



Doosan Infracore
Portable Power

Service Letter

Field Modification

SL: 40028
Date: 17 September 2012
Product: Compressors
Subject: Engine Delivery Valve Assy Replacement (Y07)

PROCEDURE & WARRANTY GUIDELINES	
Repair Priority	Mandatory - Class A
Parts Required	Yes - Parts will be shipped free of charge
Parts Return	No - dispose of old parts
Parts Credit	No - parts are shipped free of charge
Labor Credit	Yes - One (1) hour and thirty (30) minutes
Travel Credit	Yes - Two (2) hours for retailed machines
Causal Part Number	333007A / 333007B / 333007C / 333007D
Warranty Code	Y07A / Y07B / Y07C / Y07D
DVP Application	No

MODEL	SERIAL NUMBER
7/26E, 7/31E, 7/41, 7/51, P260, P185	See page 7.

[Figure 1] and [Figure 2] Doosan Benelux SA has determined that the three and four cylinder engine delivery valve assy (Item 1) from the fuel injection pump of the compressors listed in this letter might leak fuel. This may result in an engine malfunction and therefore all three or four engine delivery valve assy need to be replaced.

Figure 1

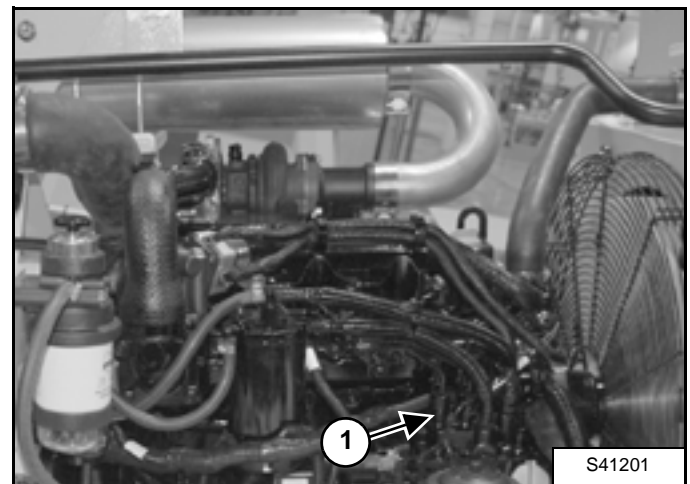
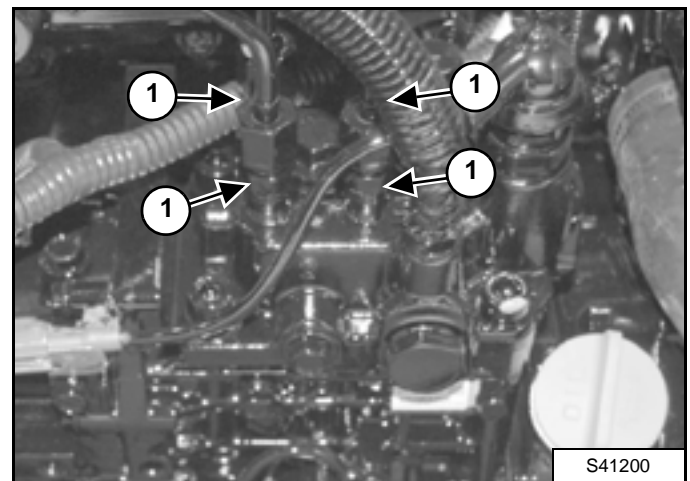


Figure 2



NOTE: 4 cylinder engine shown in [Figure 1] and [Figure 2].

Parts

QTY	P/N	MODEL	DESCRIPTION
1	333007A	7/26E, 7/31E	Kit of 3 x Engine Delivery Valve Assy (Green Colour Code)
1	333007B	7/41	Kit of 4 x Engine Delivery Valve Assy (Green Colour Code)
1	333007C	7/51, P260	Kit of 4 x Engine Delivery Valve Assy (Yellow Colour Code)
1	333007D	P185	Kit of 4 x Engine Delivery Valve Assy (Blue Colour Code)

The above parts will be shipped to you for each affected machine.

Doosan Benelux SA asks its dealers to contact all owners of affected machines and make arrangements for this modification and/or to modify all affected machines in their dealer inventory prior to delivery.

Procedure

Refer to the compressor service manual as necessary for details of procedures outlined below.

Park the machine in a secure, level, well-lit, and ventilated area.

Ensure that the engine is cold and that the machine cannot be started accidentally (for instance disconnect the negative battery terminal).

IMPORTANT

Do not attempt to maintain or adjust unless you are trained and have the correct equipment.

I-2028-0289

WARNING

AVOID INJURY OR DEATH

Diesel fuel or hydraulic fluid under pressure can penetrate skin or eyes, causing serious injury or death. Fluid leaks under pressure may not be visible. Use a piece of cardboard or wood to find leaks. Do not use your bare hand. Wear safety goggles. If fluid enters skin or eyes, get immediate medical attention from a doctor familiar with this injury.

W-2072-EN-0909

WARNING

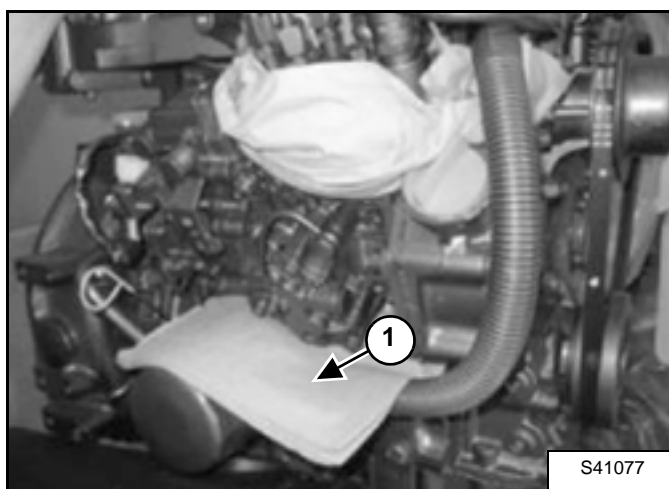
AVOID INJURY OR DEATH

Always clean up spilled fuel or oil. Keep heat, flames, sparks or lighted tobacco away from fuel and oil. Failure to use care around combustibles can cause explosion or fire.

W-2103-0508

NOTE: Some pictures shown further on might show a "3 cylinder engine" as they are general concept pictures.

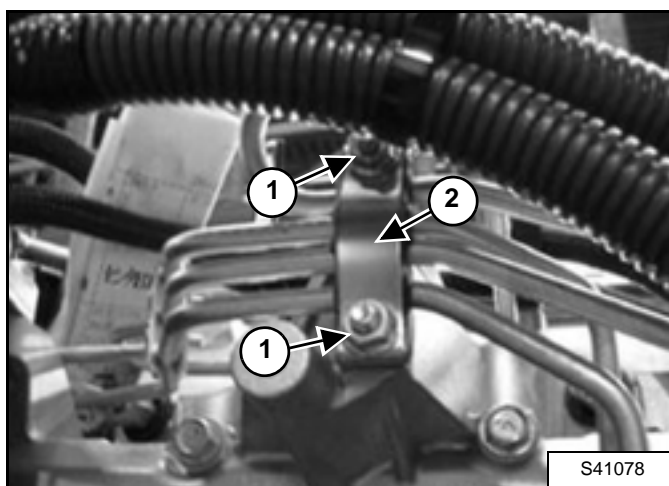
Figure 3



Remove contaminant with a brush. Use cleaning liquid and compressed air to prevent contaminant from entering the fuel system before removing the delivery valve holders.

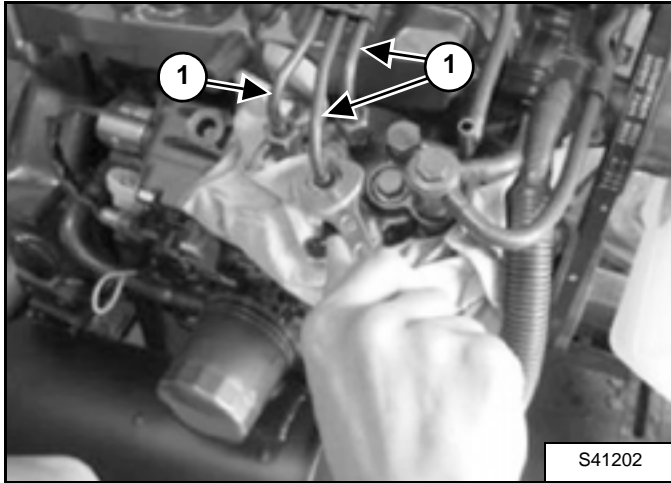
Put a rag (Item 1) [Figure 3] underneath the fuel injection pump to keep it clean and free from fuel.

Figure 4



Remove the two nuts (Item 1) and remove the clamp (Item 2) [Figure 4] from the high-pressure pipes.

Figure 5



Disconnect the high-pressure pipes (Item 1) [Figure 5] from the fuel injection pump and the injectors. Mark each high-pressure pipe with its relative position for reuse.

Disconnect and remove the high-pressure pipes (Item 1) [Figure 5] from the injectors.

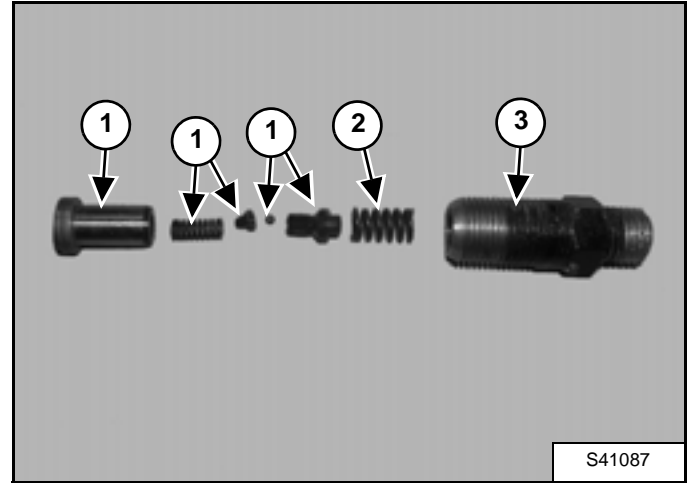
NOTE: Put the high-pressure pipes in a clean tray to keep them clean and protect them from dirt.

IMPORTANT

Do not bend the high pressure fuel injection tubes when removing or installing them.

I-2029-0289

Figure 7



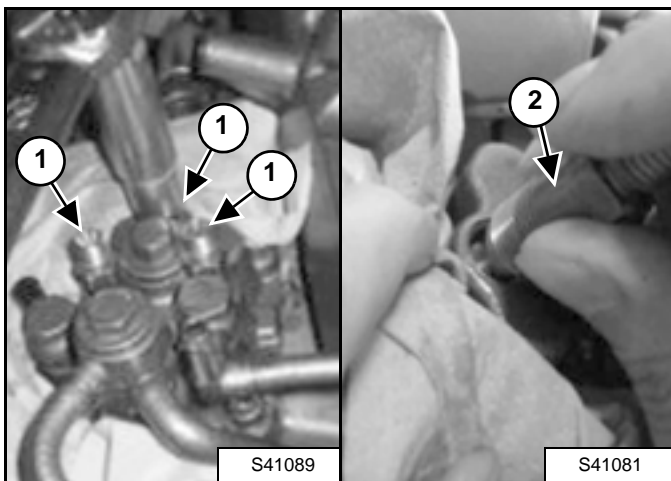
Tilt the delivery valve holder as shown (Item 2) [Figure 6] and remove the complete delivery valve assy (Item 1) together with the spring (Item 2) and the delivery valve holder (Item 3) [Figure 7]. Repeat this for each delivery valve assy, spring, and delivery valve holder.

NOTE: Contamination of any kind entering the holder mounting hole while removing the delivery valve assy will cause damage to the fuel injection pump.

NOTE: Use a magnet to retrieve small parts (e.g. ball) from the holder mounting hole(s).

Discard the complete delivery valve assy (Item 1) but keep each spring (Item 2) and delivery valve holder (Item 3) [Figure 7] in a clean tray for reuse.

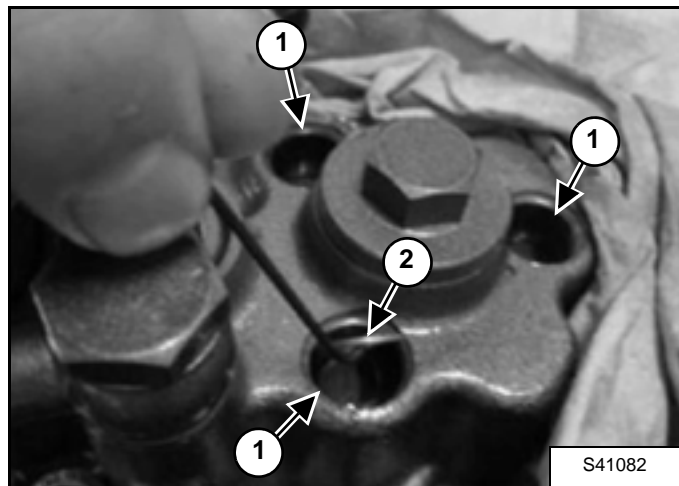
Figure 6



Loosen the delivery valve holders (Item 1) [Figure 6] one by one. Loosen 1/4 turn.

Loosen the delivery valve holders (Item 1) [Figure 6] one or two turns by hand. Clean and remove paint chips.

Figure 8



Remove the fuel inside the holder mounting holes (Item 1) with a plastic eye dropper. Remove the copper gaskets (Item 2) [Figure 8] from inside the holder mounting holes.

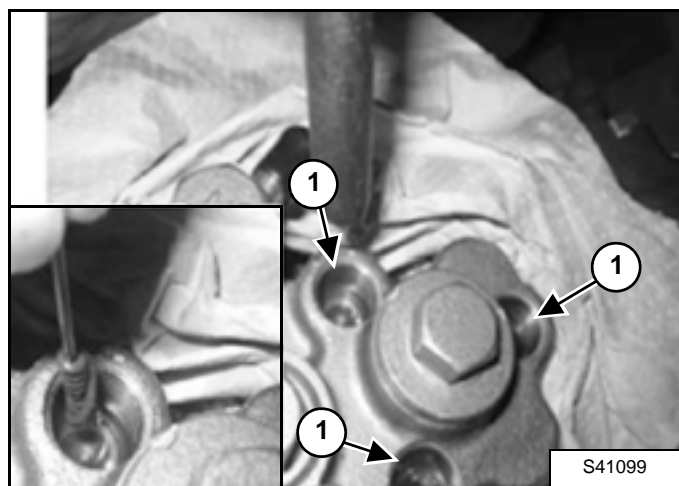
NOTE: Make sure to remove and discard all copper gaskets.

Visually check the holder mounting holes (Item 1) [Figure 8] for cracks, paint, or debris. Remove any paint or debris.

NOTE: If you cannot visually check with your eyes, use a mirror.

NOTE: DO NOT apply cleaning liquids. Paint might enter the fuel system or parts might get rusty.

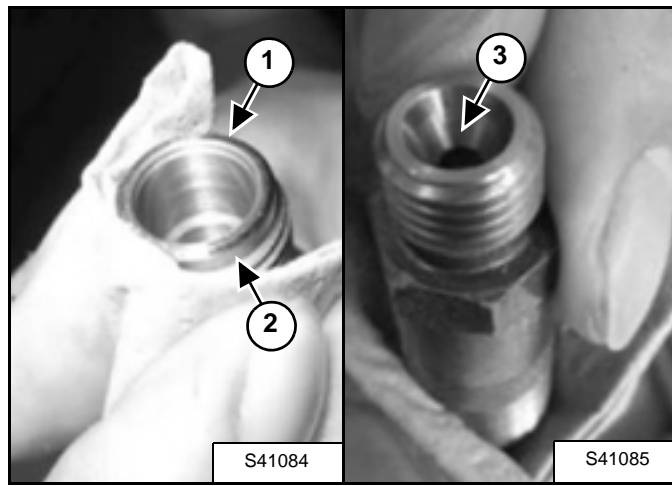
Figure 9



Insert one new copper gasket (supplied with the parts kit) in each holder mounting hole (Item 1) [Figure 9].

NOTE: Make sure the copper gaskets are properly seated (flat) in the holder mounting holes.

Figure 10



Use cleaning liquid to clean the delivery valve holder (Item 1) and remove any paint chips using soft paper. Clean the “delivery valve holder to high-pressure pipes” mating surface (Item 2) [Figure 10].

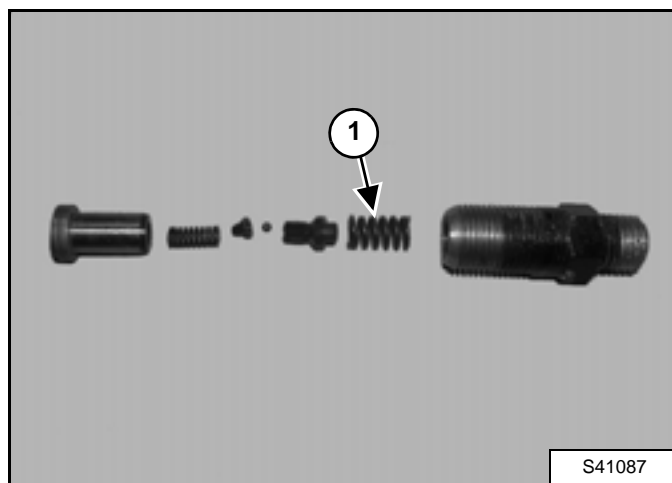
Check that there is no debris or scar on the “delivery valve holder to delivery valve assy” mating surface (Item 3) [Figure 10].

NOTE: Repeat this for all delivery valve holders.

Gently open the cap of the capsule (supplied with the parts kit) and remove the new delivery valve assy from the capsule.

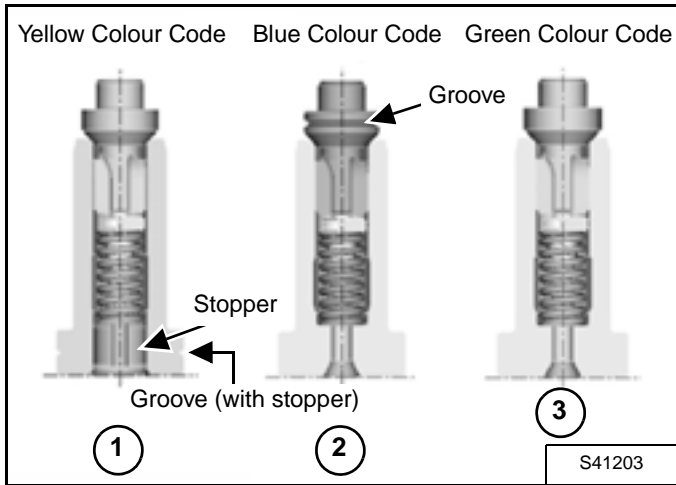
NOTE: If the new delivery valve assy sticks to the bottom of the capsule (due to adhesion with oil), tap the bottom of the capsule to easily remove the new delivery valve assy from the capsule.

Figure 11



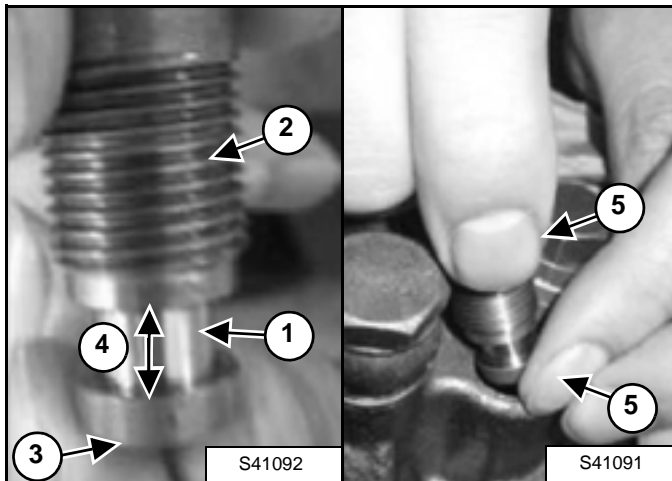
When the new delivery valve assy is separated, it needs to be re-assembled as shown in [Figure 11].

Figure 12



NOTE: Check if the delivery valve assy is the correct one because there are three types [with stopper (Item 1), 6 MPa straight with groove on top (Item 2), and 8 MPa straight (Item 3) [Figure 12]]. If there is no spring action, inner parts might be missing.

Figure 13



Install the new delivery valve assy (Item 1) in the delivery valve holder (Item 2) [Figure 13] (for all delivery valves).

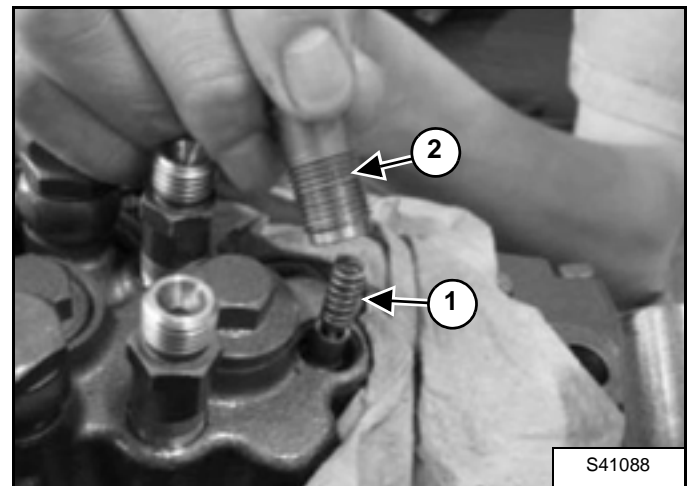
Check that there is spring (Item 1) [Figure 11] action at the valve end surface (Item 3) [Figure 13].

NOTE: There should be a clearance (Item 4) [Figure 13] when the spring is inside the holder.

Hold the delivery valve assy and delivery valve holder together with your fingers as shown (Item 5) [Figure 13], and screw them in the holder mounting hole. Repeat this for all delivery valves.

NOTE: There is a risk of dropping parts in the holder mounting hole when the delivery valve assy, spring, and delivery valve holder are reinstalled separately. If you drop small parts (ball) in a holder mounting hole, be sure to use a magnet to remove them.

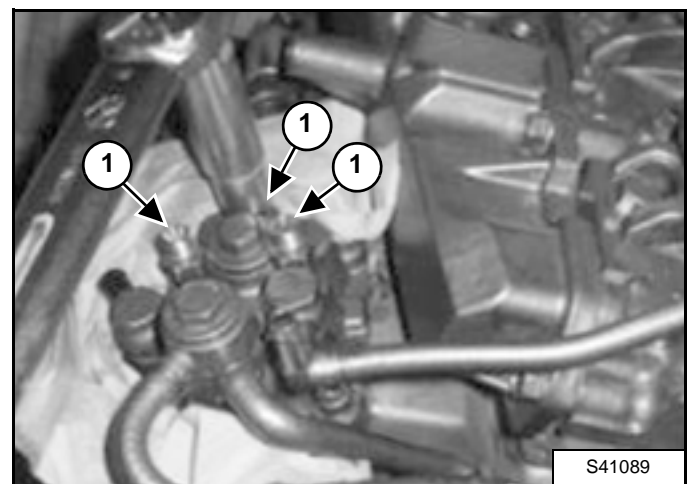
Figure 14



If it is too difficult to reach the holder mounting hole, install the parts as follows:

- Install the delivery valve assy in the holder mounting hole.
- Install the spring (Item 1) [Figure 14] on the delivery valve assy.
- Install the delivery valve holder (Item 2) [Figure 14].

Figure 15

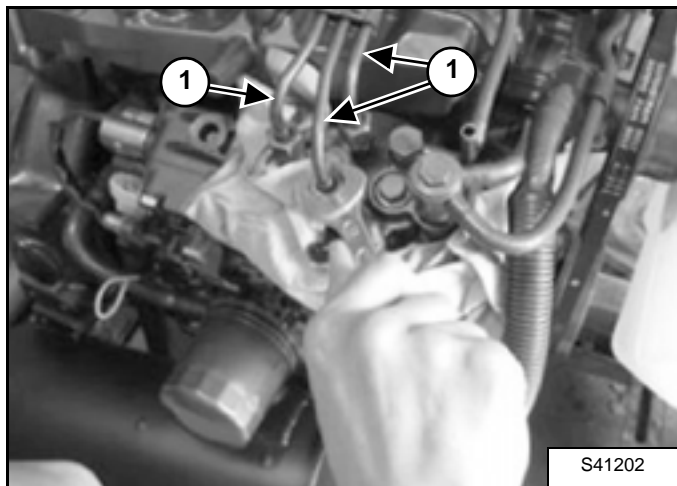


Tighten the delivery valve holders (Item 1) [Figure 15] by hand first and then to 45 N•m (33.2 ft-lb) torque with a torque wrench. Double-check the torque value each time.

Remove any paint chips or debris from the delivery valve holders. Clean up the fuel with a rag.

Make sure the mating surfaces of the high-pressure pipes and delivery valve holders are clean. Remove any paint or debris.

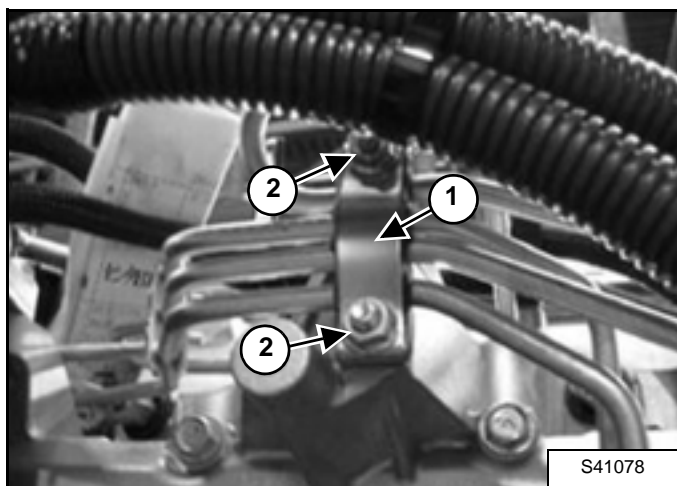
Figure 16



Install the high-pressure pipes (Item 1) [Figure 16] to the fuel injection pump and the injectors.

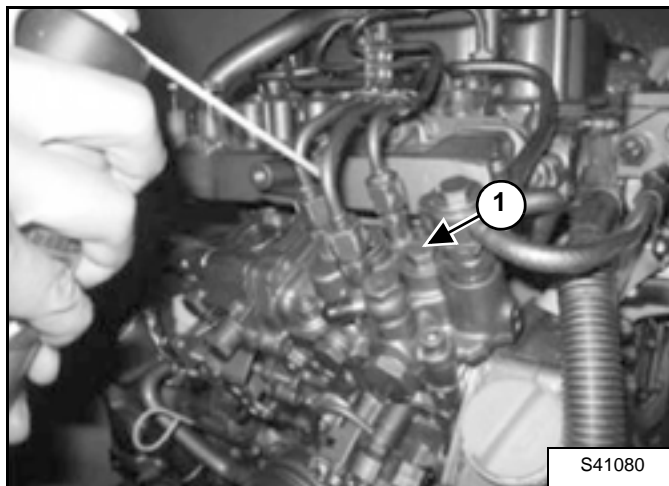
NOTE: First hand-tighten and then make sure the flare nuts of the high-pressure pipes are fully tightened on both sides, as otherwise there might be a risk of damaging the thread area and/or fuel leakage occurrence. Double-check the tightening of all flare nuts.

Figure 17



Reinstall the clamp (Item 1) and tighten the two nuts (Item 2) [Figure 17].

Figure 18



Degrease the fuel injection pump and engine using cleaning liquid [Figure 18].

Re-paint with spray as needed.

Using a permanent marker, put a mark on the barrel plug (Item 1) [Figure 18] to identify that the rework procedure was executed.

! WARNING

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W-2072-EN-0909

Test run the engine for 20 minutes and check for fuel leaks on the fuel injection pump and high-pressure pipes. Repair if needed.

MODEL	CAMPAIGN N°	SERIAL NUMBER
7/26E	Y07A	109085 thru 109088 109106 109112 109117 109120
7/31E	Y07A	322040 thru 322041 322047 322053 thru 322056 322059 thru 322061 322082 thru 322083 322088 322091 thru 322092 322094 thru 322095 322104 thru 322143 322153 322156 322164 thru 322166 322169 thru 322170 322176 322183 thru 322184 322187 thru 322189 322192 322203 thru 322208 322235 thru 322236 322243 thru 322244 322261 thru 322263 322265 322267 thru 322269 322273 322279 thru 322280 322282 thru 322285 322290 thru 322294 322300 thru 322301 322305 322307 thru 322309 322316 thru 322317 322320 322327

MODEL	CAMPAIGN N°	SERIAL NUMBER
7/41	Y07B	430886 thru 430887 430890 thru 430892 430924 thru 430944 430947 thru 430952 430959 430964 thru 430965 430972 430974 430976 431008 thru 431010 431012 431077 thru 431078 431129 thru 431132 431136 431158 431161 thru 431162 431171 431176 431191 431196 431200 thru 431201 431204 431210 431225 431227 thru 431228 431230 thru 431232 431234 thru 431236 431242
7/51	Y07C	443981 443986 thru 443988 444045 thru 444046 444087 444094 thru 444097 444099 thru 444100 444103 444109 thru 444110 444112 444114 444120 444125
P260	Y07C	435338 thru 435339 435729 435908 thru 435914 436243 thru 436249 436296 thru 436302 438095 thru 438096 438419 thru 438421 438877 thru 438883
P185	Y07D	435704 thru 435710