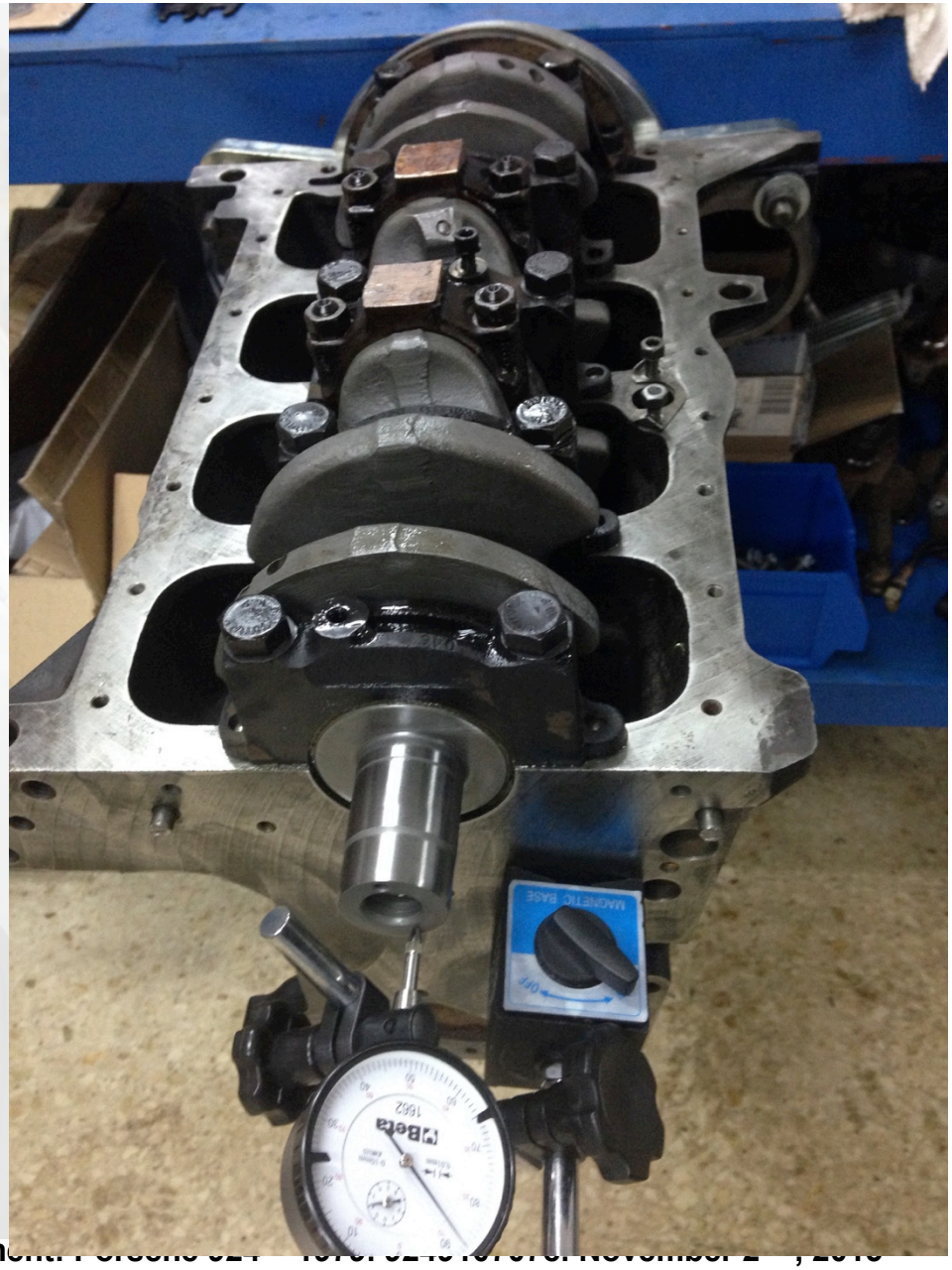







Beta
1662


04509


MAGNETIC BASE
OFF
Beta





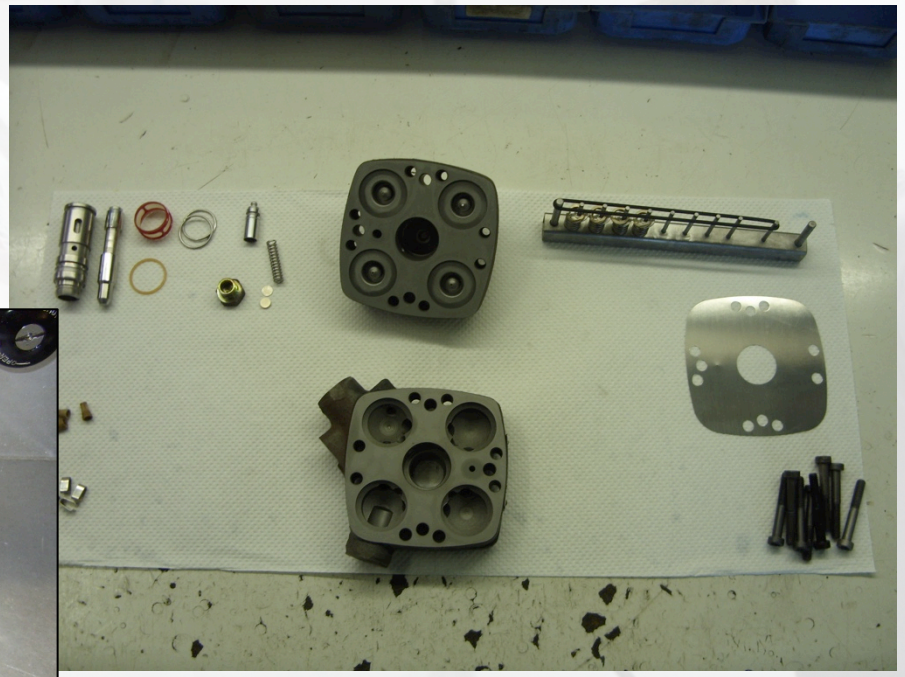


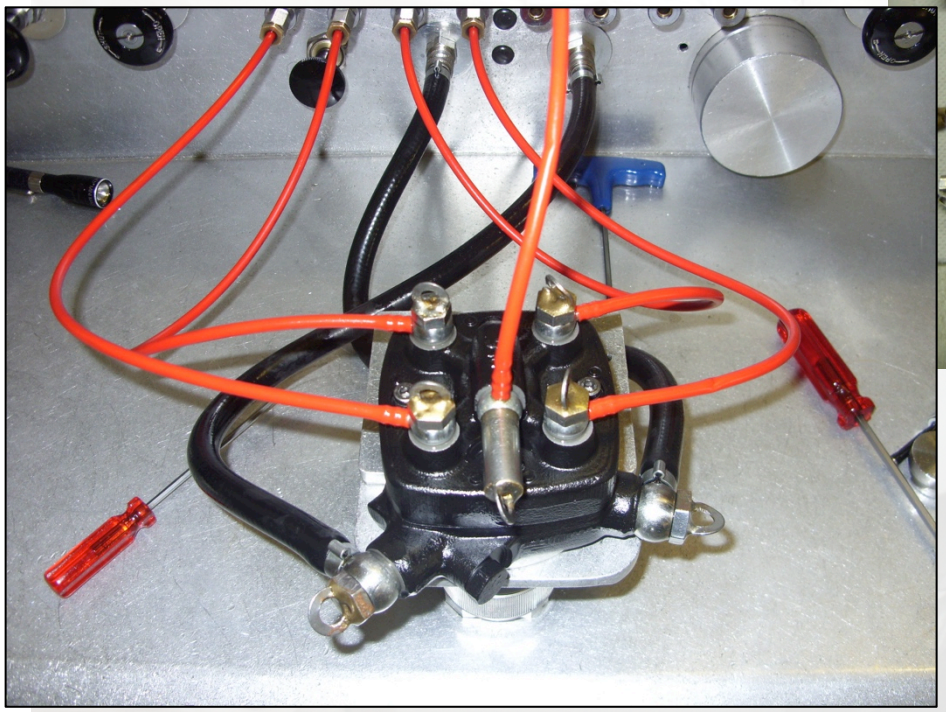


K-JETTRONIC OVERHAUL (KMI PETROL INJECTION)

DISTRIBUTOR 0438 100 005

Exit #	Outflow at full charge (cc/min)	Outflow at idle (cc/min)
1	179	9,5
2	184	9,75
3	182	10
4	180	10,25

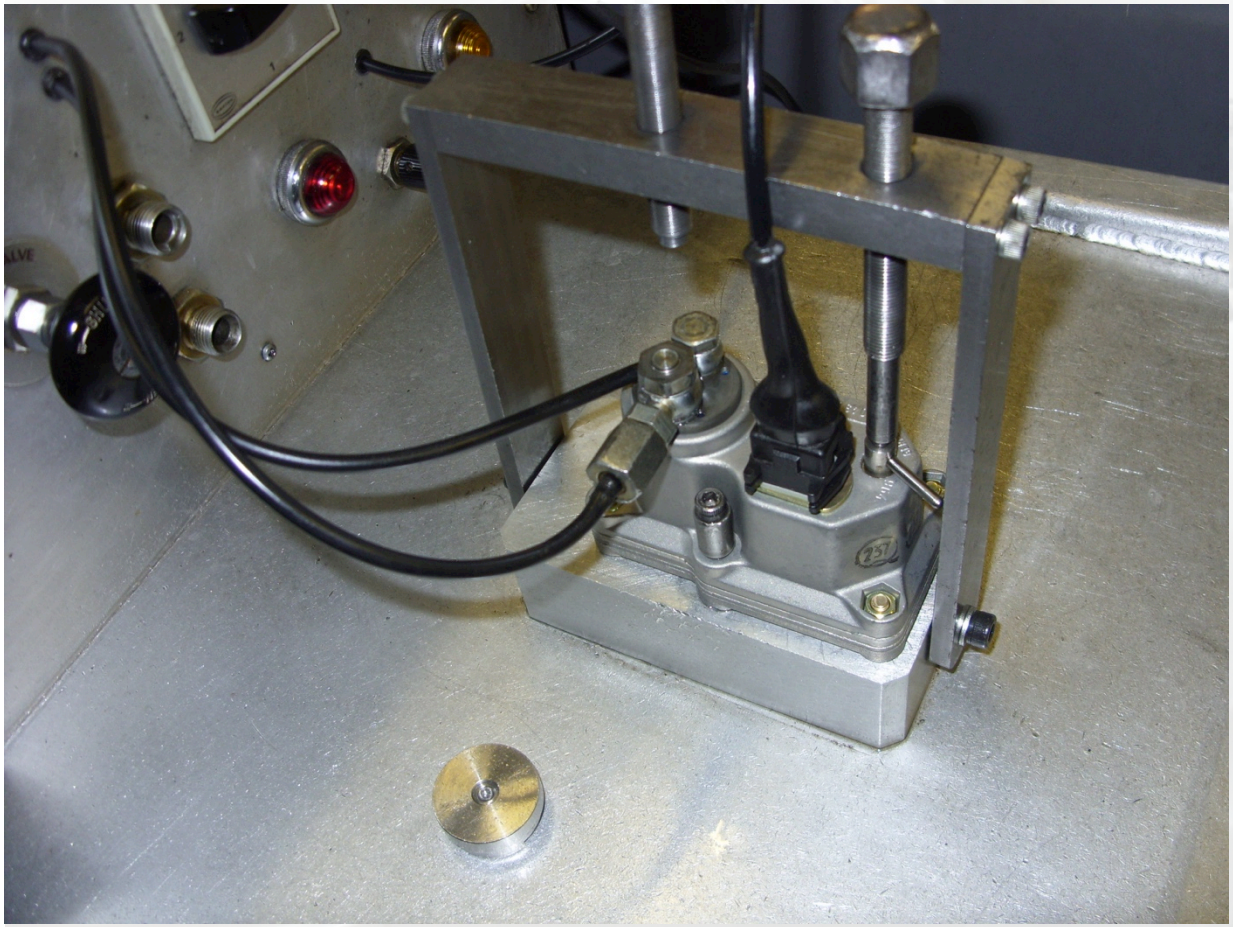




Flow at WUR	300
System Pressure	5,30
Pressure at idle	2,30
Loss of pressure in 1 minute	

WARM UP REGULATOR (WUR) 0438 140 011

Cold temperature Celsius	20	Factory specs.
Control pressure /Cold. Bar	1,45	1,3 – 1,7
Warm control pressure. Bar. Null vacuum pressure	3,70	3,4 – 3,8
Warm control pressure. Bar. With vacuum pressure.	0,00	0,10



OVERHAUL OF COOLING SYSTEM

LINES





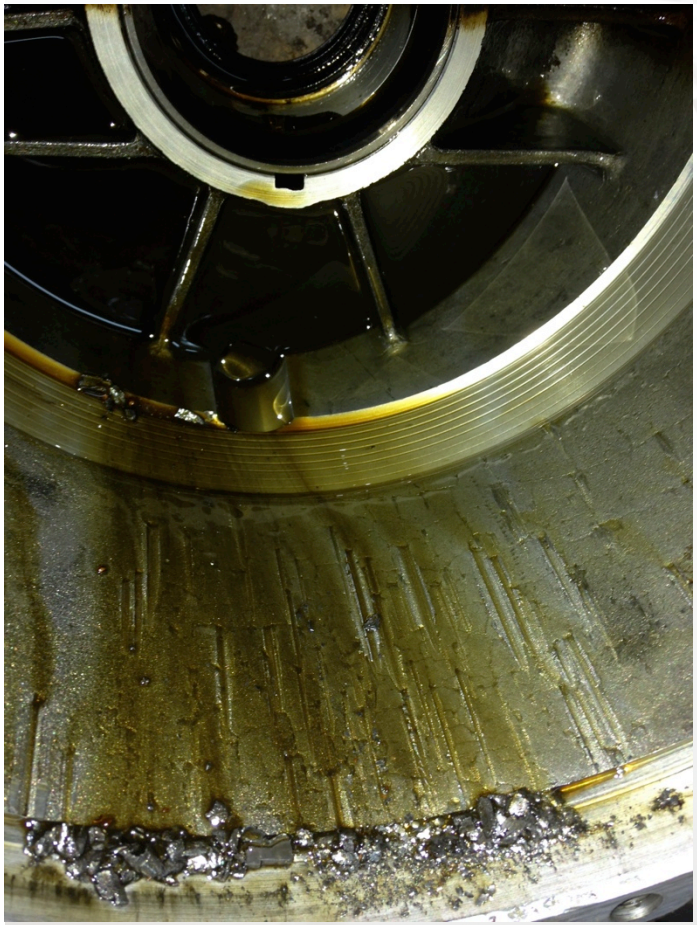




All rubber hoses are replaced.
All metal pipes are blasted and primed, but a few were out of tolerances as shown on the R/H photo and we had to look for new or rebuilt ones. The cooling system was unusable and this was the main reason for the condition of the engine. We invested a long time to bring all parts back to service and to buy new hoses and lines.

GEARBOX AND DIFFERENTIAL OVERHAUL

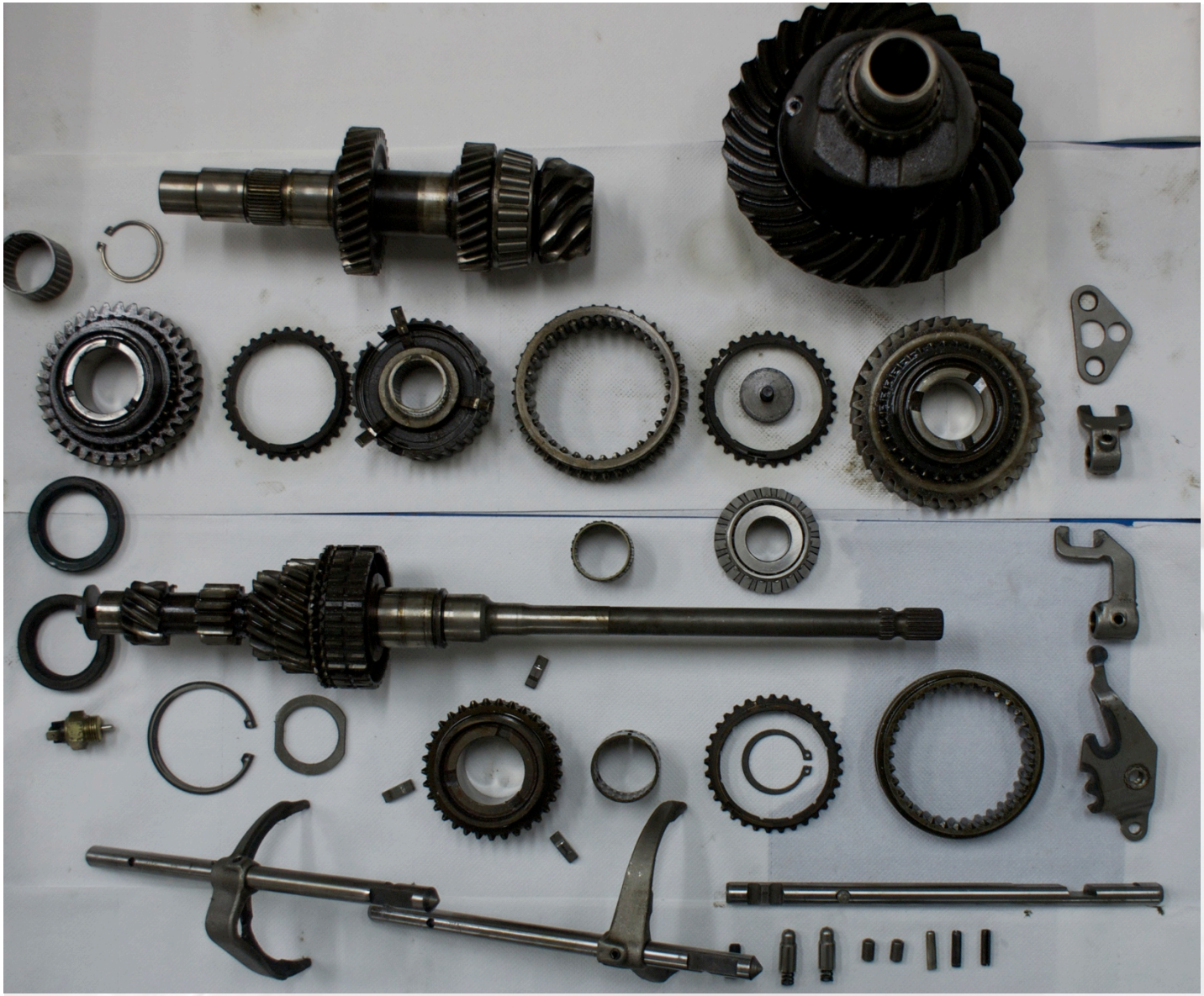
The first time the differential housing was opened it was full of metal particles



The L/H photo shows the metal particles found when we first opened the differential housing. The housing was scratched due to the friction with these particles, but after it was cleaned and blasted, the scratches were negligible.

The R/H photo shows the metal particles found within the differential housing. The largest bit was almost ½ inch at it corresponded to the key locks from the second shaft of the first and second gears. When the gear box was disassembled we found no missing key locks, but one of the neddle bearings was missing four needles and the back main shaft ball bearing was almost seized. We would have to assume that at some point in the life of the gear box, somebody replaced the key locks and forgot a few of them inside the differencial housing. The differencial is in very good shape and all gear teeth are in good condition.

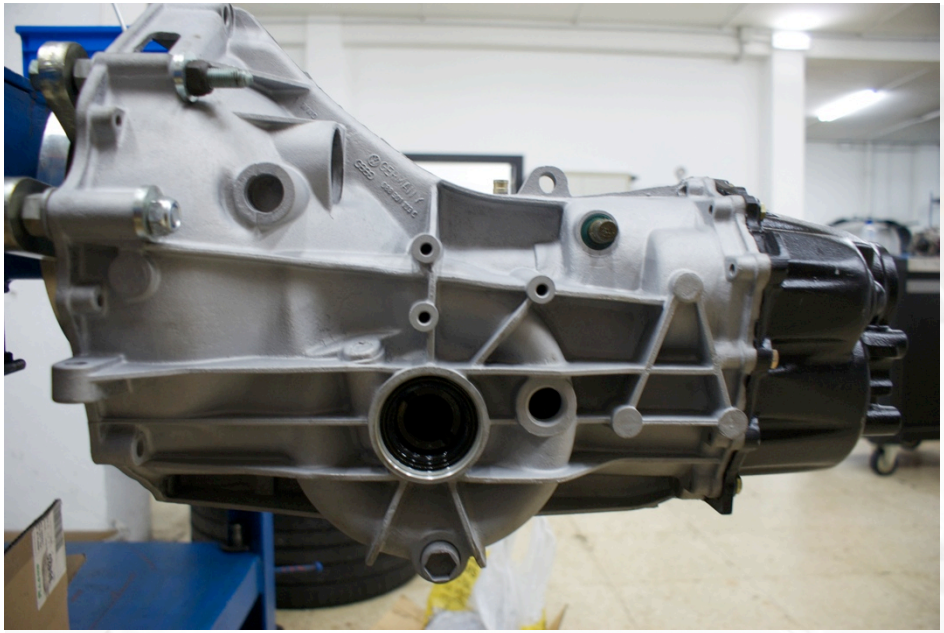


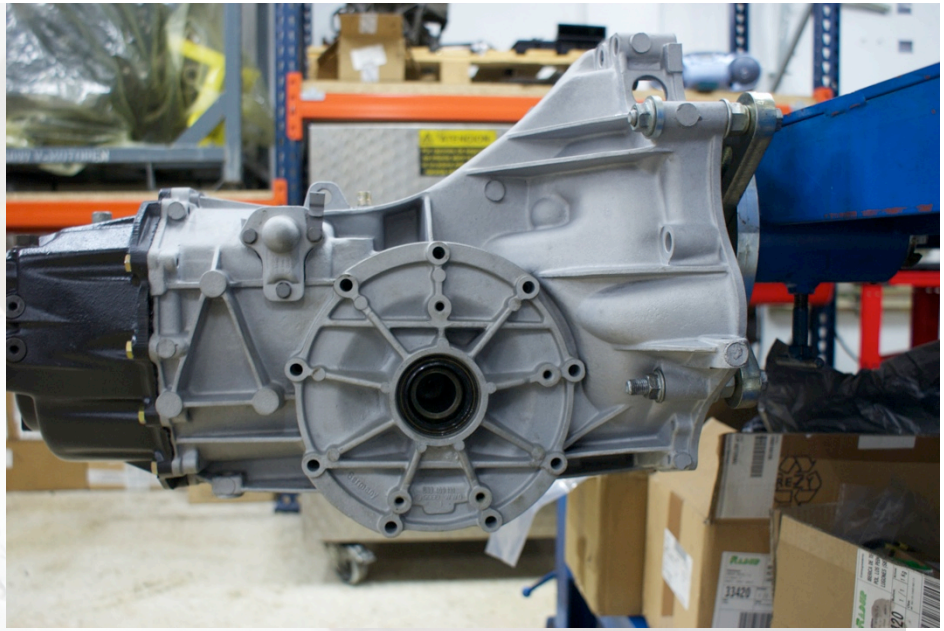


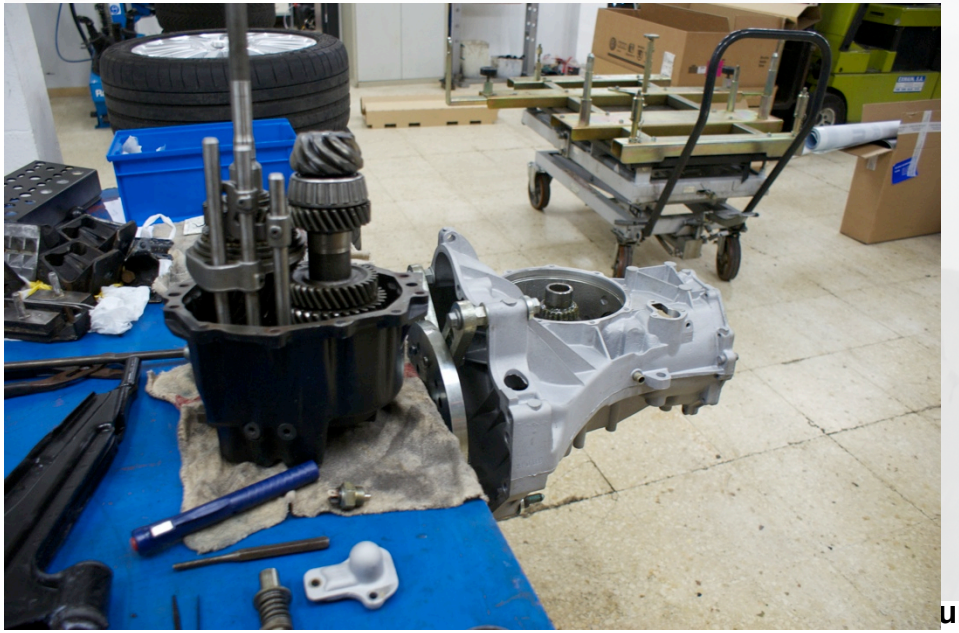
As mentioned before, when the gear was fully disassembled, all key locks were in place and we only found several needel bearings form the first and second gears broken and the sincrhos were replaced in order to provide a smoother gear shift. All ball and needle bearings were replaced, as well as all the key locks and sincrhos.

The differential housing is fully blasted and the gearbox housing is also blasted, primed and painted. All mechanical parts are then washed in the mechanical washing machine with specific soaps and required temperatures to remove all traces of powder and dirt.





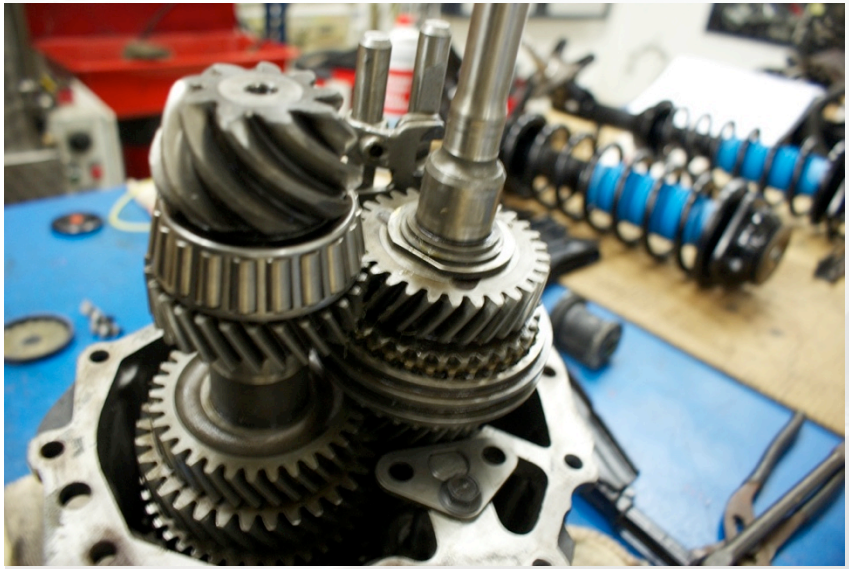












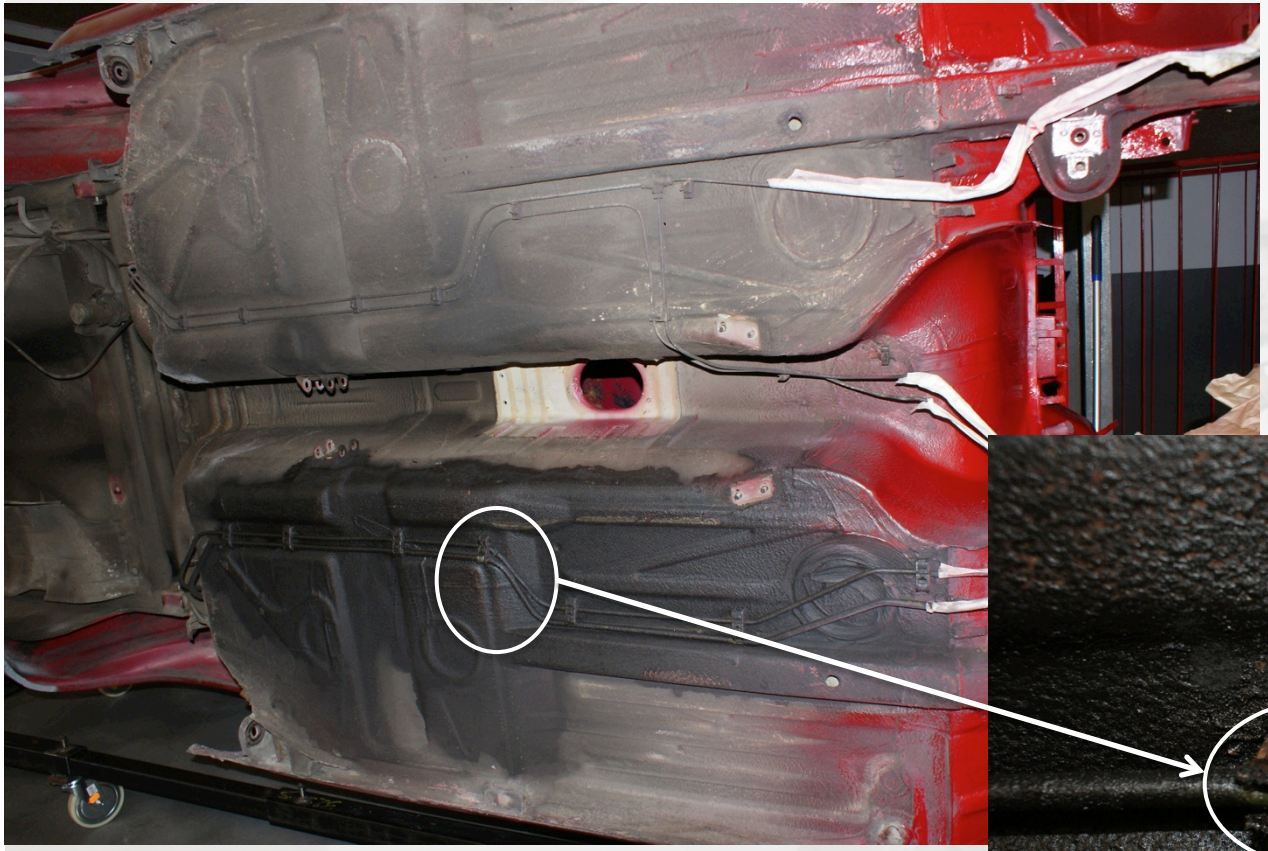
FUEL SYSTEM

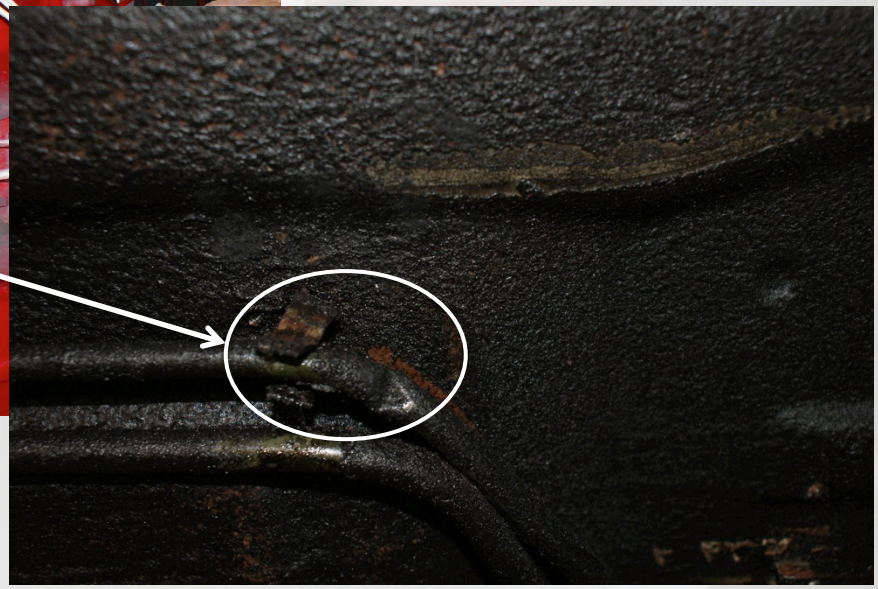
1. Metal pipes
2. Flexible hoses
3. O-rings and back up rings
4. Fuel filters
5. Electric pumps
6. Fuel tank. We find metal particles and rust accumulation in the lower part of the fuel tank coming form the filler line as shown on the L/H photo which was caused due to dissimilar metal corrosion with the fuel cap which was fully corroded and broken and all these pieces were falling into the tank.





FUEL LINES. The engine fuel return line was nicked and a small hole was found, causing the fuel to leak and leading to a potentially dangerous condition as seen on the photo. The car rotisserie helped us see this problem and how the fuel was accumulating during the years on the underbody. These lines were replaced with new ones and we also replaced all the clips that were securing the lines to the frame, as quite a good number were already broken or loose.





CHASIS RECONSTRUCTION

Snap shots of the front and rear suspension overhaul







REAR SUSPENSION

The calibration of the rear end suspension is delicate and requires to have the main set mounted on a fixed jig perfectly aligned in order to have the correct angle between the 25 mm torsin bars and the rear axle strut (18 degrees) We need to make several adjustments until the torsion bars teeth align in the desired angle wich varies depending on the thickness of the bar.





Torsion bars are not interchangagle and are identified with L/H or R/H identifications. The inscription denotes the manufacturing date and serial number of each bar.

BRAKES





New bushings and bearings as well as new break disks and pads. The pistons are cleaned and lubricated and new o-rings and new hardware is installed in place.





New drums and new pads and springs. The pistons were frozen and after cleaning and lubricating they were within operational paramentes. New o-rings and hardware. New reare bearings and bushings are also installed.

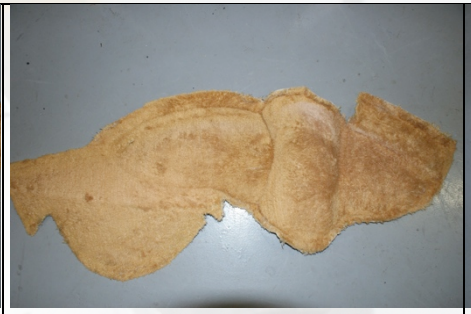
PART VI: INTERIOR OVERHAUL



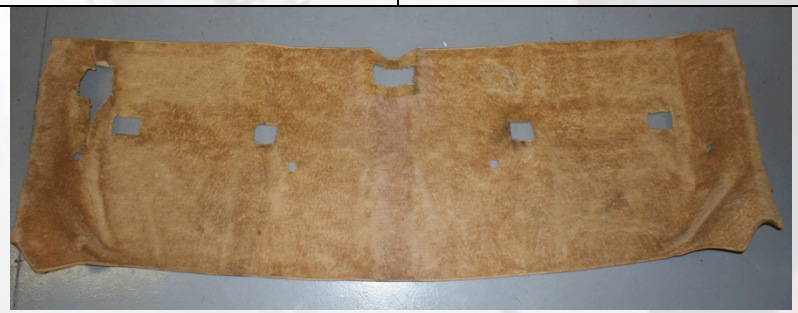
PART VI. INTERIOR OVERHAUL

We tried to recover all the carpet pieces, but after cleaning and decontaminating, we found them to be unusable and we forced to install new carpet. The dashboard and door panels were repaired.







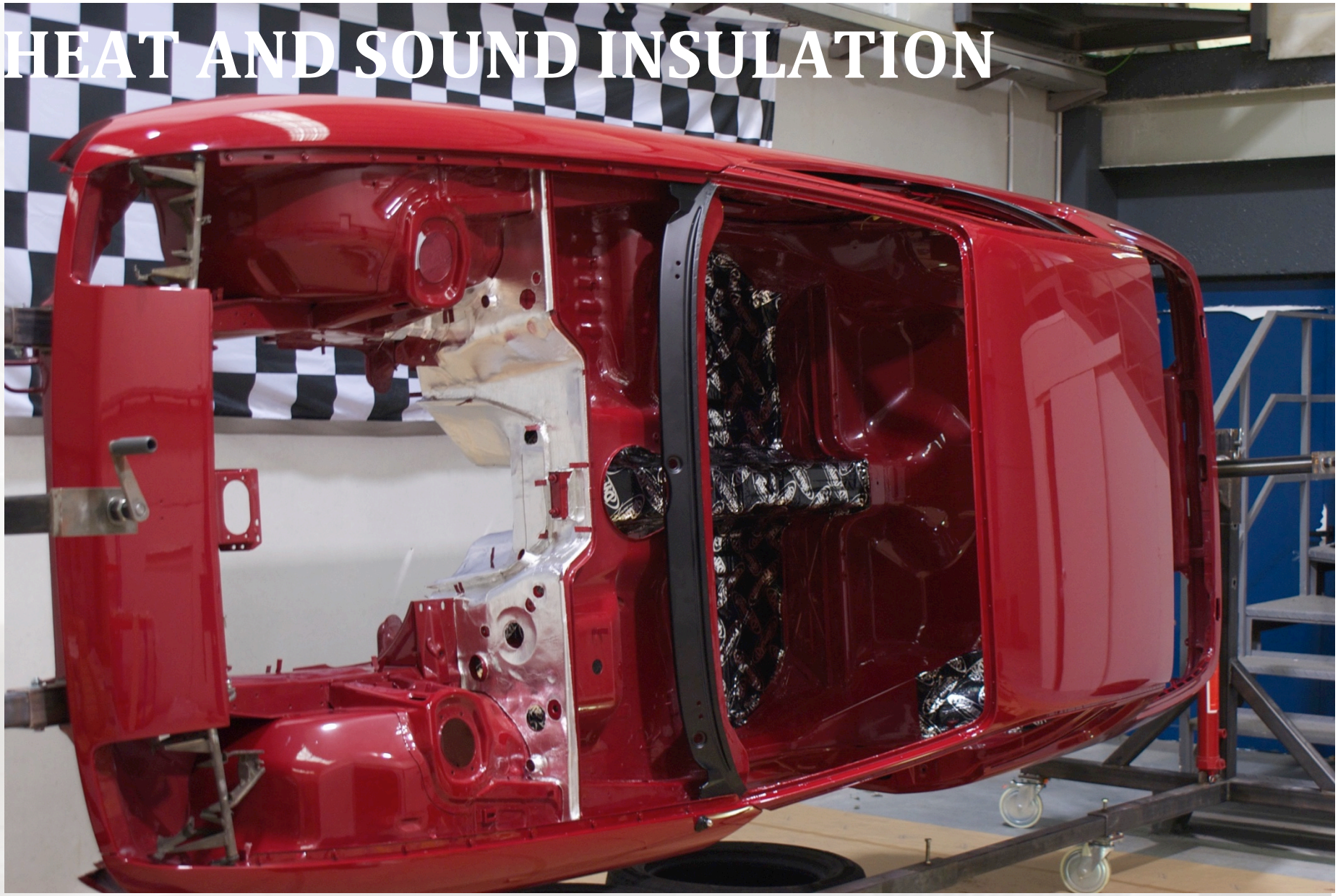








HEAT AND SOUND INSULATION













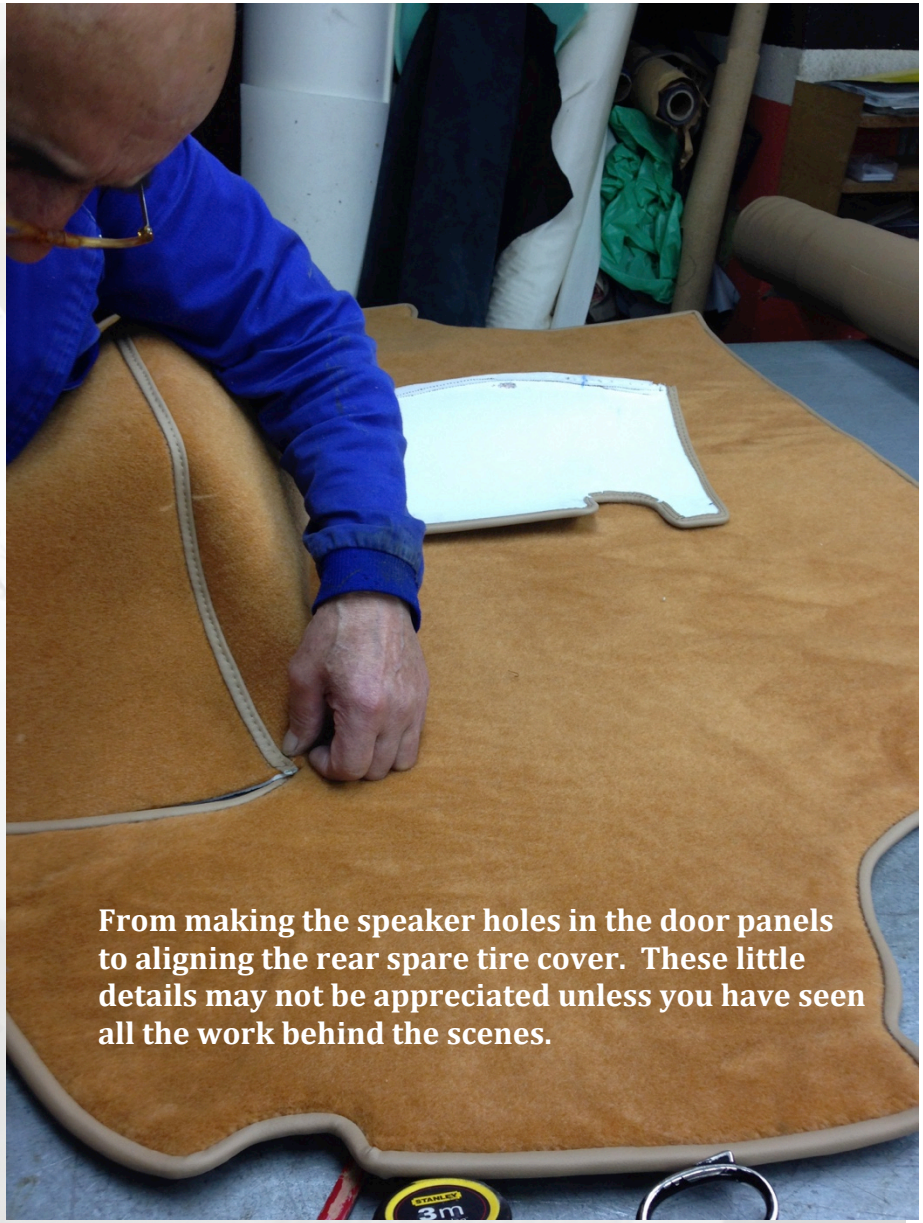
HEAT AND ACUSTIC INSULATION

Once the interior is fully clean and all traces of old heat and insulation material are removed, and the interior is fully painted, we proceed with the installation of engine compartment heat shields, cabin sound deadening insulation material and heat isolation material for the cabin compartment. We use dynamat and dynaliner as the sound deadening material on the entire cabin compartment (we removed 23 kg. Of the old material installed only in the most critical areas and installed 18 kg. Of the new generation materials in the entire compartment). After this, we used two types of heat isolation material ranging from 6 mm to 13 mm of thickness and it is covered afterward with the carpet that is glued on top of the material

INTERIOR COMPLETION







From making the speaker holes in the door panels to aligning the rear spare tire cover. These little details may not be appreciated unless you have seen all the work behind the scenes.



It all starts to take shape and making sense. A very rewarding experience


The quality of the border and stitching speaks for itself as the click buttons are carefully aligned with their counterparts in the frame

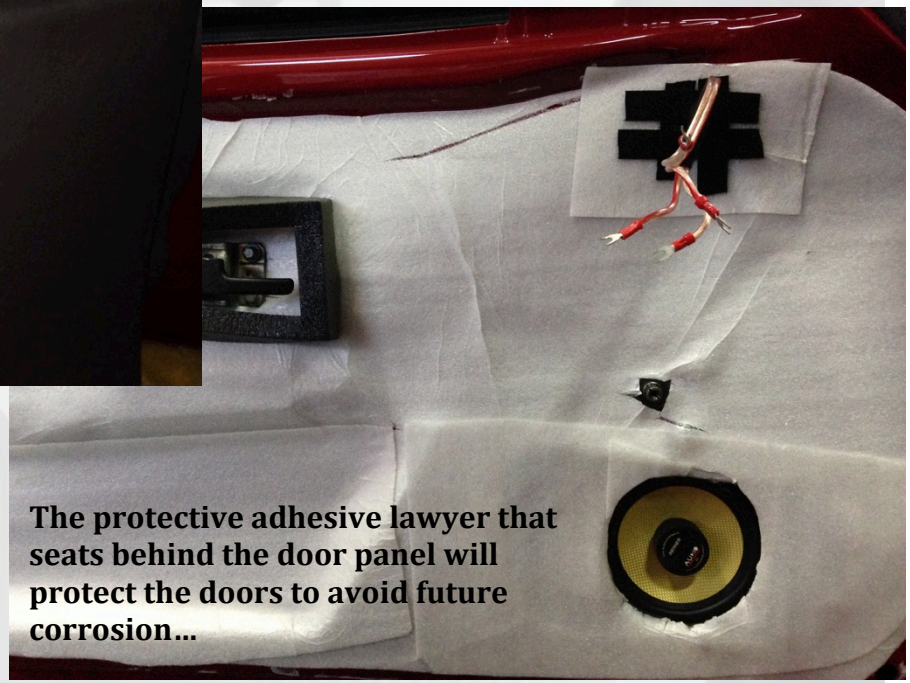

he rear seat is refoamed and nicely
leathered. The final instlation into the cabin
takes estra care and years of experience.


Little details make a difference. Like the polished aluminum rear seat locking device


Leathering the rear side panelswith premium leather and perforating the speaker holes



...and here is the rear side panel installed and with all the speaker holes perfectly aligned and perforating one by one...



The protective adhesive lawyer that seats behind the door panel will protect the doors to avoid future corrosion...

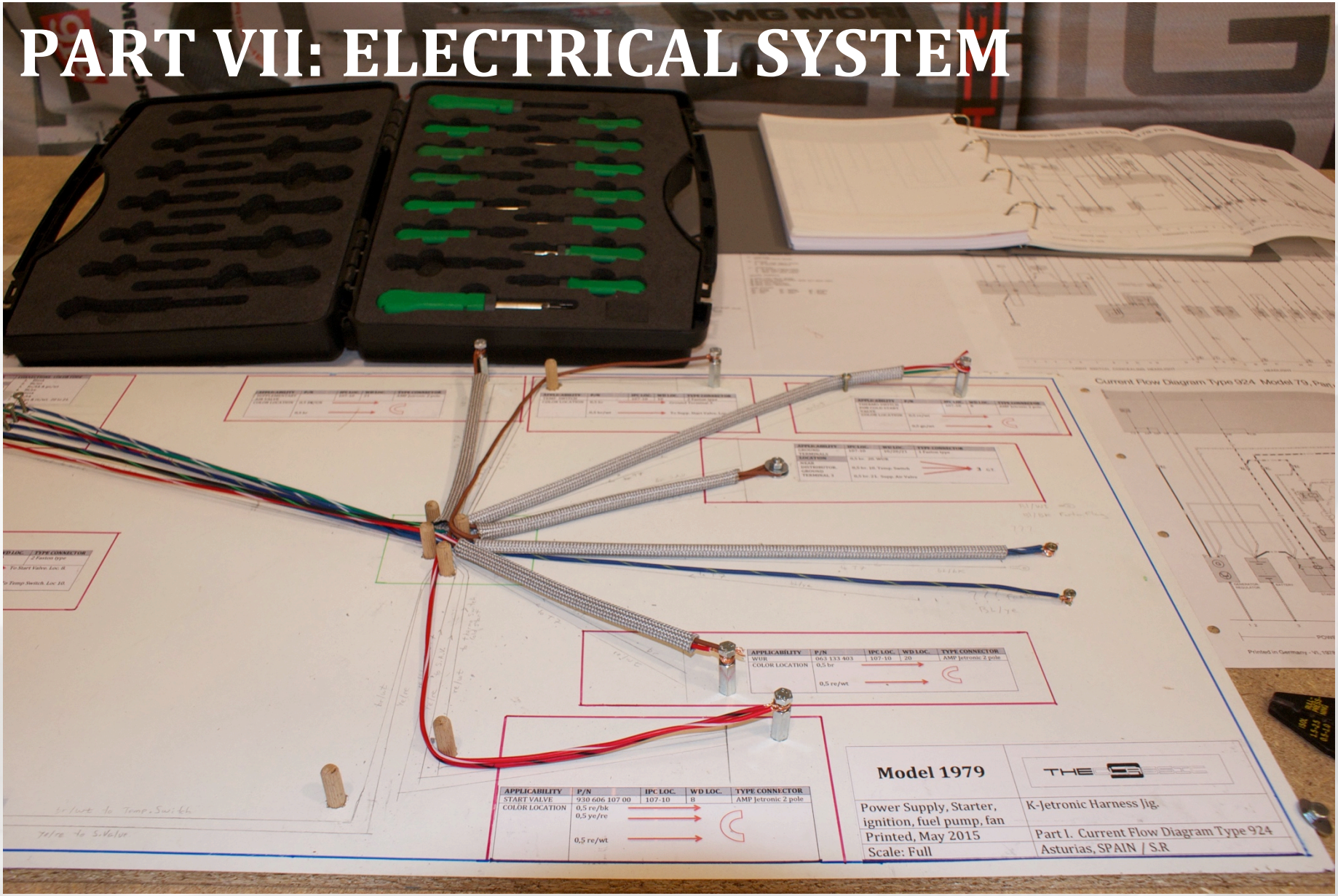
WINDOWS

A not so easy installation. The rear curved window and the metal frame are quite a challenge to install correctly.





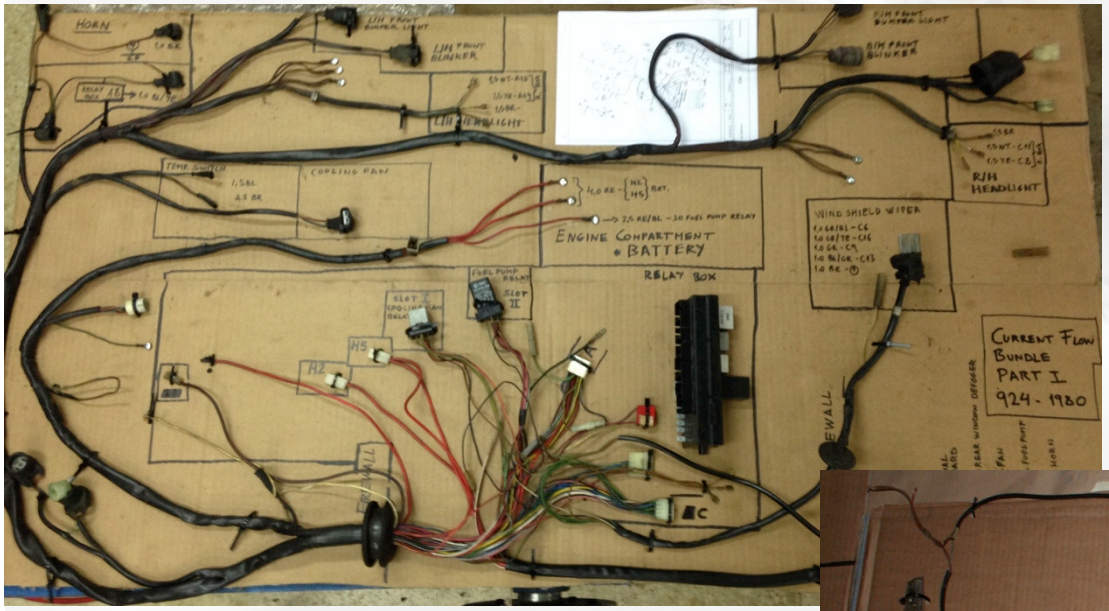
PART VII: ELECTRICAL SYSTEM

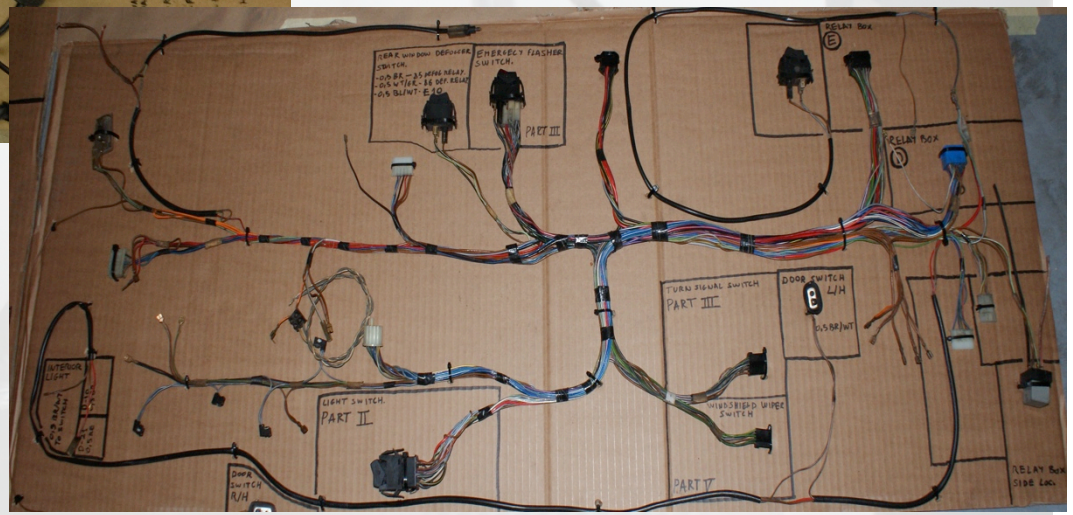


PART VII. ELECTRICAL SYSTEM

RIGGING TABLES

Detailed and organized rigging tables for each wire bundle within the vehicle. All bundles are stripped apart, checked for brittle insulation, hardened soldered terminals and poor protective covers. New connectors and new wires with their applicable color-coding per the OEM wiring diagrams.





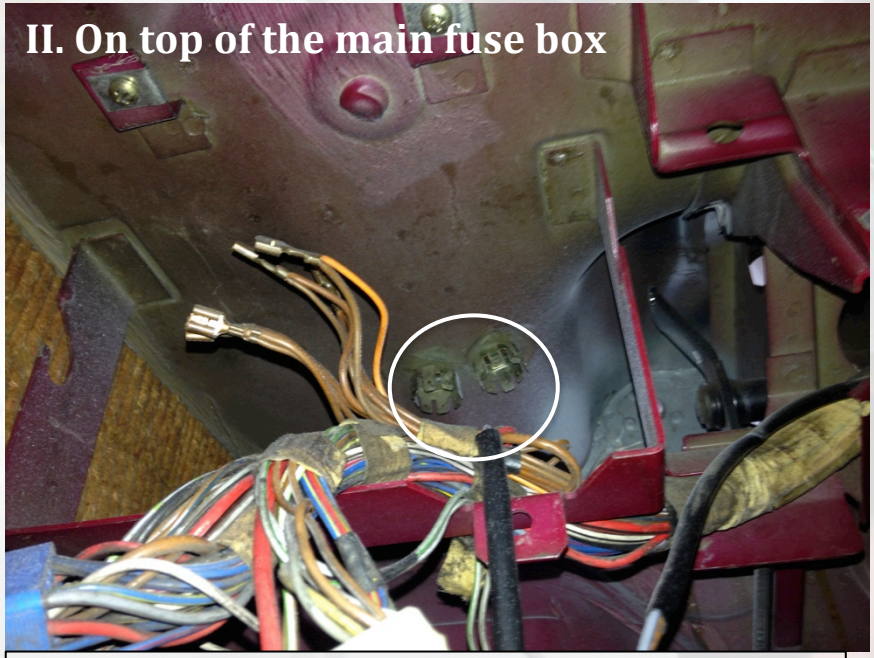
GROUND TERMINALS The weakest point in the electrical system were the ground terminals distributed within the frame, taking into consideration that the lights were not working and we had many more electrical issues, it was mandatory to invest extra time to repair these terminals. Once cleaned, the **6 ground terminals (shown bellow)** are checked for adequate conductivity and low resistance to let the electricity flow.

I. Battery to chasis ground terminal



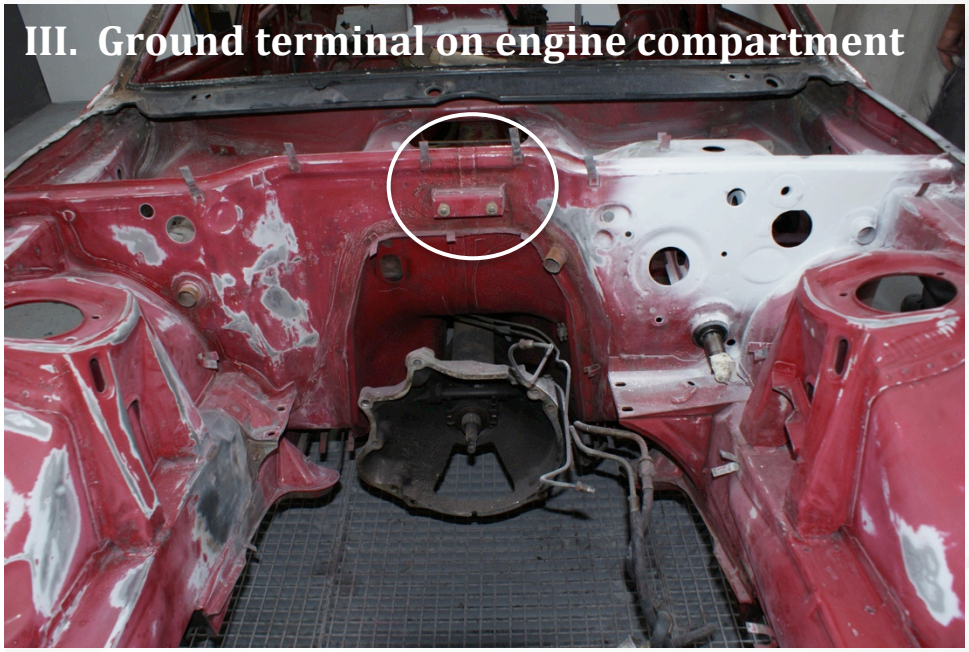
Light corrosion and painted on top.

II. On top of the main fuse box



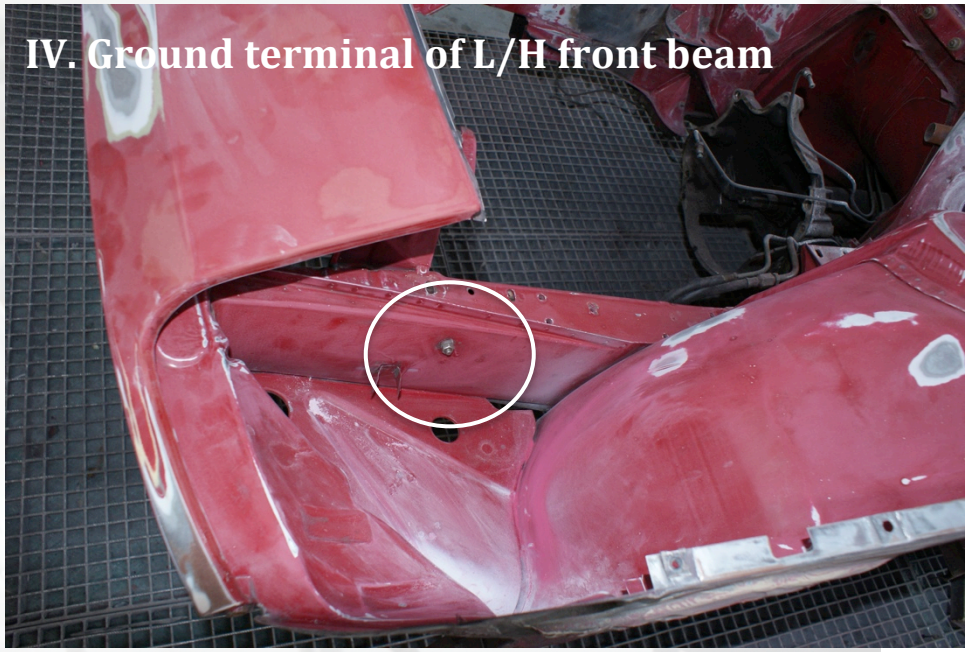
These terminals were in good shape given the fact they were in the cabin not exposed to external factors. Nonetheless, they were treated like the rest of the terminals.

III. Ground terminal on engine compartment



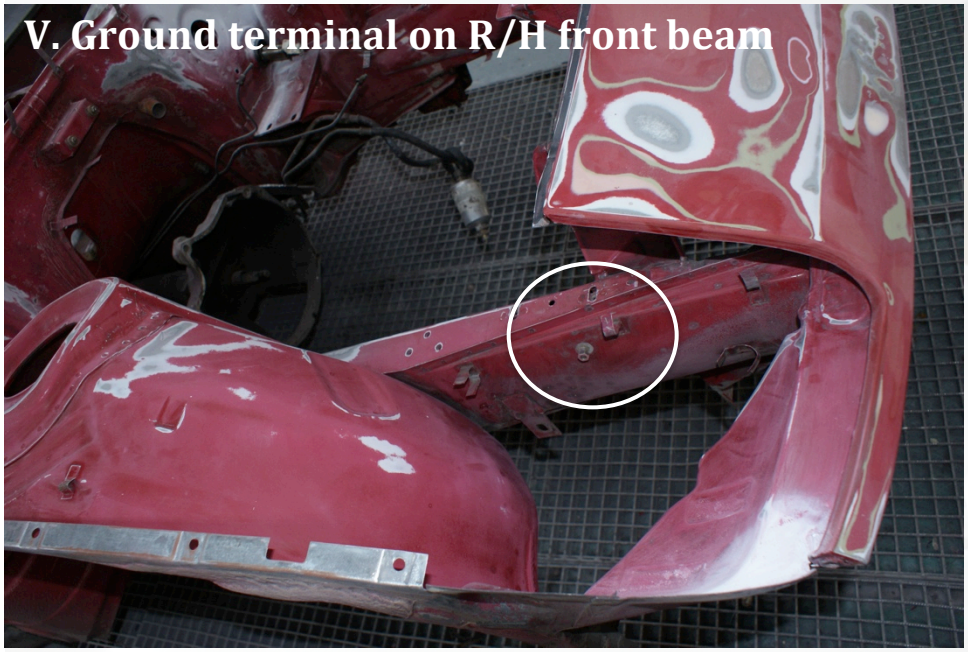
Fair conductivity but treated to obtain the best results and to avoid future corrosion issues, like with the rest of the ground terminals.

IV. Ground terminal of L/H front beam



This terminal was showing light corrosion and it was painted, so the end conductivity was weak. Like with the rest of the ground terminals, they are stripped after the body is painted and treated with special conductivity paint to obtain the best results are to eliminate future corrission issues.

V. Ground terminal on R/H front beam



The same as with the previous ground terminal

VI. Ground terminal on L/H trunk side

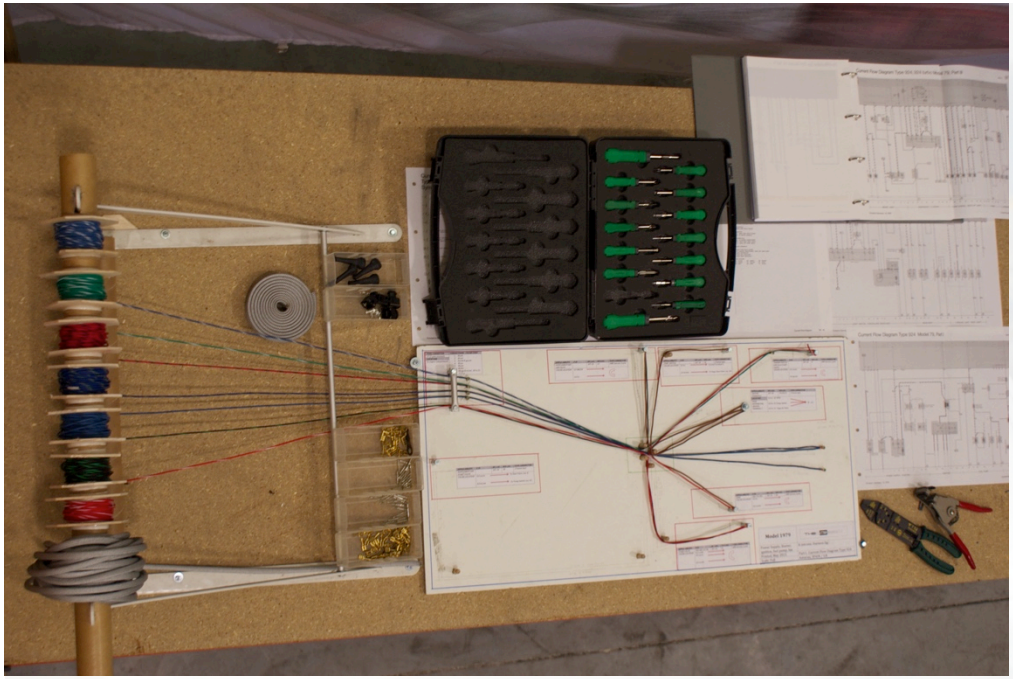


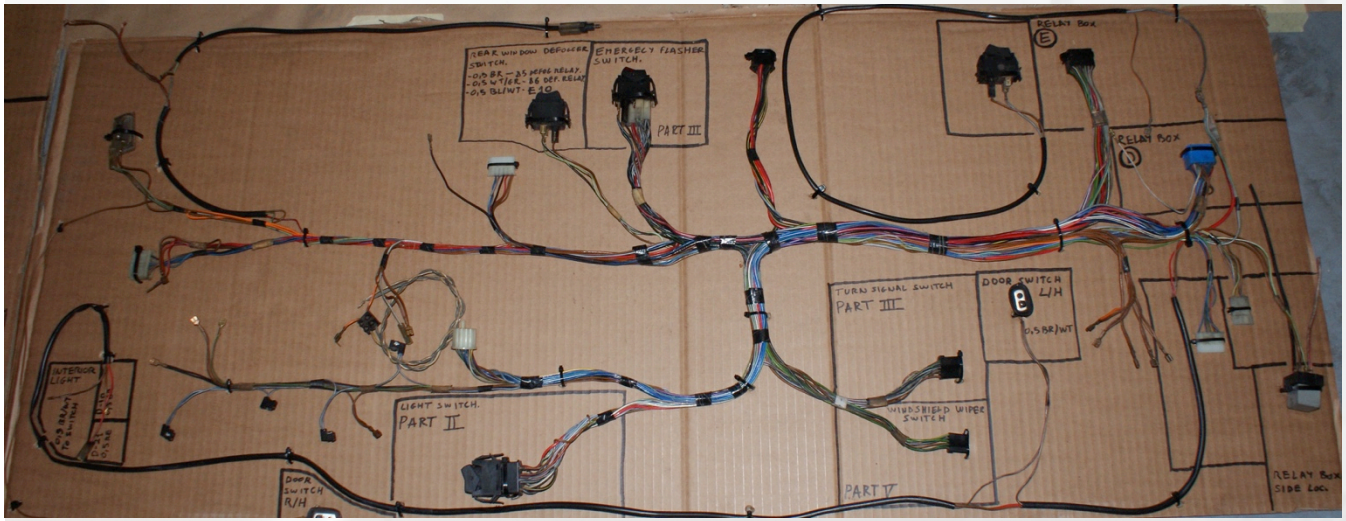
This wsa the worst one as it was severly corroded due to the humidity and water accumulation coming from the weak rear window seals. The ground terminal was painted from previous jobs during the life of the vehicle and there was no conductivity at all!!!, no wonder, the rear lights did not work.

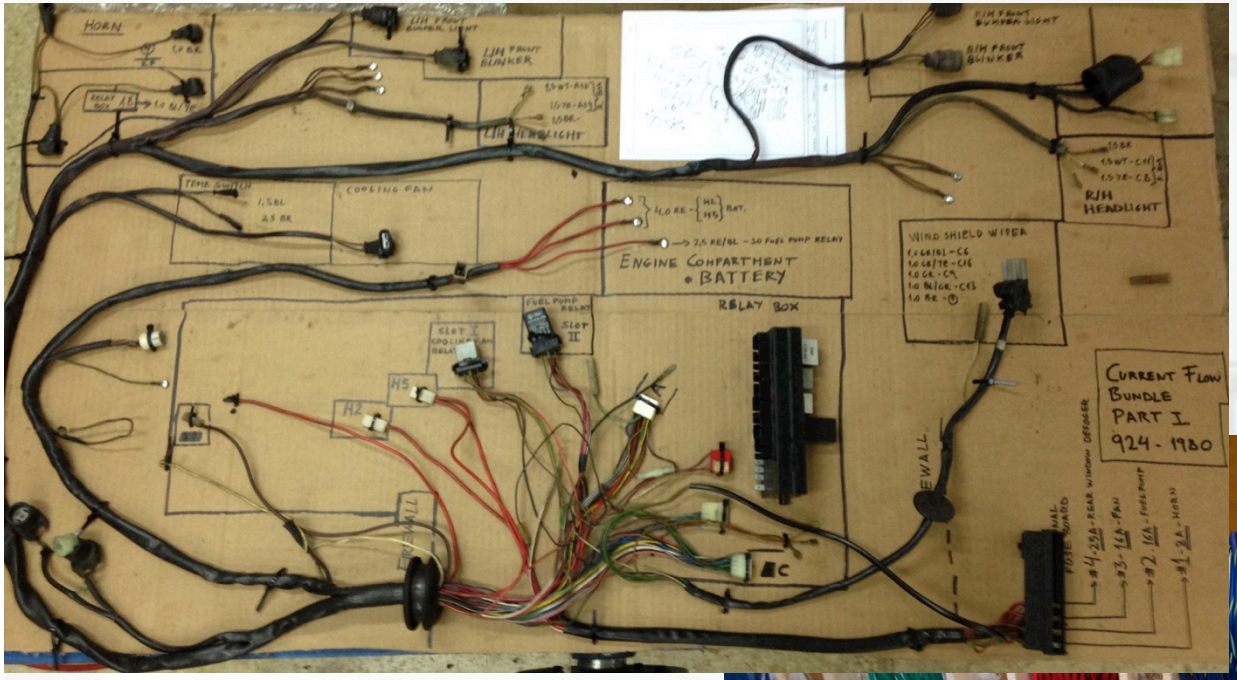
HARNESSES

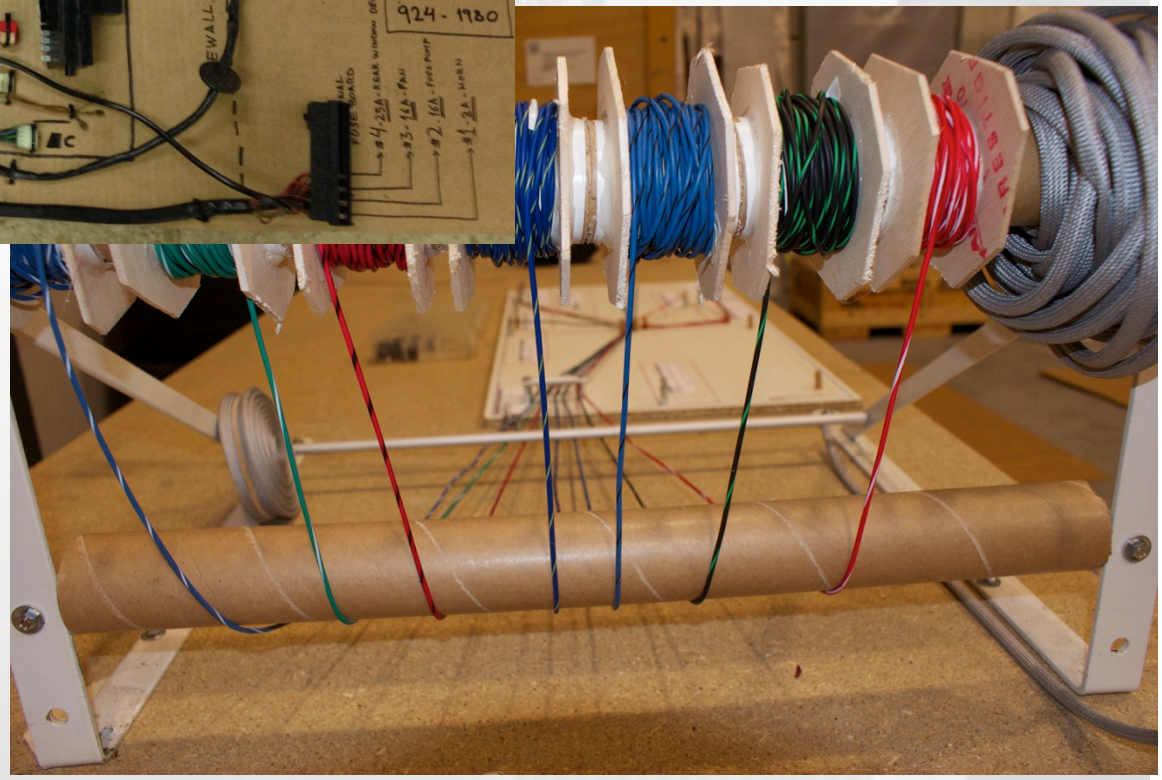
The following table details all the bundles within the car and the corrective action taken in each case.

PART NUMBER	LOCATION	DESCRIPTION	CONDITION	CORRECTIVE ACTION
477 971 761 BA	Engine compartment	K-jetronic wire bundle	Brittle and rigid and overall bad condition. Water accumulation inside the heat shield and broken WUR and start up valve broken.	Complete new bundle and connectors with color coding and aerospace heat shield.
477 971 071 DB	Cabin, fuse box area and engine compartment	Engine compartment cables for lights, pop up head light, blinkers, washer, wiper, alternator, starter and battery cables	Heat shield broken and in bad shape. Terminals corroded and brittle cable insulations	R+R worn out cables and terminals and complete new sets for the starter and alternator with aerospace heat shield.
477 971 050 DB	Dash board and fuse box areas	Instrument cluster and controls	Good condition	New protective tape for interior from nose to tail.
477 971 011 BA	Cabin area from fuse box to rear of the car	Rear lights, speakers, fuel pumps, back up light, fuel tank capacitance and rear window heater	Good condition	New protective tape for interior from nose to tail.




RELAY BOX
EMERGENCY FLASHER SWITCH.
PART III
RELAY BOX
TURN SIGNAL SWITCH
PART III
DOOR SWITCH L/H
0,5BR/WT
INTERIOR LIGHT
LIGHT SWITCH.
PART II
WINDSHIELD WIPER SWITCH
PART IV
RELAY BOX SIDE LOCK


HORN
TEMP. SWITCH
COOLING FAN
ENGINE COMPARTMENT
+ BATTERY
RELAY BOX
FUEL PUMP RELAY
SLOT II
WIND SHIELD WIPER
R/H HEADLIGHT
CURRENT FLOW
BUNDLE
PART I
924 - 1980
FIREWALL



CONNECTORS

All Faston type connectors are replaced and all K-jetronic connectors are also replaced

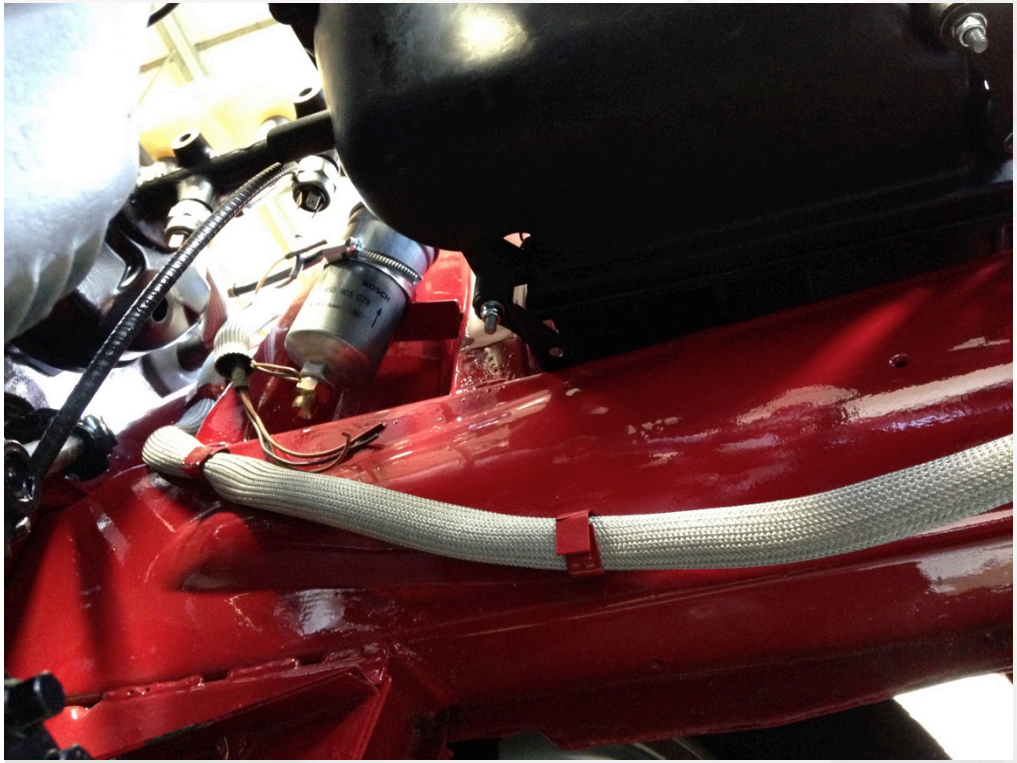
P/N	DESCRIPCIÓN
022 906 231 A	K-Jetronic connectors In engine compartment
N 017 586 2	All male round connectors
N 017 592 2	All female round connectors
111 971 959	Faston type connectors

WIRE SPECIFICATIONS

Cross-Link Polyethylene (XLPE) 50 Volts or Less -40°C (-40°F) to 125°C (257°F) 18 Gauge GXL Wire meets SAE J1128. RoHS Compliant Recommended for general purpose wiring of trucks, tractors, cars, boats, buses and general service where higher durability and high heat resistance is required such as in engine compartments of vehicles. Superior to GPT because it will not melt when exposed to heat. . 2-digit color code for correct identification.

HEAT INSULATION

The engine compartment bundles were brittle and worn out and this is the reason why we opted for aerospace heat shields that reflect 90% of the heat. El Extreme Heat Sleeve is impregnated with a resin and fiber combination that block high temperatures easily. It is also extremely effective against vibration, abrasion and mechanical stress being able to repel temperatures up to 650 degrees Celsius.





ELECTRICAL SYSTEM

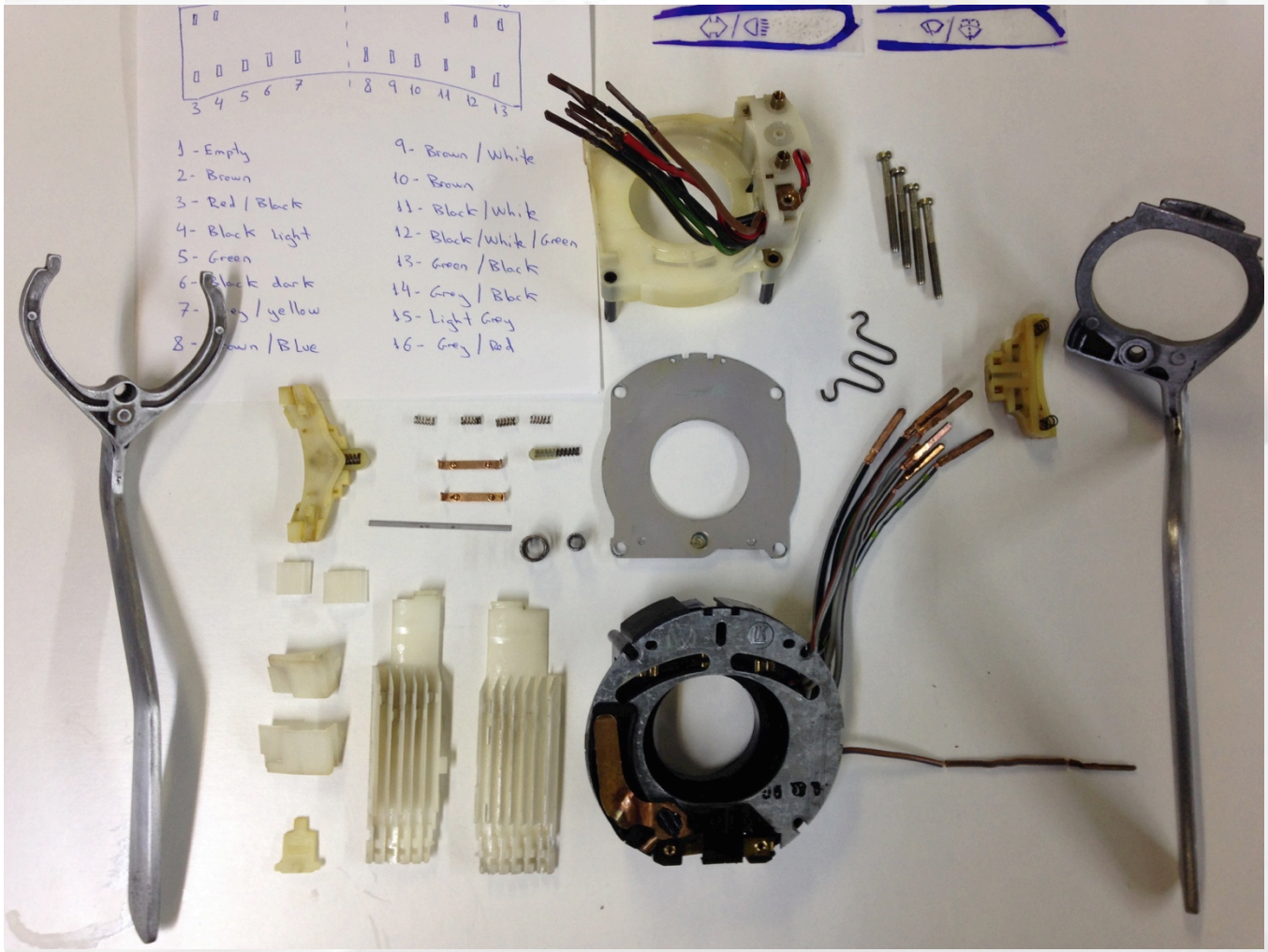
Once the cabin and full interior and engine are mounted, we proceed with the installation of the wire bundles. One last check of the ground terminals is conducted prior their installation.





CONTROLS

The steering wheel controls are not available any longer and we must overhaul them very carefully as there are a lot of small mechanisms and little springs that can easily get lost. It was extremely dirty and dusty and the conductivity levels were low. We found several shorted connectors on the blinker and wiper controls. The controls are stripped out and painted black again.



HEATING CONTROL UNIT AND MOTOR

The dirt accumulated during 35 years was clear, but the overall operation of the control unit was ok. After cleaning and adjusting, we found several connectors loose and two levers that were also loose from the guiding mechanism. The motor was cleaned and lubricated to avoid the typical noises from these motors. The heat exchanger was broken as indicated previously and was replaced with a new one.





LIGHTING

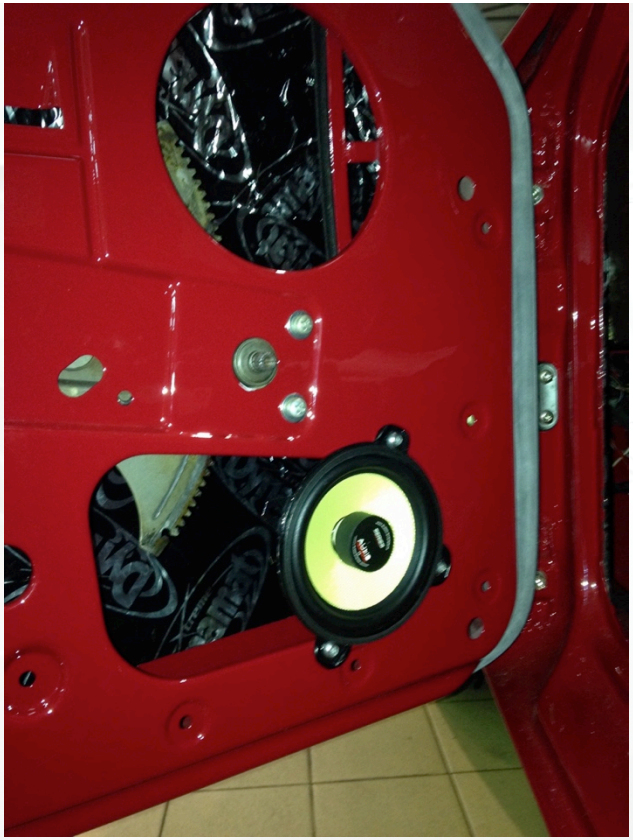




SOUND SYSTEM

The revolutionary BECKER MEXICO 7648 was the chosen one for this restoration. This is state of the art equipment that displays the looks from the late 70´s but with the latest technologies. It was very difficult to allocate one as they were out of production, but we managed to acquire a new unit. We install a JL Audio XD600/6 amplifier and a set of high quality speakers. The original installation was mounting three 6*4 speakers (two in the rear panels and one in the center of the dash board) We opted to keep the original look but mounting new speakers on the doors and two on the rear side panels. The rear panels mount two JL Audio C2-400X 4 inch speakers. On the doors we opted for two-way speakers from Audio System. The R165 Flat are extremely thin and one of the few high quality speakers that can fit in the doors. We mount the tweeter part on the top part of the doors.






evolution
DIGITAL

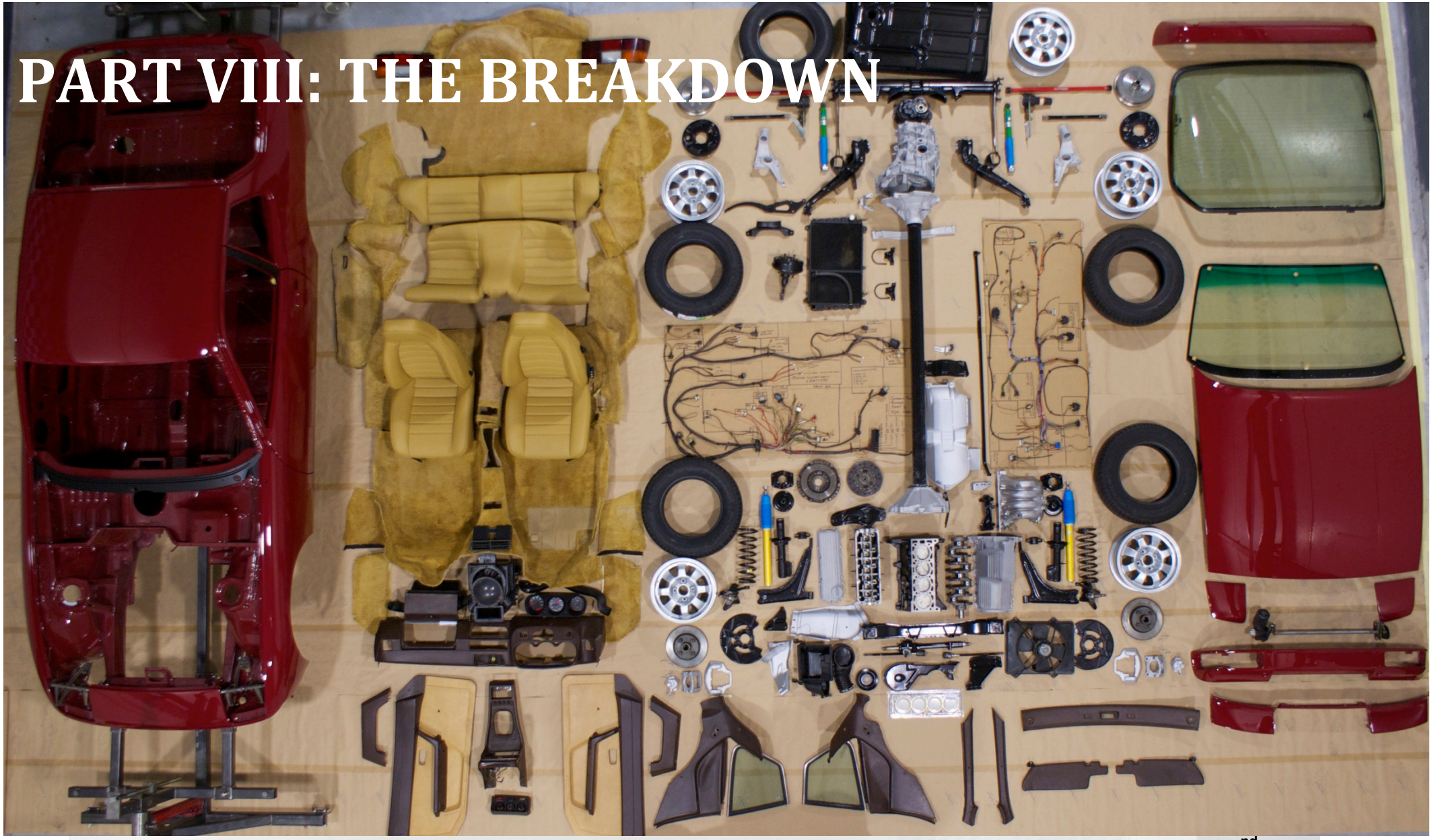


ELECTRICAL ANTENNA INSTALLATION





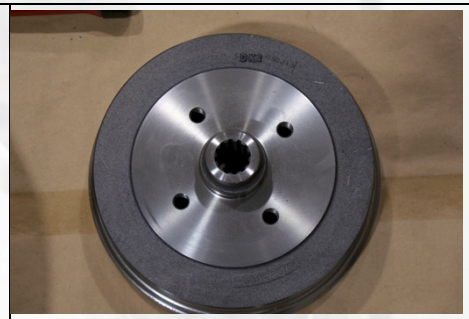
PART VIII: THE BREAKDOWN

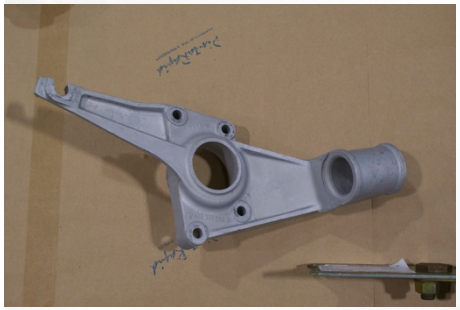


PART VIII. THE BREAKDOWN

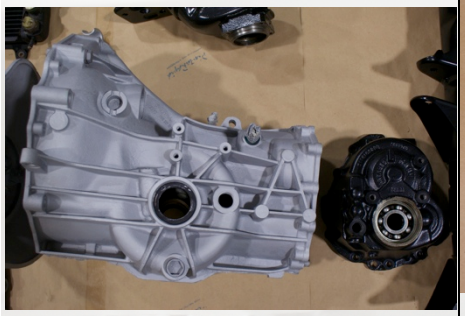
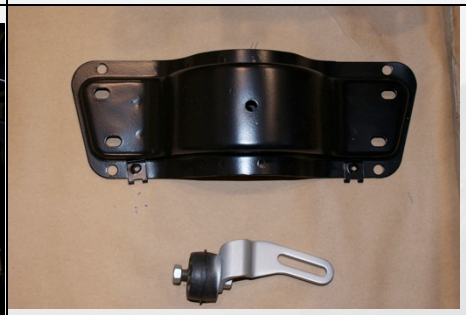
Snap shot of some of the overhauled parts.



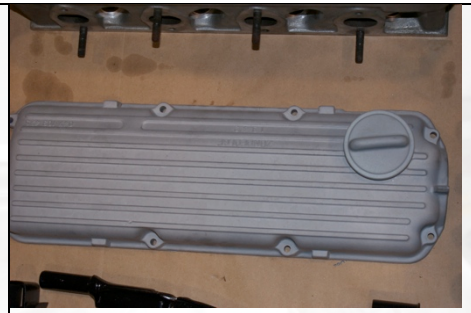








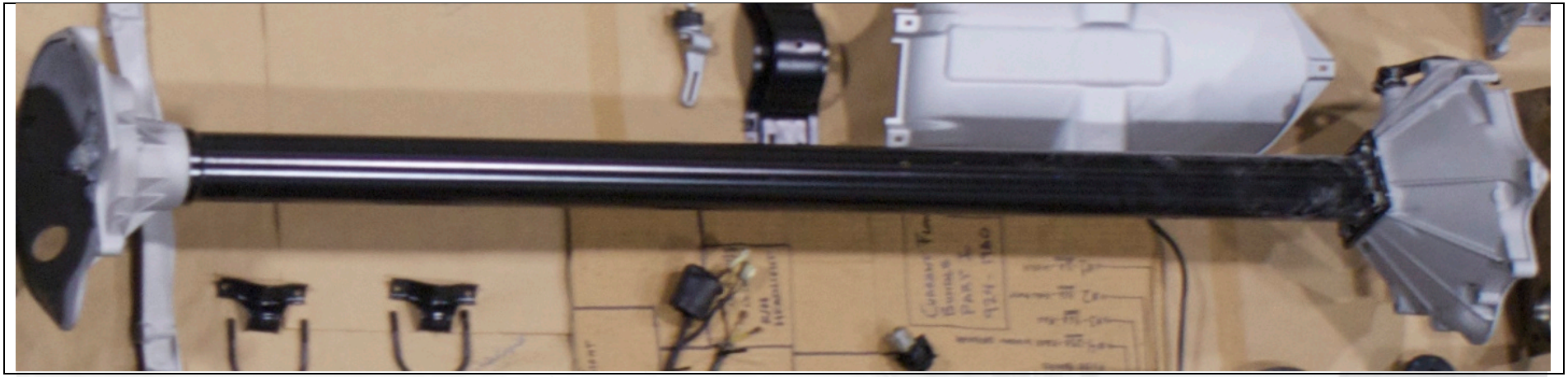






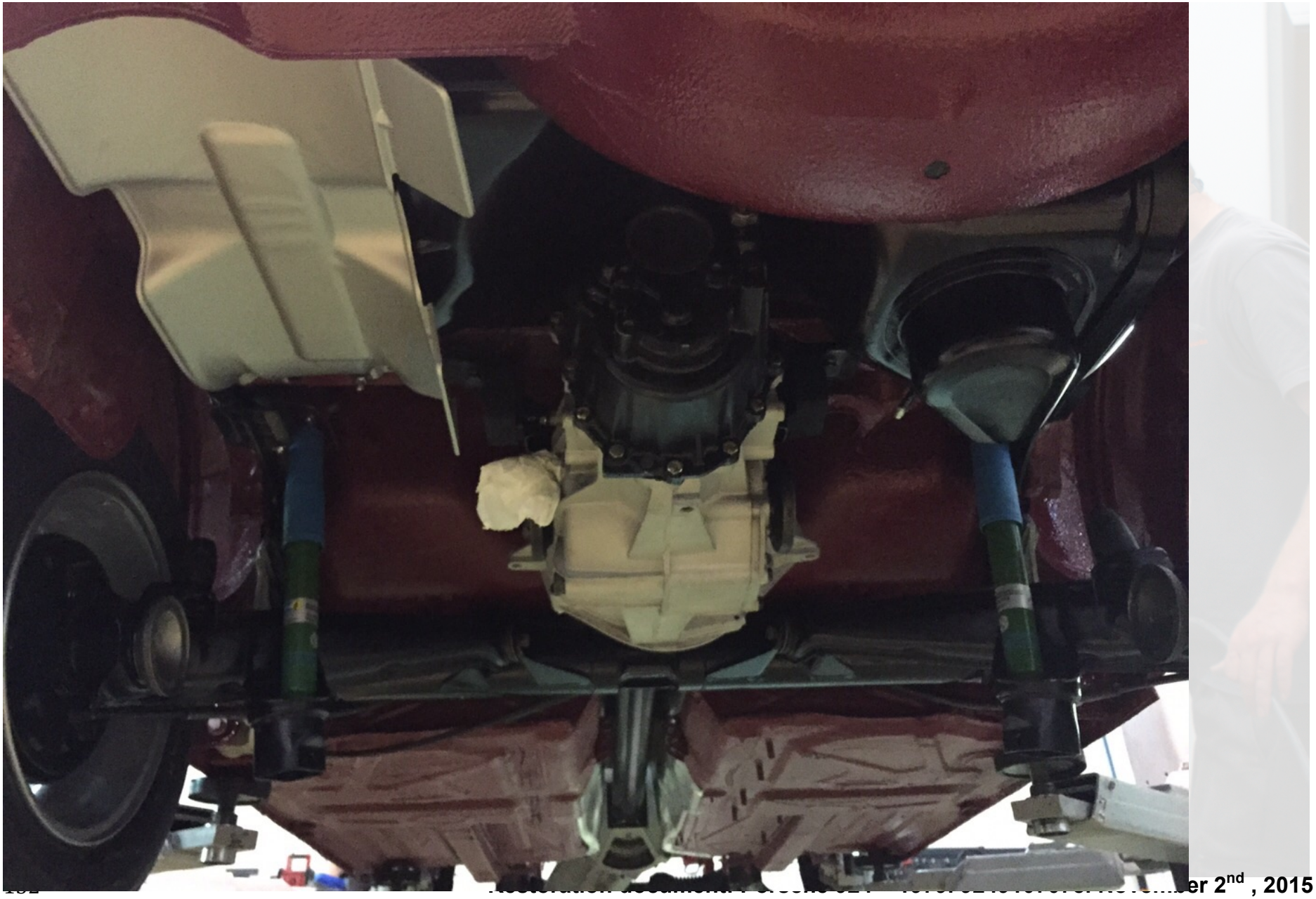






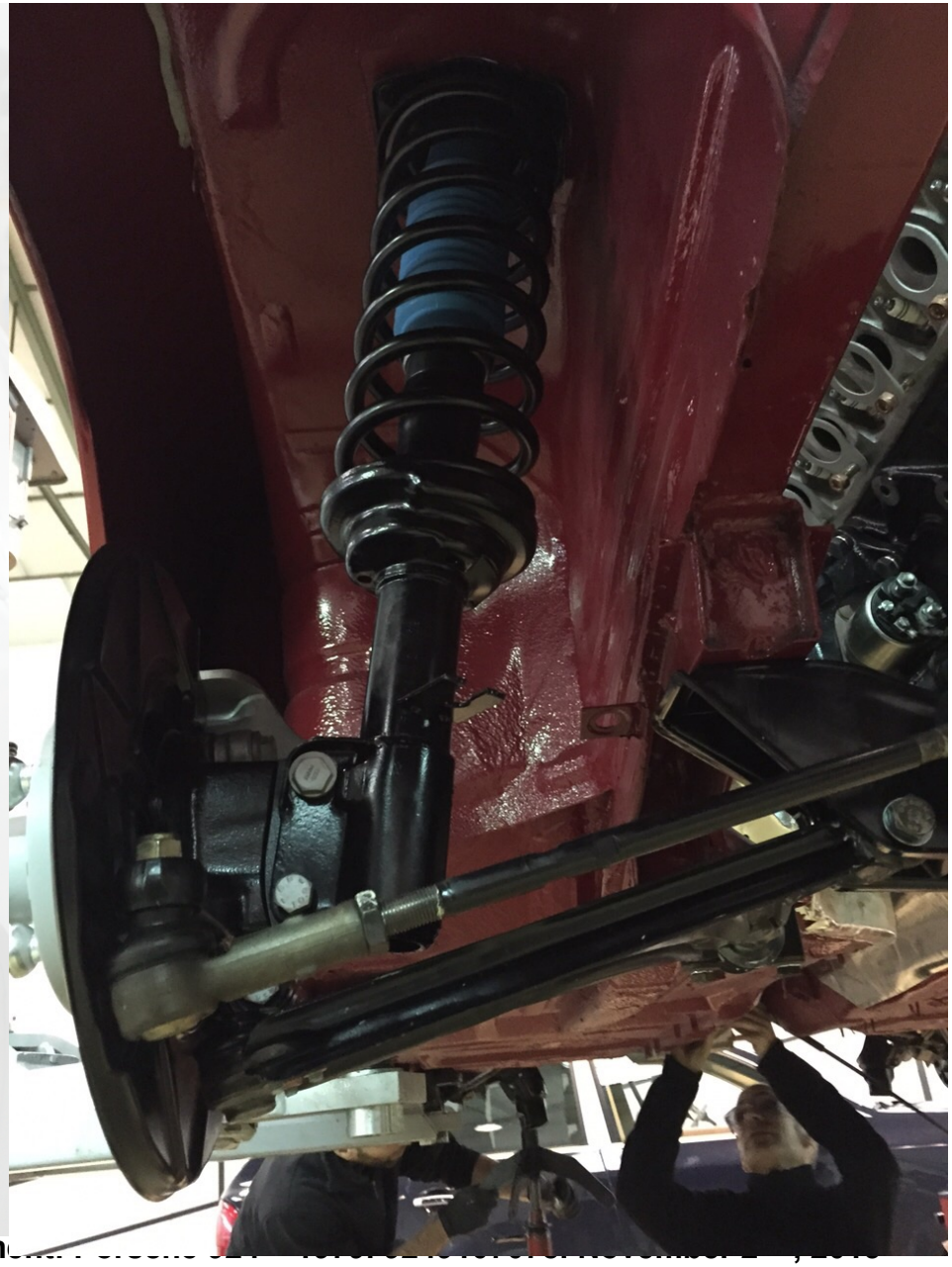
POWEPLANT ASSEMBLY

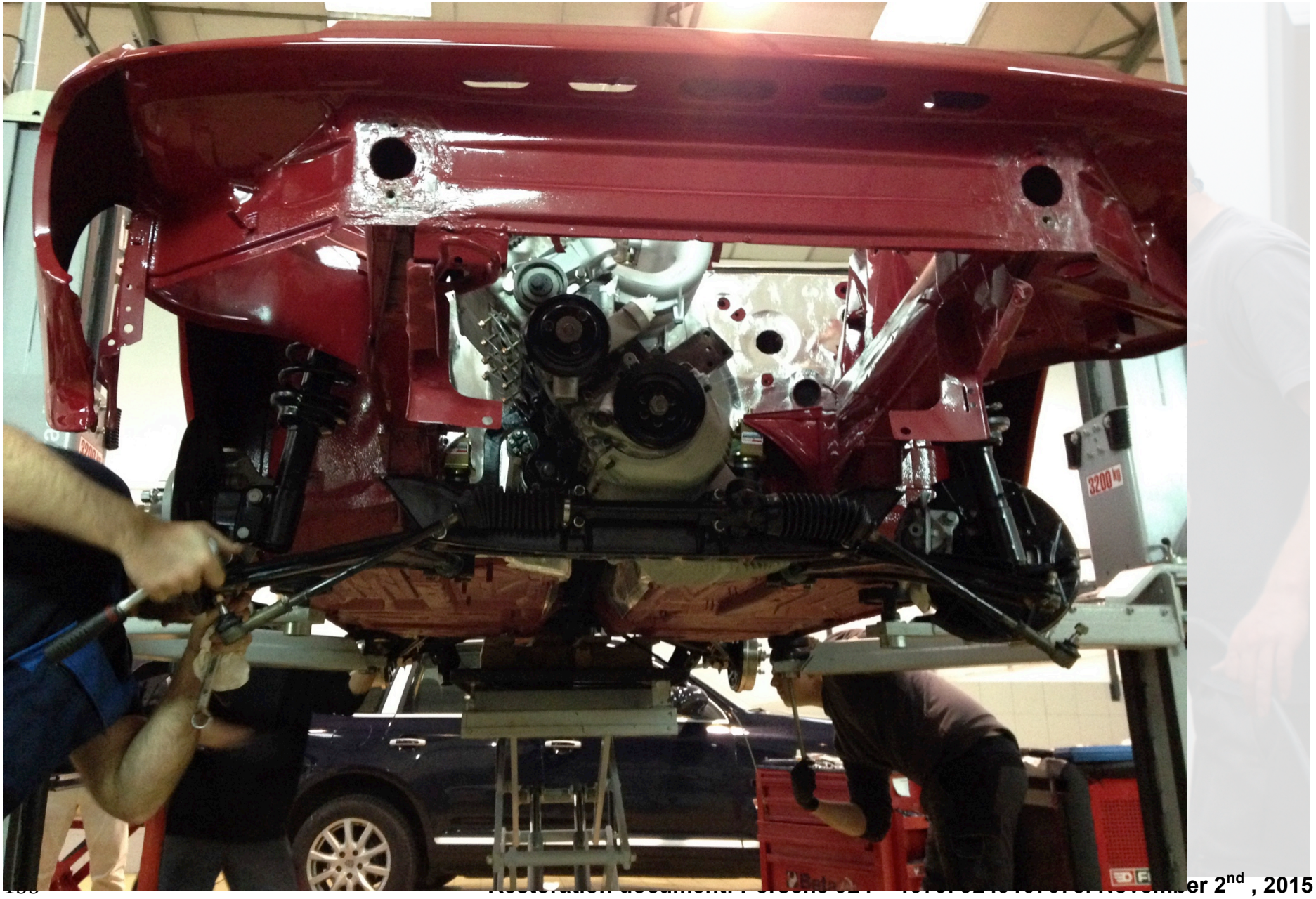











3200 KG

PART IX: MODIFICATIONS



PART IX. MODIFICATIONS

My goal was to bring the car back to the original condition with the least amount of modifications. The following are the modifications that were installed in the car:

1. Sound system with speaker system.
2. New Blistein Struts. Allowed within the Porsche Parts Catalog.
3. Engine silent blocks.
4. Dynamat and Dynaliner used as the substitutes of the original sound prove and heat shields.
5. 25mm Torsion bars instead of the original 23,5 mm ones.
6. Carpet and leather seats.
7. Stainless steel Exhaust system. The original headers are cast iron and no longer available. Headers from Friedrich Motorsport and a complete new 2,5 inch exhaust system.







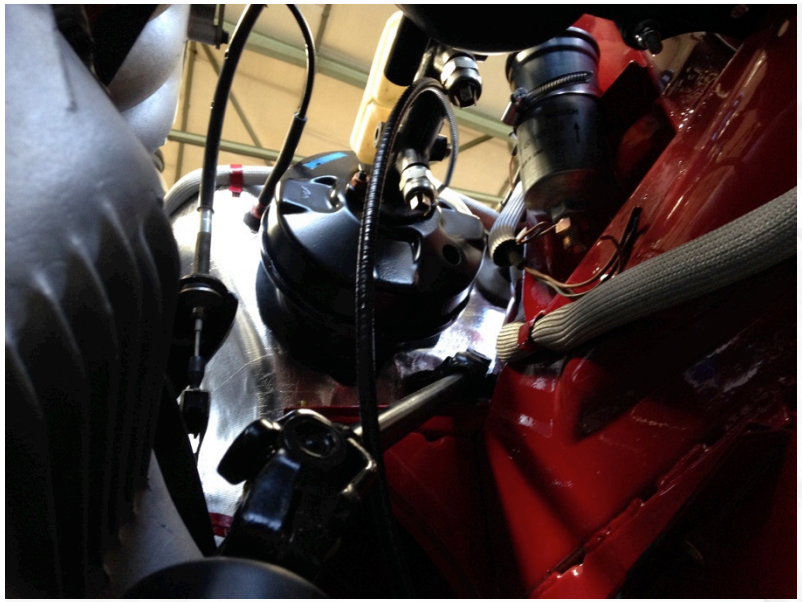
PART X. DETAILS IN GENERAL. A PHOTOGRAPHIC REPORT.

Let the images speak for themselves.



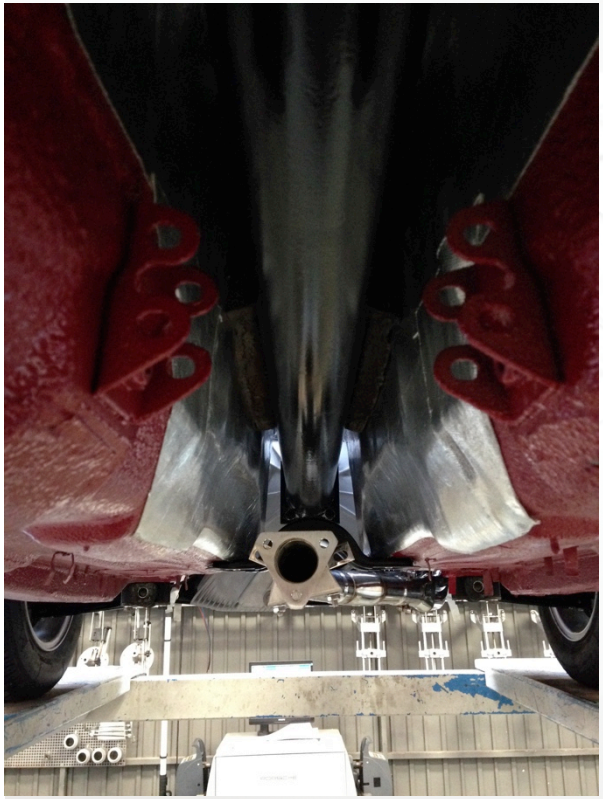




















PART XI. THE CAR AND FINAL RESULT. PHOTOGRAPHIC REPORT







THECLASSIC



THECLASSIC





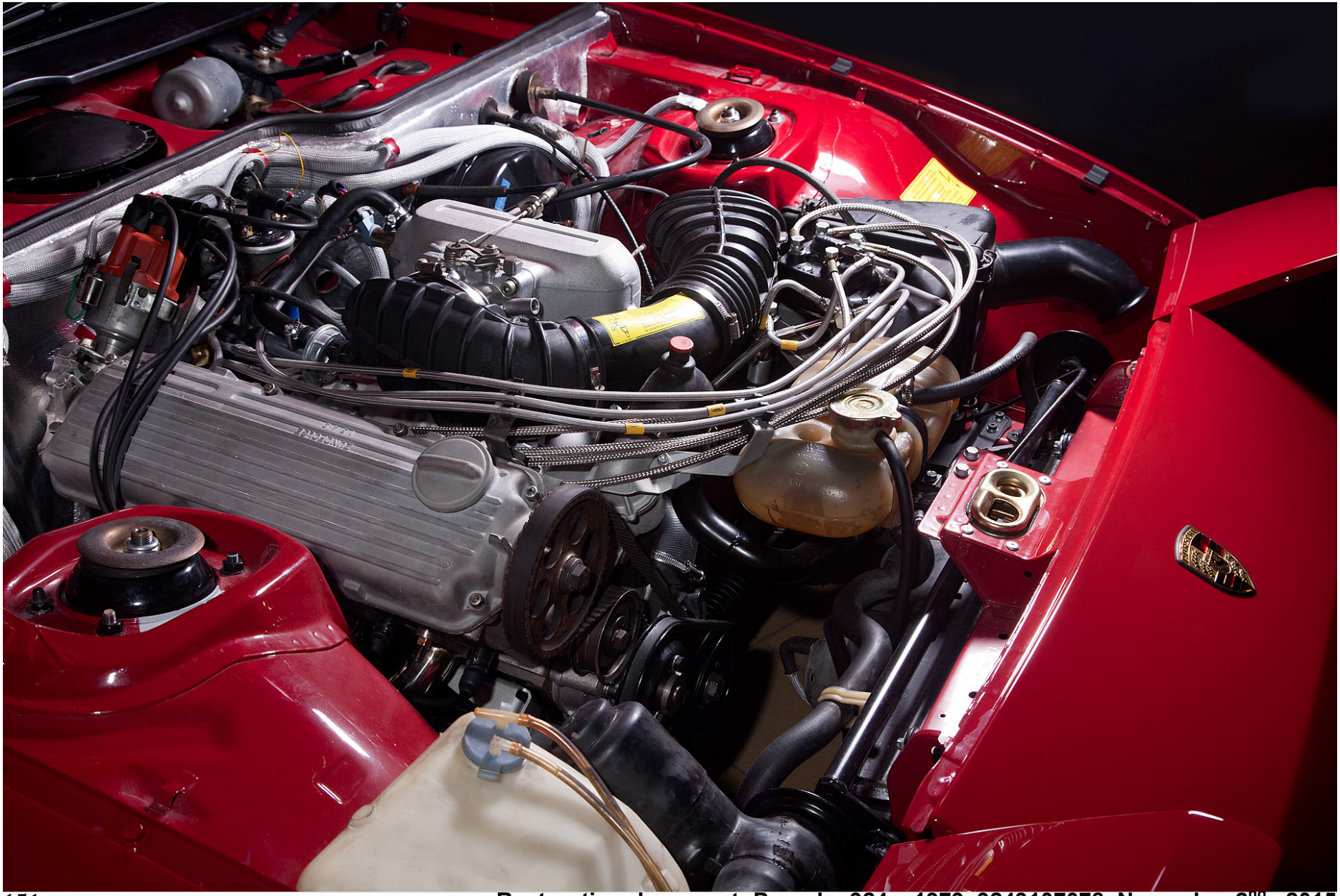


THE CLASSIC





rsche 924 – 1979. 9249107078. November 2nd , 2015



PART XII: BUDGET, MAN POWER AND PARTS.



PART XII. BUDGET, MANPOWER AND PARTS.

MAN POWER.

We have the hands-on work on one side and the administrative work on the other. Both very important and completely different.

FECHA	HORAS	DESCRIPCIÓN DE TAREA
14-Jun-14	0,5	**VEHICLE RECPETION AND VISUAL INSPECTION**
14-Jun-14	1	**TEST DRIVE.** Car is not able to speed over 120 km/h and is unable to maintain speed on hills. Suspension is weak. Very hard to start the engine. Cabin ventilation does not work and heater is always active. The radio is inop. Lights and blinkers are not working.
14-Jun-14	1	**PRELIMIARY INSPECTION AND OVERALL REPORT OF DISCREPANCIES.** General engine problems are found. Corrosion in the trunk and battery areas. Interior in very bad shape and paint very worn out with many scratches and poor quality of details as it was painted in the past over door handles, door seals, and lights with heavy signs of orange skin. Brakes are very spongy and do not break very well. Suspension very weak with broken front struts and rear torsion bars showing signs of wear. Odometer and speedometer inoperative. After visual engine inspection, we find an extension on spark plug #4 and a relay bypassing the engine pump. Cylinder #4 compression is very poor.
14-Jun-14	6	**REMOVE INTERIOR.** Remove seats and rear bench. Remove carpet, dashboard, wire bundles and lighting system.
15-Jun-14	8	**REMOVE INTERIOR**. Removing door panels, rear side panels, rear, front and side windows. Remove heating system body and central cluster will all instruments.
16-Jun-14	4	**HEATING SYSTEM DISSASEMBLY**. Disassembly and cleaning the heating body. Control module disassembly, cleaning and conductivity check. Check vent motor, plumbing system and wire bundles for the heater. Remove heat exchanger and check for leaks.
17-Jun-14	6	**DASH BOARD DISSASEMBLY AND SIDE SYSTEMS.** Instrument cluster removal, electrical connectors, switches, ground chassis connector and central board removal over gear knob. Dahs board was glued to the front windshield and frame.
18-Jun-14	4	
19-Jun-14	4	

FECHA	HORAS	DESCRIPCIÓN DE TAREA
21-Jun-14	10	**ENGINE REMOVAL + FRONT SUSEPENSION REMOVAL AND BRAKE SYSTEM REMOVAL.** Disconnect all wire bundles from engine compartment, fuel lines, brake lines, steering wheel bar, clutch and disassembly from transaxle. Remove exhaust headers and muffler body. Installed engine in engine jig prior engine disassembly. Checked all components and preparing work area. ID all items and non-usable items.
20-Jun-14	6	**ENGINE DISSASEMBLY**. Prepared engine work area and required tools as well as storage bins for all components. Varsol cleaning and component washing machine for all removed items. First preliminary study of components out of tolerances.
23-Jun-14	6	**FRONT STEERING PINNION AND RACK DISSASEMBLY.**
24-Jun-14	6	**BRAKE PUMP DISSASEMBLY.** Complete break down and checking all parts, piston and cylinder walls and discarding all O-rings and back up rings. Removing brake reservoir and disconnecting all brake lines.
14-Jul-14	6	**ENGINE COOLING SYSTEM DISSASEMBLY.** Cleaning and checking for leaks on the radiator and plumbing system.
14-Jul-15	10	**ROTISSERIE DESIGN AND CONSTRUCTION.** Designing and construction of the specific rotisserie for the Porsche 924. Blueprints development, material preparation, cutting and welding and machining final mechanical components.
15-Jul-15	12	
16-Jul-15	12	
15-Jul-14	6	**ENGINE COMPARTMENT DISSASEMBLY AND REMOVAL OF ALL ACCESORIES.** Remaining harnesses, control links, fuel and brake lines, horn, pop up head light mechanical device, and bumper lights. Removal of heat expansion reservoir and wiper washer reservoir and lines. Removing all firewall thermal blankets and all seals within engine compartment area.
16-Jul-14	6	**OVERALL DISSASEMBLY OF VEHICLE COMPONENTS. WORK AREA PREP AND ARRANGING ALL PARTS IN BINS BY CHAPTER AND CONDITION**. Installing vehicle within the car rotisserie in order to access all areas properly. Alignment of tool and work area in order to start sheet metal work and body works.
17-Jul-14	6	
18-Jul-14	6	
21-Jul-14	6	
22-Jul-14	6	
23-Jul-14	6	
24-Jul-14	6	
25-Jul-14	6	
28-Jul-14	6	

FECHA	HORAS	DESCRIPCIÓN DE TAREA
29-Jul-14	6	
30-Jul-14	6	
31-Jul-14	6	
1-Aug-14	2	**PREP AND SANDING OR RIMS**
4-Aug-14	2	**PREP AND SANDING OR RIMS**
5-Aug-14	2	**PREP AND SANDING OR RIMS**
6-Aug-14	6	**DISSASEMBLING ALL VEHICLE WIRE BUNDLES.** All wire bundles are disassembled and installed in wire jigs in order to R+R all applicable wires. Checked all 6 vehicle ground straps for proper conductivity, cleaned and applied applicable anti corrosive products to increase conductivity.
7-Aug-14	6	**WIRE HARNESS #1 PREP.** Aligning bundle within jig number 1, labeling all connectors and terminals and checking cable conditions. Label all wires and terminals, conductivity checks and R+R applicable components. Replace all soldered terminals.
7-Sep-14	2	**FUSE BOX DISSASEMBLY AND CHECKING MULTIPLE CONNECTORS.** Preparing workbench and labeling all connectors and relays. Cleaning box and connectors and R+R applicable ones.
8-Aug-14	6	**WIRE HARNESS #2 PREP.** Aligning bundle within jig number 2, labeling all connectors and terminals and checking cable conditions. Label all wires and terminals, conductivity checks and R+R applicable components. Replace all soldered terminals.
11-Aug-14	1	**ODMOTER REPAIR.** Disassembly of odometer to check condition of plastic gears, but it is out of tolerance so a new one needs to be installed. Primary cable from the wheel to the odometer is stuck and also replaced.
Process performed through the reconstruction process	60	**PAPERWORK AND DOCUMENATION Management** of paperwork. orders, and obsolesence management follow ups. Searching for alternative part nubmers and new ones throughout the network and different part suppliers. Travel time to different suppliers searching for NLA parts. OEM product support communications and follow up with open issues regarding NLA parts and components. Study OEM manuals for proper assembly and disassembly processes. Preparing work orders for future swanks and availability of parts in order to start W.O with all material in place.
6-Sep-14	3,5	**TRANSAXLE REMOVAL.** Rear axle, rear suspension, gearbox and main axle bar removal and prep for blasting.
15-Sep-14	4	**FUEL TANK + LINES+ BRAKE LINES + FUEL PUMPS + AND FILTER REMOVALS.**
15-Sep-14	2	**HIGH PRESSURE CLEANING AND DEGREASING BODY UNDERCARRIAGE.**
16-Sep-14	8	**REMOVAL ISOLATION MATERIAL FROM INTERIOR.** Cleaning interior and removing with heat guns all isolation material (very tedious work). Cleaning the remaining residues with dissolvent prior interior priming and corrosion treatment.
17-Sep-14	2	

FECHA	HORAS	DESCRIPCIÓN DE TAREA
23-Sep-14	4	**REAR AXLE DISSSASEMBLY.** Once on the workbench, Removing torsion bars (L/H broken in two pieces and fully corroded). Rear axles, suspension silent blocks and bushings removal. R+R all hardware and suspension eccentric nuts. R+R wheel bearings, bushings, rear wheel axles, and cross members. Cleaning all components and preparing for blasting.
23-Sep-14	2	**GEAR BOX AND DIFFERENTIAL DISSASEMBLY**. Open gearbox and proceed to full disassembly. Remove all gears, bearings and check for correct EOM tolerances, removing applicable parts and components per IPC
26-Sep-14	1	**FUEL SYSTEM DISSASEMBLY**. Fuel feed and return lines disassembly, fuel filters, fuel pumps, and fuel accumulator, silent block R+R. Cleaning and replacing most of the system components and dented fuel lines. Fuel system was in poor condition.
26-Sep-14	1	**REAR BRAKE SYSTEM DISSASEMBLY.** Parking brake cables and drum disassembly. Brake lines, and rear drum pistons and cylinders. R+R pads, hardware, O-rings and springs. Prep entire system for blasting after cleaning.
8-Oct-14	6	**WIRE HARNESS #3 PREP.** Aligning bundle within jig number 3, labeling all connectors and terminals and checking cable conditions. Label all wires and terminals, conductivity checks and R+R applicable components. Replace all soldered terminals.
14-Jul-14	5	**REMOVING FRONT AND REAR SEAT COVERS.** Checking seta frames and fixing seat cushion areas. Checking the rear seat bench and preparing it to cut the templates to install the new leathern covers.
15-Jul-14	8	**CUTTING SEAT TEMPLATES AND LEATHER.** Cut, sewing and forming the covers that will be installed into eh seats.
16-Jul-14	4	**CUTTING SEAT TEMPLATES AND LEATHER.** Cut, sewing and forming the covers that will be installed into eh seats.
17-Jul-14	4	**FORMING AND APPLYING NEW CUSHION ON THE FRONT AND REAR SEATS**. Original cushions are worn out on the side and lumbar areas. New cushion foam is cut and glued in place. The frame and springs are cleaned and checked for corrosion.
18-Jul-14	6,5	**FINAL INSTALATION OF SEAT COVERS, GLUING AND SEWING THEM IN PLACE.**
12-Sep-04	4	**RECTIFYING MAIN CRANKSHAFT BEARINGS TO THE NEXT OVERSIZE (0.25 MM).** Main bearing are reworked to install new bushings as the standard bushings are NLA. After a lot of digging and telephone calls, we are able to find a new crankshaft and new main bearings on the original size, so we opted for this option rather than the oversized crank.
13-Sep-14	4	**CILINDER HEAD AND VALVE SEATS REWORKED**. New valve guides (next oversize measure) are installed and the cylinder head is reworked due to debris on the cylinder #4. The seat covers are fully machined.
14-Sep-14	4,6	**CILINDER #4 NEW SHIRT.** The cylinder is rectified to install a shirt to fit the standard sized pistons (86,5mm). The engine is now within tolerances and with the original piston sizes.

FECHA	HORAS	DESCRIPCIÓN DE TAREA
5-Sep-14	6	**REWORKED THE DASH BOARD**. The dashboard is in very bad condition and a new or pre owned one is NLA. We have been able to repair it but some of the cracks caused by radiation during the years are still visible.
1-Sep-14	8	**BLASTING IF MECHANICAL COMPONENTS.** All cast iron parts are blasted with aluminum silicate at 3 to 4 bar pressure. After blasting, all parts are epoxy primed followed with a final coat of polyurethane paint. All aluminum parts are blasted with Armex to obtain a smoother finish. Refer to the overhauled parts listing for a full detail of blasted parts. Up to a total of 130 blasted parts.
2-Sep-14	8	
3-Sep-14	8	
4-Sep-14	8	
5-Sep-14	4,12	
18-Dec-14	3,1	
31-Dec-15	4,84	
Del 8-Ago-2014 hasta el 4-Nov-2014	45	**SHEET METAL WORK ON THE BODY AND CHASIS.** Removing corrosion and replacing structural components that had to be replaced.
	220	**BODY AND PAINT**. Cleaning the frame outside, inside and undercarriage. Disassembling all structural components. Careful sanding of the entire frame, searching the bodylines and reinforcing them. Correcting damaged frame areas and priming the body up to three times until all imperfections are removed and all bodylines are clearly defined. After priming, the car is painted in three phases: undercarriage, interior and finally the exterior. The process is repeated up two times with a final application of lacquer to protect the paint.
11-Sep-14	1	**REPARING DAMAGED RIM.**
15-Oct-14	1	**DOCUMENTATION WORK: LOCATING AND IDENTIFYING THE ENTIRE HARDWARE NEEDED FOR THE RECONSTRUCTION.** Break down chapter by chapter-in order to make an organized hardware order to the vendors.
16-Oct-15	0,7	**INSTALLATION OF THE 5 TIRES.** New tires installed in the overhauled rims and are inflated to the correct pressure.
16-Oct-14	2	**CLEANING AND DISSASEMBLY OF REAR AXLES AND CROSS MEMBERS.** R+R rear bearings and bushings. Checking if within tolerances. We discard them and order new sets for both sides.
Process performed through the reconstruction process	35	**PREPARING WORK ARE FOR THE FINAL ASSEMBLY.** Preparing all parts and hardware in place. Preparing workbenches, new parts and repaired components for ease of access. Final check to make sure all parts, components, and tools are in place to start the final assembly. Birds view photograph is available within the report to see the distribution of all components prior the final assembly.

FECHA	HORAS	DESCRIPCIÓN DE TAREA
3-Nov-14	2,9	**ADDITIONAL BLASTING OF COMPONENTS.**
10-Nov-14	1,0	**FRONT SUSPENSION ASSEMBLY.** Installing the struts and shock absorbers along with springs prior installing into the frame.
21-Nov-14	6,0	**GEAR BOX FINAL ASSEMBLY.** Installing the gears, synchro, and gear lock keys. Needle bearings and end ball bearings. New siynchros and new lock keys are installed as well as well as a complete set of new needle and ball bearings.
24-Nov-14	2,0	**FRONT DISK BRAKES ASSEMBLY.** New bushings, new bearings, new pads and new disks installed. Perforated disks are installed instead of the original solid ones. Once assembled, it is installed along with the front suspension and struts set into the car.
25-Nov-14	1,0	**RACK AND PINNION STEERING ASSEMBLY.** Greased the set and bearings, installed the arms, O-rings and covers and final assembly in the front member.
26-Nov-14	6,0	**INSTALLING FUEL AND BRAKE LINES PRIOR INSTALLING REAR SUSPENSION AND GEAR BOX IN THE BODY.** All lines are clipped in the frame with new clips and the lines are secured in place
26-Nov-14	6,0	**REAR SUSPENSION ASSEMBLY.** New bushings are installed with the press on the rear axles. new silent blocks for the entire set. New hardware and eccentric sets installed in place and aligned IAW OEM specs.
27-Nov-14	4,0	**REAR CROSS MEMBER SET INSTALLED IN THE CAR.** Torsion bars secured in place and aligned for correct suspension height IAW with OEM specifications.
27-Nov-14	1,0	**INSTALLING FRONT MCPHERSON SILENT BLOCKS.** Using the press for correct installation. Cleaning and sanding surfaces of rear axles for a correct seating of rear silent blocks.
27-Nov-14	0,5	**CLEANING REAR DRUM CILINDERS.** Disassembly and cleaning them. Installing new O-rings and cleaned areas eliminating signs of corrosion.
27-Nov-14	1,0	**REAR DRUM ASSEMBLY.** Protective covers in place, springs, pads and parking brake cables installed in place. Adjustment of rear drums and parking brake tension.
10-Jan-15	2,0	**ELECTRIC ANTENNA INSTALATION.** Increased antenna hole to 23 mm and installation of antenna and harnesses and cables.
18-Jan-15	6,0	**INSTALLATION OF FIREWALL HEAT SHIELD AND ENGINE COMPARTMENT AREA.**
19-Jan-15	11,0	**INSTALLING SOUND DEADENER IN THE INTERIOR.** Installation of dynaliner. 18 kg. Of dynaliner installed in the entire interior and 22 kg. Removed from the original shields.
20-Jan-15	6,0	**INSTALLING HEAT SHIELDS IN THE INTERIOR.** 13mm and 6 mm dynamat.
23-Jan-15	6,0	**INSTALLING POWERPLANT.** Engine, trans axle and gear box set. It is installed on the bench and secured in the vehicle afterwards for ease of installation.
24-Jan-15	30,0	**SUB CHASIS ASSEMBLY.** Fuel tank, and front and rear suspensions.

FECHA	HORAS	DESCRIPCIÓN DE TAREA
9-Feb-15	6,0	**WIRE BUNDLES PREPPING PRIOR INSTALLING IN VEHICLE.** Final cleaning and testing of all bundles, connectors and terminals. Cleaning all terminals with electric protective sprays. Inserting all bundles within the thermal heat shields for engine compartment areas. Wrapping all in-vehicle bundles with applicable bundle tape for interior and protection. Installing bundles in the vehicle compartment and fuse box.
10-Feb-15	6,0	
11-Feb-15	8,0	
12-Feb-15	6,0	
16-Feb-15	2,7	**ADDITIONAL BLASTING OF COMPONENTS.**
20-Mar-15	3,3	**OVERHAUL OF STARTER AND ALTERNATOR.** Replaced all worn parts. Alternator is fully overhauled by Bosh and new end shaft bushings and bearings along with condenser are installed. Wiring installed along with starter bundle.
26-Mar-15	1,0	**ALTERNATOR INSTALLATION.**
26-Mar-15	1,0	**CRANKSHAFT AND CAMSHAFT ALIGMENT.**
26-Mar-15	0,5	**INSTALLING DISTRIBUTION AND ALTERNATOR BELTS**
28-Mar-15	7,0	**EXHAUST HEADERS AND MUFFLER INSTALLATION.** Adjusting new polished headers instead of the cast iron ones. The cast iron ones were cracked and the new system needed to be trimmed for proper installation. Alignment of the headers with the central pipes and rear muffler as a complete set.
1-Apr-15	4,0	**REAR WINDOW INSTALLATION.** Assembling rear window frame and trunk opening mechanism. Applying applicable adherent paint for better sealant adhesion between window and frame. Mounting window frame and clips after sealant is applied and window is in place. This was a tedious work and the alignment with the body is delicate and difficult to complete. Alignment of the rear window locks and rigging of locks.
2-Apr-15	2,0	**DOOR SEALS AND FRAMES.** Doors and side window seals and aluminum moldings secured in place and aligned.
3-Apr-15	1,0	**ALLIGMENT OF COMPONENT IN GENERAL.** Installing the engine hood and the lock mechanism. Aligning pop up headlights.
13-Apr-15	2,0	**INSTALLING CARPET.** Cut and developed the new carpet and installed in the car. Side panel installation of leather.
14-Apr-15	4,0	
5-Jun-15	9,0	**ELECTRICAL INSTALATION.** Fuse box final installation, routing and alignment of wire bundles along with the fuse box and side equipment's within instrument cluster and ground terminals. faston terminal installation for ground connectors. Sound system wiring and speaker installation. Interior light system installation. Pop up head light covers and final alignment and operational tests.
8-Jun-15	4,0	**INSTALLING DOOR SEALS AND MOLDINGS.** Additional time to install them in place after door has been aligned. cleaning and polishing of window aluminum moldings. Window seal installation on the side windows. Mounting and adjustment of front windows and up and down mechanisms.

FECHA	HORAS	DESCRIPCIÓN DE TAREA
8-Jun-15	5,0	**DASH BOARD ADJUSTMENT AND CENTRAL TUNNELING SYTEM.** Complete assembly including the heating module and all ducting system. Final distribution of wire bundles and connectors being the dashboard and central tunnel along with stereo installation.
9-Jun-15	2,0	**FRONT SPOILER INSTALLATION AND ADJUSTMENT AND REAR TRUNK WINDOW FRAME FINAL ADJUSTMENTS.**
4-Sep-15	4,0	**ELECTRICAL SYSTEM.** R+R all car relays with new ones. Rechecking of final electrical components as some controls are not working properly. Checking connections and terminals as well as ground conductivity checks. All working in order after final checks.
5-Sep-15	4,0	
6-Sep-15	26,9	**INSTALLATION OF ROOF LEATHER, PARASOL LEATHER, AND REAR CARPET BORDER.** Trunk side panels and trunk floor carpet cut and sewed with border in place. Installation of leather on rear side panels and vertical beams and forward windshield beams.
7-Sep-15		
8-Sep-15		
9-Sep-15		
14-Oct-15	3,0	**FINAL ENGINE ADJUSTMENTS.** Installed new in-tank fuel pump with the correct outside diameter of 3,50 mm. Some in-tank fuel pumps ordered from Porsche do not fit inside the tank due to a quality issue and the tolerance is very small. Other pumps were 3,55 and 3,53 that did not fit. The problem with this pump has taken extra time to adjust. Once installed, the engine started successfully.
18-Oct-15	2,0	**IGNITION ADJUSTMENTS.** Adjusted ignition system to run smooth.
23-Oct-15	6,0	**FINAL POLISH.** Final polish of paint and preparation for delivery
TOTAL M.O	**908,6**	
TOTAL PIEZAS		
GRAND TOTAL	**908,6**	

LISTING OF NEW PARTS INSTALLED

This list makes reference to the Porsche 924 Illustrated Parts Catalog that can be downloaded from the Porsche web site. The ILUSTRATION, ITEM AND PART NUMBER make reference to the parts ordered.

QTY	ILUSTRATION	ITEM	P/N	DESCRIPTION	TOTAL
1	803-00	1	944 511 005 01	Engine hood	€80,00
1	802-00	11	477 807 313	Rear bumper	€80,00
1				Shipping	€50,00
1	105-00	1	060 121 011	Water Pump	€75,00
1	102-05	1	047 107 065 F 003	Piston 86,50mm + juego segmentos	€394,93
3	102-05	2	060 198 151	Piston Rings	€87,30
8	102-05	3	N 012 277 1	Piston pin circlips	€3,36
2	602-00	14	803 698 471 C	Front Brake gasket set	€48,48
1	603-00	16/18	113 609 605 A / 113 609 309 B	Rear Brake spring repair kit	€33,60
1				Shipping	€27,60
1	303-00	4	016 311 115	Needle-roller bearing 4th speed	€17,17
1	303-00	10	088 311 213	Needle-roller bearing 3rd gear	€17,50
2	303-00	9	088 311 207	Needle-roller bearing 1st speed	€15,94
1	303-00	12	088 311 229 B	Needle-roller bearing 2nd gear	€7,50
3	303-00	15	088 311 313	detent first to second gear	€22,10
4	501-00	8	477 501 541	Rear axle link inner silent blocs	€125,66
2	501-10	16	477 501 615 A	Brake drums	€122,40
2	402-00	3	944 343 031 13	Vibration damper Bilstein front	€246,89
2	502-00	13	477 513 031 E	Vibration damper Bilstein Rear	€234,84
1	501-00	12	311 511 115 D	25 mm torsion bars rear axle carrier	€315,60
1				Shipping	€31,20
1	101-10	23	060 198 041 A	Kit de juntas motor parte baja y carter	€70,37

QTY	ILUSTRATION	ITEM	P/N	DESCRIPTION	TOTAL
1	802-00	15	477 807 319	rear bumper protective molding	€61,96
2	306-00	5	477 399 153 J	Gear block silent blocks	€142,01
2	501-10	2	113 501 315 H	Rear axle bearing set	€ 96,96
		3	113 501 315 H		
		4	N 012 319 1		
		5	113 501 283		
		7	113 501 277 A		
		8	113 501 291 B		
		10	113 501 303		
2	401-05	2/3/05	311 405 625 D/311 405 625 D/ 311 405 661	Kit de Rodamientos delanteros	€48,48
1				Shipping	€27,60
6	401-00	19	N 040 204 3	Hexagon-head bolt M7*20 front wishbone ball joint	€7,06
2			P788	nut	€1,66
6			P866	Hexagon-head bolt	€5,76
6			P889	Lock washer	€1,51
2	403-05	14	411 417 549	Shear bolt. Steering column	€4,54
2			P162551	vis a tete hexagonae	€2,93
1				Shipping	€18,00
2	602-00	4	477 405 583 B	Front brake disks	€170,40
2	702-00	3	823 721 173	caucho pedales freno y embrague	€4,06
1				Shipping	€22,20
4			P296	Washer	€0,43
2	803-05	23	477 827 541	Water drip pan for rear lid lock	€8,06
2	804-05	4A	477 831 304 A	Inner door release seal	€35,69
8			P10748	Washer	€2,69

QTY	ILUSTRATION	ITEM	P/N	DESCRIPTION	TOTAL
8			P10779	Lock washer	€1,54
4	804-00	8	900 119 052 02	Pan-head screw M8*15. door hinge to chassis	€43,20
8	804-00	8	901 119 052 02	Pan-head screw M8*15. door hinge to chassis	€96,00
2	804-00	15	928 537 425 02	Desk pad bearing bracket L/H. Door hinge	€4,06
4			P26344	Tornillo cabeza avellanada	€8,11
2	804-00	11	944 537 609 00	Door support	€42,91
1				Shipping	€22,20
1			P5409	Tuyau d Eau	€25,50
1			P7069	Collier de silencieux 924	€14,86
1			P31676	DURIT EAU	€9,30
1	202-15	8	477 253 125 S	rear muffler oval inox.	€240,00
1			P168711	Durit eau	€32,40
1				Shipping	€27,60
2			P5470	Linea de combustible 1& 2	€95,30
1			p5475	Linea de combustible 4	€47,65
4			P5484	Injectors 1,2,3,4	€256,27
1				Shipping	€27,60
1	902-05	3	047 903 137 A	Correa alternator	€10,45
1	901-00	22/25	046 905 431 E /433 E/ 435 E/ 437 E / N 038 889 1	Cables del encendido	€67,20
1	202-00	12	477 253 121 B	Front muffler	€64,80
1				Shipping	€22,20
2			P143	tornillo hexagonal	€5,83
4			p260	Tuerca hexagonal	€3,89
10			P576	Tornillo de chapa	€6,96
2	804-10	13	111 837 595 A 90V	Brown window crank round base	€7,90

QTY	ILUSTRATION	ITEM	P/N	DESCRIPTION	TOTAL
1			P6480	Soporte de goma	€3,11
2			P6813	SOPORTE	€2,02
1	803-00	2	477 823 185	Engine hood rubber filler	€5,29
4	803-00	12	477 823 493	Engine hood rubber support	€9,65
1	803-00	23A	477 823 551	Engine hood cable clamp	€5,05
1	803-00	27	477 823 591	Engine hood cable grommet through firewall	€3,55
1	803-00	28	477 823 593	Engine hood cable guide stopper	€4,03
1	809-05	21	477 857 511	Interior rear view mirror	€64,80
2	904-00	1	477 955 028	Wiper washer arm	€56,64
2	904-00	22	477 955 205	Wiper washer nut cover cap	€2,02
8			p11104	Tornillo	€7,97
2			P134988	tornillo hexagonal	€6,86
2			P137047	tornillo hexagonal	€3,38
4			P148953	Arandela	€0,82
1				Transporte	€22,80
2	604-10	7	477 611 071 A	Tubo de Freno	€118,70
1	604-15	10	113 611 791	Distribuidor	€27,72
2	604-15	1	477 611 775	Tubo de Freno	€71,16
1				Shipping	€22,80
1				Shipping	€(22,80)
1	102-00	10	047 105 169 A	Casquillo	€77,44
1				Transporte	€20,40
1	903-00	17	111 953 227 D	Flasher Relay	€16,72
1	903-00	17	141 951 253 B	Horn Relay	€16,39
1	903-00	17	141 951 253 B	Relay niebla	€16,39
1	903-00	17	433 906 059	Fuel pump Relay	€81,50
1	903-00	17	477 955 531 A	Interval Relay	€53,14

QTY	ILUSTRATION	ITEM	P/N	DESCRIPTION	TOTAL
1	903-00	17	P38567	Relay	€51,04
1	903-00	17	P149036	Relay	€97,96
1	201-15	1	928 608 013 00	Bomba combustible depósito	€403,12
1	604-00	1	477 611 015 A	Brake Master Cylinder	€252,00
1				Shipping	€43,20
2				Aislante acústico para interiores	€328,50
2				Aislante térmico para interiores 13mm	€198,00
1				Dynaliner 6 mm	€69,35
2				Dynaliner 13 mm	€198,00
2				Placa Dynamat Xtreme	€40,00
1				Dynaliner 6mm	€69,35
1				Hoodliner 19mm	€70,03
5				Dynamat extreme sueltos	€100,01
4				Tubo térmico cableado motor	€42,74
2				Manta térmica cortafuegos	€115,06
1				Shipping	€36,00
1				Exhaust wrap	€40,25
1				Heat shield	€25,20
10				Extreme heat sleeve 6mm	€36,72
2				Extreme heat sleeve 15mm	€17,81
1				Shipping	€36,00
2				Engine mounts	€224,70
1				Shipping	€37,50
1				K-jetronic wire harness	€69,75
1				Crankshaft main bearing set	€480,00
1				Crankshaft	€312,50
1				Crankshaft main bearing set	€187,50

QTY	ILUSTRATION	ITEM	P/N	DESCRIPTION	TOTAL
1				Shipping	€156,25
1				Impuestos y Aduana PAECO	€195,01
1			87453600	Rodamientos primarios motor	€37,50
1			AEM5415STD	Rodamientos bielas	€187,50
1				Shipping	€37,50
1				Estropajo	€48,88
5				Rodillo de Vellón vastago	€82,28
1				Set of Maintenance Repair Manuals	€-
1				Libro de revisiones	€-
1				Manual de usuario	€-
1				Certificate of Authenticity	€91,10
4			046103419A	Guía de Válvula primera sobremedida Adminsión	€59,90
1			047198012A	juego de juntas motor parte superior	€139,19
4			048103419A	Guía de Válvula primera sobremedida Escape	€51,63
1			142957801C	Cable primario de velocímetro	€32,59
2			171407182D	Cojinete de goma suspensión delantera	€45,36
2			311501191	Tope de goma límite de suspensión trasera	€14,54
2			477407181A	Cojinete de goma trapecio suspensión delantera	€56,22
2			477501069A	Casquillo de goma amortiguación trasera	€114,90
4			477501541	Silentblock suspensión trasera	€112,23
2			477827033	Carcasa cierre capó trasero	€168,63
2			477827035	Soporte goma capó trasero	€20,16
1			477827349F	Amortiguador capó trasero Izq.conexión luneta térmica	€48,63

QTY	ILUSTRATION	ITEM	P/N	DESCRIPTION	TOTAL
1			477827349D	Amortiguador capó trasero dch.	€40,94
1			477827365A	Goma cierre maletero izq.	€58,04
1			477827366A	Goma cierre maletero dcha.	€58,04
1			7L5853611B	Base goma logo capó delantero	€4,54
10			90002801403	Arandela elástica	€5,97
5			90090604503	Anillo retén tapón depósito combustible	€8,95
1			92820105702	Pano de protección tapón depósito	€10,90
1			94420155300	Cerradura del depósito	€23,84
1			94420155300	junta tapón depósito	€4,14
1			94451204300	Junta capó trasero	€72,30
1			94453709100	Junta puerta izquierda	€101,78
1			94453709200	Junta puerta derecha	€101,78
2			95151244700	Placa de refuerzo cierre maletero	€10,24
5			N0101904	Tornillo exagonal	€16,92
10			N0211311	Tuerca de seguridad	€5,14
1			143014672	Tapón	€5,08
1			477511201	Tirante puente suspensión trasera derecha	€180,39
1			477511202	Tirante puente suspensión trasera izquierda	€177,34
1			477845011F	parabrisas con franja verde superior	€361,39
2			477511516	Excéntrica de caida de suspensión trasera	€53,34
10			90002500902	Arandela excéntrica suspensión trasera	€1,95
1			94464102100	Tacómetro	€260,16
10			N0221414	Tuerca de seguridad excéntrica de suspensión trasera	€12,14

QTY	ILUSTRATION	ITEM	P/N	DESCRIPTION	TOTAL
1			014311635	Pieza intermedia	€3,62
3			014311641A	Resorte de presión	€1,70
4			016311295	Anillo de sincronización	€127,74
2			016409399B	Retén árbol radial	€30,71
4			034133557E	Junta tórica	€10,90
1			049133073B	Junta	€2,69
8			059105427A	Tuerca hexagonal	€57,18
6			063133555	Racor aislante	€18,64
3			084311621D	Casquillo	€10,15
1			088311123	Casquillo de agujas	€13,79
2			088311599	Anillo junta	€4,03
3			088311721	Torniloo tope	€8,27
1			113301185A	Junta	€6,89
2			321721191	Muelle de retorno	€3,93
1			477411105R954	Muelle helicoidal	€152,78
1			477419059	Casquillo de agujas	€97,48
2			477521501A	Tornillo de cabeza cilindrica	€29,58
4			477601151N	Embellecedor	€19,83
1			477805633	Anillo de cubierta	€17,90
2			477827527	Pivote de cierre	€7,63
4			477853367	Manguito	€14,28
25			803253111	Tuerca de seguridad	€20,57
10			90002500703	Arandela	€3,81
1			93011007600	filtro carburante	€49,37
1			93110770100	Filtro de aceite	€8,81
1			94475063100	Carcasa	€30,67
1			94475063200	Carcasa	€30,67
1			96861360100	Interruptor de contacto	€11,30

QTY	ILUSTRATION	ITEM	P/N	DESCRIPTION	TOTAL
10			99906204402	Tornillo pasador	€29,62
1			99911327540	Anillo junta de árbol	€14,14
4			99917016590	Bujia de encendido	€26,25
10			N0110077	Tuerca hexagonal	€10,29
25			N0402043	Tornillo hexagonal	€21,08
25			N420011	Arandela grover	€5,91
15			N90085001	Tuerca hexagonal	€5,55
1			0893402	Plata conductora Wurtz	€34,97
1			021129620	Cartucho filtrante	€20,17
1			046121051	Tubo flex. De agua	€26,23
1			046121053	Tubo flex. De agua	€21,60
1			046121061	Tubo flex. De agua	€31,88
2			059903127A	Casquillo	€20,55
2			059903263A	Casquillo	€11,83
1			477819395	Tubo flexible	€3,50
1			477853315	Cuadro	€44,67
1			477853316	Cuadro	€44,67
1			477945205	Carcasa	€155,29
1			477945206	Carcasa	€155,29
1			477953043	Piloto intermitencia	€48,87
1			477953044	Piloto intermitencia	€48,87
1			92851102702	Cerradura capó	€34,64
1			94451102900	Cerradura capó	€24,01
1			94463140700	Faro suplementario	€232,44
1			94463140800	Faro suplementario	€232,44
1			049133379A	Junta	€6,65
1			056109119A	Correa dentada	€29,74
10			113611715A	Soporte tubo freno	€16,97

QTY	ILUSTRATION	ITEM	P/N	DESCRIPTION	TOTAL
1			477209175	Tubo de combustible	€84,03
2			477501103	Arbol articulado (palier trasero)	€714,40
4			477837385	Guía de ventana	€25,01
1			477837469A	junta	€27,57
1			477837470A	Junta	€27,57
2			477837471A	Junta	€71,91
2			477837479A	Guía de ventana	€24,52
1			477837494A	Guía de ventana	€34,45
1			477971221	Conducto de masa	€13,52
1			91160810200	Bomba de combustible	€315,78
2			94411114202	Soporte de Goma	€31,41
12			94433219100	Placa	€107,62
24			N91108201	Tornillo	€39,26
1			94454202301	Cristal tintado de puerta izquierda	€241,18
1	105-05	45	028 121 453	Lid Expansion tank cooling system	€18,40
1	105-05	20	046 121 099	Ressure relieve stopper cooling system	€3,69
1	107-10	29	047 133 453 A	Auxiliary Air Regulator	€147,64
2	812-00	6A	111 857 793 E	Fastening Screw for seat belt buckle movable	€9,38
1	906-00	28	113 945 515 G	Brake light switch 3 pole	€35,48
10	902-35	16	113 945 525	Terminal sleeve hoisung 3 ploe	€52,97
2	902-35	26	171 971 519 A	Grounde connector	€5,20
1	201-10	1A	477 209 161	Fuel line connecting piece	€15,40
1	604-10	4	477 611 724 A	R/H Brake line	€21,38
25	604-10	9	477 611 767 B	Brake line clips	€21,86
1	803-05	22	477 827 505 A	L/H Rear lid lock	€22,12
1	803-05	22	477 827 506 A	R/H Rear lid lock	€22,12

QTY	ILUSTRATION	ITEM	P/N	DESCRIPTION	TOTAL
1	806-00	29	477 853 363	L/H Cover strip headlamp	€19,82
1	806-00	29	477 853 364	R/H Cover Strip headlamp	€19,82
16	810-00	23	477 853 659 C	Front windshield clamp	€83,27
5	808-10	8	477 885 767	Rear seat hexagon pivoting bolt	€16,20
2	905-00	24	477 941 771 B	Headlamp	€149,61
2	804-00	17	477 971 910	Door wiring bellows	€12,67
1	903-00	17	477 971 923	Oritection cap for relay pop-up headlight	€7,15
2	809-05	24	803 857 561 A	Support sun visor	€13,19
1	701-01	1	901 424 013 00	Gearshift knob 4 speed	€136,61
1	107-10	33	930 606 107 00	Electric Starting Valve	€216,60
1	201-14	7	931 110 140 00	Fuel Pressure Accumulator	€318,70
1	805-00	5	944 557 321 00	L/H Rear Rubber seal window	€31,05
1	805-00	5	944 557 322 00	R/H Rear Rubber seal window	€31,11
6	807-00	7	968 555 901 00	Set of fastening clips for trunk carpet	€14,87
1	902-15	1	999 611 065 20	65 Amp battery	€146,35
25	902-35	28	N 017 562 4	Elec. Round connector with clip	€14,04
10	902-35	29	N 017 564 1	Elec. Round connector with clip	€1,74
10	902-35	28	N 017 586 2	Elec. Round connector with clip	€5,23
10	902-35	28	N 017 592 2	Elec. Round connector with clip	€2,81
1	107-05	2	931 110 907 00	Distribuidor combustible K-Jetronic	€583,20
1	107-10	24	063 133 403	Warm Up Regulator	€316,80
1	107-10	22-41	911 110 899 00	Banjo Bolts K-Jetronic. 8mm, 10mm * 12mm	€36,00
1				shi	€33,12
2			PFR 57-200 BLK	Silent block suspensión trasera	€94,16
1				Transporte	€9,68
1				Linea combustible cil.3	€56,04

QTY	ILUSTRATION	ITEM	P/N	DESCRIPTION	TOTAL
1				Shipping	€21,61
1				tapón gasolina	€18,00
1				Shipping	€20,00
1				eje trasero rueda	€104,17
1				Shipping	€51,46
1				Aranceles e impuestos aduana	€49,42
2	602-00	13	477 698 151 A	Brake pad repair set	€79,98
1				Shipping	€4,50
1				Becker Mexico 7648	€1.663,75
1				Shipping	€16,25
1			120010TY252	Altavoz Audio system R130 Flat	€150,00
1			20104689	Altavoz JL Audio C2-400X	€109,00
1			20170257	Amplificador JL Audio XD600/6	€579,00
1			2004/30	Fusible Mini ANL 80Amp	€1,80
1			20172343	Portafusibles DB Drive	€7,01
10			2004/286	Cable altavoz 1,5 mm	€10,04
4			2004/3	Cable alimentación positivo 20mm	€19,99
3			2004/4	Cable alimentación negativo 20mm	€14,99
1			120010TY329	Conector anilla redondo negro	€1,00
1			120010TY328	Conector anilla redondo rojo	€1,00
1			20170660	Cable RCA Y	€5,00
3			20172374	cable RCA 1,5m	€45,01
1			20172374	rejilla altavoz Audio System	€8,00
1				Conexión Pre-out 5 canales Becker R-1319.108	€20,56
1				Conexión Aux-tel mini ISO Becker R-1319.116	€20,56
1				Shipping	€13,31

QTY	ILUSTRATION	ITEM	P/N	DESCRIPTION	TOTAL
1			1000301001	Casquillo puesta en marcha	€3,17
1			1007014126	Juego de escobillas puesta en marcha	€10,56
1			1127014021	Juego de escobillas alternador	€8,47
1			2000301036	Casquillo puesta en marcha	€4,85
1			F00M990410	Rodamiendo alternador	€19,00
1			1120900012	Rodamiendo alternador	€19,88
1			1237013130	Juego platinos	€8,71
1			1237330310	Condensador	€9,68
1			1234332215	Rotor	€10,29
1			0221119027	Bobina de encendido	€44,71
1	403-05	1B	477 419 091K	Steering Wheel. Nardi 360	€480,00
30				Fusibles Tipo B	€2,54
5,4				Cuero GENESIS	€226,80
1				Entretela	€42,00
1				Goma Espuma Mullido	€65,00
1				Goma Espuma Relleno	€90,00
1				Moqueta habitáculo	€150,00
1				Camisa 86.50 mm Porsche 924	€33,46
1				Material de Limpieza	€3,99
1				Shipping	€14,52
0,32				Aluminio	€5,23
1				Tornilleria	€25,39
1				Tornilleria	€2,48
1				Tornilleria	€12,67
1				Tornilleria	€18,79
1				Tornilleria	€27,29
4				Tornilleria	€6,01

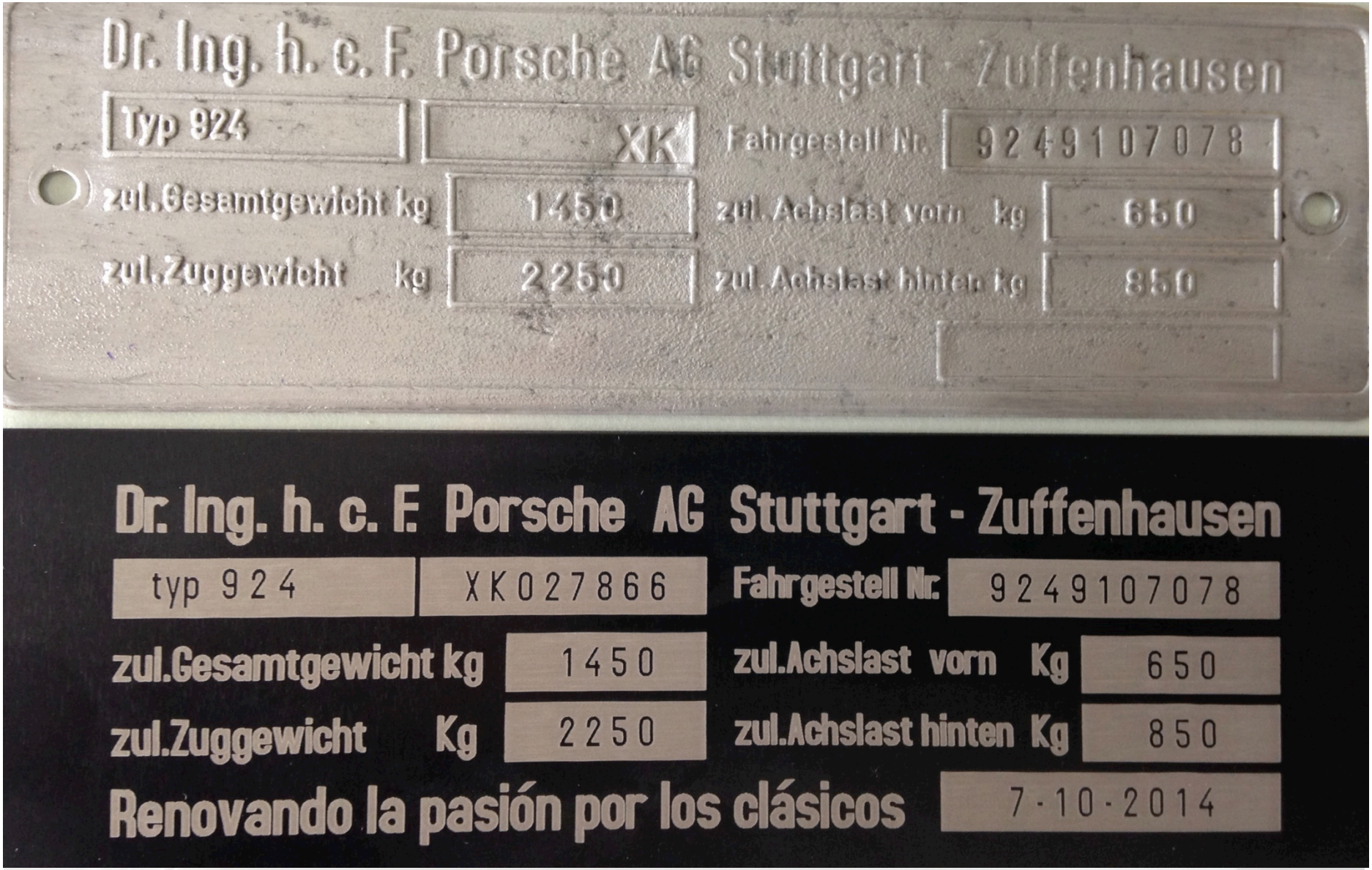
QTY	ILUSTRATION	ITEM	P/N	DESCRIPTION	TOTAL
1				Rodamiento primario caja cambios	€84,70
1				Tornilleria	€7,70
1				Tornilleria	€14,59
5				Ruedas Michelin 185/70 HR-14	€365,26
1				Pinturas, barnices y antigrabillas	€1.839,80
				TOOLS	**€-**
1				Steell for Car Rotisserie	€227,84
1				Wheels for Car Rotisserie	€130,24
1				24 Bolts 8*25 + security nuts for wheels	€3,16
2				hidarulic jack Car Rotisserie	€175,90
1				Pivoting frames and threaded rods	€532,00
1				Cable jig	€15,85
				OTHER SERVICES	€-
1				Elevator platform rental	€110,74
4				Servicios de Grua	€160,00
1				Servicios de Grua	€300,00
1				Servicios de Grua	€300,00
				TOTAL NEW PARTS + OTHER	**€26.813,76**

1. Man power: 908,6 hours
2. Parts 26.813,76 Euros

ABOUT MYSELF

I am an aviation airframe and power plant technician, commercial pilot and flight instructor with a B.S in aviation maintenance technology by PCT (Penn Sate). I am a very methodic person and always enjoy hands on experience and long term challenging jobs like this one. I tried to bring all my aviation knowledge into this reconstruction and do hope that you do appreciate this job.




Dr. Ing. h. c. F. Porsche AG Stuttgart - Zuffenhausen
Typ 924
XK
Fahrgestell Nr.
9249107078
zul. Gesamtgewicht kg
1450
zul. Achslast vorn kg
650
zul. Zuggewicht kg
2250
zul. Achslast hinten kg
850
Dr. Ing. h. c. F. Porsche AG Stuttgart - Zuffenhausen
typ 924
XK027866
Fahrgestell Nr.
9249107078
zul. Gesamtgewicht kg
1450
zul. Achslast vorn Kg
650
zul. Zuggewicht Kg
2250
zul. Achslast hinten Kg
850
Renovando la pasión por los clásicos
7-10-2014