

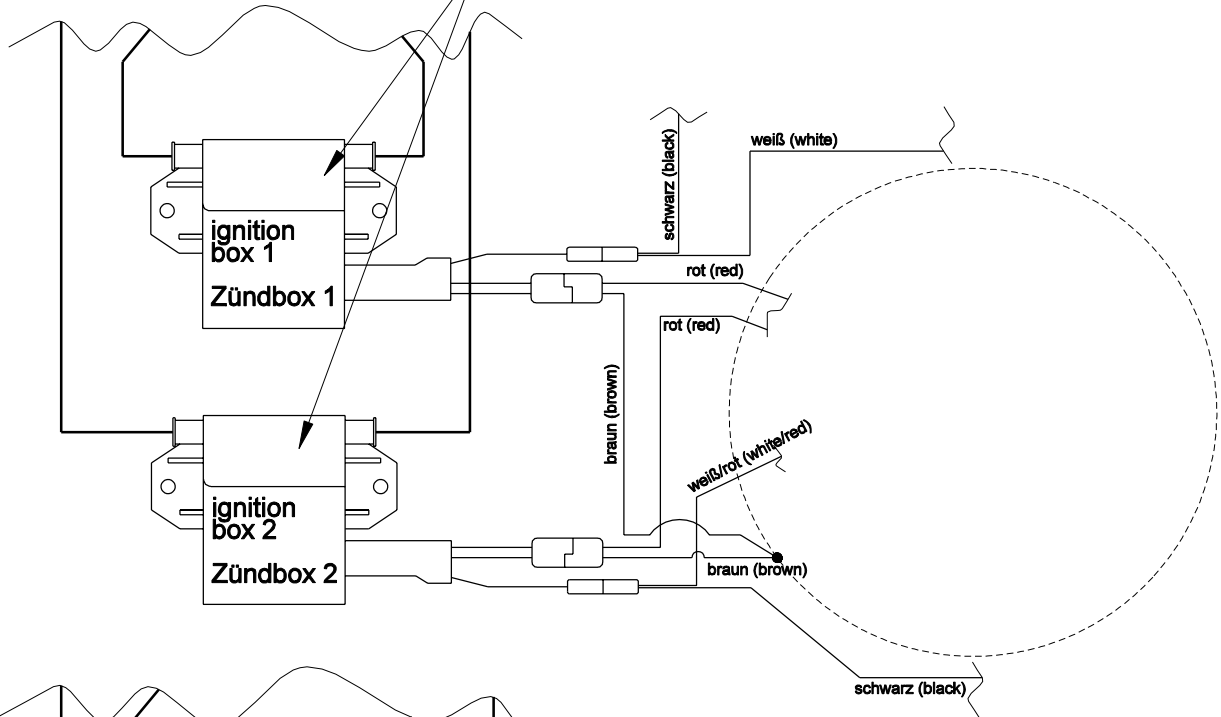
- Subject : Power plant ignition system
- Effectivity : DG-500 M all Ser. No.'s.
- Accomplishment : In case of defect of one ignition box
- Reason : 1. The Bosch Polarfire ignition boxes ,used until now with the Rotax 535 C engine, are no longer available. In case of defect of one the electronic boxes the ignition system has to be modified according to working instruction No. 1. Both electronic boxes have to be exchanged.
2. The Ducati ignition boxes used by Rotax (installed with TM843/4 or during serial-production) are no longer available. In case of defect of one box you have to install Ducati 432372501 boxes and change the wiring according to working instruction No. 2. Both electronic boxes have to be exchanged.
- Instructions : 1. Remove front and rear DEI and ship to manufacturer for installation of filters, reinstall the modified DEI's.
2. If the engine is equipped with Bosch Polarfire ignition electronic boxes:
a. Modify the system according to working instruction No. 1 and No. 2 for TN 843/25.
Exchange the manual to „Manual for ROTAX-engine type 535 C, 2nd edition January 1992“.
b. File drawing 5E43 to the aircraft logs in addition to page 16 of the engine manual.
3. If the engine is equipped with Ducati ignition electronic boxes
a. Modify the system according to working instruction no. 2
b. File drawing 5E43 to the aircraft logs in addition to page 16 of the engine manual.
- Material : Instruction 1:
a. working instructions no. 1 and 2
Service kit No. 21000118
b. Manual for ROTAX-engine type 535 C, 2nd edition January 1992
c. drawing 5E43

Instruction 2:
a. working instruction no. 2
Service kit No. 21000119
b. drawing 5E43
- Weight and balance : influence negligible
- Remarks : Instructions are to be executed by the manufacturer or by a licensed workshop and to be inspected and entered in the aircraft logs by a licensed inspector.
- Bruchsal
Date: March 22.2007
- Author: . EASA approved on: 4th May 2007
Dipl. Ing. W. Dirks
Under approval No. EASA.A.C.06832

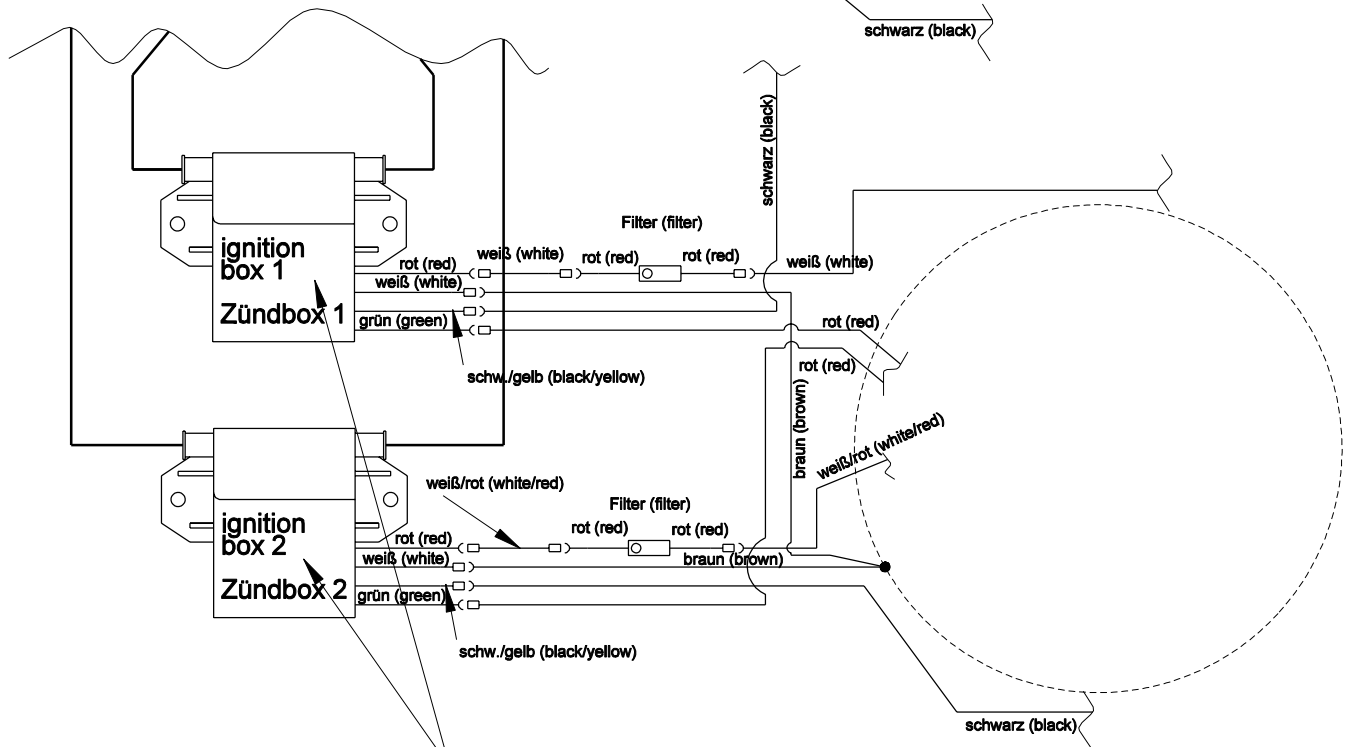
Wilhelm Dirks

Ducati Rotax 965 675

alt
old




neu
new



Ducati 432372501

Zusatz zu Seite 16 Motorhandbuch Rotax 535
amendment to page 16 of the Rotax 535 engine manual

Toleranzen nach Arbeitsanweisung BA 1					Tag	Name	DG Flugzeugbau GmbH 76646 Bruchsal Otto-Lilienthal-Weg 2	
Schweißen nach Arbeitsanweisung SA 1					Gez.	14.07.06 Könen		
					Gepr.			
					Norm.			
					Maßstab	Änderung der Verkabelung für Ducati Elektronik Zündboxen 432372501	 5E43	
					Maße ohne Toleranz-ang. nach:			Modification of the wiring for Ducati electronic ignition boxes 432372501
Ausg.	Änderung	ÄM	Tag	Name				

Modification of the engine ignition unit to Ducati 432372501 ignition electronic boxes

1. Remove ignition boxes with holder 5M65. Pull off the spark plug connectors and remove the spark plugs, install BR8ES spark plugs.

Note: The electronic boxes with ignition (high voltage) wires and spark plug connectors, part 5M65 and the spark plugs won't be used any more. Remove bushes 5M66 from part 5M65 for further use.

2. The spark plug connectors have to be exchanged for NGK TB 05 EMA. The ignition (high voltage) wires must have the following lengths. If necessary shorten the wires after removing the spark plug connectors.

spark plug	length of wire
1	490
2	460
3	550
4	445

3. Install ignition boxes according to drawing 5M73 with holder 5M72 and bushes 5M62.
4. Change the wiring loom according to working instruction no. 2.
5. Retract the engine carefully up to the electronic boxes. Check if there is enough space between the boxes and the structure, min. 2 mm (.08 in.).
If there is not enough clearance, the seats of the outside box may be filed down as far as necessary. Make sure that the seats have a plane surface!
6. Check the ignition timing according to the maintenance manual sect. 4.12.1.
7. Accomplish a test run with magneto check

Necessary material

piece	description
1	Service kit Art. No. 21000118

Inhalt:

piece	description	Anzahl	Bezeichnung
2	Ducati 432372501 ignition boxes	4	M 6 DIN 985-8 zn
2	ignition box filter 4E28	1	Ty-rap 3,6x360
4	spark plug connectors NGK TB 05 EMA	23	Ty-rap 4,8x186
4	spark plug BR8ES	12	male spade connector RSQ 7610 6,1-1
1	5M 72 with ultra bushes 0118036	12	female spade connector RSQ 7600 A 6,3-1
2	M 6 x 55 DIN 931-8.8 zn	700mm	heat shrink tubing 1/2" FT500
2	M 6 x 35 DIN 912-8 zn	600mm	heat shrink tubing 19-9,5 FT5550
8	6,4 DIN 125 St zn	700mm	heat shrink tubing DERAY H 1/4"

Enclosures: drawings 5M73, 5M74

Bruchsal, March, 22.2007

Modification of the powerplant – ignition unit to Ducati 432372501 ignition electronic boxes

A: Only in case the engine is equipped with Ducati 432372501 boxes:
Remove the ignition electronic boxes, they will not be used again.

B: Modification of the wiring

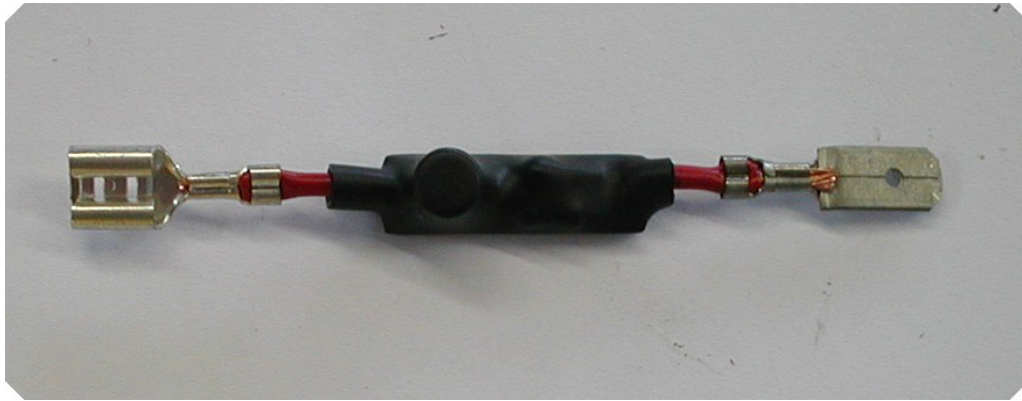
1. Open the cable harness from the ignition boxes up to 360 mm measured from the engine block (see sketch 1). The wires coloured white, brown, black and red are for ignition box 1 and white/red, brown, black and red are for ignition box 2.
2. The wires leading to ignition box I must be shortened to 120 mm length and the wires to ignition box II to 130 mm length measured from the opening of the cable harness (see sketch 1).
3. Cut the white and the white/red wire by 40 mm. Slip pieces of heat shrink tubing over the shortened wires, crimp one spade connector (female) to each of the wires and shrink the tubing.
4. Plug an ignition box filter (pict. 1) to each of the two cable shoes. Slip heat shrink tubing over the connections and shrink the tubing. Take care of the correct mounting direction. (see pict.2).
5. Crimp a spade connector (male) on each of the wires remaining from point 2. Connect the wires according to pict.2 to the filters, so that you have the same wire colours as on the other side of the filter.
6. The cable harness for the ignition box aft (BOX I) has to be shortened to 480 mm (pic.2). The cable harness for the front ignition box (BOX II) has to be shortened to 490 mm (pic.2). Slip heat shrink tubing over the cable harness as indicated in picture 2 and shrink the tubing. Note: 20mm of the wires must not be covered by the heat shrink tubing see pict.2.
7. Crimp cable shoes to the wires according to pict.2
8. Connect the wires to the ignition boxes according to pict.2.
9. Slip heat shrink tubing over every connection.
10. Cover the cable harness completely with heat shrink tubing.
11. The cable harness has to be fixed. The cable harness should not be able to vibrate or rub. Fix the cable harness according to pictures 3, 4 and 5 and drawing 5M74. The ty-raps have to be tightened by hand.

necessary material:

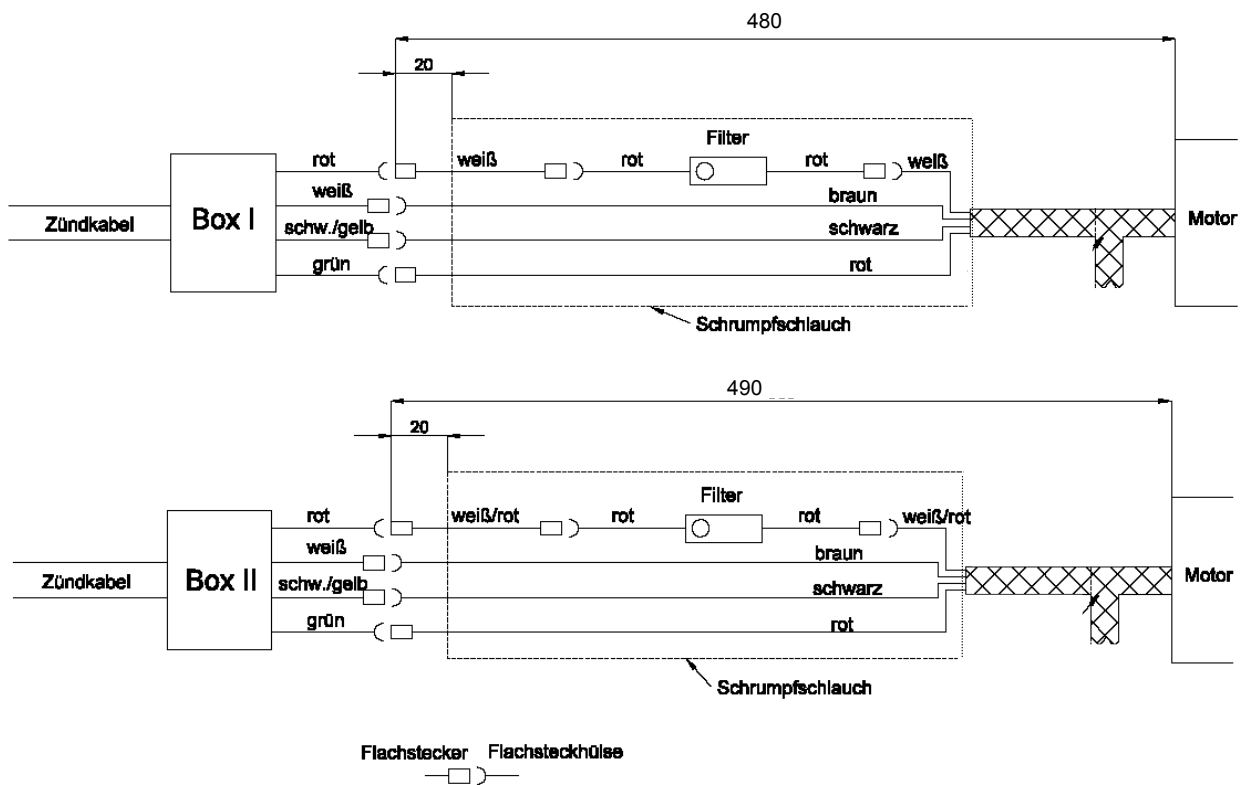
pieces	Description
1	Service kit No.21000119

consisting of

piece	description	piece	description
2	Ducati 432372501 ignition boxes	12	female spade connector RSQ 7600 A 6,3-1
2	ignition box filter 4E28	700mm	heat shrink tubing DERAY H 1/4"
20	Ty-raps 3,6x140	700mm	heat shrink tubing 1/2" FT500
12	male spade connector RSQ 7610 6,1-1	600mm	heat shrink tubing 19-9,5 FT5550

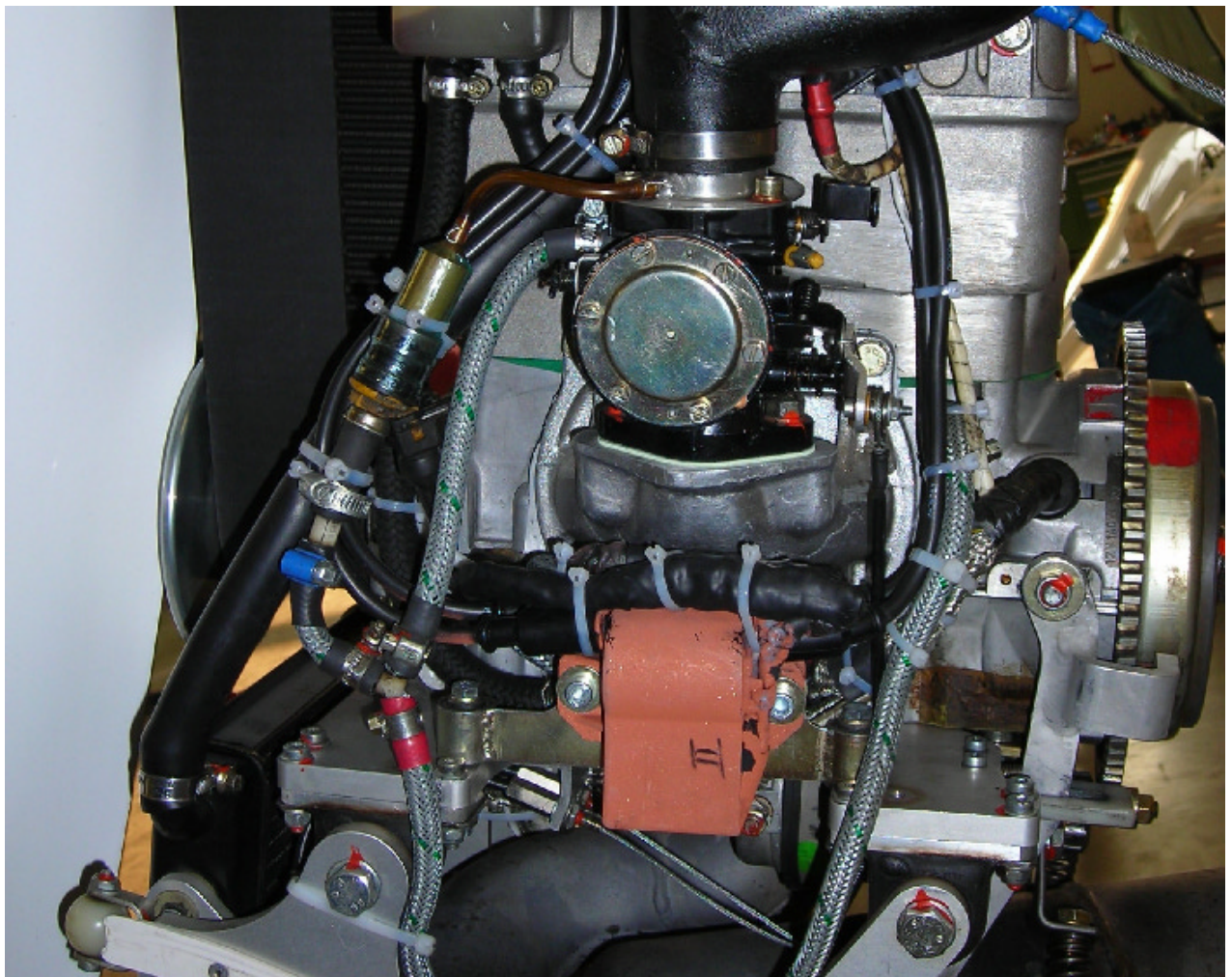
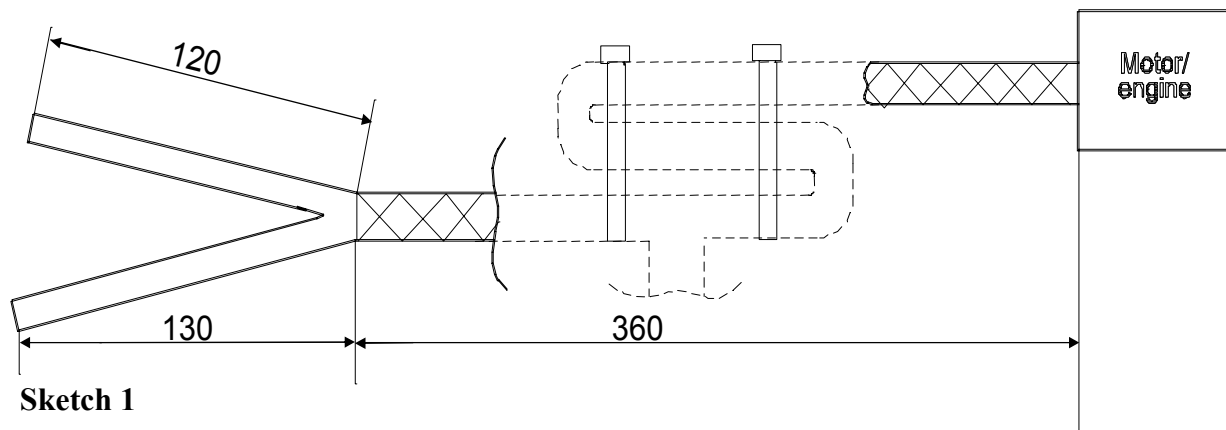


Picture 1

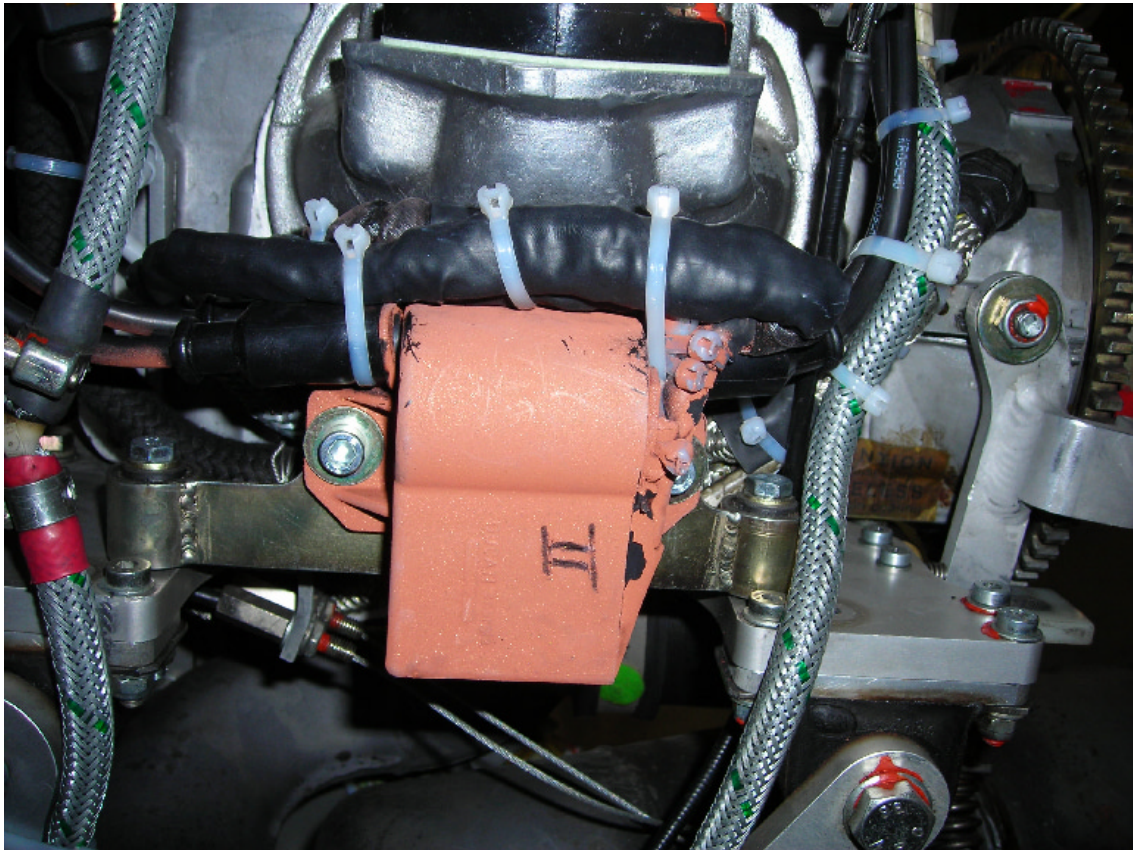


Picture 2

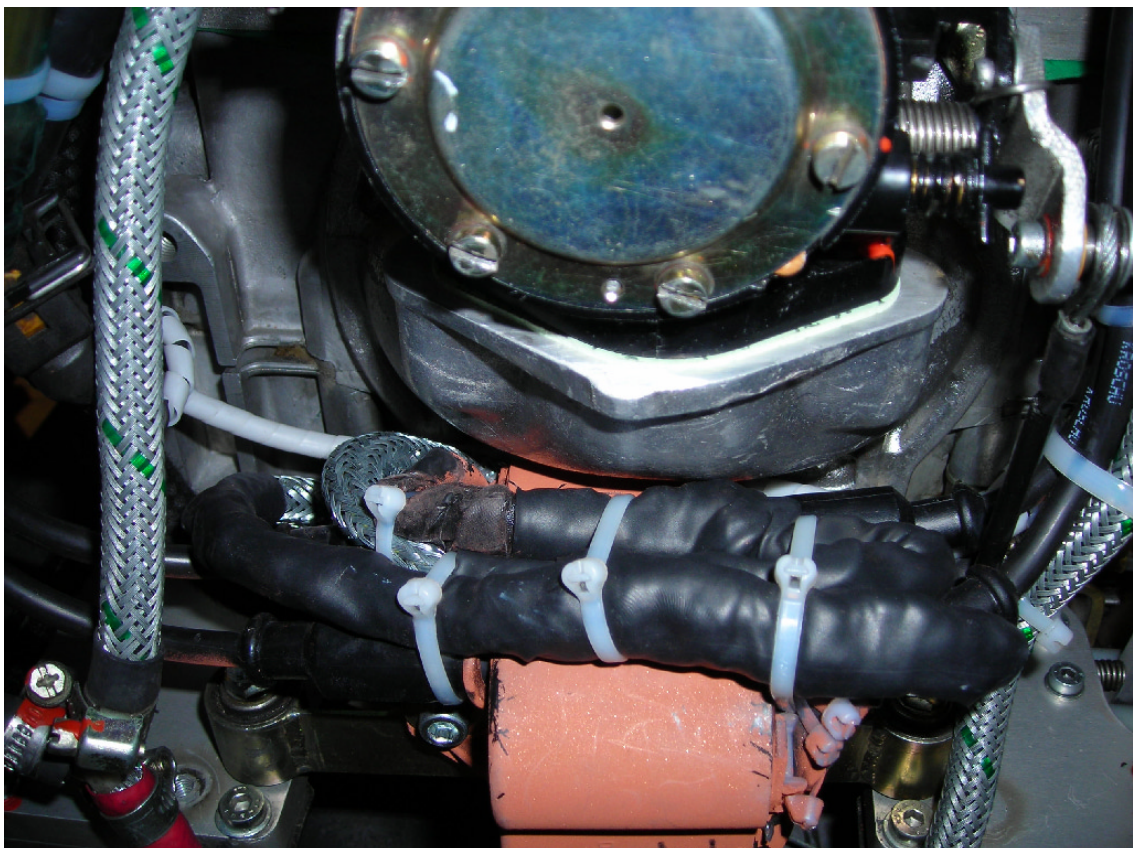
Warning: don't mix up the wire colours!



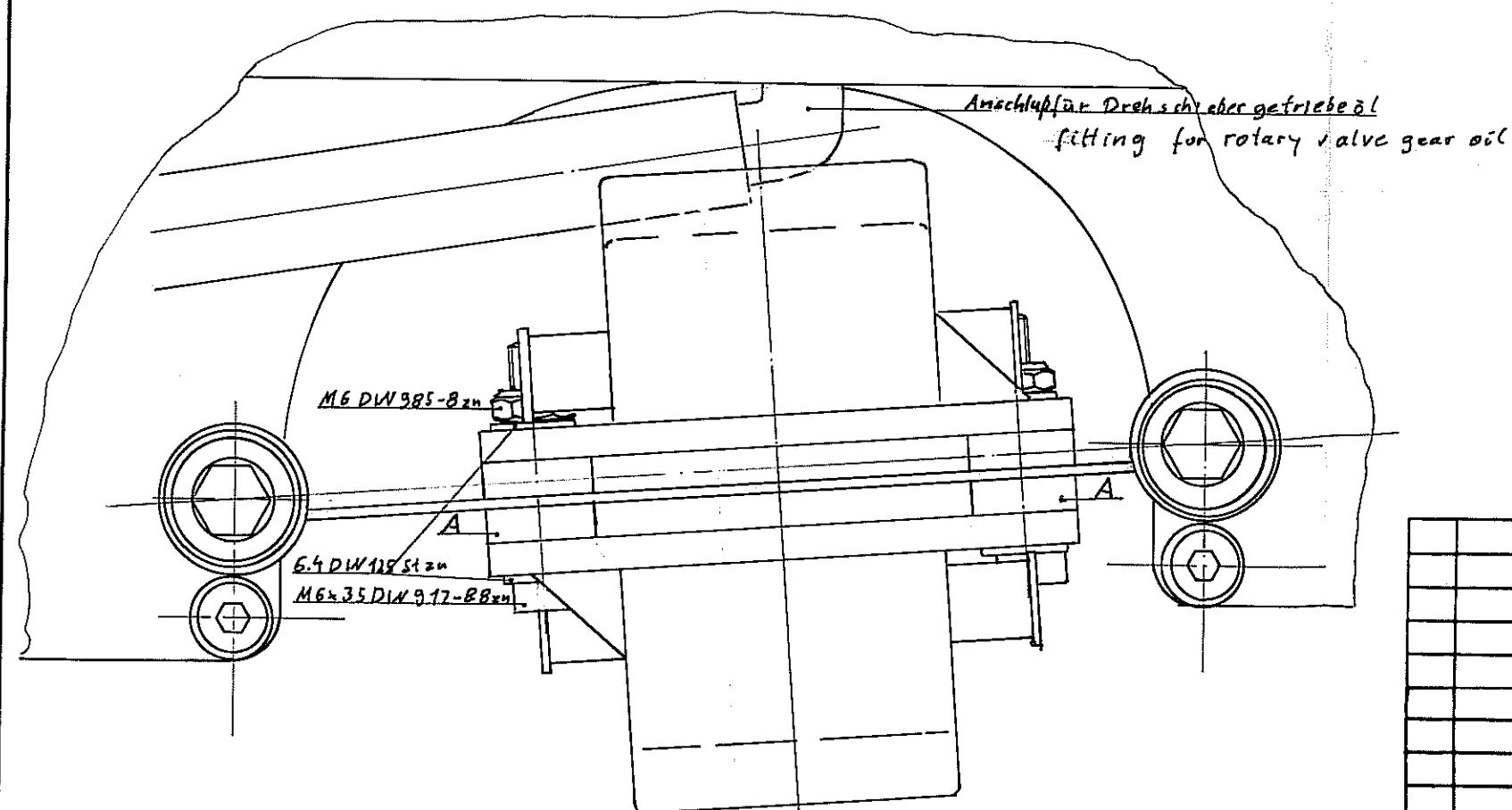
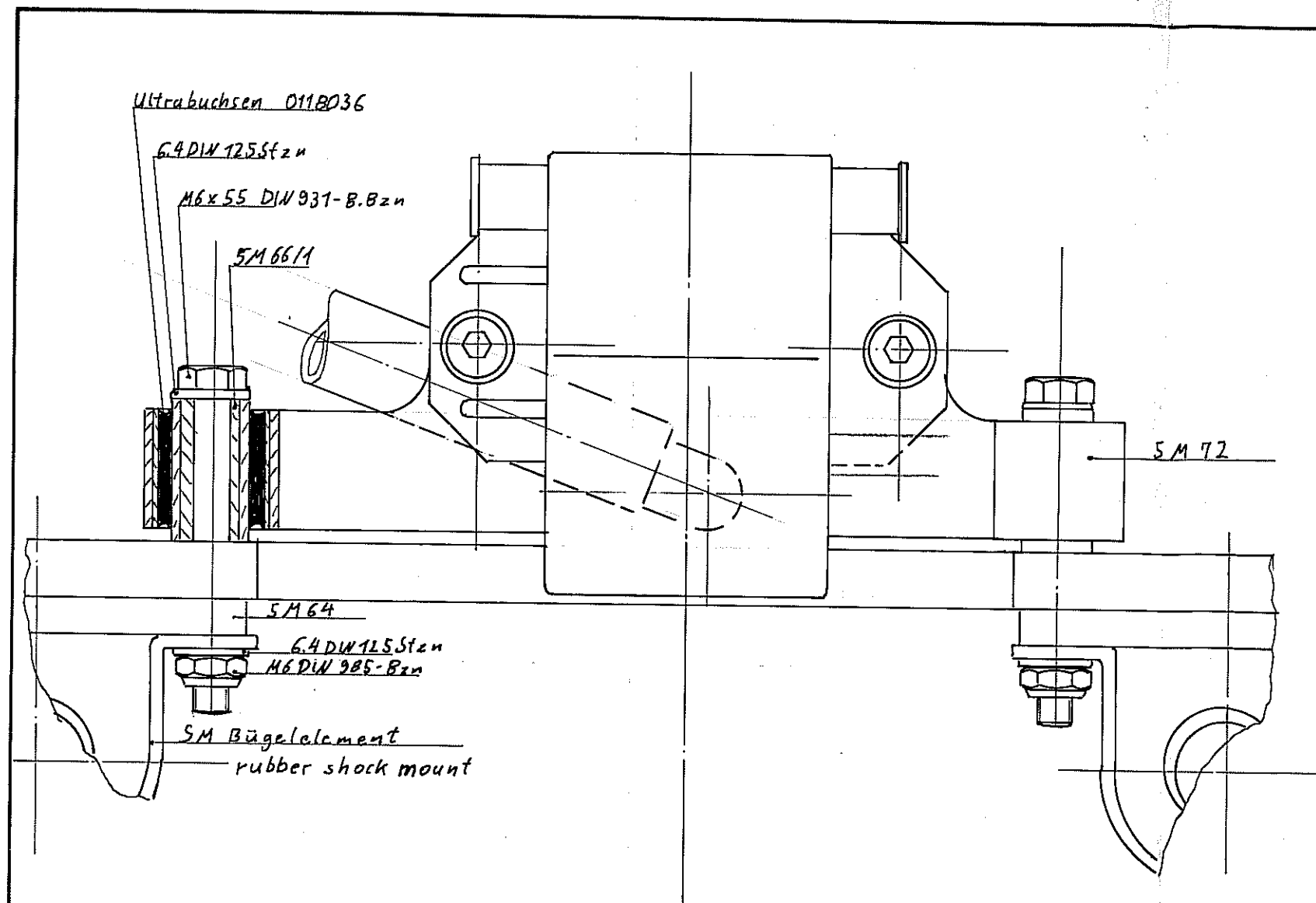
Picture 3




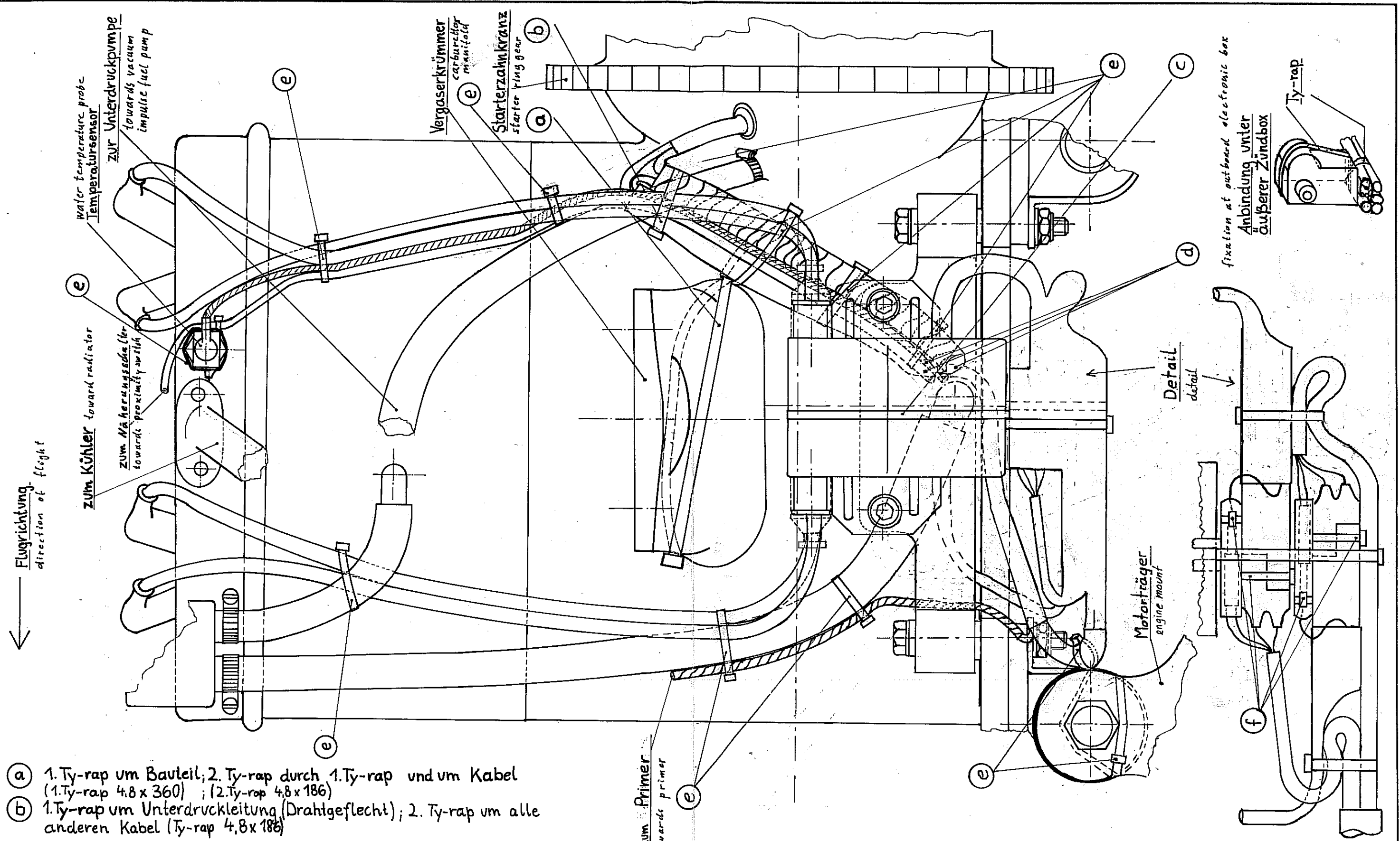
Picture 4




Picture 5



						Tag	Name	Glaser-Dirks Flugzeugbau GmbH 7520 Bruchsal 4 Im Schollengarten 19-20
						Gez.	29.9.92 W. Dirks	
						Gepr.		
						Norm		 5M73
						Maßstab	1:1	
						Malle ohne Toleranzang. nach:	Montage der Zündboxen Typ Ducati Mounting of the ignition electronic boxes type Ducati	
Ause.	Änderung	Am	Tag	Name				



- a) 1. Ty-rap um Bauteil; 2. Ty-rap durch 1. Ty-rap und um Kabel (1. Ty-rap 4,8 x 360) ; (2. Ty-rap 4,8 x 186)
- b) 1. Ty-rap um Unterdruckleitung (Drahtgeflecht); 2. Ty-rap um alle anderen Kabel (Ty-rap 4,8 x 186)
- c) Ty-rap um äußere Zündbox (Ty-rap 4,8 x 186)
- d) diese Kabel werden von oben zwischen Motor und Zündboxen und weiter unter der Motorträgerplatte entlang geführt
- e, f alle Ty-rap's 4,8 x 186 außer a)
- Gesamtmenge: 23 Ty-rap's 4,8 x 186
1 Ty-rap 4,8 x 360

		Tag	Name	Glaser-Dirks Flugzeugbau GmbH 7520 Bruchsal 4 im Schollengarten 19-20
		Gez.	24.8.92 W. Kynast	
		Gepr.		
		Norm		 5 M 74
		Maßstab	/	
		Maße ohne Toleranzang. nach:	Verlegung der Zündkabel installation of the wiring electronic boxes type Ducati	
Ausg.	Änderung	Am	Tag	Name