



STOLL

Quick guide

REAL³

(in conjunction with Base Control or
Pro Control single-lever control unit)

This quick guide is a supplement to the installation instructions and the operating instructions for the front loader.
Follow these instructions, especially the safety instructions!

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The original instructions were written in the German language.

Instructions in other languages were translated from German.

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1 Overview

This section gives an overview of the possible kinds of equipment.

By using the included parts lists, you can check the complete delivery of all components and, if necessary, specify the order numbers for reordering or spare parts.

STOLL recommends the following procedure for the installation work:

- (1) Mark the equipment that is required for the planned installation in the overview tables in this chapter.
- (2) Check that the delivery is complete.
- (3) Install the hydraulic system according to the relevant descriptions for the equipment (see 2 *Assembly and installation*).
- (4) Install the electrical system according to the relevant descriptions for the equipment (see 2 *Assembly and installation*).

1.1 REAL³

The REAL³ equipment consists of the REAL³ valve and the associated hydraulic system and electric equipment.

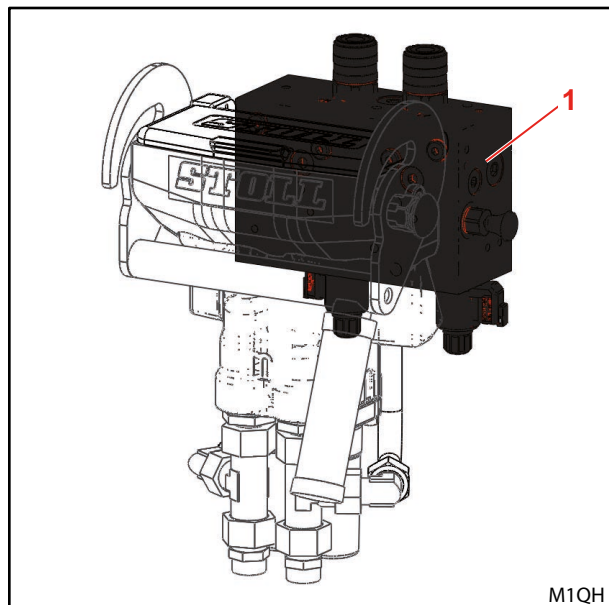


Fig. 1 REAL³ valve

Equipment

Pos.	Id. no.	Qty.	Name	Notes
1	3681650		REAL³ valve OC equipment 56.00-231-01, consisting of:	For tractors with open-centre hydraulic system (OC)
1.1	1440140	1	Valve block 56.00-230-01-01	
1.2	3681630	1	OC bolted connections equipment 56.00-231-01-02	
	3681640	1	Compensator valve 56.00-231-01-02-01	
		2	Straight screw-in connector WA GES 15L3/4-16UNF	
		3	Straight screw-in connector WA EGESD 18LR 3/4-WD	
		2	T-union 18/18/15L	
		3	Reducer screw connection WA REDSD 18/15L	
		2	Adjustable elbow connector WA EWSD 15L	
		2	Straight screw-in connector WA GES 10L9/16-18UNF	
		1	Adjustable elbow connector WA EWSD 10L	
		2	Straight screw-in connector WA GES 18L 11/16-12 UNF	
		2	Adjustable elbow connector WA EWSD 18L	
1.3	3681490	1	Valve mount equipment 56.00-230-01-03	
	3681510	1	Retaining plate 56.00-230-01-03-00.1	
	3681520	1	Spacer plate 56.00-230-01-03-00.2	
	1440270	3	Stud bolt M8x125 10.9	
	0202190	4	Hexagonal screw M8x30 8.8	
	0011630	7	Hexagonal nut M8 8	
	0452140	4	Detent edged ring VSK 8	
	0407070	4	Washer 9	
1.4	3681500	1	Protective cap equipment 56.00-230-01-04	
	1408490	1	Protective cap, blue	
	1408530	1	Protective cap, red	
1	3681540		REAL³ valve LS equipment 56.00-230-01, consisting of:	For tractors with load sensing hydraulic system (LS)
1.1	1440140	1	Valve block 56.00-230-01-01	
1.2	1440860	1	LS bolted connections 56.00-230-01-02 equipment	
		2	Straight screw-in connector WA GES 15L3/4-16UNF	
		2	Straight screw-in connector WA EGESD 18LR 3/4-WD	
		2	T-union 18/18/15L	
		2	Reducer screw connection WA REDSD 18/15L	
		2	Adjustable elbow connector WA EWSD 15L	
		1	Straight screw-in connector WA GES 10LR-WD	
		1	Straight screw-in connector WA GES 10LR1/8-WD	
		1	Straight screw-in connector WA GES 12L9/16-18UNF	
1.3	3681490	1	Valve mount equipment 56.00-230-01-03	
	3681510	1	Retaining plate 56.00-230-01-03-00.1	
	3681520	1	Spacer plate 56.00-230-01-03-00.2	
	1440270	3	Stud bolt M8x125 10.9	
	0202190	4	Hexagonal screw M8x30 8.8	
	0011630	7	Hexagonal nut M8 8	
	0452140	4	Detent edged ring VSK 8	
	0407070	4	Washer 9	
1.4	3681500	1	Protective cap equipment 56.00-230-01-04	
	1408490	1	Protective cap, blue	
	1408530	1	Protective cap, red	

Pos.	Id. no.	Qty.	Name	Notes	
2	3681600		REAL³ lines equipment OC 56.00-231-02, consisting of:	For tractors with open-centre hydraulic system (OC)	
3.1	3705070	1	Tube line P complete, Base Control		
3.2	3704750	1	Tube line T complete, Base Control		
3.3	3705050	1	Tube line T complete, Pro Control		
3.4	3705080	1	Tube line P complete, Pro Control		
3.5	3503040	1	Hose line 8x400 RKN90 1SN N		
3	3681550		REAL³ lines LS equipment 56.00-230-02, consisting of:	For tractors with load sensing hydraulic system (LS)	
2.1	3704750	2	Tube line P, T complete, Base Control		
2.2	3705040	1	Tube line LS complete, Base Control		
2.3	3705050	2	Tube line P, T complete, Pro Control		
2.4	3705060	1	Tube line LS complete, Pro Control		
2.5	1429480	1	Hose line 10x250 1SC ND		
4	3681660		Universal REAL³ LS+OC equipment 56.00-230-03, consisting of:	For tractors with load sensing hydraulic system (LS) and open-centre hydraulic system (OC) This equipment is only required for special positioning of the REAL ³ valve.	
4.1	3681670	1	<i>Coupling mount equipment 56.00-230-03-01</i>		
	3681680	1	Bracket 56.00-230-03-01-00.1		
	3681690	1	Arm couplings 56.00-230-03-01-00.2		
	0011110	3	Hexagonal screw M8x25 8.8		
	0202190	2	Hexagonal screw M8x30 8.8		
	0407070	2	Washer 9		
	0452140	2	Detent edged ring VSK 8		
	0011630	2	Hexagonal nut M8 8		
4.2	1436810	2	<i>Coupling sleeve</i>		
4.3	3627300	2	<i>Adapter, complete 56.00-196-01</i>		
4.4	3617860	2	<i>Extension cable complete 56.32-00-67-01-07</i>		
4.5	1428940	2	<i>Straight screw-in connector WA GES 15LR-WD</i>		
4.6	0434820	4	<i>Cable tie 4.8x188</i>		
5	3681710		REAL³ electro-kit 56.00-230-04, consisting of:		
5.1	3676030	1	Wiring harness 56.00-230-04-01		
5.2	0434820	2	Cable tie 4.8x188		
6	3681720		Base Control FS/FZ REAL³ electro-kit 56.00-230-05, consisting of:	For tractors with Base Control single-lever control unit and FS or FZ front loaders	
6.1	3681730	1	Wiring harness 56.00-230-05-01		
6.2	1317940	1	Cable, complete 58.35-01-05		
6.3	0413710	2	Plug distributor 6.3-2.5, blue		
6.4	0207690	4	Plug-in sleeve 6.3-1.0, red		
6.5	0446450	3	Flat plug coupling 6.3x0.8x28		
6.6	0434820	2	Cable tie 4.8x188		
7	3707370		Diaphragm accumulator equipment 56.00-230-07, consisting of:	This equipment is only required for standard positioning of the REAL ³ valve in conjunction with Pro Control.	
7.1	3683390	1	Bracket 56.06-208-00.1		
7.2	1408850	1	Bulkhead union GES G1/2"A-12L		
7.3	0482750	1	Hose line 10x1000 2SN A RKA90		
7.4	0419600	2	Hexagonal screw M10x40 8.8		
7.5	0200520	2	Hexagonal nut M10 8		

2 Assembly and installation



For the hydraulic installation, the following instructions must be observed

- Before starting work on the hydraulic system, depressurize the system and secure it against restarting. To do so, refer to the operating instructions of the tractor.
 - Set up the drip trays ready to catch any residual oil that leaks.
 - Only use the supplied hose lines and fittings. These are designed to bear the load.
 - Avoid torsion. Hydraulic hoses must not be twisted in their routing.
 - First connect hydraulic lines "N RKA90" or "A RKN90" with the 90° end, then remove all possible torsion (twisting) of the hose lines. You can only connect the straight end after you have done this.
 - Avoid tensile and compressive loads on the hoses.
 - Route the hoses in such a way that there are no points where they bend or rub. Be especially mindful that the hoses are routed straight from the connecting points. A bend in the hose right by the connecting point may tear the hose.
 - Hydraulic hoses must be routed in such a manner that if a line breaks, nobody is endangered by the spraying hydraulic fluid. As such, do not route the hydraulic hoses through the driver's cab.
 - If the driver is not protected by the cab or other components, a minimum distance of one metre must be kept between the driver's body and the hydraulic lines. Install splash guard hoses if this distance cannot be provided. Also make sure it is still possible to open the front or rear windows! The safety of the driver must be guaranteed even if the pane is open!
 - Hydraulic hoses can be easily laid under the cab usually after removing the right-side rear wheel. Take account of the travel of the cab's suspension. Be especially careful that the hydraulic lines do not rub on the electrical lines that move through the cab's suspension!
 - The hydraulic lines are partially pre-assembled. The fittings are not tightened to avoid any unnecessary torsions as they are being installed. After routing the lines, retighten all of the screws!
-

STOLL recommends the following procedure for the mounting and installation work:

- (1) Check whether there is enough space for the additional REAL³ valve in the bracket area on the right mounting part.



The REAL³ valve adds at least 71 mm.

- Check whether space is available for the valve itself, the Hydro-Fix and the hose lines.

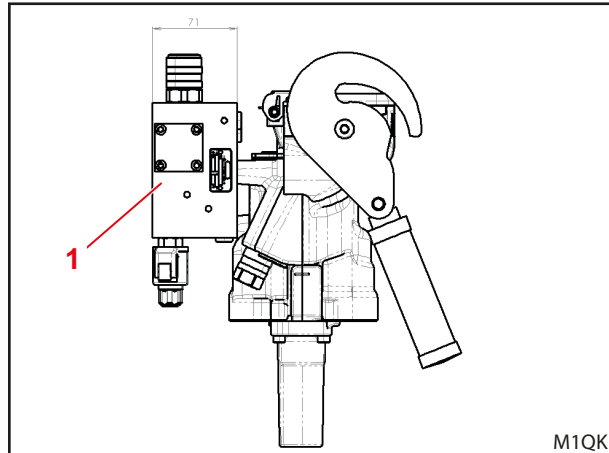


Fig. 2 Free space for the REAL³ valve

Legend

- 1 REAL³ valve

If there is enough space on the bracket of the right mounting part:

- (1) Prepare the REAL³ valve (see 2.1 *Preparing the REAL³ valve*).
- (2) Pre-assemble the valves (see 2.2 *Pre-assembling the valves*).
- (3) Connect the hydraulic system for the REAL³ valve to the proportional valve (see 2.3 *Connecting the hydraulic system of the REAL³ valve to the proportional valve*).
- (4) Install the valves on the bracket of the right mounting part (see 2.4 *Installing the valves on the bracket of the right mounting part*).
- (5) Connect the tractor's hydraulic lines (see 2.5 *Connecting the hydraulic lines of the tractor*).
- (6) For Pro Control: Install the diaphragm accumulator (see 2.6 *Installing the diaphragm accumulator*).
- (7) Install the electrical system (see 2.7 *Installing the electrics*).
- (8) For Pro Control: Do the programming (see installation instructions for Pro Control).
- (9) For load sensing hydraulic system: Pre-set the REAL³ valve (see 2.8 *Pre-setting the REAL³ valve*).

If there is not enough space on the bracket of the right mounting part (special positioning):

- (1) Prepare the REAL³ valve (see 2.9.1 *Preparing the REAL³ valve*).
- (2) Install the REAL³ valve at a suitable position (see 2.9.2 *Installing the REAL³ valve at a suitable position*).
- (3) Install the coupling sleeves on the proportional valve (see 2.9.3 *Installing the coupling sleeves on the proportional valve*).
- (4) Connect the hydraulic system for the REAL³ valve to the proportional valve (see 2.9.4 *Connecting the hydraulic system of the REAL³ valve to the proportional valve*).
- (5) Connect the tractor's hydraulic lines (see 2.5 *Connecting the hydraulic lines of the tractor*).
- (6) For Pro Control: Install the diaphragm accumulator (see installation instructions for Pro Control).
- (7) Install the electrical system (see 2.9.5 *Installing the electrics*).
- (8) For Pro Control: Do the programming (see installation instructions for Pro Control).
- (9) For load sensing hydraulic system: Pre-set the REAL³ valve (see 2.8 *Pre-setting the REAL³ valve*).

2.1 Preparing the REAL³ valve

2.1.1 Open-centre hydraulic system

Prepare the REAL³ valve:

- (1) Install the straight screw-in connectors on connections LS, P and T.
- ✓ The REAL³ valve is prepared.

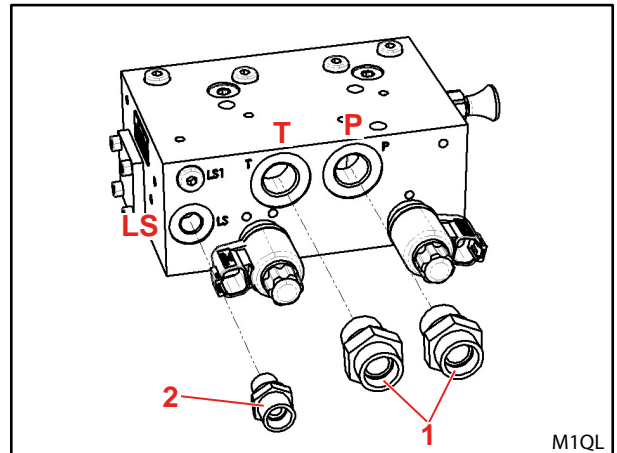


Fig. 3 Preparing the REAL³ valve (OC)

Legend

- 1 Straight screw-in connector WA GES 15L3/4-16UNF
- 2 Straight screw-in connector WA GES 10L9/16-18UNF

2.1.2 Load sensing hydraulic system

Prepare the REAL³ valve:

- (1) Remove the blind plug from LS1.
 - (2) Install the straight screw-in connectors on connections LS, LS1, P and T.
- ✓ The REAL³ valve is prepared.

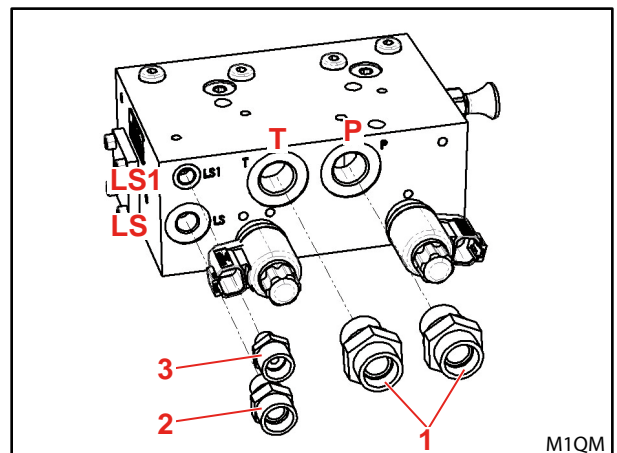


Fig. 4 Preparing the REAL³ valve (LS)

Legend

- 1 Straight screw-in connector WA GES 15L3/4-16UNF
- 2 Straight screw-in connector WA GES 12L9/16-18UNF
- 3 Straight screw-in connector WA GES 10LR1/8-WD

2.2 Pre-assembling the valves

Pre-assemble the valves:

- (1) Install 3 stud bolts with the short thread side on the proportional valve.
- (2) Push on the REAL³ valve, spacer plate and retaining plate.

i For Pro Control, position the controller bracket between the proportional valve and the REAL³ valve (see Fig. 6).

- (3) Fasten the valve unit above the stud bolt with 1 hexagonal nut M8.
- ✓ The valves are pre-assembled.

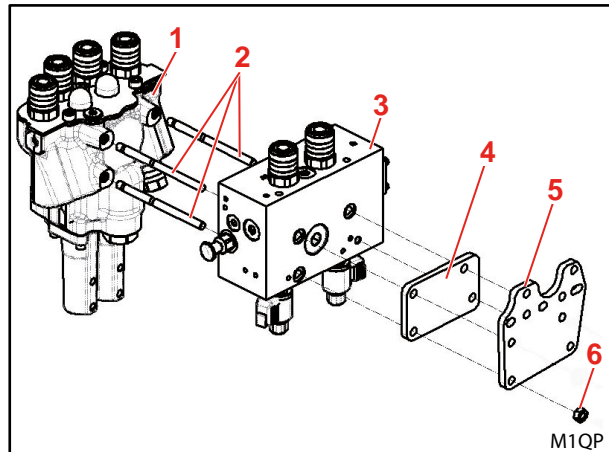


Fig. 5 Pre-assembling the valves – Base Control

Legend

- 1 Proportional valve
- 2 Stud bolt
- 3 REAL³ valve
- 4 Spacer plate
- 5 Retaining plate
- 6 Hexagonal nut M8

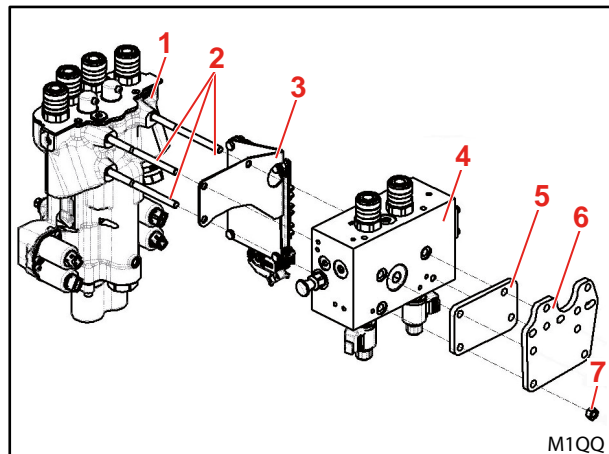


Fig. 6 Pre-assembling the valves – Pro Control

Legend

- 1 Proportional valve
- 2 Stud bolt
- 3 Controller bracket
- 4 REAL³ valve
- 5 Spacer plate
- 6 Retaining plate
- 7 Hexagonal nut M8

2.3 Connecting the hydraulic system of the REAL³ valve to the proportional valve

2.3.1 Open-centre hydraulic system

Connect the hydraulic system:

- (1) Install 1 straight screw-in connector with union nut on each connection P, T and T1 (PB) of the proportional valve (see also Fig. 9).

i Any screw-in connectors that were installed are no longer required.

- (2) Install 1 T-union and 1 adjustable elbow connector on each screw-in connector in connections P and T.

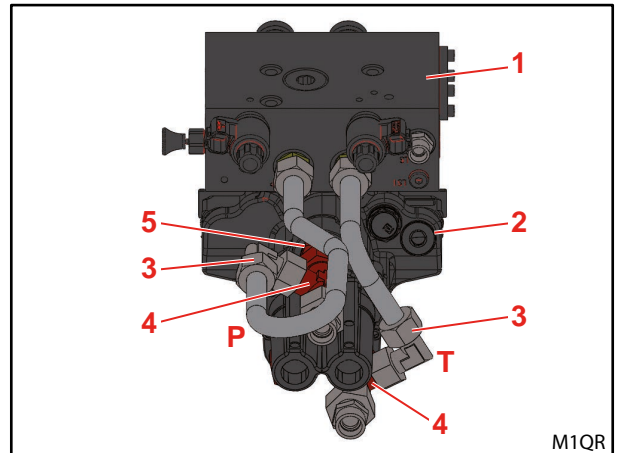


Fig. 7 Connecting tube lines P and T (OC)

Legend

- 1 REAL³ valve
- 2 Proportional valve
- 3 Adjustable elbow connectors WA EWSD 15L
- 4 T-union 18/18/15L
- 5 Straight screw-in connector WA EGESD 18LR 3/4-WD

- (3) Install 1 straight screw-in connector on each connection of the compensator valve.

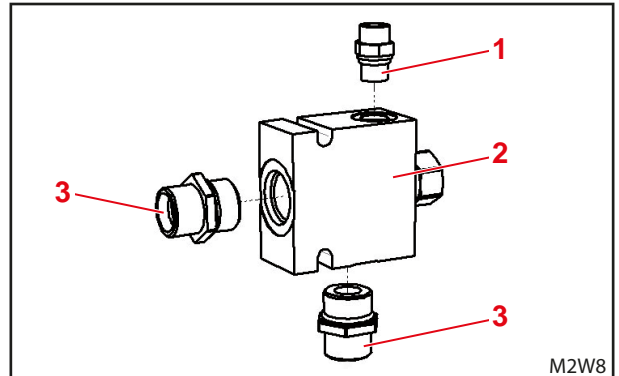


Fig. 8 Pre-assembling the compensator valve

Legend

- 1 Straight screw-in connector WA GES 10L9/16-18UNF
- 2 Compensator valve
- 3 Straight screw-in connector WA GES 18L 11/16-12 UNF

- (4) Install the compensator valve (connection 1) with 2 adjustable elbow connectors on the screw-in connectors in connection T1 (PB) of the proportional valve and align according to the available space.

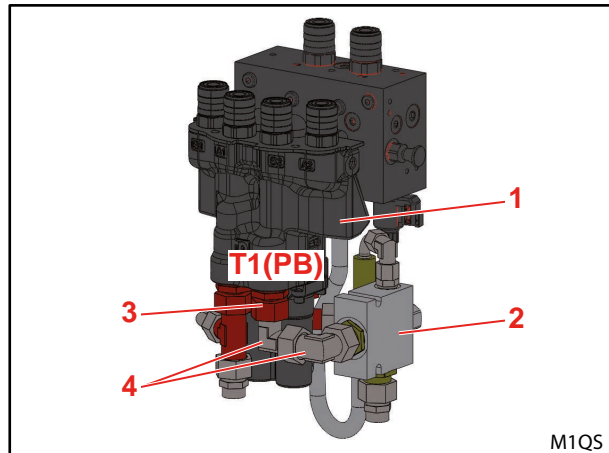


Fig. 9 Installing the compensator valve

Legend

- 1 Proportional valve
- 2 Compensator valve
- 3 Straight screw-in connector WA EGESD 18LR 3/4-WD
- 4 Adjustable elbow connectors WA EWSD 18L

- (5) Install tube line P on the elbow connector in connection P of the proportional valve and on the screw-in connectors in connection P of the REAL³ valve.
- (6) Install tube line T on the elbow connector in connection T of the proportional valve and on the screw-in connector in connection T of the REAL³ valve.
- (7) Install the hose line 8x400 on the screw-in connector in connection LS of the REAL³ valve and on the compensator valve (connection 3).

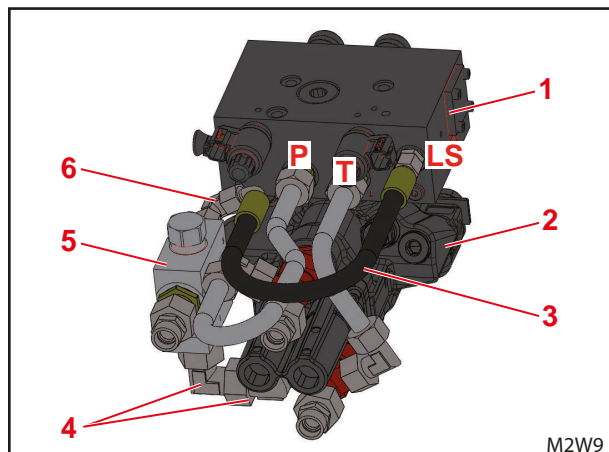



Fig. 10 Connected hydraulic system (OC)

Legend

- 1 REAL³ valve
- 2 Proportional valve
- 3 Hose line 8x400
- 4 Adjustable elbow connectors WA EWSD 18L
- 5 Compensator valve
- 6 Adjustable elbow connector WA EWSD 10L

 If necessary, use an adjustable elbow connector.

- ✓ The hydraulic system is connected.

2.3.2 Load sensing hydraulic system

Connect the hydraulic system:

- (1) Install 1 straight screw-in connector with union nut on each connection P and T of the proportional valve.

i Any screw-in connectors that were installed are no longer required.

- (2) Install 1 T-union and 1 adjustable elbow connector on each screw-in connector in connections P and T.
 - (3) Install 1 straight screw-in connector on connection LS of the proportional valve.
 - (4) Install tube line LS on the screw-in connector in connection LS of the proportional valve and on the screw-in connectors in connection LS1 of the REAL³ valve.
 - (5) Install tube line P on the elbow connector in connection P of the proportional valve and on the screw-in connectors in connection P of the REAL³ valve.
 - (6) Install tube line T on the elbow connector in connection T of the proportional valve and on the screw-in connector in connection T of the REAL³ valve.
- ✓ The hydraulic system is connected.

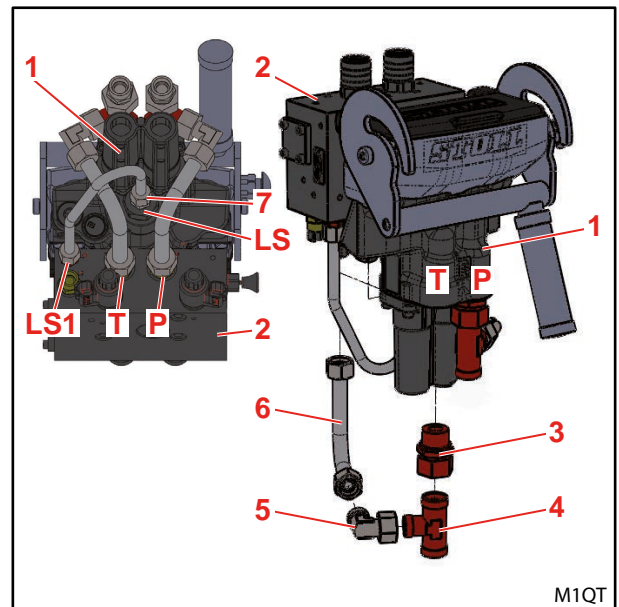


Fig. 11 Connecting the hydraulic system (LS)

Legend

- 1 Proportional valve
- 2 REAL³ valve
- 3 Straight screw-in connector WA EGESD 18LR 3/4-WD
- 4 T-union 18/18/15L
- 5 Adjustable elbow connector WA EWSD 15L
- 6 Tube line
- 7 Straight screw-in connector WA GES 10LR-WD

2.4 Installing the valves on the bracket of the right mounting part

Install the valves on the bracket of the right mounting part:

- (1) Hold the valves on the bracket of the right mounting part and determine the ideal mounting position.

i The valves can be installed in different positions (see Fig. 12).

- (2) Remove the retaining plate from the stud bolts.

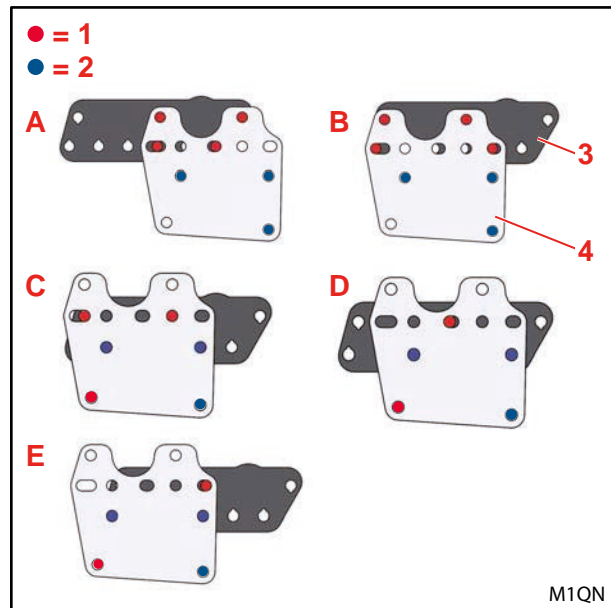


Fig. 12 Installation positions of the valves on the bracket of the right mounting part

Legend

- 1 Positions of the screws
- 2 Positions of the stud bolts
- 3 Bracket on the right mounting part
- 4 Retaining plate

- (3) Install the retaining plate in the desired installation position with hexagonal screws M8x30, washers, detent edged rings and hexagonal nuts on the bracket of the right mounting part.

i In doing so, the screw heads point towards the REAL³ valve (see Fig. 13).

Put the washers on the screw heads.

- (4) Install the valves over the stud bolts with hexagonal nuts on the retaining plate or retaining plate and bracket on the right mounting part.
 - (5) For installation positions C, D and E (see Fig. 12), install the valves additionally with 1 hexagonal screw M8x30 and 1 detent edged ring on the retaining plate.
- ✓ The valves are installed on the bracket of the right mounting part.

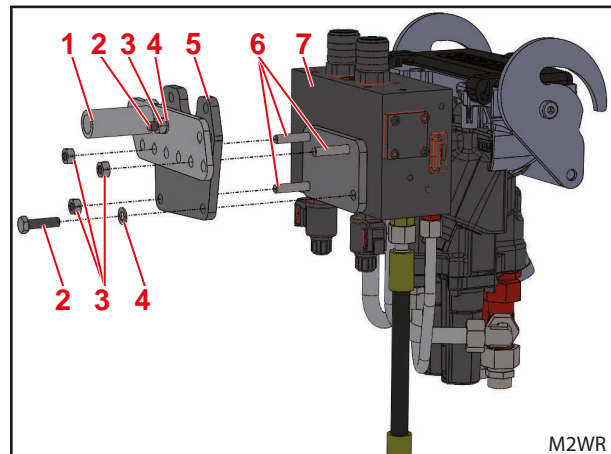


Fig. 13 Installing the valves on the bracket of the right mounting part (mounting variant D)

Legend

- 1 Bracket on the right mounting part
- 2 Hexagonal screws M8x30
- 3 Hexagonal nut M8
- 4 Detent edged rings VSK 8
- 5 Retaining plate
- 6 Stud bolt
- 7 REAL³ valve

2.5 Connecting the hydraulic lines of the tractor

2.5.1 Open-centre hydraulic system

Connect the tractor's hydraulic lines:

- (1) Install hose line P of the tractor on the T-union in connection P of the proportional valve.

Use a reducer screw connection if necessary.

- (2) Install hose line T of the tractor on the T-union in connection T of the proportional valve.

Use a reducer screw connection if necessary.

- (3) Install hose line T1 of the tractor on the compensator valve (connection 2).

Use a reducer screw connection if necessary.

✓ The tractor's hydraulic lines are connected.

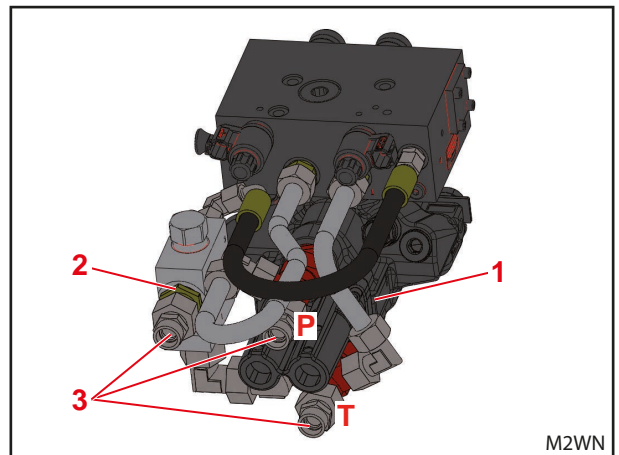


Fig. 14 Connecting the tractor's hydraulic lines (OC)

Legend

- 1 Proportional valve
- 2 Connection 2 of the compensator valve
- 3 Reducer screw connection WA REDSD 18/15L

2.5.2 Load sensing hydraulic system

Connect the tractor's hydraulic lines:

- (1) Install hose line P of the tractor on the T-union in connection P of the proportional valve.

Use a reducer screw connection if necessary.

- (2) Install hose line T of the tractor on the T-union in connection T of the proportional valve.

Use a reducer screw connection if necessary.

- (3) Install the hose line 10x250 on connection LS of the REAL³ valve.
- (4) Connect hose line LS of the tractor with hose line LS of the REAL³ valve.

The hose line LS of the REAL³ valve serves as an extension.

✓ The tractor's hydraulic lines are connected.

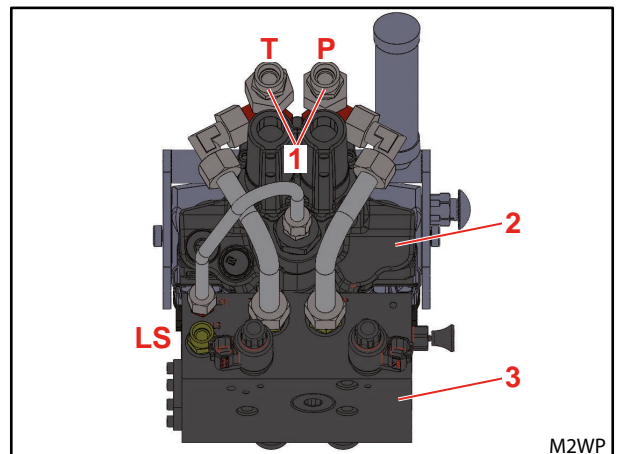


Fig. 15 Connecting the tractor's hydraulic lines (LS)

Legend

- 1 Reducer screw connection WA REDSD 18/15L
- 2 Proportional valve
- 3 REAL³ valve

2.6 Installing the diaphragm accumulator

⚠ WARNING
Risk of injury due to system under high pressure!

If the valve has already been in operation, the system is under pressure and there is a risk of injury.

- ▶ Depressurize the valve or use a valve that has not been in operation yet.

i When the standard installation of the diaphragm accumulator (see installation instructions of the front loader mounting kit) is not possible due to space problems, the installation must be performed as described below.

The diaphragm accumulator and the straight screw-in connectors are included in the Pro Control equipment.

Install the diaphragm accumulator:

- (1) Remove the locking screw from the connection of the proportional valve.
- (2) Screw the straight screw-in connector into the connection.
- (3) Install the bulkhead union on the diaphragm accumulator.
- (4) Push the bracket onto the bulkhead union and install the bulkhead union on the hose line.
- (5) Connect the hose line with the 90° end to the straight screw-in connector.
- (6) Install the bracket at a suitable position on the tractor with 2 hexagonal screws M10x40 and hexagonal nuts.

i Select the installation position of the bracket such that the diaphragm accumulator cannot collide with other components at any time.

- ✓ The diaphragm accumulator is installed.

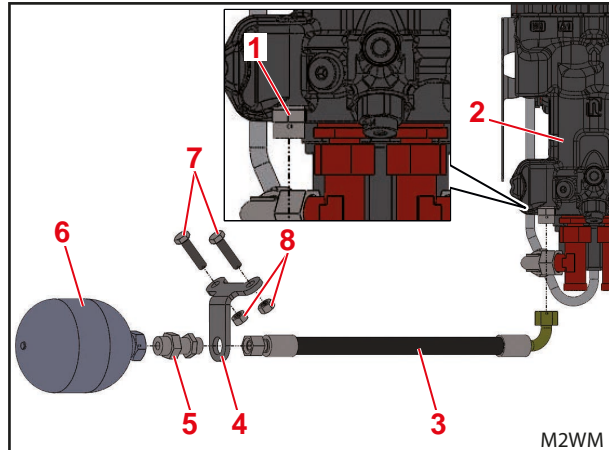


Fig. 16 Installing the diaphragm accumulator

Legend

- 1 Straight screw-in connector WA GES 12LR 1/4-WD
- 2 Proportional valve (Pro Control)
- 3 Hose line 10x1000
- 4 Bracket
- 5 Bulkhead union
- 6 Diaphragm accumulator
- 7 Hexagonal screws M10x40
- 8 Hexagonal nuts M10

2.7 Installing the electrics

i Disconnect the battery before performing any work on the electrical system. The battery may only be reconnected after completing the electrical installation.

Install the electrical system:

- (1) Connect the wiring harness to the REAL³ valve.

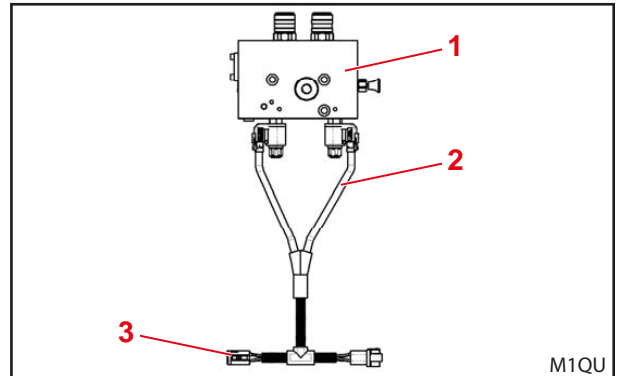


Fig. 17 Connecting the wiring harness

Legend

- 1 REAL³ valve
- 2 Wiring harness
- 3 8-pin plug connector

- (2) For Base Control:
 - Connect the 8-pin plug connector X2 to the wiring harness.
 - Establish the power supply via connected 12 V.

i If a FZ-L front loader is to be equipped with REAL³, additional parts are required since the original buttons cannot be used. For this, please contact STOLL Customer Service.

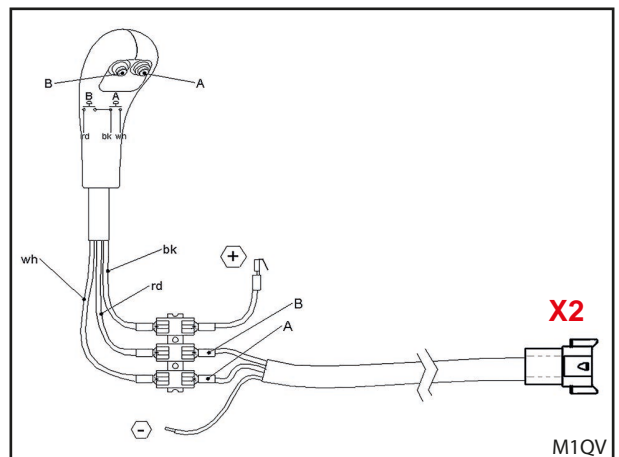


Fig. 18 Plug connector X2 (Base Control)

- (3) For Pro Control:
 - Disconnect plug connector X2 from the connected socket and insert the wiring harness via the 8-pin plug connector.

i If there is no socket, use the 8-pin plug connector X2 from equipment 3681720 (see 1.1 REAL³).

✓ The electrical system is installed.

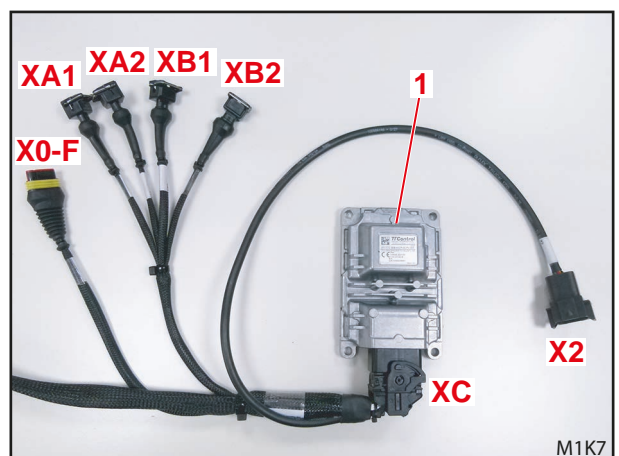


Fig. 19 Plug connector X2 (Pro Control)

Legend

- 1 Controller

2.8 Pre-setting the REAL³ valve

i The REAL³ valve only needs to be pre-set on tractors with a load sensing hydraulic system.

Replace the orifice with a plug:

i If the plug is not installed, it can lead to a significantly reduced lifting capacity on tractors with their own load-sensing pressure relief and with cold ambient temperatures, since the full load sensing signal is then not available.

- (1) Lower the front loader to the ground.
- (2) Switch off the tractor.
 - Apply the parking brake.
 - Stop the engine.
- (3) Depressurize the hydraulic system.
- (4) Remove the blind plug from connection INT with a 1/8" Allen key.
- (5) Remove the orifice with a 2-mm Allen key and replace with the supplied plug.
- (6) Using a 1/8" Allen key, screw the blind plug back into connection INT.
- ✓ The orifice has been replaced by the plug.

Check the hydraulic system:

- (7) Start the tractor.
- (8) Actuate the OPEN button or CLOSE button for the REAL³ function.
- (9) If an implement is mounted:
 - Raise the front loader slightly and move the implement to the end position to generate maximum pressure in the hydraulic system.
- (10) Release the button.

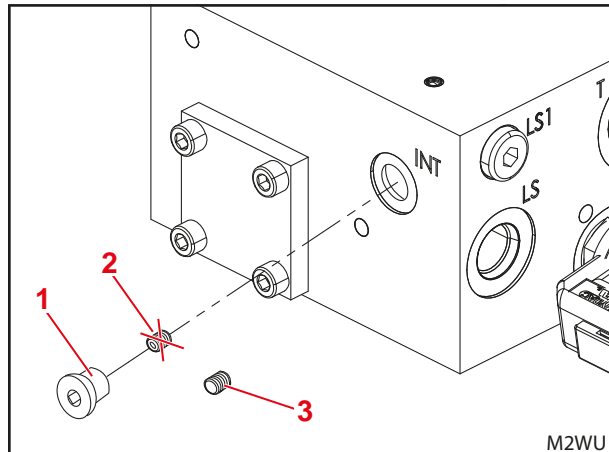


Fig. 20 Replacing the orifice with a plug

Legend

- 1 Blind plug
- 2 Orifice
- 3 Supplied plug

- (11) Check whether the tractor makes significant noise after releasing the button due to overpressure in the hydraulic system.



If clear determination is not possible, check the load-sensing pressure in hose line LS (extension) going towards the tractor.

After releasing the button, the pressure must drop to approx. 0 bar.

No clear noise = pressure has dropped = the tractor has its own load-sensing pressure relief:

- ✓ The hydraulic system has been checked.
- ✓ The REAL³ valve has been pre-set.

Clear noise = pressure has not dropped = the tractor does not have its own load-sensing pressure relief:

- (12) Remove the supplied plugs again and re-insert the previously replaced orifice.

- ✓ The hydraulic system has been checked.
- ✓ The REAL³ valve has been pre-set.

2.9 Special positioning of the REAL³ valve

2.9.1 Preparing the REAL³ valve

If the REAL³ valve cannot be installed in the intended position on the bracket of the right mounting part, small changes must be made to the installation:

Prepare the REAL³ valve:

- (1) Unscrew the existing coupling sleeves from the REAL³ valve.
 - (2) Screw in 2 adapters at 40 Nm.
 - (3) Install 2 straight screw-in connectors for the hose connections.
 - (4) Carry out the preparation as described in 2.1 *Preparing the REAL³ valve*.
- ✓ The REAL³ valve is prepared.

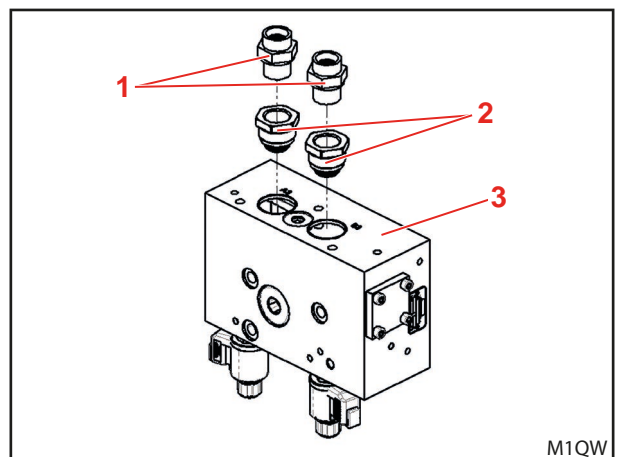


Fig. 21 Preparing the REAL³ valve (special positioning)

Legend

- 1 Straight screw-in connector WA GES 15LR-WD
- 2 Adapter
- 3 REAL³ valve

2.9.2 Installing the REAL³ valve at a suitable position



Position and install the REAL³ valve in a protected area, e.g. under the driver's cab.

- (1) Position the REAL³ valve such that all connections (hydraulic and electrical system) are accessible.
- (2) Make an customised mount to fasten the REAL³ valve.



Ideally, the pressure relief button should also be accessible.

2.9.3 Installing the coupling sleeves on the proportional valve

The coupling sleeves are installed on the proportional valve using the 2 supplied brackets.



Use screws of a suitable length for fastening.

Install the coupling sleeves on the proportional valve:

- (1) Align the bracket depending on the situation.
- (2) Insert 2 coupling sleeves in the bracket and secure with locknuts.
- (3) Install the bracket on the arm with 2 hexagonal screws M8x30, washers, detent edged rings, and hexagonal nuts.
- (4) Install the retaining plate and arm on the proportional valve with 3 hexagonal screws M8x25.
- (5) Connect the coupling sleeves with hose lines 12x the corresponding length (e.g. 12x1400) to connections A3 and B3 of the REAL³ valve.



The hose lines are not included in the scope of delivery.

- (6) Put the dust caps on the coupling sleeves.
- ✓ The coupling sleeves are installed on the proportional valve.

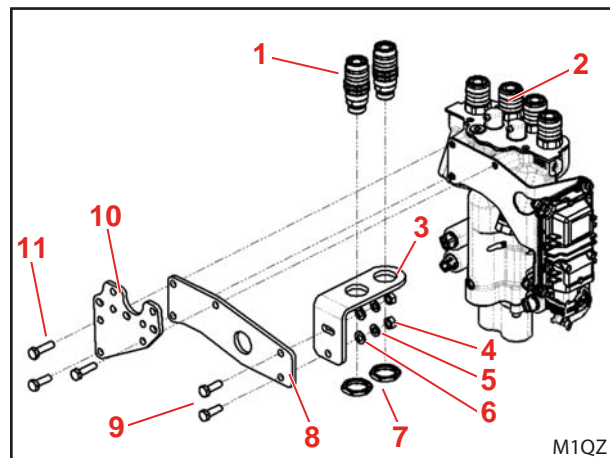


Fig. 22 Installing the coupling sleeves on the proportional valve

Legend

- | | |
|----|--------------------------|
| 1 | Coupling sleeves |
| 2 | Proportional valve |
| 3 | Bracket |
| 4 | Hexagonal nuts M8 |
| 5 | Detent edged rings VSK 8 |
| 6 | Washers 9 |
| 7 | Locknuts |
| 8 | Arm |
| 9 | Hexagonal screws M8x30 |
| 10 | Retaining plate |
| 11 | Hexagonal screws M8x25 |

2.9.4 Connecting the hydraulic system of the REAL³ valve to the proportional valve

- To connect the hydraulic system, see 2.3 *Connecting the hydraulic system of the REAL³ valve to the proportional valve.*

i The procedure for connecting the hydraulic system is similar to the procedure for the standard positioning of the REAL³ valve.

The only differences are in the use of the material:

- Instead of tube line P, use a hose line (12x the required length, e.g. 12x1400). This hose line is not included in the scope of delivery.
- Instead of tube line T, use a hose line (12x the required length, e.g. 12x1400). This hose line is not included in the scope of delivery.
- Instead of tube line LS, use a hose line (8x the required length, e.g. 8x1400). This hose line is not included in the scope of delivery.

2.9.5 Installing the electrics

i Disconnect the battery before performing any work on the electrical system. The battery may only be reconnected after completing the electrical installation.

- Install the electrical system as described in 2.7 *Installing the electrics.*

i For Pro Control, use the supplied extension cable if necessary.

- Observe the pin assignment of plug connector X2.

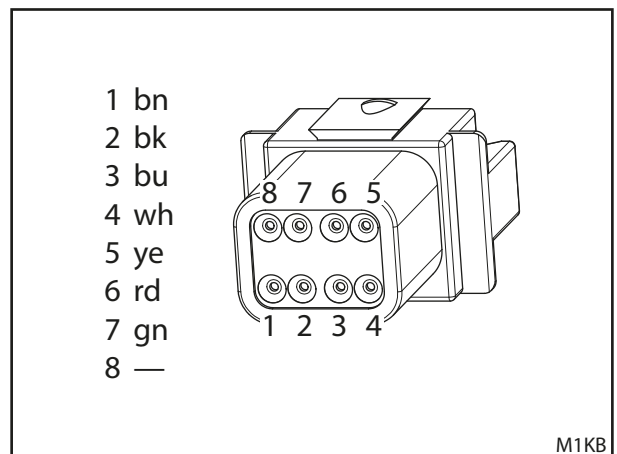


Fig. 23 Assignment of plug connector X2

Assignment of the wire colours to the contact numbers:

Front loader additional functions	Wire colour	8-pin plug connector Contact no.	7-pin socket Contact no.
4th control circuit	Brown (bn)	1	1
3rd control circuit	Black (bk)	2	2
Rapid emptying (FS+) or quick emptying (FZ-L)	Blue (bu)	3	3
Return To Level (FZ-L)	White (wh)	4	4
Comfort Drive	Yellow (ye)	5	5
Hydro-Lock (hydraulic implement locking mechanism)	Red (rd)	6	6
Ground	Green (gn)	7	7
	Blind plugs	8	

2.10 Tightening torque for screws

Tightening torque for screws						
Thread	Strength category					
	8.8		10.9		12.9	
	Nm	lb-ft	Nm	lb-ft	Nm	lb-ft
M4	3	2	4.5	3	5	4
M6	11	8	15	11	17	13
M8	27	20	36	27	42	31
M8x1	29	21	38	28	45	33
M10	54	40	71	52	83	61
M10x1.25	57	42	75	55	87	64
M12	93	69	123	91	144	106
M12x1.5	97	72	128	94	150	111
M12x1.25	101	74	133	98	155	114
M14	148	109	195	144	229	169
M14x1.5	159	117	209	154	244	180
M16	230	170	302	223	354	261
M16x1.5	244	180	320	236	374	276
M18	329	243	421	311	492	363
M18x2	348	257	443	327	519	383
M18x1.5	368	271	465	343	544	401
M20	464	342	592	437	692	510
M20x2	488	360	619	457	724	534
M20x1.5	511	377	646	476	756	558
M22	634	468	807	595	945	697
M22x2	663	489	840	620	984	726
M22x1.5	692	510	873	644	1022	754
M24	798	589	1017	750	1190	878
M24x2	865	638	1095	808	1282	946
M27	1176	867	1496	1103	1750	1291
M27x2	1262	931	1594	1176	1866	1376
M30	1597	1178	2033	1499	2380	1755
M30x2	1756	1295	2216	1634	2594	1913
5/8" UNC (normal)	230	170	302	223		
5/8" UNF (fine)	244	180	320	236		
3/4" UNC (normal)	464	342	592	437		
3/4" UNF (fine)	511	377	646	476		



Make sure that the threads are clean! The specified tightening torques are valid for screws and threads that are clean, dry and free of grease.



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