0 General

0.1 Manual amendments

No.	Page	Description	Date
1	0.1, 0.3 ÷ 0.7, 0.13, 1.5, 1.19, 1.36, 2.1, 3.4, 4.1, 4.2, 4.17, 4.25, 6.2 ÷ 6.4, 7.1, 8.1, 9.3, 9.4, 9.6, diagrams 1, 3, 5, 12, 22, 23	Manual revision TN LS10-02	December 2011
2	0.1, 0.4 - 0.7, 1.28, 4.14, 5.2, 8.1, diagrams 22 and 23	Mechanical fuel pump Manual revision TN LS10-03	October 2015

0.2 List of effective pages (continued)

Section	page	issued	replaced/	replaced/	replaced/
	1.26	"			
	1.27	"			
	1.28	"	October 15		
	1.29	"			
	1.30	"			
	1.31	"			
	1.32	"			
	1.33	"			
	1.34	"			
	1.35	"			
	1.36	"	December 11		
	1.37	"			
	1.38	"			
2	2.1	October 09	December 11		
	2.2	"			
	2.3	"			
	2.4	"			
	2.5	"			
	2.6	"			
3	3.1	October 09			
	3.2	"			
	3.3	"			
	3.4	"	December 11		
	3.5	"			
	3.6	"			
	3.7	"			
	3.8	"			
	3.9	"			
	3.10	"			
4	4.1	October 09	December 11		
	4.2	"	December 11		
	4.3	"			
	4.4	"			
	4.5	"			
	4.6	"			
	4.7	"			
	4.8	"			

0.2 List of effective pages (continued)

Section	page	issued	replaced/	replaced/	replaced/
	4.9	October 09			
	4.10	"			
	4.11	"			
	4.12	"			
	4.13	"			
	4.14	"	October 15		
	4.15	"			
	4.16	"			
	4.17	"	December 11		
	4.18	"			
	4.19	"			
	4.20	"			
	4.21	"			
	4.22	"			
	4.23	"			
	4.24	"			
	4.25	"	December 11		
	4.26	"			
	4.27	"			
	4.28	"			
	4.29	"			
	4.30	"			
	4.31	"			
	4.32	"			
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	4.35	"			
	4.36	"			
	4.37	"			
	4.38	"			
	4.39	"			
	4.40	"			
	4.41	"			
	4.42	"			

0.2 List of effective pages (continued)

Section	page	issued	replaced/	replaced/	replaced/
5	5.1	October 09			
	5.2	"	October 15		
6	6.1	October 09			
	6.2	"	December 11		
	6.3	"	December 11		
	6.4	"	December 11		
7	7.1	October 09	December 11		
8	8.1	October 09	December 11	October 15	
"	8.2	"			
	8.3	"			
9	9.1	October 09			
	9.2	"			
	9.3	"	December 11		
	9.4	"	December 11		
	9.5	"			
	9.6	"	December 11		
	9.7	"			

0.2 List of effective pages (continued)

diagram	issued	replaced/	replaced/	replaced/
1	September 09	December 11		
2	September 09			
3	September 09	December 11		
4	September 09			
5	September 09	December 11		
6	September 09			
7	September 09			
8	September 09			
9	September 09			
11	September 09			
12	September 09	December 11		
13	September 09			
Diagrams **only for LS10-st**				
14	September 09			
15	September 09			
16	September 09			
17	September 09			
18	September 09			
19	September 09			
20	September 09			
21	September 09			
22	September 09	December 11	October 15	
23	September 09	December 11	October 15	

Enclosure

9E2 **LS10-st**	28.11.08
9E4 **LS10-s**	28.11.08
9EP22	25.05.09
9EP24	25.09.09
9R79	11.09.08
9V21	14.09.09
9V96	29.04.09

1.17.3 Fuel pumps

Electrical fuel pump: The electrical fuel pump is mounted at the rear side of the feeder tank. Electrical supply from the electrical system, controlled by the DEI-NT.

When the DEI-NT fuel pump switch is in “AUTO” position (normal operation) the pump is controlled by the automatic engine operation system and the electrical supply comes via the DEI-NT. The electrical fuel pump cares for engine fuel supply as long as the membrane pump is not able to do so. During engine operation, the electrical fuel pump is automatically switched off as soon as engine RPM exceeds 4900 RPM for more than 10 seconds.

When the DEI-NT fuel pump switch is in “ON” position, the pump runs as soon as the main switch is “ON” (Continuous operation). Electrical supply in this case via the control unit.

Pump feed performance is being checked by fuel flow measurement. Open the fuel supply line below the carburettor branch and place the hose end into a metering bowl. Switch pump “ON” and measure time for 1 litre <61 cu. in>. Maximum time allowed is 130 seconds.

Mechanical fuel pump: The mechanical fuel pump at the left side of the engine mount below the engine is driven by the vacuum pulses from the engine crankcase and operates only when the engine runs.

An excess fuel line with built in restriction runs back to the feeder tank diverging near the carburettors.

The excess fuel line limits the fuel pressure at the carburettors.

4.6 Nose Hook System Removal and installation

See diagram 9

Tools: 3/8" drive ratchet, 8 and 10 mm sockets, 3 and 4 mm hex head driver sockets, 10 mm ring spanner, 12 mm open end spanner.

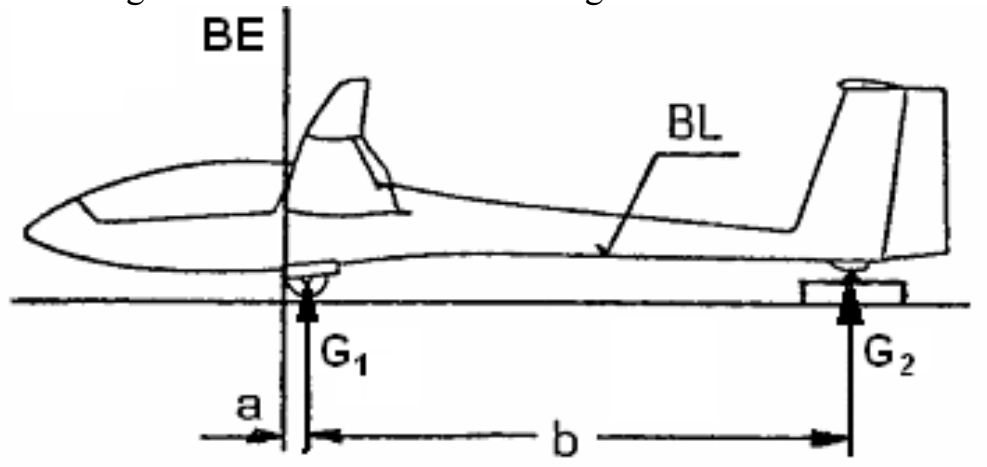
General: Note length of bolts and positioning of washers for all assembly positions.
Keep fixing bolts >5< and >6< spacers and lever extension with plane during hook overhaul.

Removal of nose hook:

(1) Remove canopy from fuselage according to Flight Manual section 7.16 with a helper after pulling emergency canopy release.
(2) Disassemble seat according to section 4.1.
(3) Beneath the seat, disconnect C.G. release cable from pulley, watch for the spacer.
(4) Pull pedals to rearmost position.
(5) Disconnect trim weight holder from pedal guide at ***>1<*** .
(6) Disconnect 2 bolts ***>2<*** at front end of canopy support from bracket, move support as far back into cockpit as possible, if need be disconnect gas strut at one end as well.
(7) Disconnect both canopy support brackets including trim weight holder from nose bulkhead at ***>3<*** and move backward too.
(8) Pull nose hook together with bracket backward from bulkhead.
(9) Disassemble nose hook from bracket at ***>4<*** and ***>6<***, watch for 4 spacers between nose hook body and bracket and for 1 spacer inside nose hook body at position ***>6<*** .
(10) Disassemble drive extension with cable from drive lever at ***>5<***.

The flight mass includes empty weight items plus pilot, parachute, trim ballast and all items needed in flight (barograph, camera, cushions, etc.). In addition, the rudder pedals and seating position should be adjusted as in flight.

Datum (BE): Wing leading edge at root rib
Levelling line: Lower side of aft fuselage boom horizontal



Moment arms of pilots and equipment see flight manual sect. 6.9

Empty weight C.G. measurements
After the addition or deletion of equipment or accessories, repairs, painting, or any change in the aircraft that could influence the weight and balance; a new weight and balance must be carried out. Aircraft certified as Standard Category must have the weight and balance carried out by a licensed Airframe Mechanic. Empty weight C.G. range is determined by reference to the diagram in sect. 6.8.8 of the flight manual. If the C.G. is out of limits, adjustments may be made by ballasting or by relocating equipment or accessories.

The result has to be entered in the flight manual section 6.8.7 and in the aircraft logs. If the min. cockpit load or the max. flight mass without water ballast have changed, the new values are to be entered in the cockpit placard.

Weight and balance must be carried out at least every four years.

C.G. shift due to extension of the engine
see flight manual section 6.9

8 Partlist

Please find the part no's of the control-system parts and of the metal fittings of the power plant in the following diagrams.

8.1 Parts for the power plant (only LS10-st)

a) **necessary for the 25 hours inspection**

40050360	Spark plug S36 (Bosch W5AC Electrode gap 0,5 mm <0,02 in>) with pressed on screw cap, marked by red dot on insulator.
60507571	Fuel filter

b) **Spare parts**

45002085	Spark plug cap Denso, 5kOhm
60510601	Ignition coil for SOLO 2350
45002081	Exhaust gasket, 1.5mm thick (2 units required)
45002071	Decompression valve (2 units installed)
45002088	Lift cylinder for LS8-t, HG7000-12-225-30, modified
45002038	Gas strut 600N for extension-retraction mechanism
45002039	Gas strut 100N for propeller stopper
45002074	Propeller stopper rubber stop

Shock mounts for engine installation

45002079	Upper engine shock mounts (2 units installed)
45002080	Lower engine shock mounts (2 units installed)

Fuel system

60507608	Fuel quick connector KL-006-2-SL007 (Coupling for re-fuelling line)
60507550	Drainer CAV 110 (1/8“ NPT)

Caution: Exchange O-ring (Avgas type) as delivered with drain valve against part No. 60504402 !

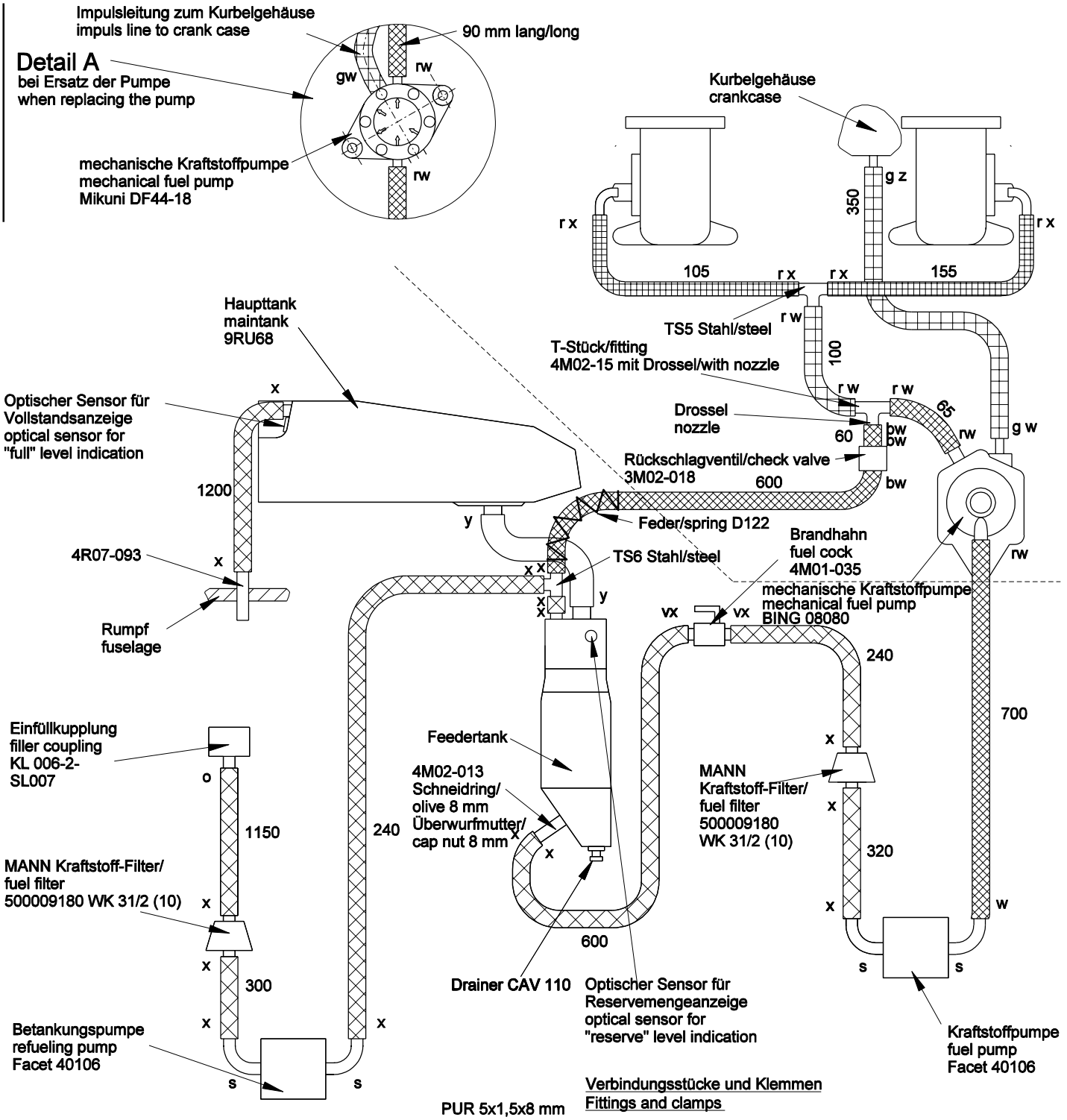
60504402	O-Ring for Drainer CAV 110 (Mogas type)
30092049	Fuel hose PUR 3x1,5x6mm hydrolyse and microbe-resistant
30092050	Fuel hose PUR 5x1,5x8mm hydrolyse and microbe-resistant
60000103	Fuel hose PUR 6x1,5x9 hydrolyse and microbe-resistant
60000102	Fuel hose PUR 8x2x12 hydrolyse and microbe-resistant
30092051	Metal mesh inner dia. 8 mm (for fuel lines)
60507561	Electric fuel pump Facet 40106 (engine fed and re-fuelling)
60500164	Mechanical fuel pump Bing 8080 (no more available)
60500257	Mechanical fuel pump Mikuni DF44-18 from ser. no. T57 on and as spare part (for installation follow TN LS10-03)
45000162	Fuel cock 4M1-034

Propeller attachment

45002052	Rubber stop for propeller

Kraftstoffsystem bis W.Nr. L10-014
Fuel system up to ser. no. L10-014

Diagramm 22
diagram 22



Kraftstoffschläuche / fuel hoses

Alle PUR Schläuche hydrolyse und mikrobenbeständig

PUR 6x1,5x9 mm	PUR 6x1,5x9 mm	PUR 8x2x12 mm	PUR 5x1,5x8 mm	PUR 3x1,5x6 mm
Schlauch ohne Ummantelung blank fuel hose	mit Metallgeflecht überzogen metal braided	Schlauch ohne Ummantelung blank fuel hose	mit Metallgeflecht überzogen metal braided	mit Metallgeflecht überzogen metal braided

Verbindungsstücke und Klemmen
Fittings and clamps

- r roter Schrumpfschlauch/red heat shrink-tubing, 30mm lang
- g gelber Schrumpfschlauch/yellow heat shrink-tubing, 30mm lang
- b blauer Schrumpfschlauch/blue heat shrink-tubing, 30mm lang
- s Winkelstück/elbow fitting WSAG 06 1/8" Messing/brass
- u Einschraubnipppel/nipple SAG 06/R1/8"
- v Einschraubnippel/nipple 1/4"
- w Schlauchschelle/hose clamp S70/2
- x Schlauchschelle/hose clamp S70/1
- y Schlauchschelle/hose clamp S70/3
- z Drahtsicherung (0,8 mm Draht) /safety wire
- o Ohrklemme/press clamp 113

TM/TN LS10-03

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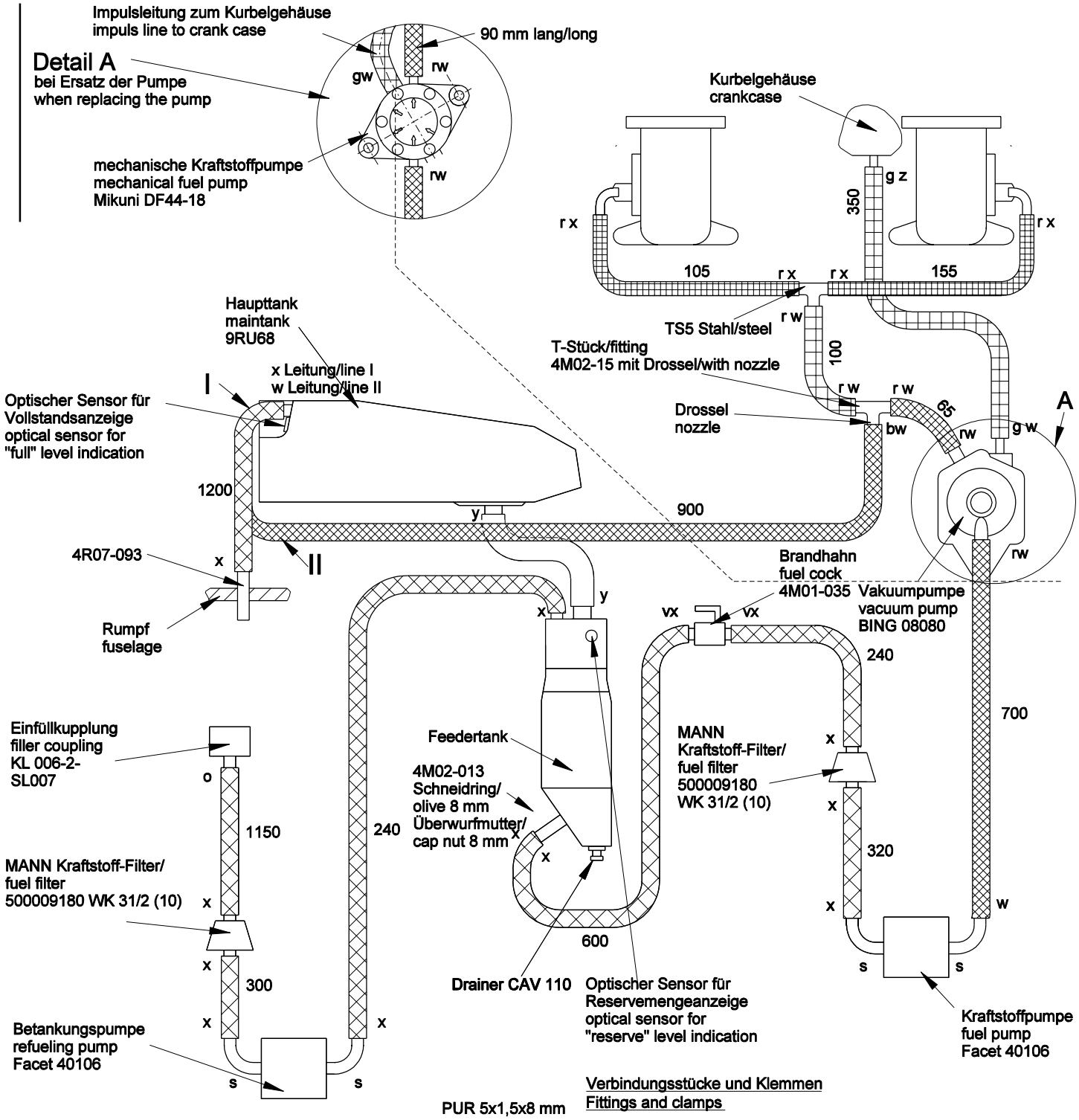
Kraftstoffsystem ab W.Nr. LS10-015
Fuel system from ser. no. L10-015 on

Diagramm 23
diagram 23



Kraftstoffschläuche / fuel hoses

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PUR 6x1,5x9 mm	PUR 6x1,5x9 mm	PUR 8x2x12 mm	PUR 5x1,5x8 mm	PUR 3x1,5x6 mm
Schlauch ohne Ummantelung blank fuel hose	mit Metallgeflecht überzogen metal braided	Schlauch ohne Ummantelung blank fuel hose	mit Metallgeflecht überzogen metal braided	mit Metallgeflecht überzogen metal braided

Verbindungsstücke und Klemmen
Fittings and clamps

r	roter Schrumpfschlauch/red heat shrink-tubing, 30mm lang
g	gelber Schrumpfschlauch/yellow heat shrink-tubing, 30mm lang
b	blauer Schrumpfschlauch/blue heat shrink-tubing, 30mm lang
s	Winkelstück/elbow fitting WSAG 06 1/8" Messing/brass
u	Einschraubnipppel/nipple SAG 06/R1/8"
v	Einschraubnippel/nipple 1/4"
w	Schlauchschelle/hose clamp S70/2
x	Schlauchschelle/hose clamp S70/1
y	Schlauchschelle/hose clamp S70/3
z	Drahtsicherung (0,8 mm Draht) /safety wire
o	Ohrklemme/press clamp 113

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