

INSTALLATION MANUAL

Ref.no.	BH02006
Date.	18.11.2002
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- Subject:** Work hydraulic – Automatical Load-Stabiliser
- Purpose:** Additional mounting of ALS
- Application:** WA65-3 / WA65PT-3 20 km/h / 30 km/h
- Description:** On the above mentioned Wheel Loaders the automatical load stabiliser (ALS) can be mounted additional if required.
On page 2 you can find a list with the parts, delivered if you ALS order as option.
On page 3 to 8 you can find the mounting instructions for additional installation of ALS.

<https://hespareparts.com/>

Spare parts delivered at order of option ALS:

Pos.	Name	Part number	Qty.
1	ALS valve	42U-62-13400	1
2	Harness for ALS valve	42U-06-12450	1
3	Bracket for ALS valve	42U-62-13B40	1
4	Bracket for accumulator	42T-62-13220	1
5	Accumulator	42U-62-13260	1
6	Cushion	419-43-17930	2
7	Cushion	415-64-13130	2
8	Washer	419-43-17920	4
9	Washer	01642-21016	2
10	Spacer	417-54-13470	2
11	Screw M12 x 50	01016-51250	2
12	Schraube M10 x 20	01435-01020	4
13	Screw M8 x 16	01010-80816	3
14	Nut M10	01580-11008	2
15	Straight stud ESWD10-LG	42Y-00-H1430	1
16	Straight stud ESWD15-LG	42Y-00-H1460	6
17	Elbow stud EWD10-L	421-00-H0230	1
18	Reducer	42Y-00-H1780	3
19	Tee ELD10-L	421-00-H0480	1
20	Tee ELD15-L	421-00-H0440	3
21	Hydraulic hose	42U-09-H2360	1
22	Hydraulic hose	42U-09-H2360	1
23	Hydraulic hose	42W-09-H0640	1
24	Hydraulic hose	42U-09-H2380	1
25	Hydraulic hose	42T-09-H1190	1
26	Protection hose	42T-09-H1120	1
27	Gauge connector	42U-09-H0910	1
28	Decal „ALS“	42U-93-11B30	2
29	Switch ALS	42U-06-11230	1
30	Symbol „ALS“	42U-06-11380	1
31	Cable binder	421-00-H0260	3
32	Cable binder	08034-20834	5
33	Wiring harness ALS	42U-06-12500	1

20 km/h

34	Relay ALS	42U-06-11370	1
35	Speed sensor	7861-92-2330	1
36	Adapter	42U-06-15160	1
37	Seal ring M22	42U-09-H2580	1

30 km/h

38	Relay ALS	42-T06-11100	1
39	Speed sensor	42R-06-15210	1

Preparation

Stop the machine on solid, level ground.
Apply the parking brake.
Lower the work equipment to the ground.
Stop the engine.

Danger!

The hydraulic system is a high-pressure system!
Release the pressure before you begin to work!

Open carefully the plug screw of the hydraulic oil tank for several turns.



Removal of covers

Remove the floor mat and the dam mat.
Remove the floor cover.
Remove the consol cover beside.



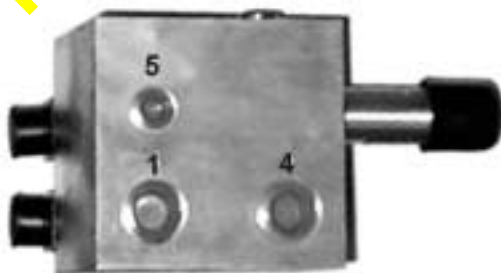
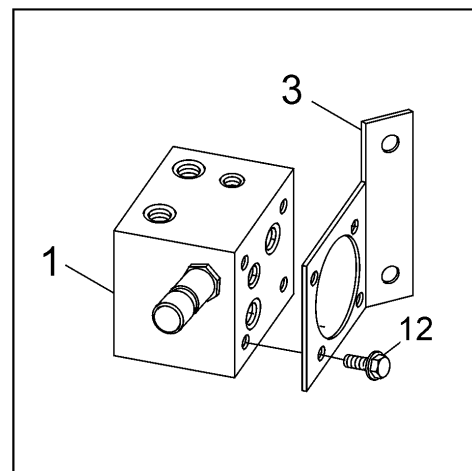
Pre mounting of the ALS valve

Screw on the bracket (3) on the ALS valve (1) with 4 screws (12) and tighten it.

Screw in 4 studs ESWD15-LG (15) into the holes 1, 3, 4, and 6 and tighten the studs.

Screw in 1 stud ESWD10-LG (15) into the hole 2 and tighten it.

The hole 5 is not used.

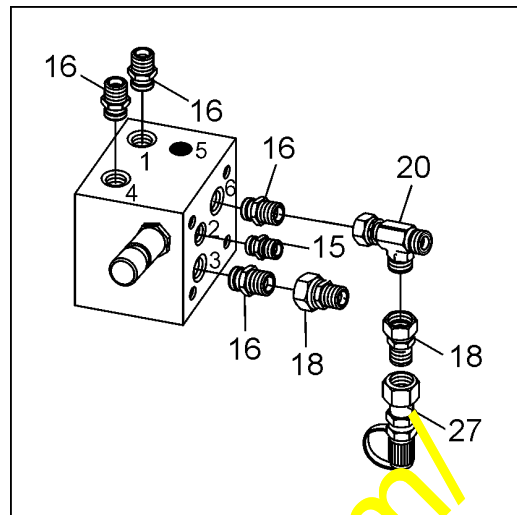


Screw on a reducer RED15/10-L **(18)** on the stud of connection **3**.

Screw on a tee ELD15-L **(20)** on the stud of connection **6**.

Screw on a reducer RED15/10-L **(18)** on the tee **(20)**.

Screw on the gauge connector **(27)** on the reducer.



Installing of the ALS valve

Under the ground plate of the cabin on the right side you can find 2 square irons with inner thread (arrows).



Screw on there the bracket including ALS valve with 2 screws M12x50 **(11)**, 2 cushions **(7)** and 2 washers **(8)** and tighten it.

The bracket with the ALS valve look forwards.



Connecting of the hydraulic hoses

Connect the hose 42W-09-H0640 **(23)** on the stud of connection **1** at the ALS valve.

Disconnect at the control valve the lift cylinder hose of the lift circuit **A1** from the stud. Screw on a tee ELD15-L **(20)** on the stud.

Connect the lift cylinder hose and the hose from the ALS valve on the tee.

Connect the hose 42U-09-H2380 **(24)** on the stud of connection **4** at the ALS valve.

Disconnect at the control valve the lift cylinder hose of the lower circuit **B1** from the stud. Screw on a tee ELD15-L **(20)** on the stud.

Connect the lift cylinder hose and the hose from the ALS valve on the tee.

Screw on a hose 42U-09-H2360 **(22)** on the stud of connection **2** at the ALS valve.

Remove at the control valve the plug screw from **P**. Screw in a stud ESWD15-LG **(16)**. Screw on a reducer RED15/10-L **(18)** on the stud.

Connect the hose coming from the ALS valve on the reducer.

Screw on a hose 42U-09-H2360 **(22)** on the stud of connection **3** at the ALS valve.

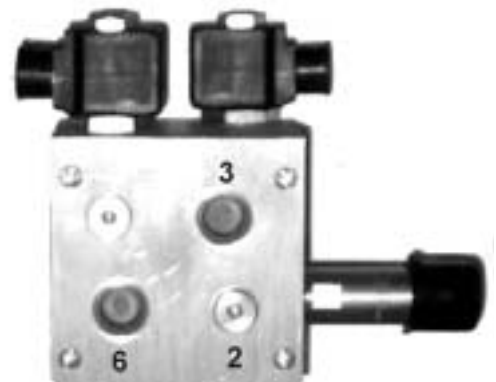
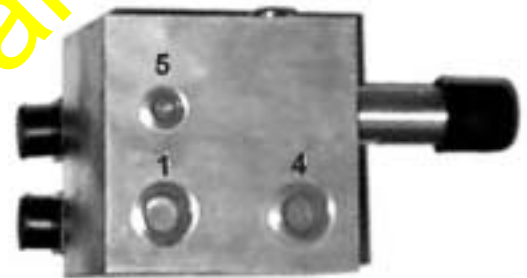
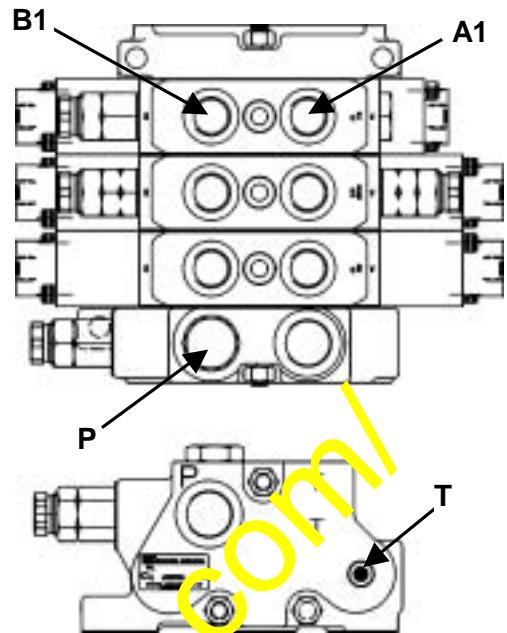
Disconnect at the control valve the hose from the tank reflow **T** from the stud. Screw on a tee ELD10-L **(19)** on the stud.

Connect at the tee the reflow hose and the hose from the ALS valve.

The hose 42T-09-H1190 **(15)** for the accumulator will be layed and connected after mounting of the accumulator.

Connect the 3 plugs of the harness **(2)** on the ALS valve and screw them on.

The 4th plug for the speed sensor will be connected later at the ALS harness.



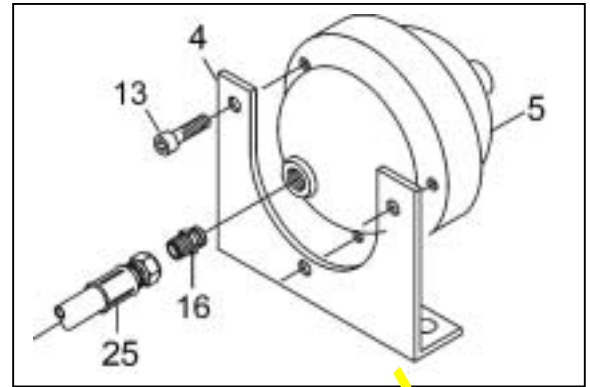
Pre-mounting of the ALS accumulator

Screw on the ALS accumulator (5) on the bracket (4) with 3 screws M8x16 (13).

Screw in a stud ESWD15-LG (16) into the accumulator.

Connect the hose 42T-09-H1190 (25) with the straight connection at front side of the accumulator. The elbow connection at end of the hose must look right side.

Mount the protection hose (26) on the hydraulic hose and fix it with 2 cable binders (31). Don't tighten the binders yet.



Mounting of the ALS accumulator

The accumulator is mounted in the engine room between engine and cabin. Cab and engine room is separated with a rubber mat.

Loosen the clamp (A) from the air suction hose. Pull the hose over the cooler.

Loosen the clamp (B) at the hose of the cooler expansion tank. Pull the hose from the cooler and lay it beside.

Remove the ledge (C) which tightens the rubber mat.

Remove the mat from the 1st 3 bolts on right side.

Set the bracket including the accumulator on the two bolts (D). The pre-mounted hydraulic hose 42T-09-H1190 (25) has to be laved over the fuel tank to the ALS valve.

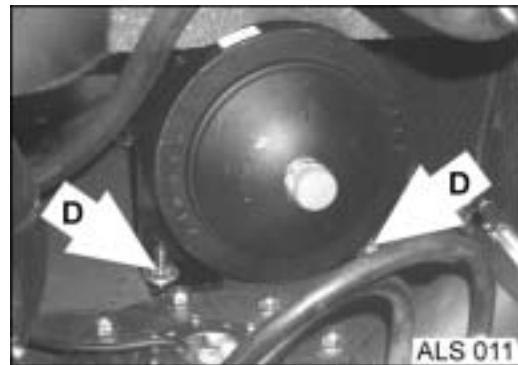
Set two large washers (37) on the bolts. Screw on the accumulator with 2 nuts M10 (14) and tighten it.

Push the pre-mounted protection hose (26) to the edge of the fuel tank and tighten the 2 cable binders.

Screw on the rubber mat with the ledge again.

Connect the air suction hose and the hose from the cooler expansion tank again. Tighten the clamps.

Connect at the ALS valve the hose (25) on tee with gauge connector, connection 6 at the ALS valve and tighten it.



Mounting of the speed sensor

20 km/h:

Screw the speed sensor (35) into the adapter (36) that it overlays for the half of its length. Lay on the seal ring (37).

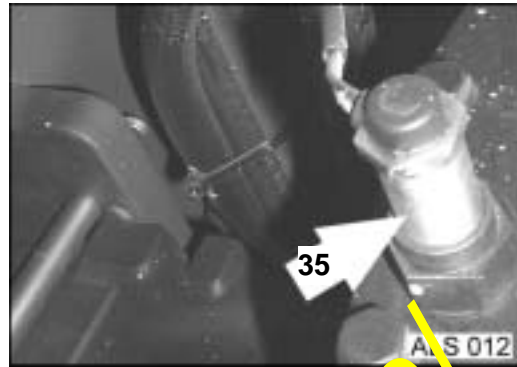
Remove the plug screw from the oil-filling hole at the distributor box.

Screw in the speed sensor (35) until it contacts the gear wheel.

Screw out the sensor for ½ to 1 turn so that the plug connector shows upper side.

Tighten the sensor (35) with the adapter (36).

Tightening torque = 50 –70 Nm.



30 km/h:

Remove the pug screw at the distributor box RH.

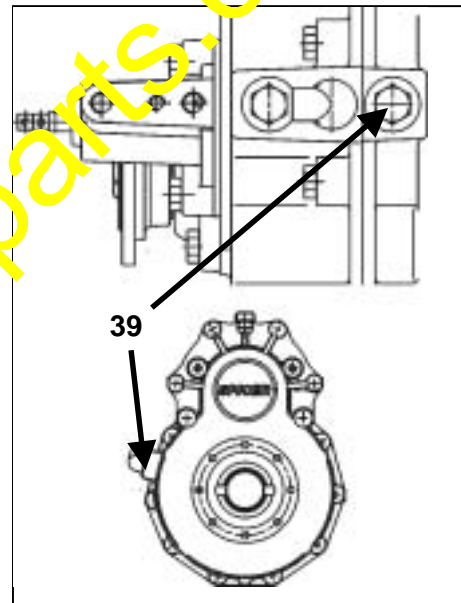
Use the seal ring of the plug screw for the speed sensor.

Screw in the speed sensor (39) until it contacts the gear wheel.

Screw out the sensor for ½ to 1 turn.

Tighten the speed sensor (39) with the lock nut.

Tightening torque = 25 Nm.



Connecting of ALS-wiring harness (33)

Connect the plugs as shown in the illustration.

8-polar plug (XA1): White compact plug with green cable in the consol of the cabin RH.

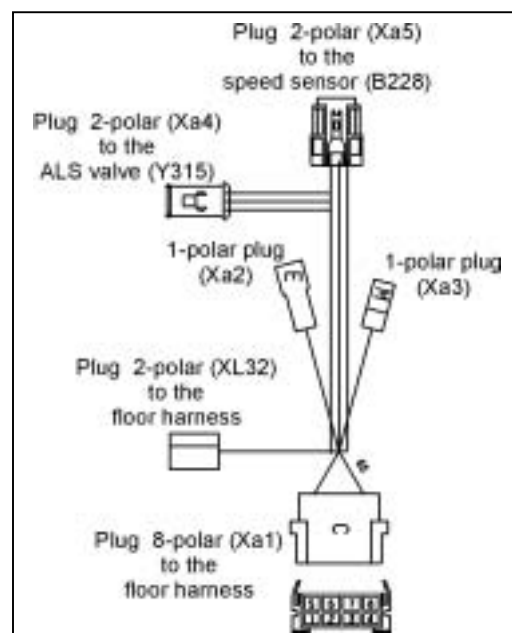
2-polar plug (XL32): To the 2-polar plug near the compact plug.

2-polar plug (XA5): To the speed sensor.

2-polar (XA4): To the ALS valve.

1-polar plugs (XA2) and (XA3): Are not connected. Connecting is only necessary to release the hydraulic oil pressure in the accumulator. Before starting of repair on the ALS the two plugs has to be connected, in this moment the stored hydraulic oil pressure in the accumulator releases.

Fix the harness with cable binders.



Mounting of the relay

Remove the cover in front of the steering wheel in the cabin.

Plug the relay into the free place.

20 km/h: 42U-06-11370 **(34)**.

30 km/h: 42T-06-11100 **(39)**.

Screw on the cover again.



Mounting of the ALS switch

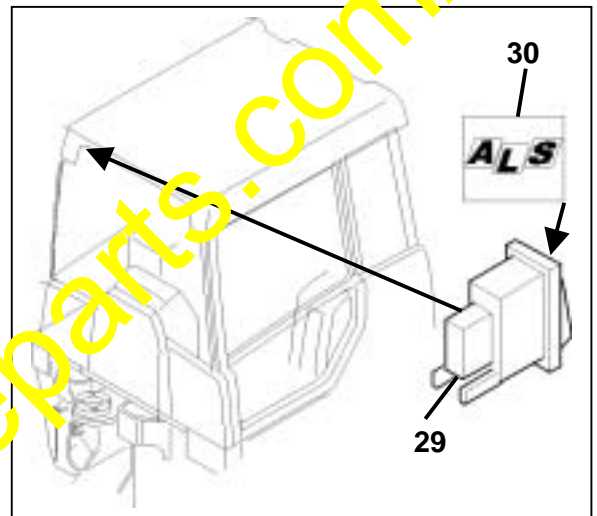
Set the symbol „ALS“ **(30)** into the ALS switch **(29)**.

In the cabin upper side RH there is the switch housing. Behind it there are three compact plugs.

Connect the plug with the red and the white-red cable at the ALS switch.

Also connect the red and black cable at the ALS switch.

Mount the switch and close the switch housing.



Mounting of the ALS decal

Clean the loader arms thoroughly and dry it.

Stick at each loader arm left and right one decal ALS **(28)**.



Conclusion

Fix all cables and hoses with binders.

Check the hydraulic system for tightness.

Check the hydraulic oil level.

Close the refill and bleeding screw of the hydraulic oil tank.

Check ALS for correct function.