

Hydraulic Test Program – Component Locations

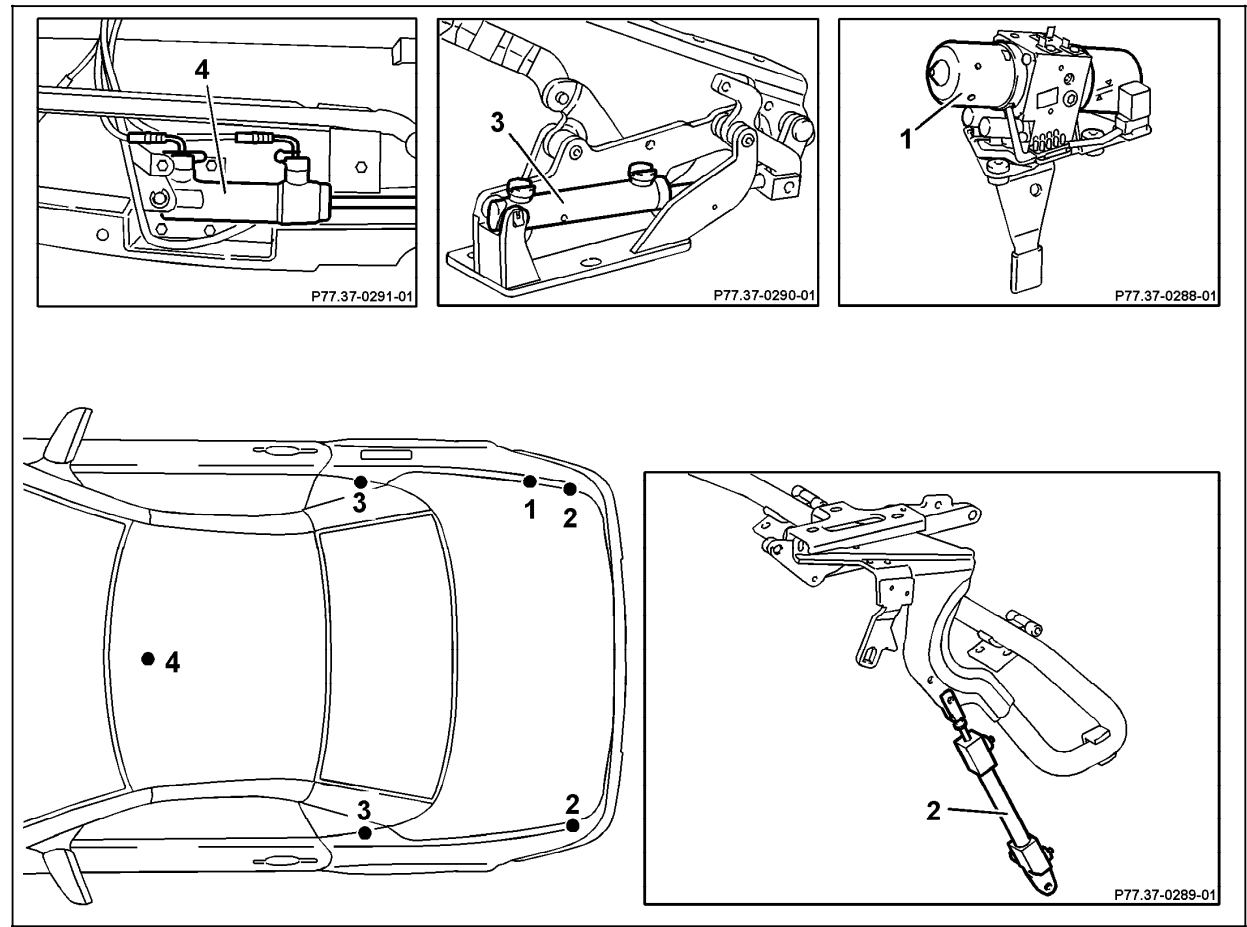


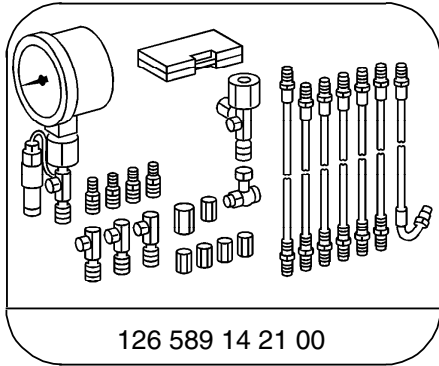
Figure 1

- 1 A7/5 Retractable hardtop hydraulic unit
- 2 Left/right trunk lid hydraulic cylinder
- 3 Left/right retractable hardtop actuation hydraulic cylinder
- 4 Front latch hydraulic cylinder

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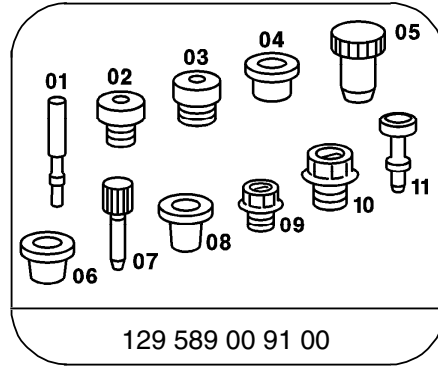
Hydraulic Test Program – Preparation for Test

Special Tools



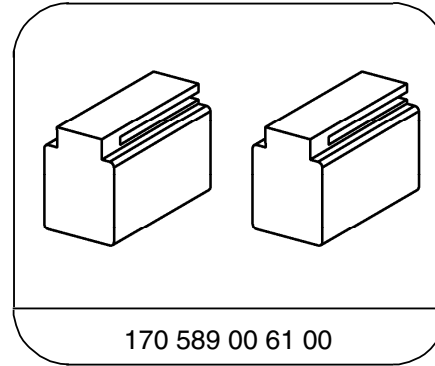
126 589 14 21 00

Tester



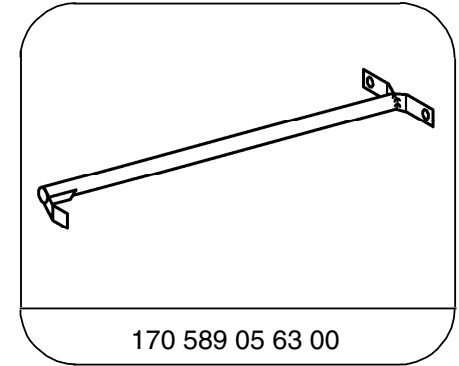
129 589 00 91 00

Set of plugs



170 589 00 61 00

Stop for Vario roof



170 589 05 63 00

Assembly support for Vario roof

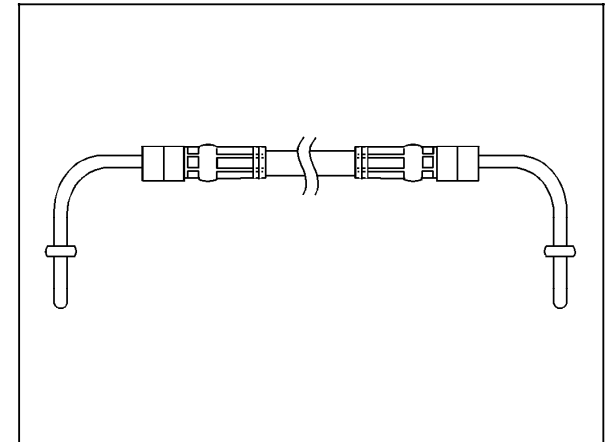
Conventional tools, test equipment

Description	Brand, model, etc.
Graduated beaker (0.5 liter, 10 ml graduations)	local purchase

Hydraulic Test Program

Hydraulic test line

Part number 129 806 34 83



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Figure 2

## Hydraulic Test Program – Preparation for Test

### Risk of personal injury

Risk of personal injury (pinching/crushing) while working (loosening or removal) of pre-tensioned components. Use only approved special tools, tensioning devices, stops etc. in order to prevent serious injury. Visually inspect special tools for proper condition/function and possible damage prior to use. When using spring compressor tools, it is important that the spindle is not used in a damaged condition, that the threads are clean and proper. The spring plates are to be straight and not bent in any fashion. Note the assembly location of each spring plate and that the tightening nut threads are compatible and clean to the spindle. **Do not** use an impact tool to loosen or tighten the spring compressor tool nut. Wear safety gloves.

Risk of personal injury (pinching/crushing) while working on partially opened retractable hardtop. The **rest mode** is the interruption of the opening or closing sequence of the retractable hardtop, if the switch (S84) is released while being used to open or close the hardtop.



The **rest mode** holds the partially opened or closed retractable hardtop in this position for 7 seconds, thereafter the system is de-pressurized and depending on the position, the hardtop will come to rest upon itself. The danger of personal injury (pinching/crushing) exists if the work that is being carried out without first using the special tools to safely support the hardtop. Please review and use the special tools as mentioned in 33

Risk of personal injury (pinching/crushing) and in extreme cases loss of limbs or fingers, while working with components that are actuated either by hand, electrically via motors, hydraulically or pneumatically via connecting mechanical components, by reaching into moving components or mechanical units.

It is important that limbs, fingers and body parts be kept away from the operating areas of the moving components, especially if the components are actuated via the HHT or directly via circuit 30. Ensure that the test cables are of proper length, to prevent entanglement.

Keep clear of the retractable hardtop frame and linkage, upper part of the windshield and trunk lid during any retractable hardtop operation.

Before beginning the test, check the oil level in the hydraulic unit reservoir and top up if needed (refer to the Maintenance Manual).

In order to make accurate visual inspection for oil loss from the hydraulic system, the trim panels covering the hydraulic components must be removed.

The front latch can be locked or unlocked using the special tool provided with the vehicle for manual hardtop operation. The trunk can be unlocked using pull cables (refer to Owners Manual).

The hydraulic circuits and components for each operation of the hardtop can be tested separately.


Lastly, it is important to wear safety gloves when performing the tests.

## Hydraulic Test Program – Test

### Notes for Hydraulic Test:

#### The following jobs are the same for all test steps:

- A. Connection of test equipment to hydraulic unit (Figure 3).
- B. Test the hydraulic cylinders only at the piston's end position (prevents movement).
- C. If the hydraulic lines need to be disconnected during pressure tests, the appropriate end position of the hydraulic cylinder must be first ensured.
- D. All necessary hardtop positions can be achieved by pressing the retractable hardtop switch (S84) or by pulling the hardtop manually (Ignition: **OFF**).

 In order to move the retractable hardtop manually, the emergency operation relief valve on the hydraulic unit must be open all the way to a stop position using the allen wrench provided with the vehicle, refer to "N" in Figure 3). The emergency operation relief valve must be then closed (**tightening torque approx.: 3 Nm**).



**The emergency operation relief valve can only be open with retractable hardtop closed or in open/stored position and with the ignition switch in OFF. If this is not adhered to, the seal on the valve could be damaged, which would in turn hinder building up the operating pressure in the hydraulic system.**





The hydraulic cylinders (3 and 4, Figure 8) will lose all the pressure during manual movement of the retractable hardtop. If the hardtop is in the closed position, the retractable hardtop switch (S84) must be pressed toward front (close) for 5 sec. in order to build up the pressure in the cylinders again.

If the hydraulic cylinders are without hydraulic pressure and the retractable hardtop switch (S84) is pressed towards back (open position), the retractable hardtop will open rapidly. This could cause damage to the hardtop itself and to the components in the trunk/storage area.

#### Releasing the test pressure.

If the retractable hardtop comes to the end position (open/stored or closed) by pressing the retractable hardtop switch, the hydraulic pressure must be released from the system before disconnecting any hydraulic lines. To achieve that, the ignition switch must be in the OFF position and the relief valve on the hydraulic unit ("N", Figure 3) must be open all the way to the stop position. The pressure should drop in a short time, as observed on the pressure gauge. Place a shop towel around the hydraulic lines to be disconnected to avoid hydraulic oil spills when removing hydraulic lines. Additionally the ports must be plugged off using the necessary plug. The removed hydraulic lines should be placed in a container as well.

 **For plugging the entry ports on the hydraulic unit during the pressure tests, the plugs - part number 129 589 00 91 01 must be used.**

 To use the pressure gauge after setting the hardtop to the desired position at the test steps ⇒ 2.0, 3.0, 5.0, 5.1, 5.2, 7.0, 7.1, 8.0, 8.1, 8.2, 8.3, 8.4, the trunk lid must be open via trunk lid lock and the rotary latch moved (using a small screwdriver) to a **locked** position. Before closing the lid, the rotary latch **open** position must be restored by pressing the lock button.

If hydraulic components need to be replaced, the disconnected hydraulic lines must be plugged with plug 129 589 00 91 07, while the ports on hydraulic unit must be plugged **immediately** using plug 129 589 00 91 11 to prevent the possible entry of dirt.

Hydraulic Test Program – Test

Connection Diagram - Pressure Gauge to Hydraulic Unit

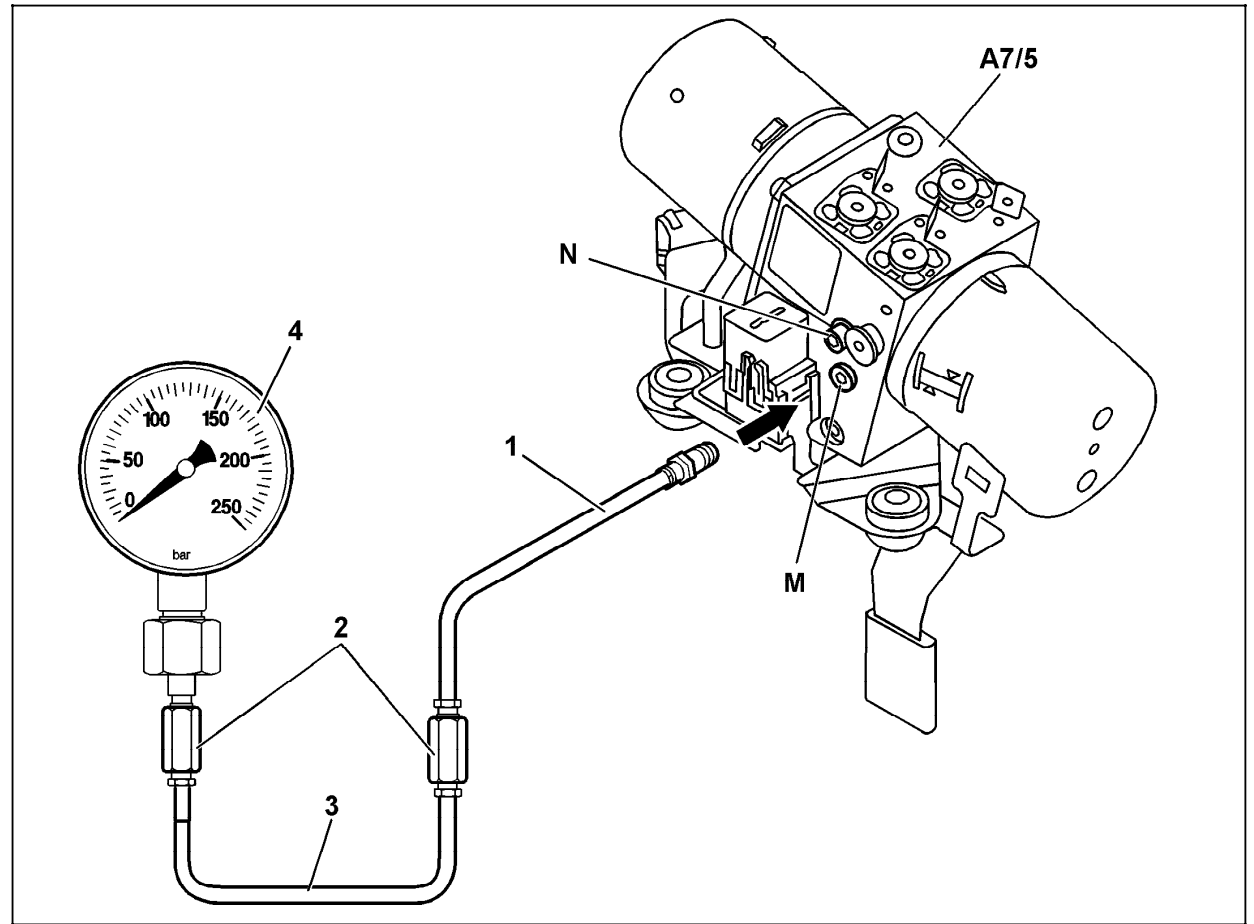


Figure 3

- Adaptor kit 126 589 14 21 00
- 1 Test pressure line M8x1 - M10x1, 350 mm long
- 2 Joint coupling connector
- 3 Test pressure line M8x1 - M10x1, 3000 mm long
- 4 Pressure gauge
- A7/5 Retractable hardtop hydraulic unit
- M Testing port
- N Emergency operation relief valve

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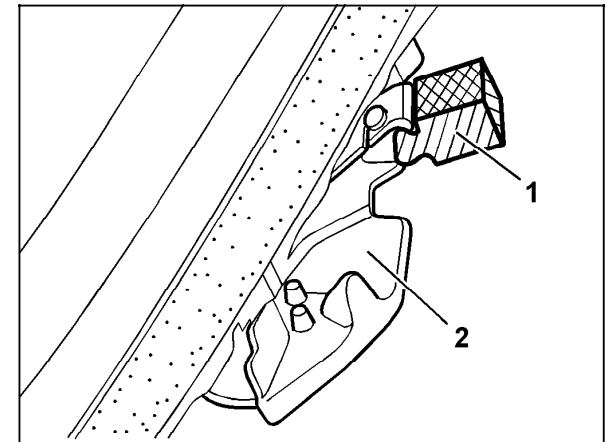
### Hydraulic Test Program – Test

#### Use of retainer

- 1 Place retainer (1) into catch (2) of the front lock.
- 2 Move retractable hardtop all the way until it is blocked by the retainer (1).
- 3 Carry out test step.

Figure 4

- 1 Retainer 170 589 00 61 00
- 2 Catch



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Hydraulic Test Program – Test

Latches for tubular frames in trunk

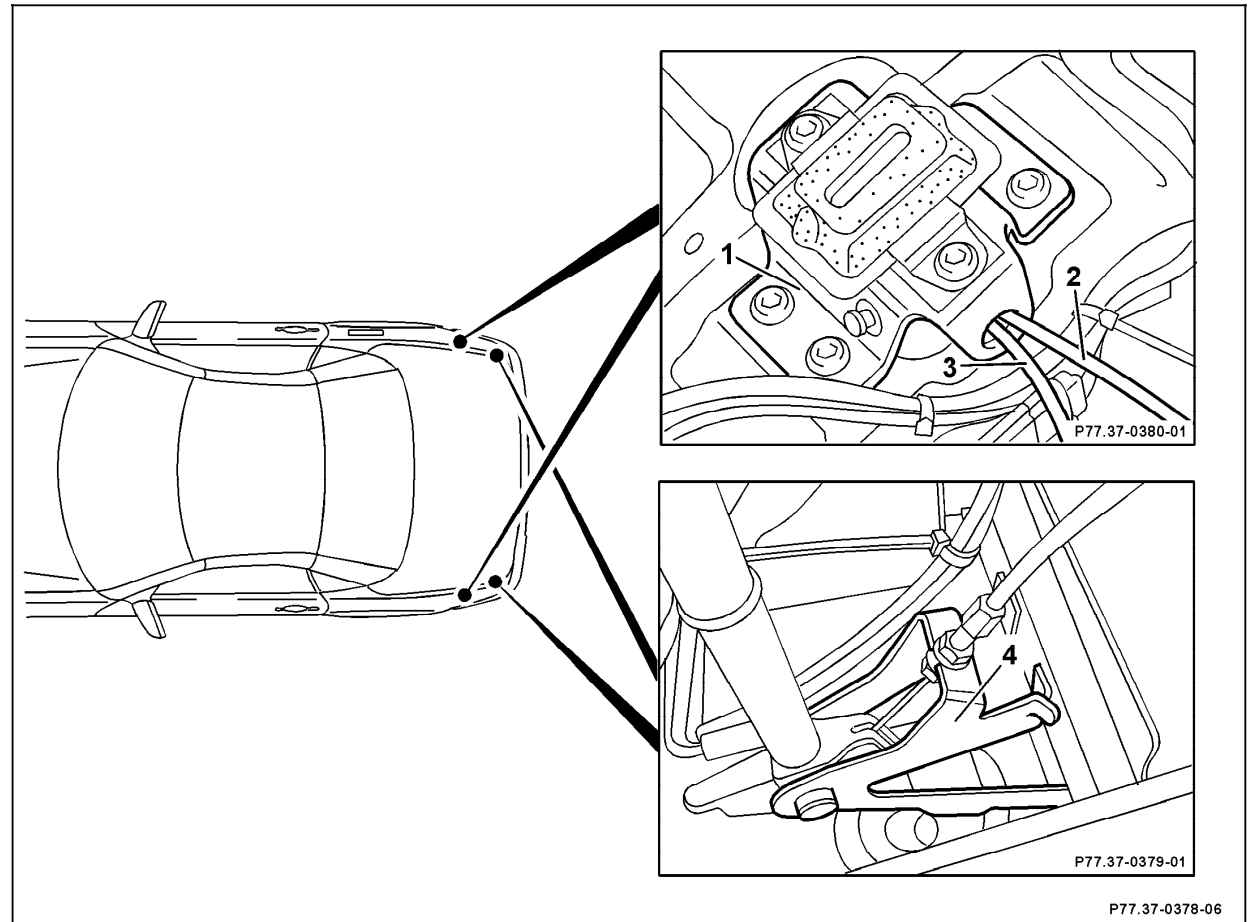


Figure 5

- 1 Tubular frame latch
- 2 Pull cable for emergency opening
- 3 Bowden cable for latch unlocking via hydraulic cylinder
- 4 Connection between hydraulic cylinder and bowden cable in the console

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Hydraulic Test Program – Test

Locking on the C-pillar

View as seen from inside and from outside

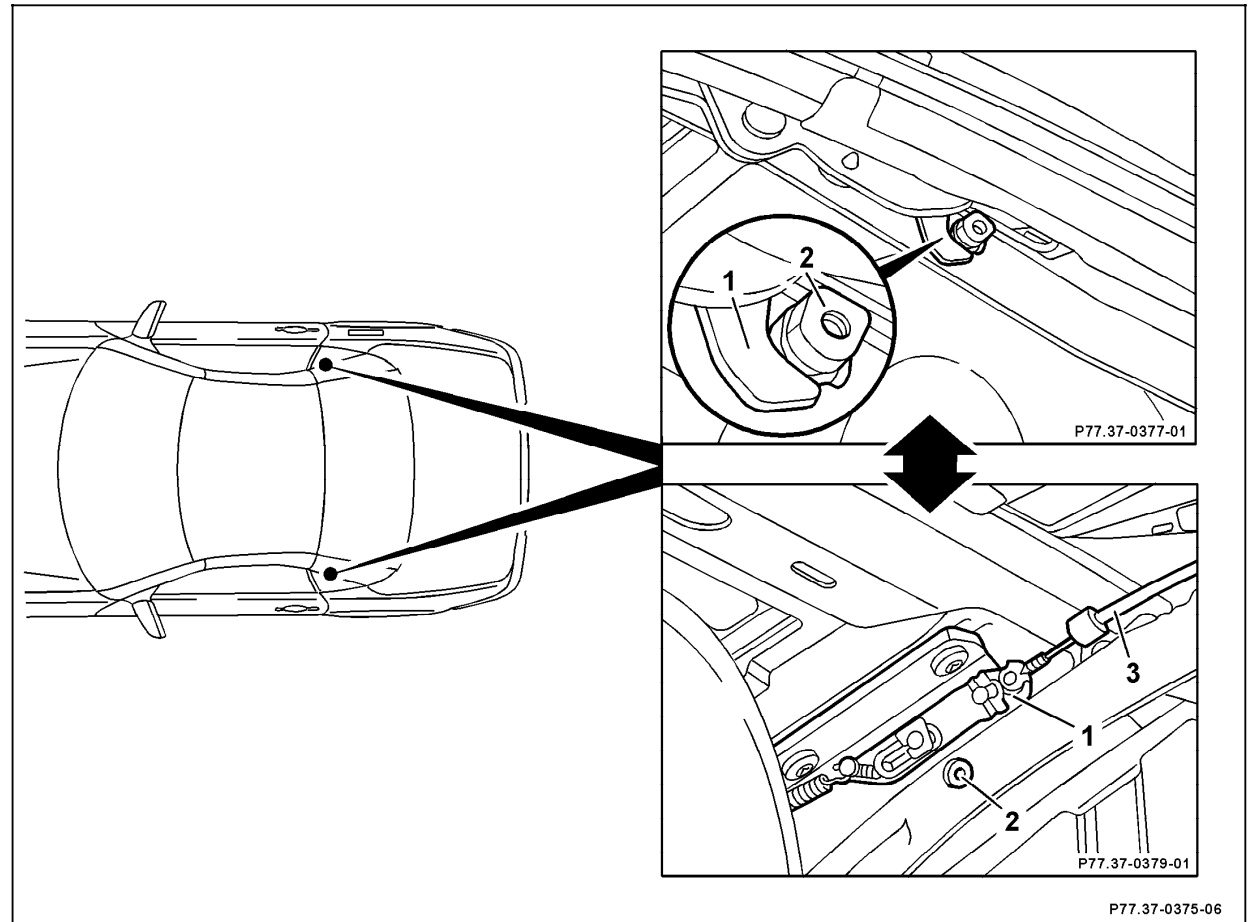


Figure 6

- 1 Slide
- 2 Eccentric catch
- 3 Bowden cable

Hydraulic Test Program – Test

Connection diagram of Retractable Hardtop (RH) hydraulic cylinders

Retractable Hardtop

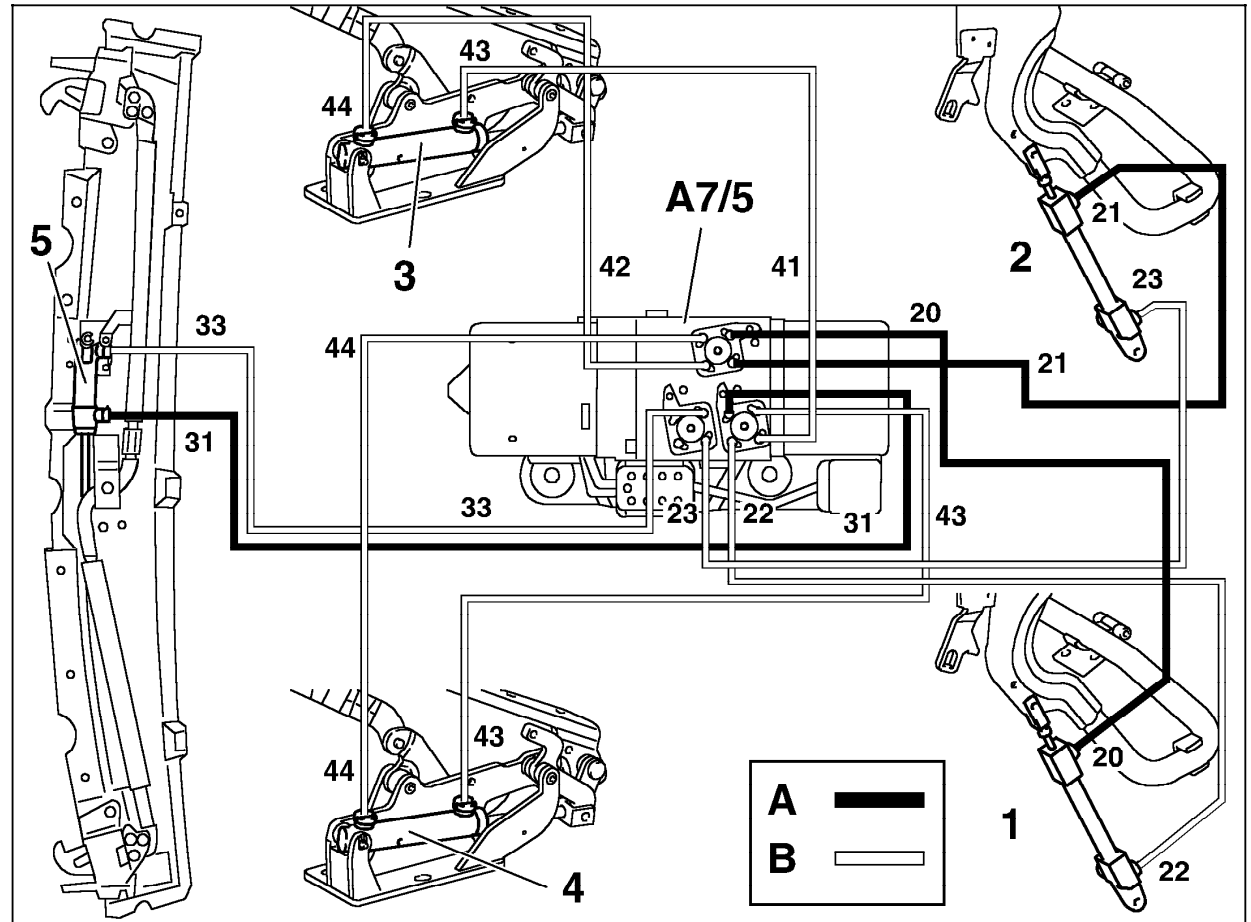


Figure 7

- 1/2 Left/right trunk lid actuation hydraulic cylinder
- 3/4 Left/right retractable hardtop actuation hydraulic cylinder
- 5 Front hydraulic cylinder lock
- A7/5 Hydraulic unit
- A Retractable hardtop hydraulic circuit
- B Control pressure line

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Hydraulic Test Program – Test

Hydraulic circuit with hydraulic cylinders shown

(Retractable Hardtop closed)

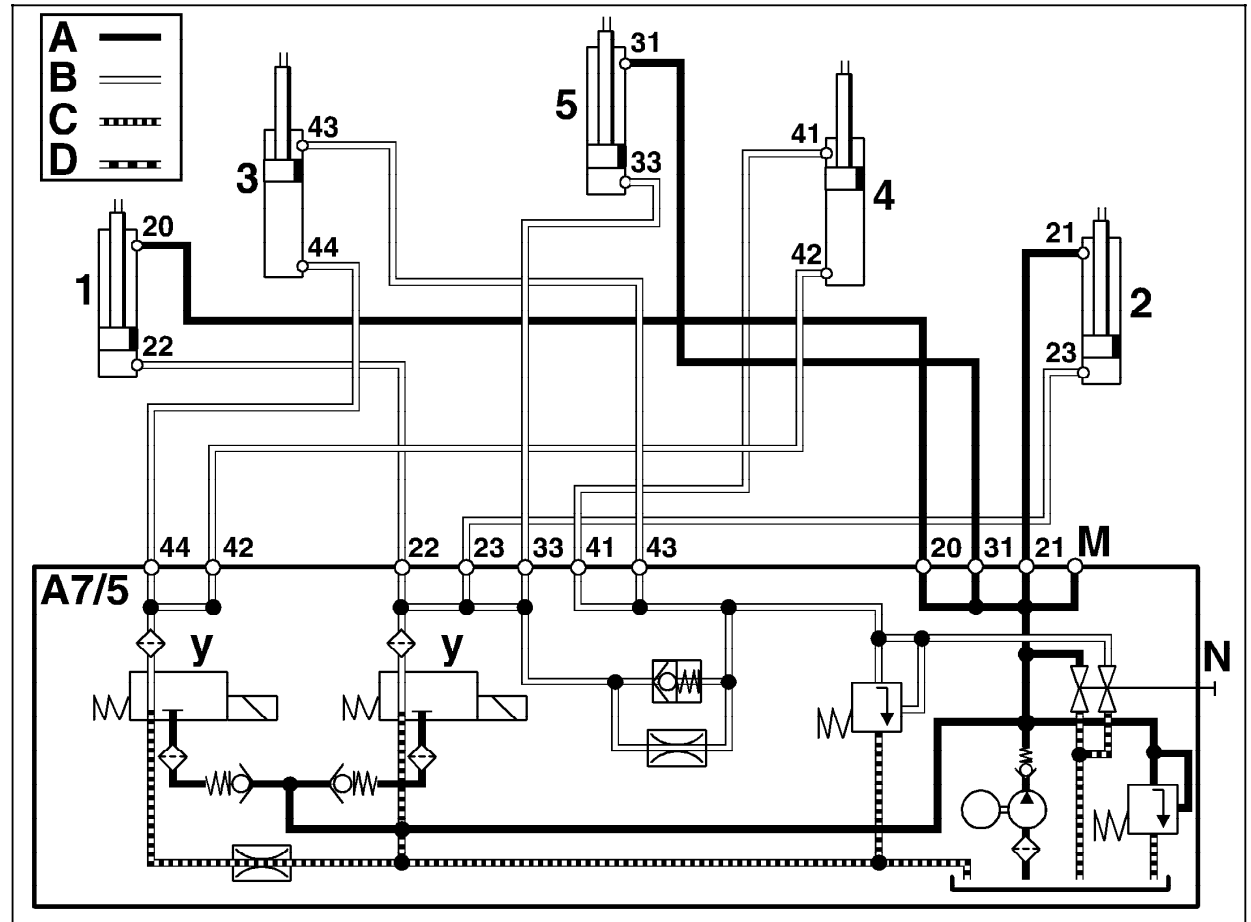


Figure 8

- 1/2 Left/right trunk lid actuation hydraulic cylinder
- 3/4 Left/right retractable hardtop actuation hydraulic cylinder
- 5 Front hydraulic lock cylinder
- A7/5 Hydraulic unit
- y1 Retractable hardtop solenoid valve
- y2 Trunk lid solenoid valve
- A Retractable hardtop hydraulic circuit
- B Control pressure line
- C Return line
- D Suction line

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## Hydraulic Test Program – Test

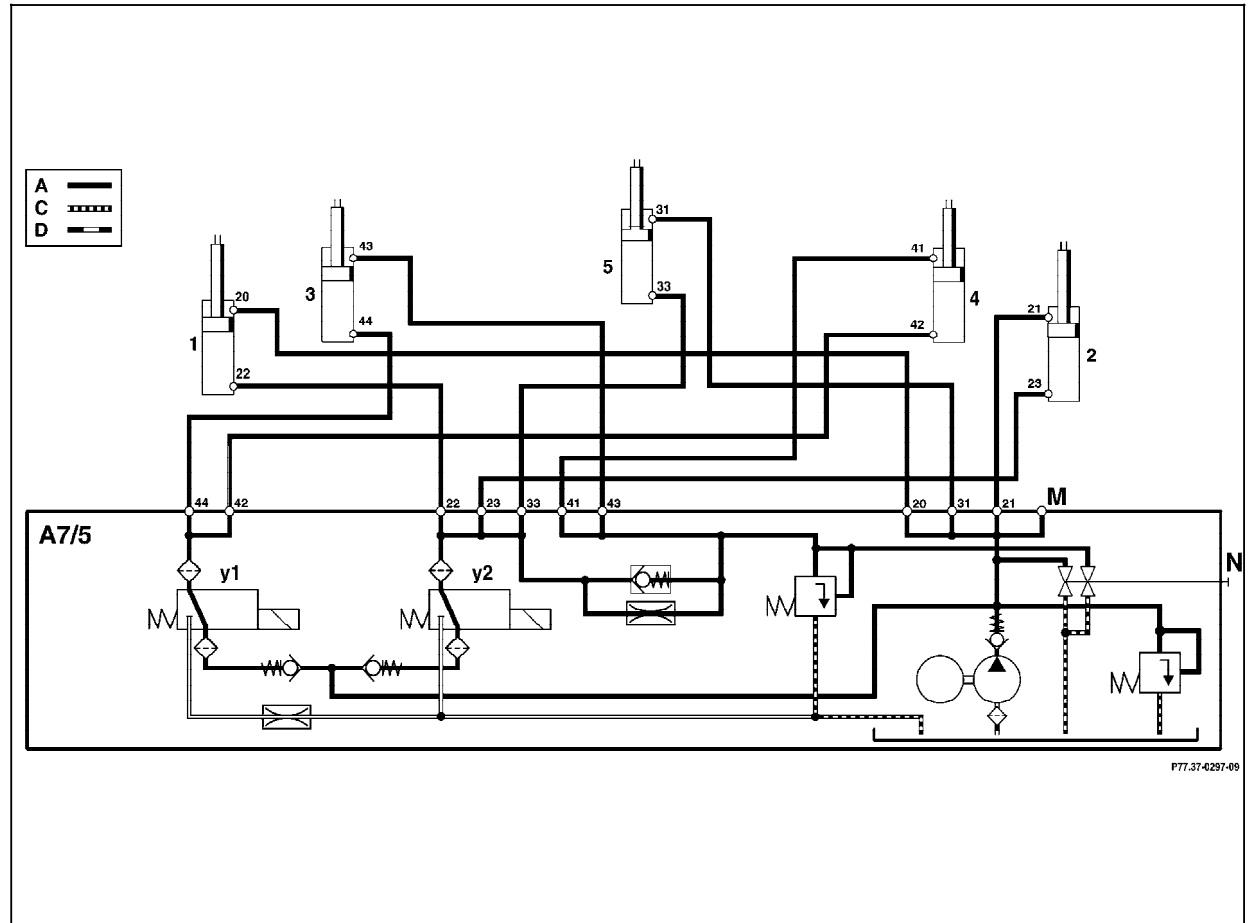


Figure 9

- A7/5 Hydraulic unit
- 1 Left trunk lid hydraulic cylinder
- 2 Right trunk lid hydraulic cylinder
- 3 Retractable hardtop, left actuation hydraulic cylinder
- 4 Retractable hardtop, right actuation hydraulic cylinder
- 5 Front hydraulic lock cylinder
- A Retractable hardtop hydraulic circuit
- C Return line
- D Suction line
- M Test (measuring) connection
- N Emergency operation relief valve
- y1 Retractable hardtop solenoid valve
- y2 Trunk lid solenoid valve


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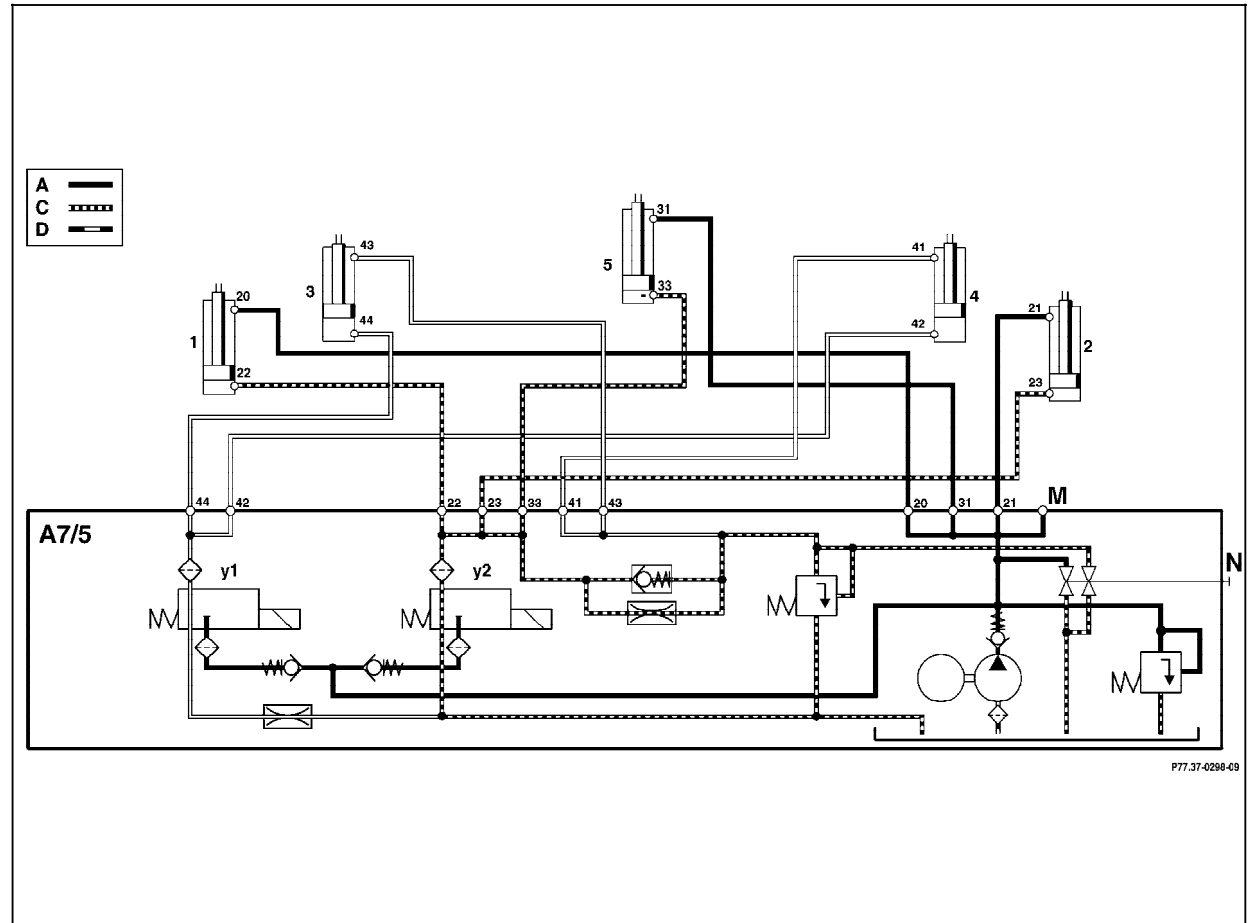
## 11.4 Retractable Hardtop (RH), Convenient Actuation

Model 170

### Hydraulic Test Program – Test





⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
1.0		<p><b>Checking retractable hardtop hydraulic unit (A7/5)</b> (Figure 9)</p>	<p>Connect pressure gauge according to connection diagram (Figure 3).</p> <p>Block retractable hardtop at the front latch with the retainer (part number 170 589 00 61 00). Refer to Figure 4 - Use of retainer.</p>	<p><b>Starting point:</b> <b>Retractable hardtop rests on the front latches, trunk lid pivoted towards rear.</b></p> <p>Ignition: <b>ON</b> Press and hold retractable hardtop switch (S84) for 5 sec. in close position (towards front).</p> <p><b>Read test pressure:</b></p>	<p>180 – 200 bar</p>	<p>Check emergency operation relief valve (N) <b>Tightening torque: 3 Nm</b></p> <p><b>&lt;180 bar:</b> Replace retractable hardtop hydraulic unit (A7/5).</p> <p><b>Nominal value O. K.</b> ⇒ 2.0</p>

## Hydraulic Test Program – Test



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Hydraulic Test Program – Test

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
2.0		<p><b>Hydraulic circuit pressure test</b> (Figure 10)</p>	<p>Connect pressure gauge according to connection diagram (Figure 3).</p> <p style="text-align: right;">N10-3 </p> <p></p>	<p><b>Starting point:</b> <b>Retractable hardtop completely open.</b> <b>Trunk lid open, rotary latch on trunk lid lock locked.</b></p> <p></p> <p>Disconnect connector A on combination control module N10-3. Bridge + terminal and pin 22 on the control module connector with test cable 124 589 37 63 00 Set the bridge for 5 sec.</p> <p><b>Read test pressure while the retractable hardtop hydraulic unit runs.</b></p>	<p>180 – 200 bar</p>	<p><b>&lt; 180 bar:</b> ⇒ 4.0.</p> <p><b>Nominal values O. K.:</b> ⇒ 3.0.</p>

Hydraulic Test Program – Test

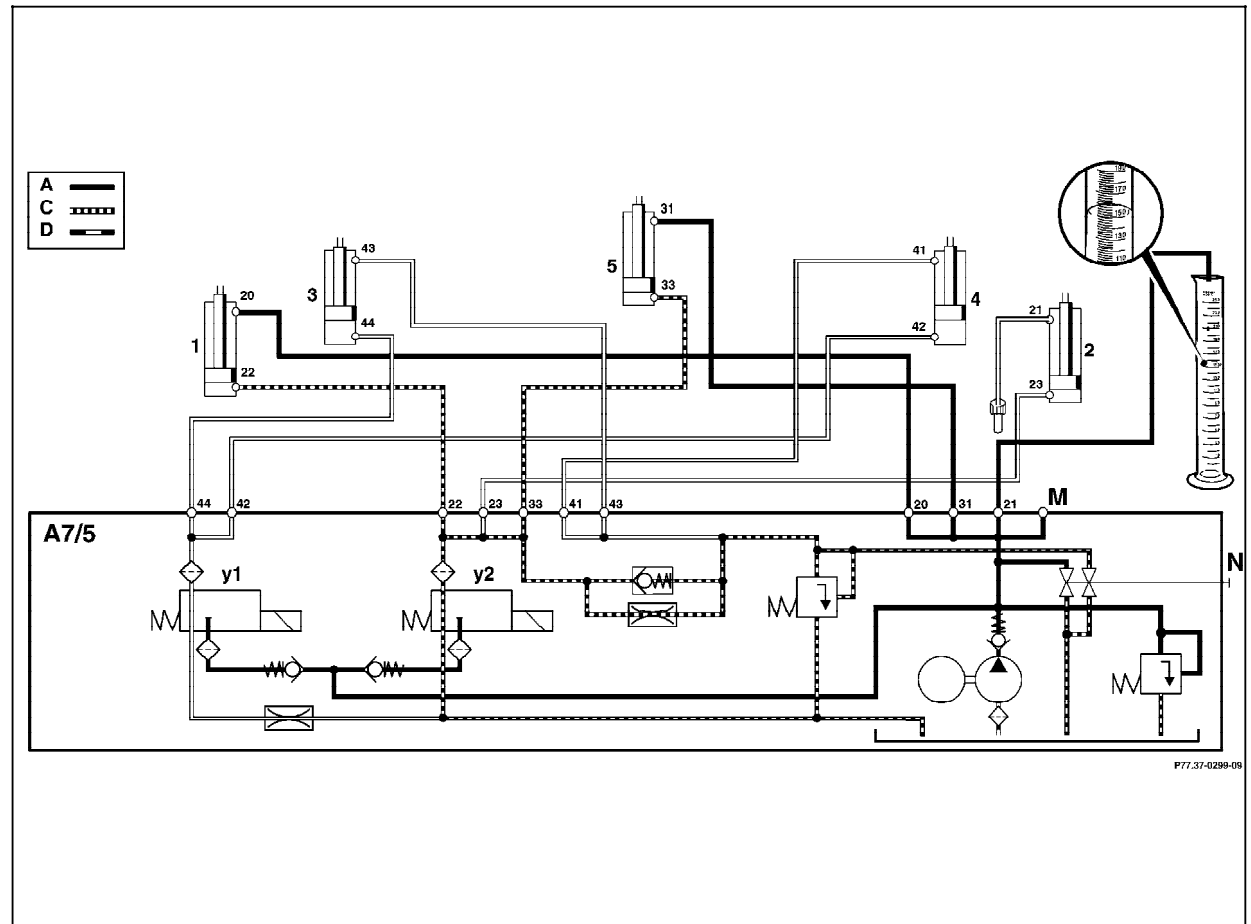



Figure 11

- A7/5 Hydraulic unit
- 1 Left trunk lid hydraulic cylinder
- 2 Right trunk lid hydraulic cylinder
- 3 Retractable hardtop, left actuation hydraulic cylinder
- 4 Retractable hardtop, right actuation hydraulic cylinder
- 5 Front hydraulic lock cylinder
- A Retractable hardtop hydraulic circuit
- C Return line
- D Suction line
- M Test (measuring) connection
- N Emergency operation relief valve
- y1 Retractable hardtop solenoid valve
- y2 Trunk lid solenoid valve

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Hydraulic Test Program – Test

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
3.0		<p><b>Checking fluid volume output of hydraulic unit (A7/5)</b> (Figure 11)</p> <p><b>i</b> Room temperature not to be <b>&lt;70° F (18° C)</b>.</p>	<p>Disconnect hydraulic line number 21 from hydraulic unit. Seal connection with plug 129 589 00 91 07.</p> <p>Connect test line part number 129 806 34 83 to the output port of line number 21 on the hydraulic unit and insert that hydraulic line into a graduated beaker.</p>	<p><b>Starting point:</b> <b>Retractable hardtop completely open, trunk lid open, rotary latch on the trunk lid lock locked</b></p> <p>Ignition: <b>ON</b> Press and hold retractable hardtop switch in open position for 15 sec.</p> <p><b>Read and note hydraulic fluid volume output in graduated beaker:</b></p>	<p>&gt;0.10 liter (100 ml).</p>	<p><b>&lt;0.10 liter</b> Replace retractable hardtop hydraulic unit (A7/5).</p>

## Hydraulic Test Program – Test

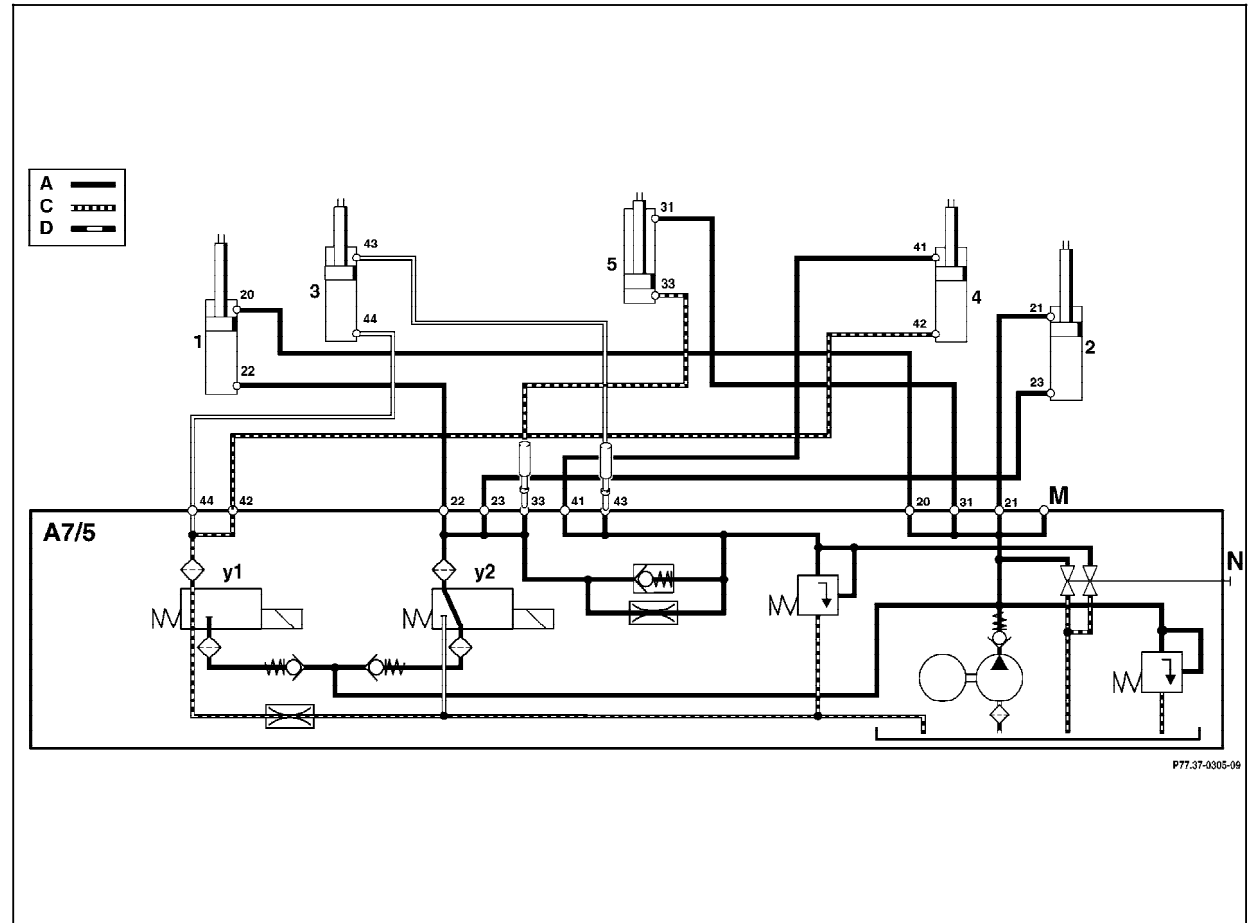





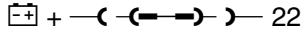
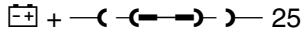

Figure 12

- A7/5 Hydraulic unit
- 1 Left trunk lid hydraulic cylinder
- 2 Right trunk lid hydraulic cylinder
- 3 Retractable hardtop, left actuation hydraulic cylinder
- 4 Retractable hardtop, right actuation hydraulic cylinder
- 5 Front hydraulic lock cylinder
- A Retractable hardtop hydraulic circuit
- C Return line
- D Suction line
- M Test (measuring) connection
- N Emergency operation relief valve
- y1 Retractable hardtop solenoid valve
- y2 Trunk lid solenoid valve

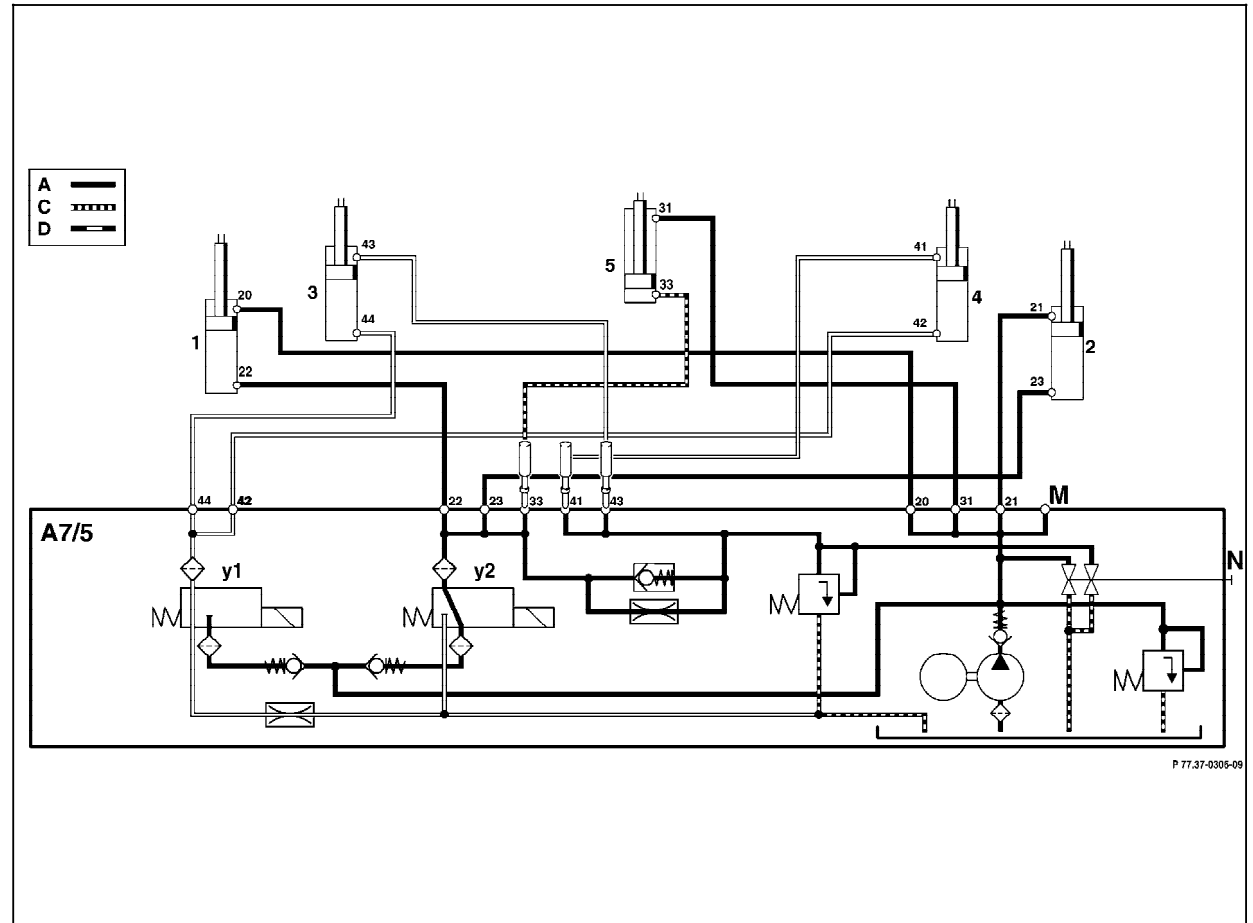
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Hydraulic Test Program – Test



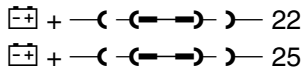

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
4.0		<p>Checking retractable hardtop movement hydraulic cylinder (<b>pushing rod side</b>) (3, Figure 12)</p> <p><b>Complaint:</b> Retractable hardtop does not open or opens slowly.</p>	<p>Connect pressure gauge according to connection diagram (Figure 3).</p> <p>Disconnect hydraulic lines numbers 33 and 43 from hydraulic unit. Seal connection with plug 129 589 00 91 01.</p> <p> Release hydraulic working pressure (refer to "Notes for Hydraulic Test")</p> <p style="text-align: right;">N10-3 </p> <p> 22  25</p>	<p><b>Movement sequence:</b> <b>Retractable hardtop opens</b></p> <p><b>Starting point:</b> <b>Retractable hardtop closed, front latch locked (using allen wrench), trunk lid pivoted towards rear.</b></p> <p> Disconnect connector A on combination control module N10-3.</p> <p>Bridge the control module connector with test cable 124 589 37 63 00 as shown</p> <p>Set bridge for 5 seconds.</p> <p><b>Read test pressure while the retractable hardtop hydraulic unit runs</b></p>	180 – 200 bar	<p><b>Nominal values O.K:</b> Retractable hardtop actuation hydraulic cylinder (3, Figure 12) leaking. Replace hydraulic cylinder.</p> <p><b>&lt;180 bar:</b> ⇒ 4.1</p>

## Hydraulic Test Program – Test



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## Hydraulic Test Program – Test

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
4.1		<p>Checking retractable hardtop actuation hydraulic cylinder (<b>pushing rod side</b>) (4, Figure 13)</p> <p><b>Complaint:</b> Retractable hardtop does not open or opens slowly.</p>	<p>Connect pressure gauge according to connection diagram (Figure 3).</p> <p>Disconnect hydraulic line number 41 from hydraulic unit. Seal connection with plug 129 589 00 91 01.</p> <p>Leave hydraulic lines 33 and 43 disconnected.</p> <div style="text-align: right; margin-right: 20px;">  N10-3         </div> <div style="margin-left: 20px;">  </div>	<p><b>Retractable hardtop closed, front latch locked, trunk lid pivoted towards rear</b></p> <p> Disconnect connector A on combination control module N10-3. Bridge the control module connector with test cable 124 589 37 63 00 as shown Set the bridge for 5 sec.</p> <p><b>Read test pressure while the retractable hardtop hydraulic unit runs</b></p>	180 – 200 bar	<p><b>Nominal values O.K:</b> Retractable hardtop actuation hydraulic cylinder (4, Figure 13) leaking. Replace hydraulic cylinder.</p> <p><b>&lt;180 bar:</b> ⇒ 1.0</p> <p>If the retractable hardtop does not open, check the locking devices on C-pillars for proper function see Figure 6.</p> <p>For adjustment instructions refer to job number: AR77.33-3470G</p>

## Hydraulic Test Program – Test

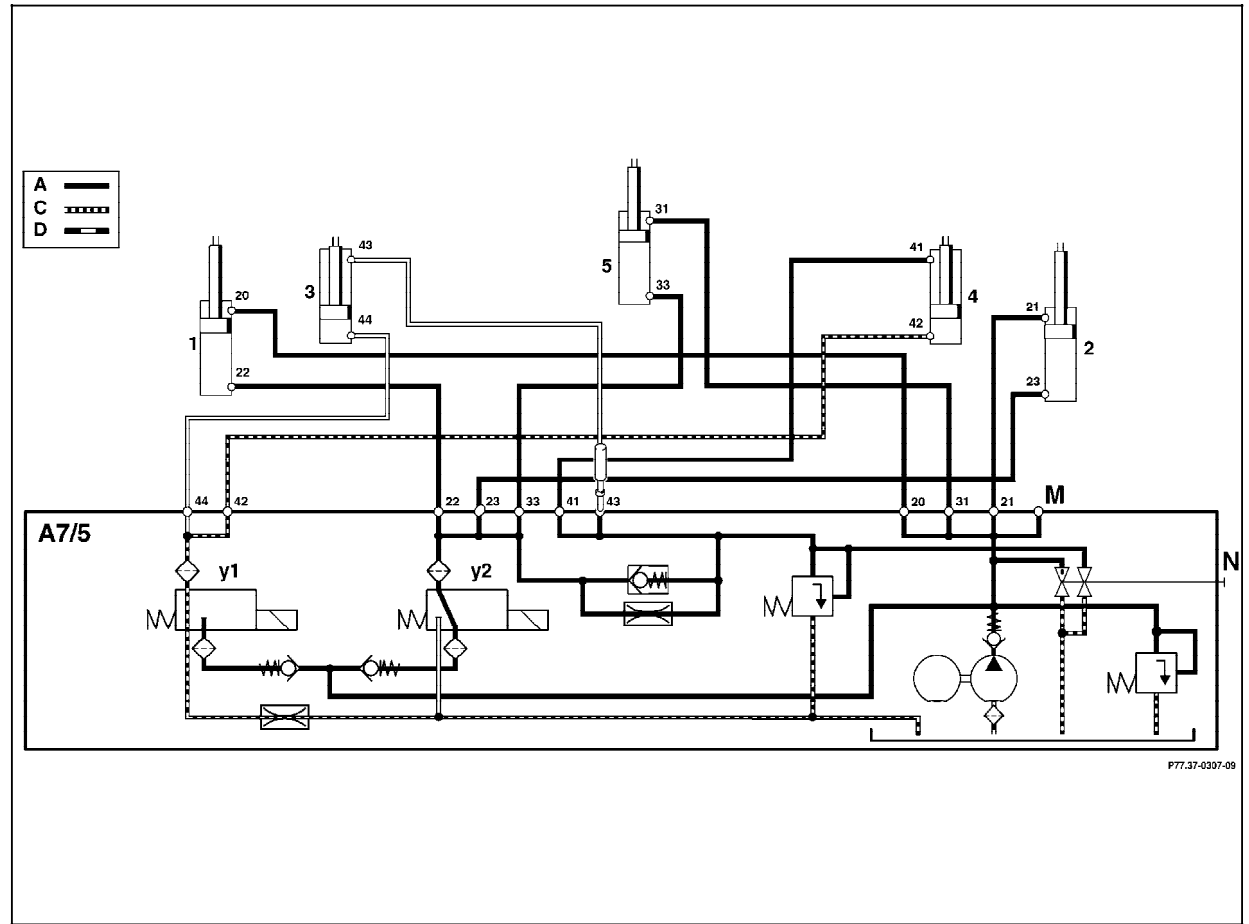


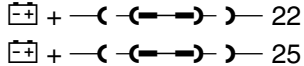



Figure 14

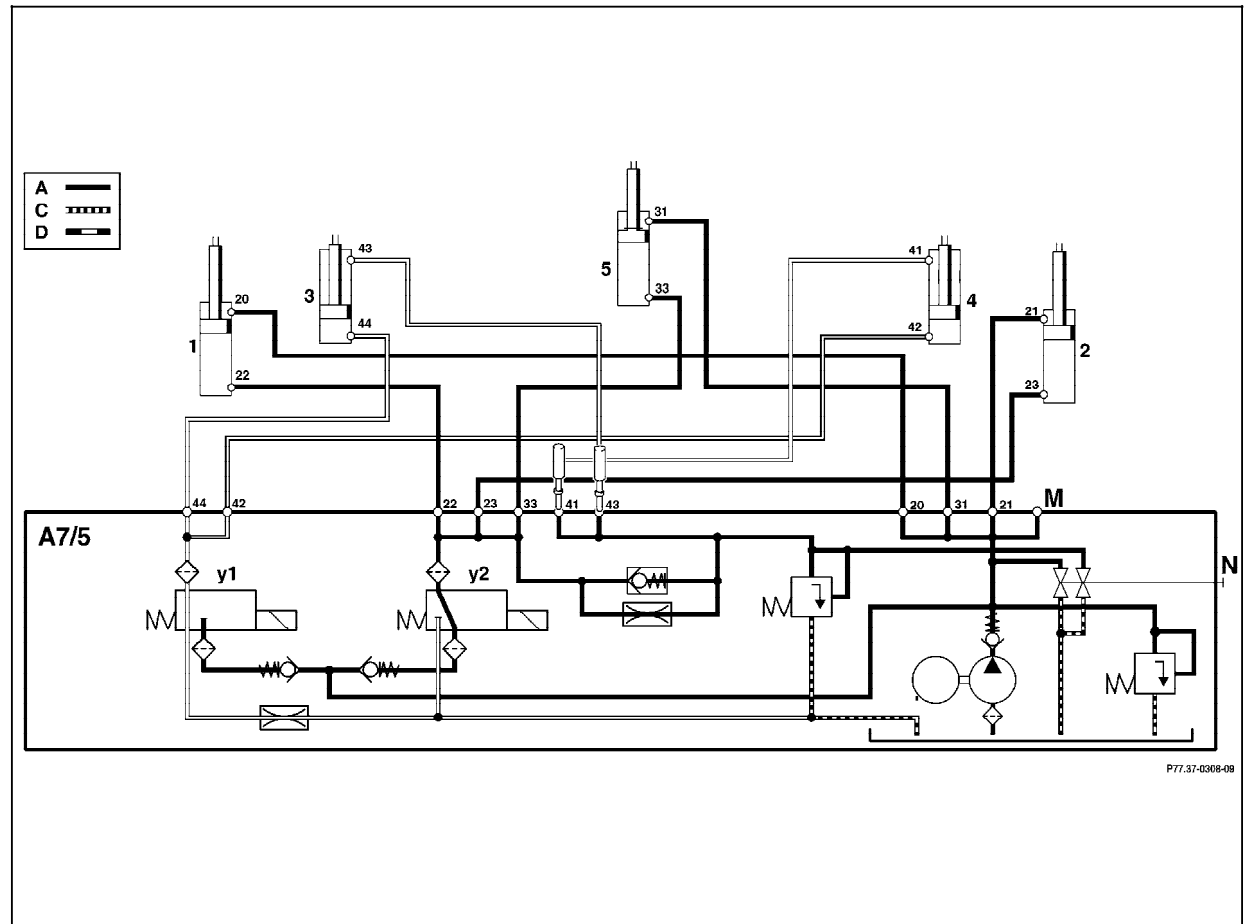
- A7/5 Hydraulic unit
- 1 Left trunk lid hydraulic cylinder
- 2 Right trunk lid hydraulic cylinder
- 3 Retractable hardtop, left actuation hydraulic cylinder
- 4 Retractable hardtop, right actuation hydraulic cylinder
- 5 Front hydraulic lock cylinder
- A Retractable hardtop hydraulic circuit
- C Return line
- D Suction line
- M Test (measuring) connection
- N Emergency operation relief valve
- y1 Retractable hardtop solenoid valve
- y2 Trunk lid solenoid valve

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Hydraulic Test Program – Test

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
4.2		<p>Checking retractable hardtop movement hydraulic cylinder (<b>pushing rod side</b>) (3, Figure 14)</p> <p><b>Complaint:</b> Trunk lid does not close or closes slowly.</p>	<p>Connect pressure gauge according to connection diagram (Figure 3).</p> <p>Disconnect hydraulic line number 43 from hydraulic unit. Seal connection with plug 129 589 00 91 01.</p> <div style="text-align: right; margin-right: 50px;">N10-3 </div> <div style="margin-left: 20px;">  </div>	<p><b>Movement sequence:</b> <b>Retractable hardtop closes.</b></p> <p><b>Starting point:</b> <b>Retractable hardtop front latch open, trunk lid pivoted to rear, retractable hardtop open</b></p> <div style="text-align: center; margin: 10px 0;"></div> <p>Disconnect connector A on combination control module N10-3. Bridge the control module connector with test cable 124 589 37 63 00 as shown Set the bridge for 5 sec.</p> <p><b>Read test pressure while the retractable hardtop hydraulic unit runs</b></p>	180 – 200 bar	<p><b>Nominal values O. K.:</b> Retractable hardtop actuation hydraulic cylinder (3, Figure 14) leaking. Replace hydraulic cylinder.</p> <p><b>&lt;180 bar:</b> ⇒ 4.3</p>



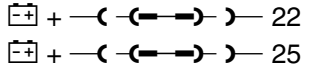

## Hydraulic Test Program – Test



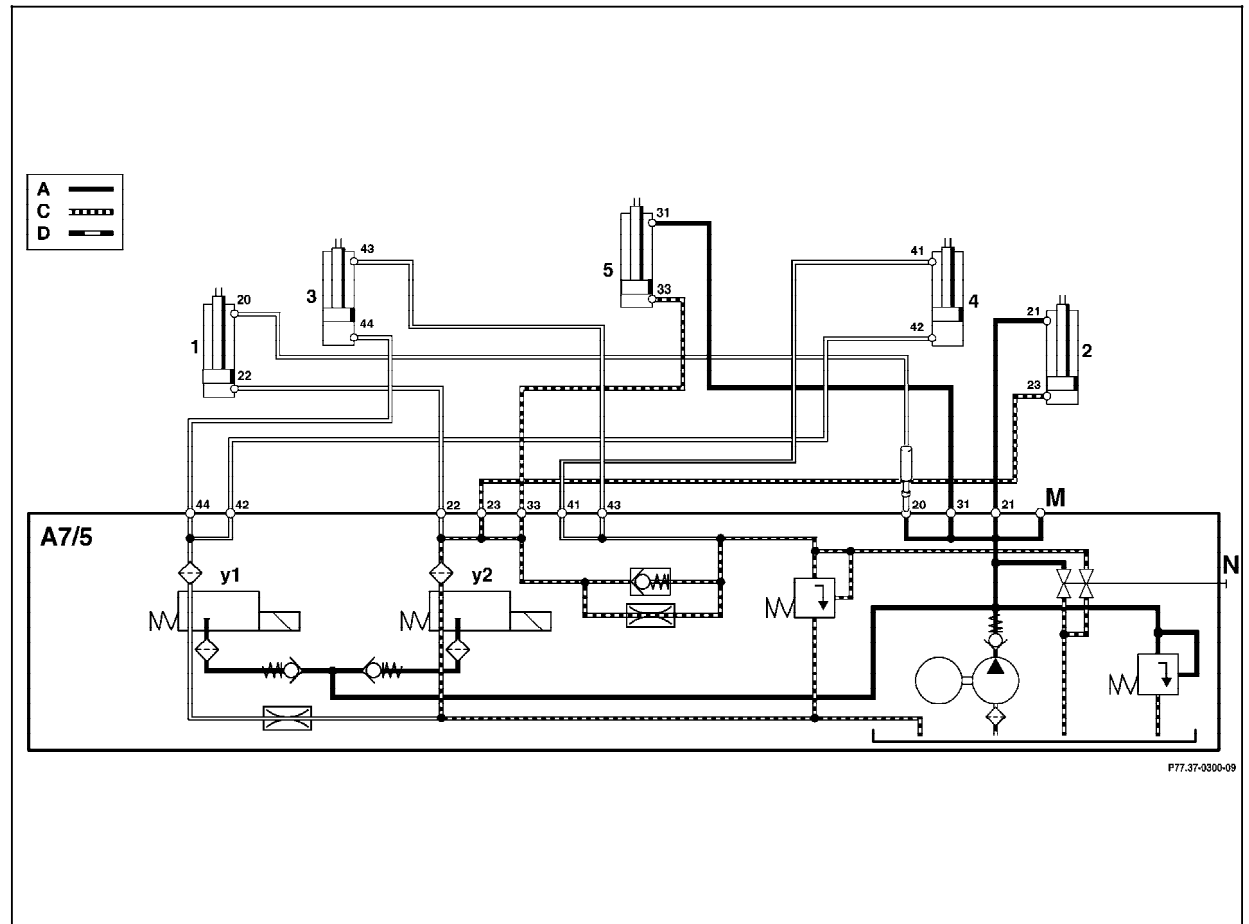
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## Hydraulic Test Program – Test


⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
4.3		<p>Checking retractable hardtop actuation hydraulic cylinder (<b>pushing rod side</b>) (4, Figure 15)</p> <p><b>Complaint:</b> Trunk lid does not close or closes slowly.</p>	<p>Connect pressure gauge according to connection diagram (Figure 3).</p> <p>Disconnect hydraulic line number 41 from hydraulic unit. Seal connection with plug 129 589 00 91 01.</p> <p>Leave hydraulic line number 43 disconnected.</p> <p style="text-align: right;">N10-3 </p> <p></p>	<p><b>Retractable hard top front latch open, trunk lid pivoted to rear, retractable hard top open</b></p> <p></p> <p>Disconnect connector A on combination control module N10-3. Bridge the control module connector with test cable 124 589 37 63 00 as shown</p> <p>Set the bridge for 5 sec.</p> <p><b>Read test pressure while the retractable hardtop hydraulic unit runs</b></p>	<p>180 – 200 bar</p>	<p><b>Nominal values O. K.:</b> Retractable hardtop actuation hydraulic cylinder (4, Figure 15) leaking. Replace hydraulic cylinder.</p> <p><b>&lt;180 bar:</b> ⇒ 1.0</p> <p>If the trunk lid does not open, check the latches for tubular frames in the trunk (Figure 5).</p> <p>Check adjustment of the bowden cables, for adjustment instructions refer to job number: AR77.33-3470G</p>

## Hydraulic Test Program – Test



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Hydraulic Test Program – Test

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
5.0		<p>Checking trunk lid actuation hydraulic cylinder (<b>pushing rod side</b>) (1, Figure 16)</p> <p><b>Complaint:</b> Trunk lid does not close or closes slowly.</p>	<p>Connect pressure gauge according to connection diagram (Figure 3).</p> <p>Disconnect hydraulic line number 20 from hydraulic unit. Seal connection with plug 129 589 00 91 01.</p>	<p><b>Starting point:</b> <b>Retractable hardtop fully open, trunk lid open, rotary latch on trunk lid lock locked.</b></p> <p>Ignition: <b>ON</b> Press retractable hardtop switch (S84) to open position for 5 sec.</p> <p><b>Read test pressure while depressing the switch</b></p>	180 – 200 bar	<p><b>Nominal values O. K.:</b> Trunk lid actuating hydraulic cylinder (1, Figure 16) leaking. Replace hydraulic cylinder.</p> <p><b>&lt;180 bar:</b> ⇒ 5.1</p>

## Hydraulic Test Program – Test

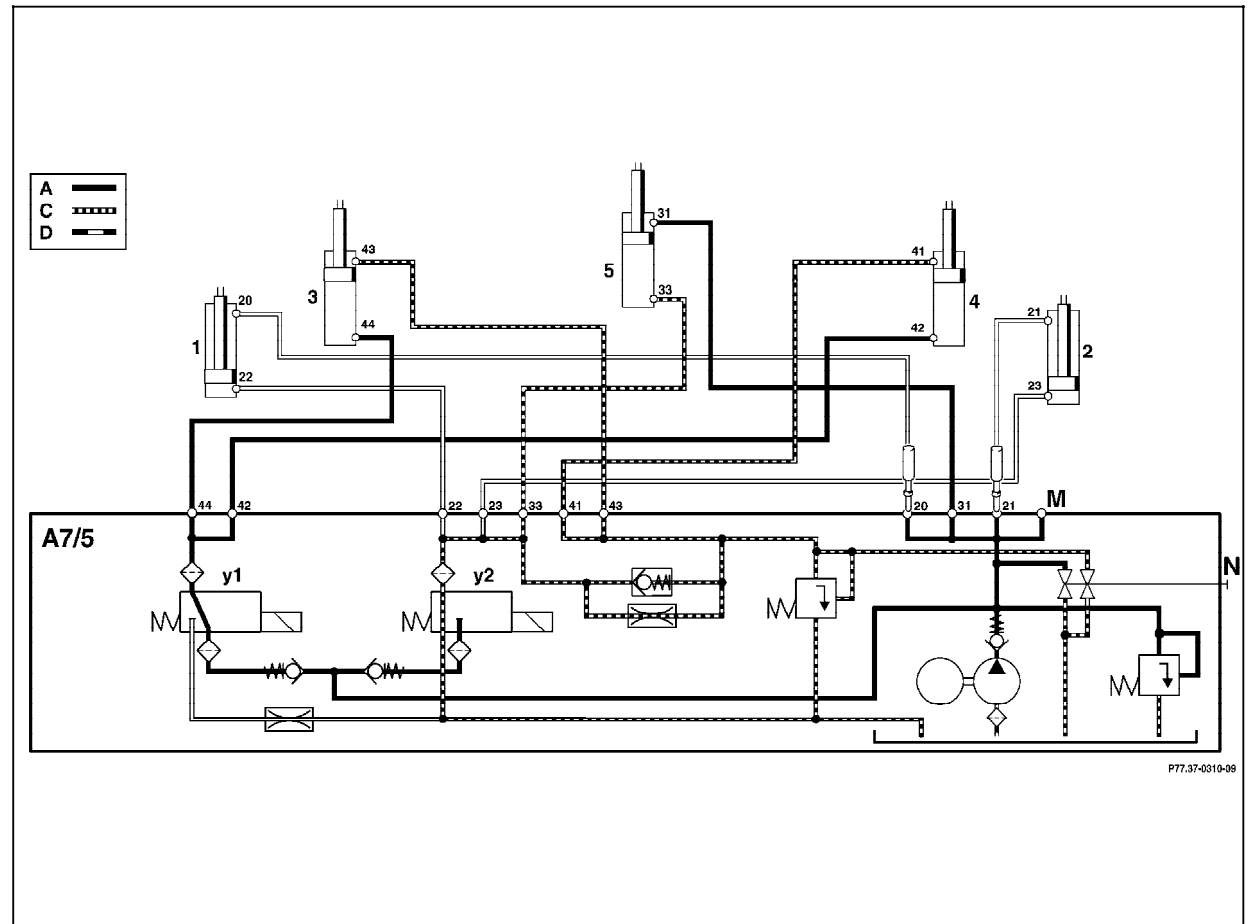



Figure 17

- A7/5 Hydraulic unit
- 1 Left trunk lid hydraulic cylinder
- 2 Right trunk lid hydraulic cylinder
- 3 Retractable hardtop, left actuation hydraulic cylinder
- 4 Retractable hardtop, right actuation hydraulic cylinder
- 5 Front hydraulic lock cylinder
- A Retractable hardtop hydraulic circuit
- C Return line
- D Suction line
- M Test (measuring) connection
- N Emergency operation relief valve
- y1 Retractable hardtop solenoid valve
- y2 Trunk lid solenoid valve

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Hydraulic Test Program – Test

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
5.1		<p>Checking trunk lid actuation hydraulic cylinder (<b>pushing rod side</b>) (2, Figure 17)</p> <p><b>Complaint:</b> Trunk lid does not close or closes slowly.</p>	<p>Connect pressure gauge according to connection diagram (Figure 3).</p> <p>Disconnect hydraulic line number 21 from hydraulic unit. Seal connection with plug 129 589 00 91 01.</p> <p>Leave hydraulic line number 20 disconnected.</p>	<p><b>Retractable hardtop fully open, trunk lid fully open, rotary latch on trunk lid lock locked.</b></p> <p>Ignition: <b>ON</b> Press retractable hardtop switch (S84) to open position for 5 sec.</p> <p><b>Read test pressure while depressing the switch</b></p>	180 – 200 bar	<p><b>Nominal values O. K.:</b> Trunk lid actuation hydraulic cylinder (2, Figure 17) leaking. Replace hydraulic cylinder.</p> <p><b>&lt;180 bar:</b> ⇒ 6.0</p>

Hydraulic Test Program – Test

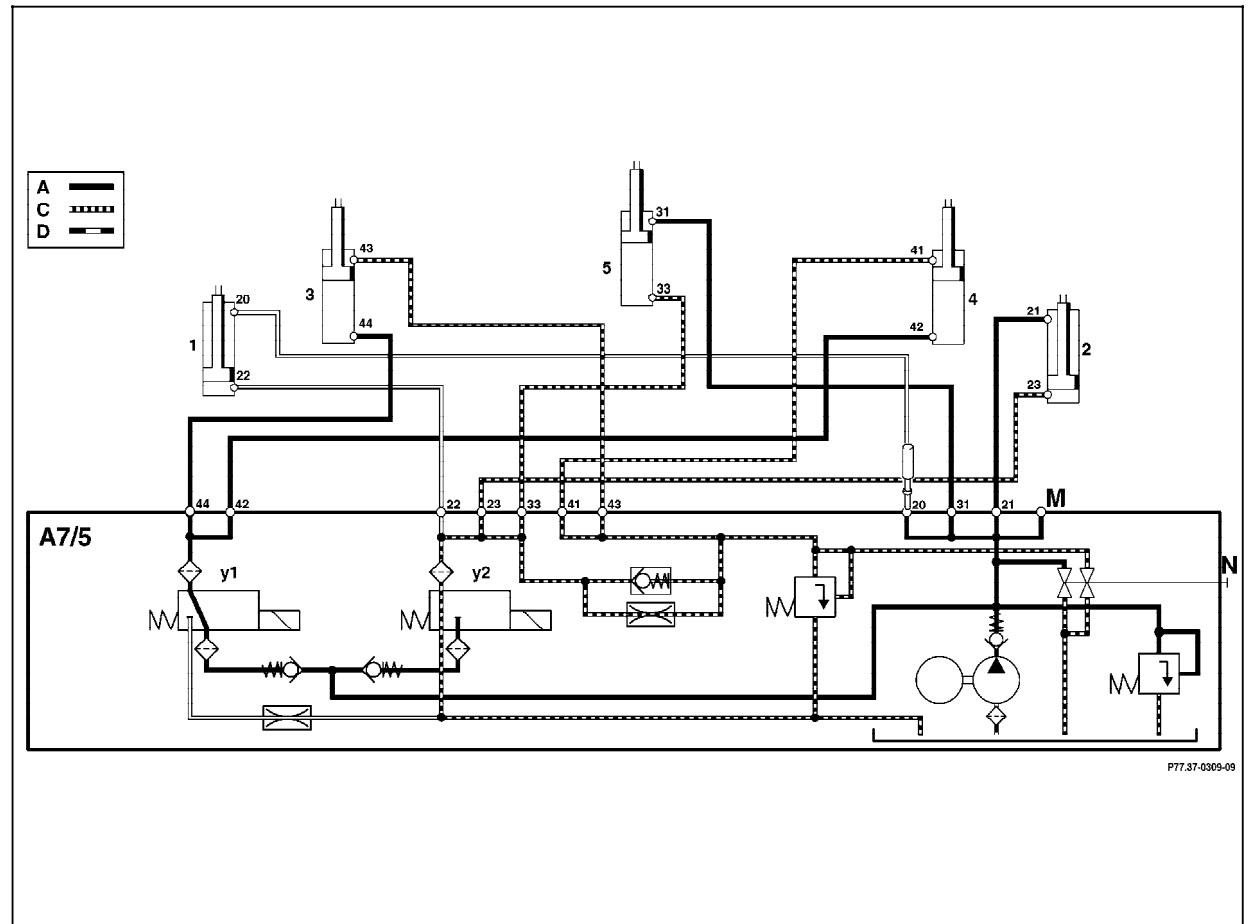



Figure 18

- A7/5 Hydraulic unit
- 1 Left trunk lid hydraulic cylinder
- 2 Right trunk lid hydraulic cylinder
- 3 Retractable hardtop, left actuation hydraulic cylinder
- 4 Retractable hardtop, right actuation hydraulic cylinder
- 5 Front hydraulic lock cylinder
- A Retractable hardtop hydraulic circuit
- C Return line
- D Suction line
- M Test (measuring) connection
- N Emergency operation relief valve
- y1 Retractable hardtop solenoid valve
- y2 Trunk lid solenoid valve

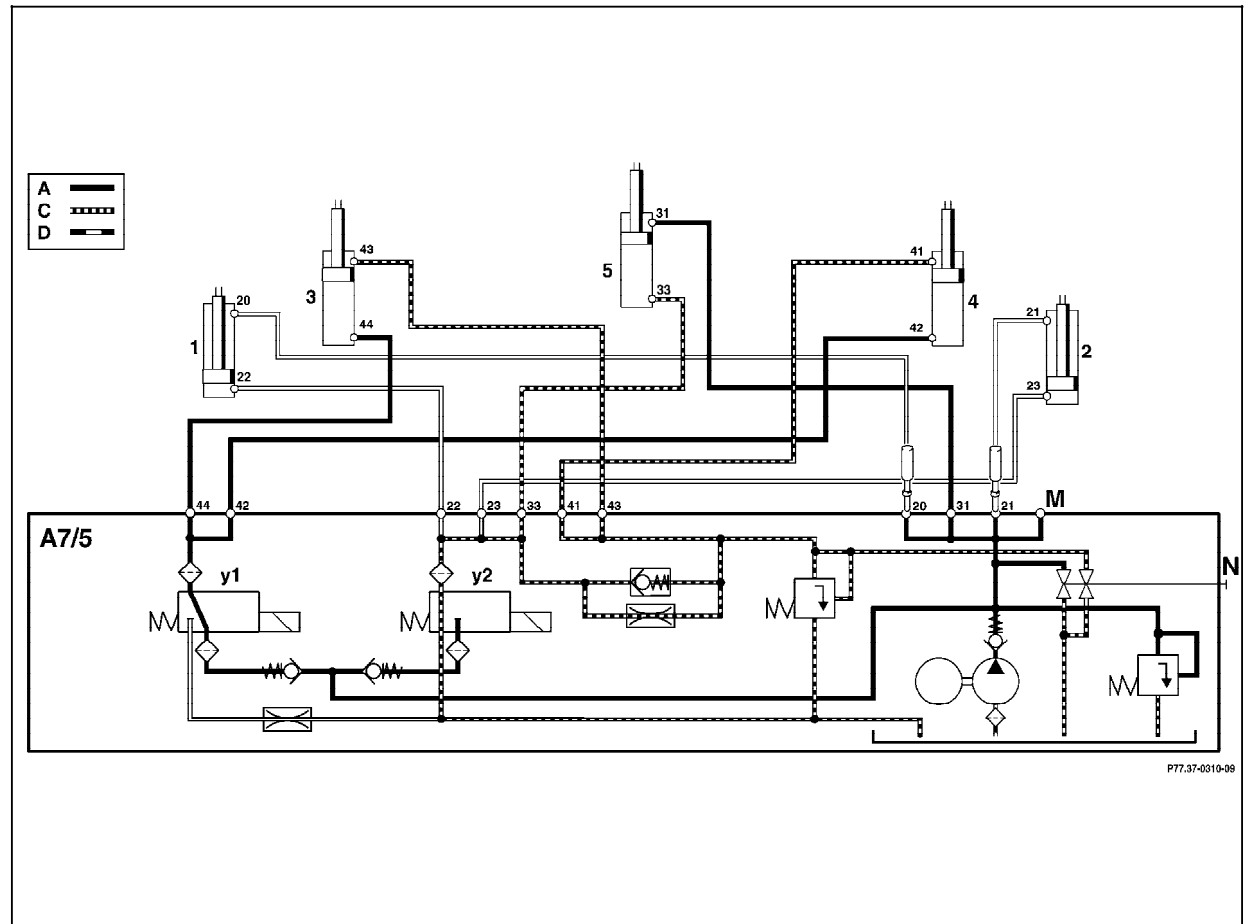
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Figure 18

Hydraulic Test Program – Test

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
5.2		<p>Checking trunk lid actuation hydraulic cylinder (<b>pushing rod side</b>) (1, Figure 18)</p> <p><b>Complaint:</b> Front latch does not lock.</p>	<p>Connect pressure gauge according to connection diagram (Figure 3).</p> <p>Disconnect hydraulic line number 20 from hydraulic unit. Seal connection with plug 129 589 00 91 01.</p>	<p><b>Starting point:</b> <b>Retractable hardtop closed, front latch open, trunk lid locked into latches within trunk, trunk lid open, rotary latch on trunk lid lock locked.</b></p> <p>Ignition: <b>ON</b> Press retractable hardtop switch (S84) to close position for 5 sec.</p> <p><b>Read test pressure while depressing the switch</b></p>	180 – 200 bar	<p><b>Nominal values O. K.:</b> Trunk lid actuation hydraulic cylinder (1, Figure 18) leaking. Replace hydraulic cylinder.</p> <p><b>&lt;180 bar:</b> ⇒ 5.3</p>


## Hydraulic Test Program – Test



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## Hydraulic Test Program – Test

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
5.3		<p>Checking trunk lid actuation hydraulic cylinder (<b>pushing rod side</b>) (2, Figure 19)</p> <p><b>Complaint:</b> Front latch does not lock.</p>	<p>Connect pressure gauge according to connection diagram (Figure 3).</p> <p>Disconnect hydraulic line number 21 from hydraulic unit. Seal connection with plug 129 589 00 91 01.</p> <p>Leave hydraulic line number 20 disconnected.</p>	<p><b>Retractable hardtop closed, front latch open, trunk lid locked into latches within trunk, trunk lid open, rotary latch on trunk lid lock locked.</b></p> <p>Ignition: <b>ON</b> Press retractable hardtop switch (S84) to close position for 5 sec.</p> <p><b>Read test pressure while depressing the switch</b></p>	<p>180 – 200 bar</p>	<p><b>Nominal values O. K.:</b> Trunk lid actuation hydraulic cylinder (2, Figure 19) leaking. Replace hydraulic cylinder.</p> <p><b>&lt;180 bar:</b> ⇒ 7.0</p>

Hydraulic Test Program – Test

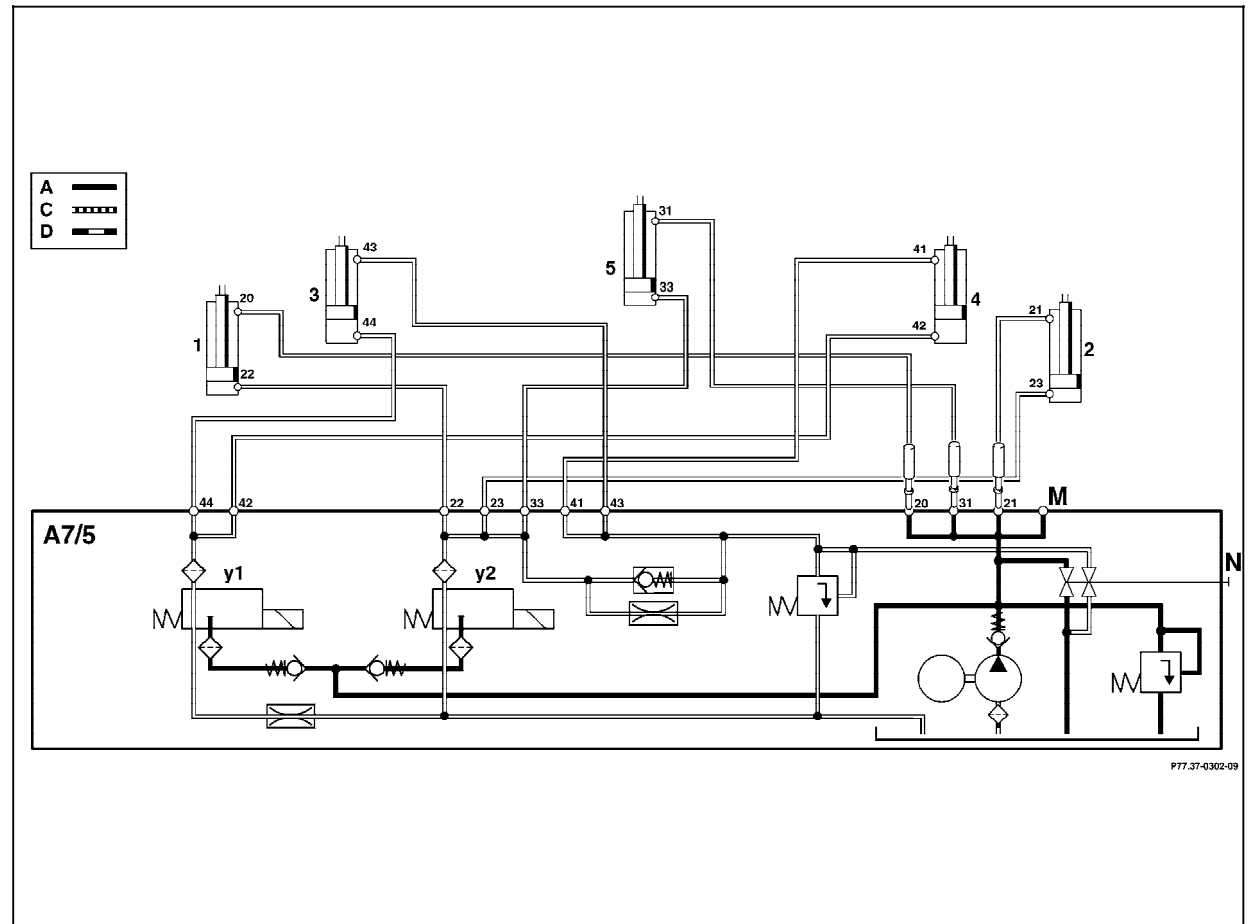



Figure 20

- A7/5 Hydraulic unit
- 1 Left trunk lid hydraulic cylinder
- 2 Right trunk lid hydraulic cylinder
- 3 Retractable hardtop, left actuation hydraulic cylinder
- 4 Retractable hardtop, right actuation hydraulic cylinder
- 5 Front hydraulic lock cylinder
- A Retractable hardtop hydraulic circuit
- C Return line
- D Suction line
- M Test (measuring) connection
- N Emergency operation relief valve
- y1 Retractable hardtop solenoid valve
- y2 Trunk lid solenoid valve

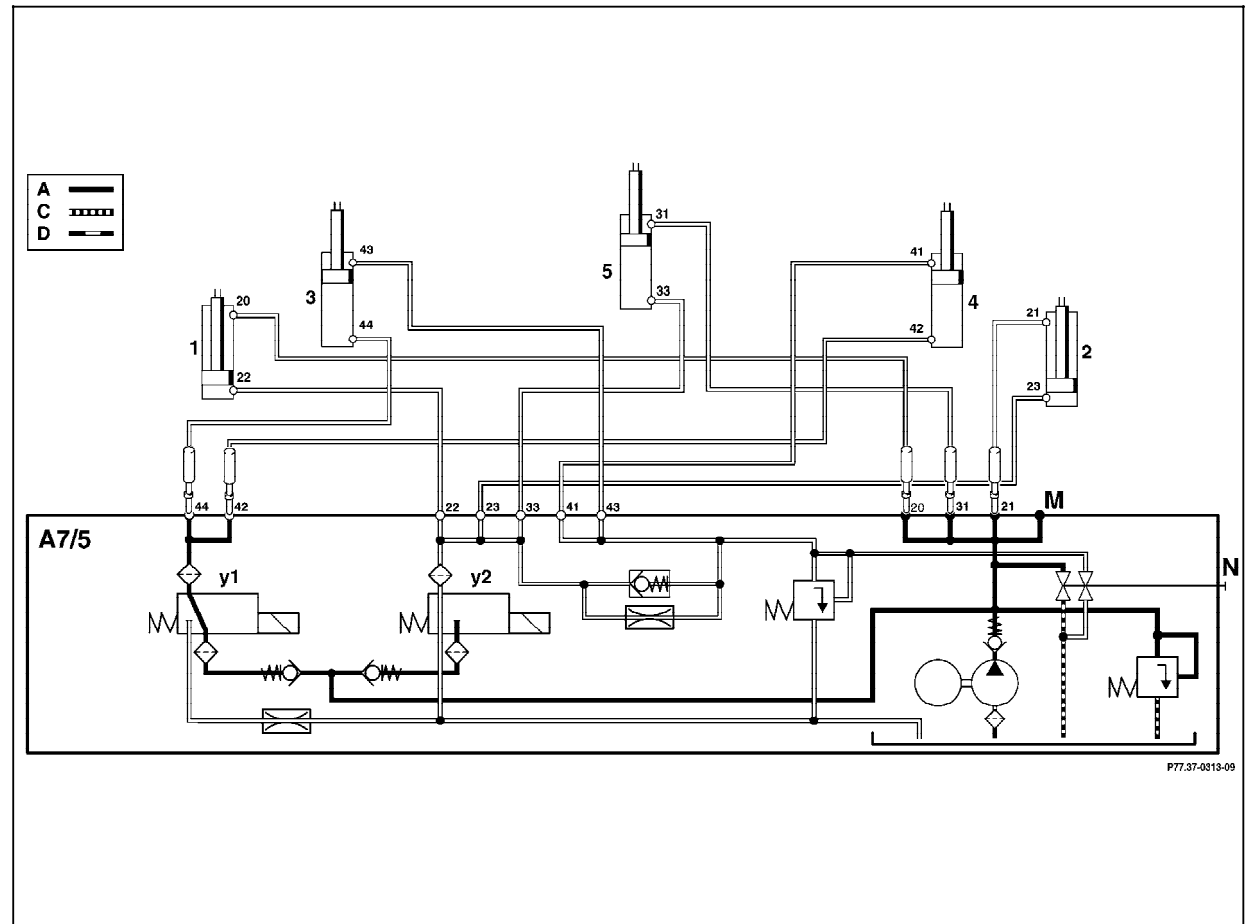
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Hydraulic Test Program – Test


⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
6.0		<p>Checking front hydraulic lock cylinder (<b>pushing rod side</b>) (5, Figure 20)</p> <p><b>Complaint:</b> Trunk lid does not close or closes slowly.</p>	<p>Connect pressure gauge according to connection diagram (Figure 3).</p> <p>Disconnect hydraulic line number 31 from hydraulic unit. Seal connection with plug 129 589 00 91 01.</p> <p>Leave the hydraulic lines numbers 20 and 21 disconnected.</p>	<p><b>Retractable hardtop fully open, trunk lid open rotary latch on the trunk lid lock locked.</b></p> <p>Ignition: <b>ON</b> Press retractable hardtop switch (S84) to open position for 5 sec.</p> <p><b>Read test pressure while depressing the switch.</b></p>	180 – 200 bar	<p><b>Nominal values O. K.:</b> Front hydraulic lock cylinder (5, Figure 20) leaking. Replace hydraulic cylinder.</p> <p><b>&lt;180 bar:</b> ⇒ 1.0</p>

Hydraulic Test Program – Test



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Hydraulic Test Program – Test

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
6.1		<p>Checking front hydraulic lock cylinder (<b>pushing rod side</b>) (5, Figure 21)</p> <p><b>Complaint:</b> Front latch lock does not lock.</p>	<p>Connect pressure gauge according to connection diagram (Figure 3).</p> <p>Disconnect hydraulic line number 31 from hydraulic unit. Seal connection with plug 129 589 00 91 01.</p> <p>Leave the hydraulic lines numbers 20 , 21, 42 and 44 disconnected.</p>	<p><b>Retractable hardtop closed, front lock open, trunk lid locked into its latches in the trunk, trunk lid open, rotary latch in trunk lid lock locked.</b></p> <p>Ignition: <b>ON</b> Press retractable hardtop switch (S84) to close position for 5 sec.</p> <p><b>Read test pressure while depressing the switch</b></p>	<p>180 – 200 bar</p>	<p><b>Nominal values O. K.:</b> Front hydraulic lock cylinder (5, Figure 21) leaking. Replace hydraulic cylinder.</p> <p><b>&lt;180 bar:</b> ⇒ 1.0</p>

## Hydraulic Test Program – Test

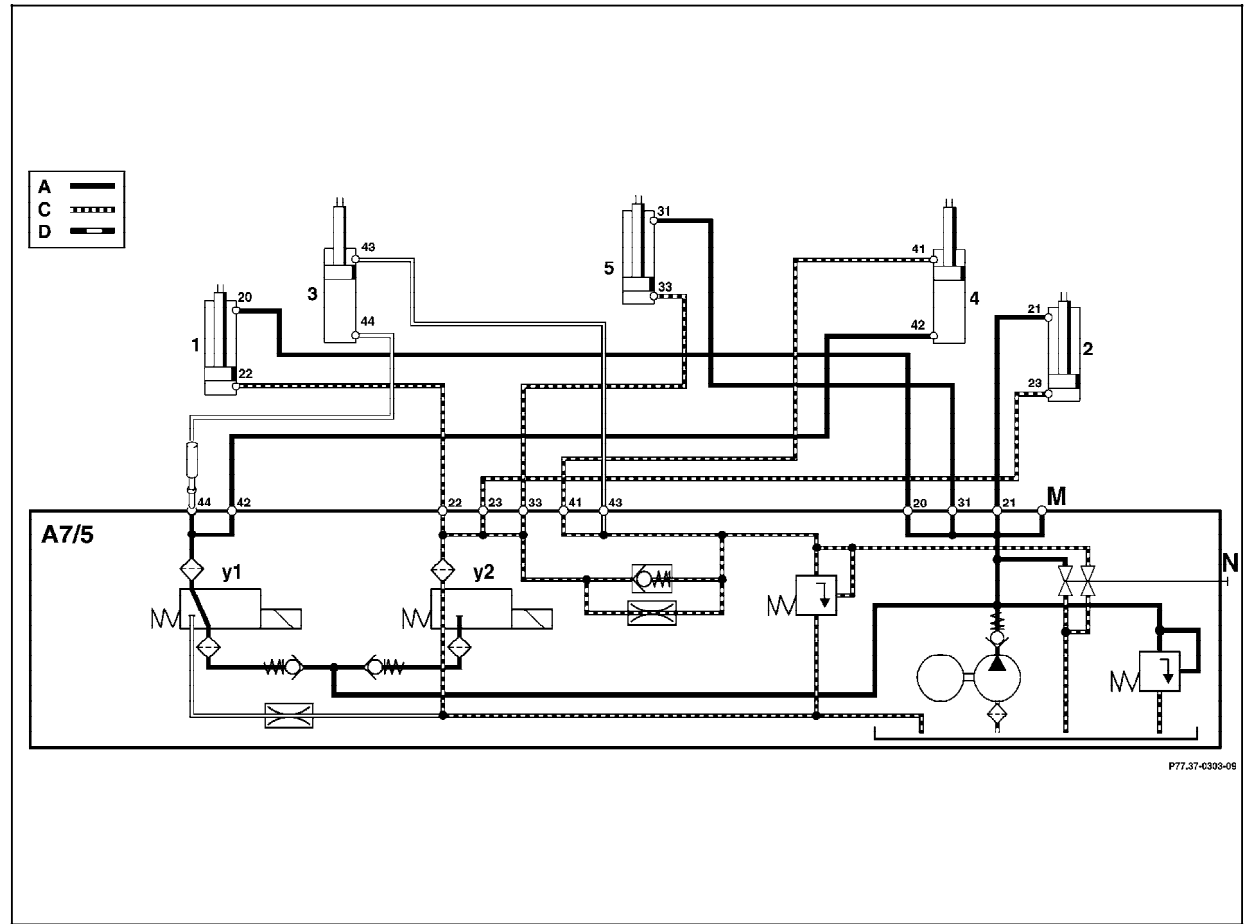


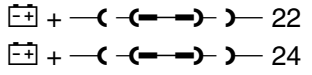



Figure 22

- A7/5 Hydraulic unit
- 1 Left trunk lid hydraulic cylinder
- 2 Right trunk lid hydraulic cylinder
- 3 Retractable hardtop, left actuation hydraulic cylinder
- 4 Retractable hardtop, right actuation hydraulic cylinder
- 5 Front hydraulic lock cylinder
- A Retractable hardtop hydraulic circuit
- C Return line
- D Suction line
- M Test (measuring) connection
- N Emergency operation relief valve
- y1 Retractable hardtop solenoid valve
- y2 Trunk lid solenoid valve

Hydraulic Test Program – Test

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
7.0		<p>Checking retractable hardtop actuation hydraulic cylinder (<b>piston side</b>) (3, Figure 22)</p> <p><b>Complaint:</b> Trunk lid does not close or closes slowly.</p>	<p>Connect pressure gauge according to connection diagram (Figure 3).</p> <p>Disconnect hydraulic line number 44 from hydraulic unit. Seal connection with plug 129 589 00 91 01.</p> <div style="text-align: right; margin-right: 50px;">  N10-3         </div> <div style="margin-left: 20px;">  </div>	<p><b>Starting point:</b> <b>Retractable hardtop fully closed, trunk lid open, rotary latch in trunk lid lock locked.</b></p> <p> Disconnect connector A on combination control module N10-3.</p> <p>Bridge the control module connector with test cable 124 589 37 63 00 as shown.</p> <p>Set the bridge for 5 sec.</p> <p><b>Read test pressure while the retractable hardtop hydraulic unit runs</b></p>	<p>180 – 200 bar</p>	<p><b>Nominal values O. K.:</b> Retractable hardtop actuation hydraulic cylinder (3, Figure 22) leaking. Replace hydraulic cylinder.</p> <p><b>&lt;180 bar:</b> ⇒ 7.1</p>

## Hydraulic Test Program – Test

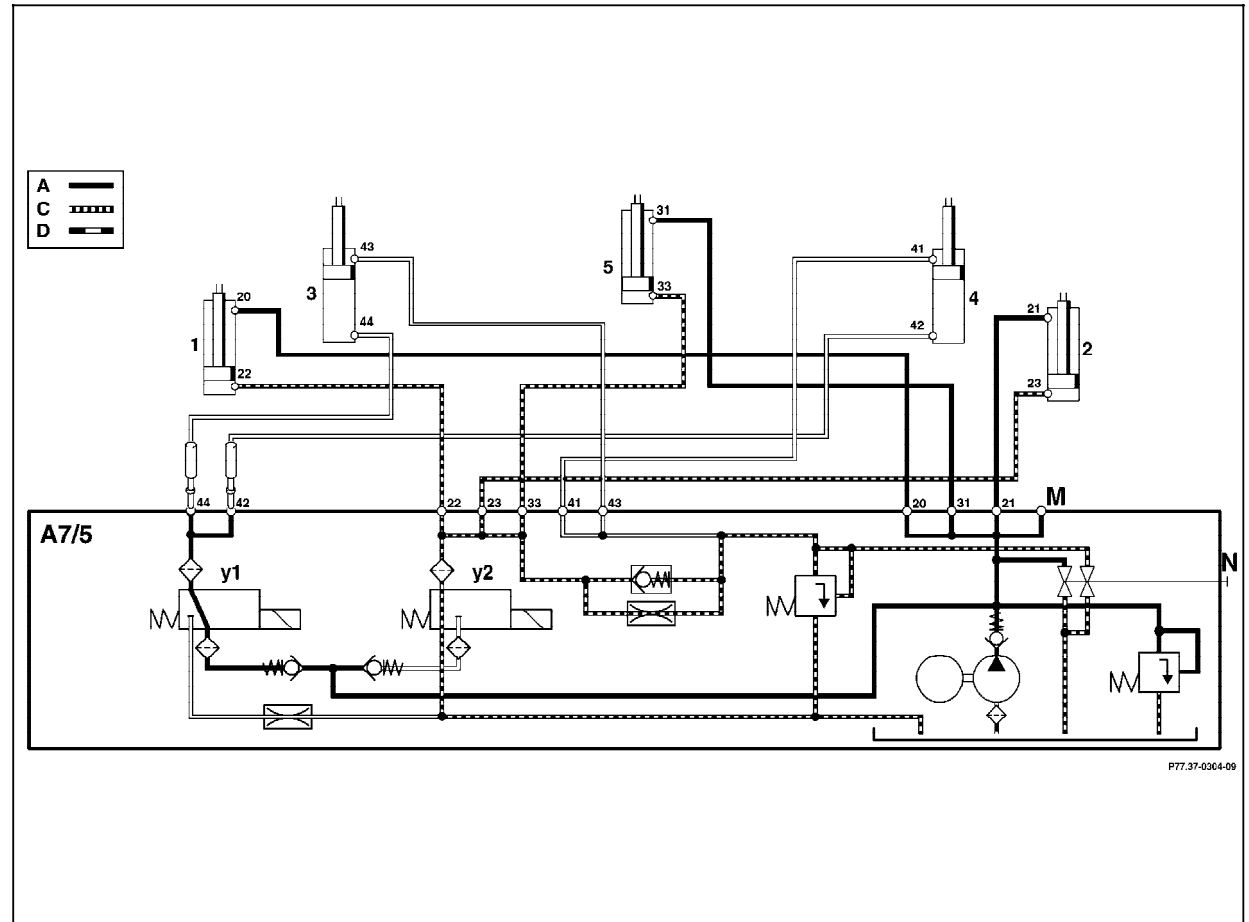




Figure 23

- A7/5 Hydraulic unit
- 1 Left trunk lid hydraulic cylinder
- 2 Right trunk lid hydraulic cylinder
- 3 Retractable hardtop, left actuation hydraulic cylinder
- 4 Retractable hardtop, right actuation hydraulic cylinder
- 5 Front hydraulic lock cylinder
- A Retractable hardtop hydraulic circuit
- C Return line
- D Suction line
- M Test (measuring) connection
- N Emergency operation relief valve
- y1 Retractable hardtop solenoid valve
- y2 Trunk lid solenoid valve

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## Hydraulic Test Program – Test

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
7.1		<p>Checking retractable hardtop actuation hydraulic cylinder (<b>piston side</b>) (4, Figure 23)</p> <p><b>Complaint:</b> Trunk lid does not close or closes slowly.</p>	<p>Connect pressure gauge according to connection diagram (Figure 3).</p> <p>Disconnect hydraulic line number 42 from hydraulic unit. Seal connection with plug 129 589 00 91 01.</p> <p>Leave hydraulic line number 44 disconnected.</p>	<p><b>Retractable hardtop fully closed, trunk lid open, rotary latch on trunk lid lock locked.</b></p> <p></p> <p>Disconnect connector A on combination control module N10-3. Bridge the control module connector with test cable 124 589 37 63 00 as shown. Set the bridge for 5 sec.</p> <p><b>Read test pressure while the retractable hardtop hydraulic unit runs</b></p>	<p>180 – 200 bar</p>	<p><b>Nominal values O. K.:</b> Retractable hardtop actuation hydraulic cylinder (4, Figure 23) leaking. Replace hydraulic cylinder.</p> <p><b>&lt;180 bar:</b> ⇒ 5.0</p>

## Hydraulic Test Program – Test

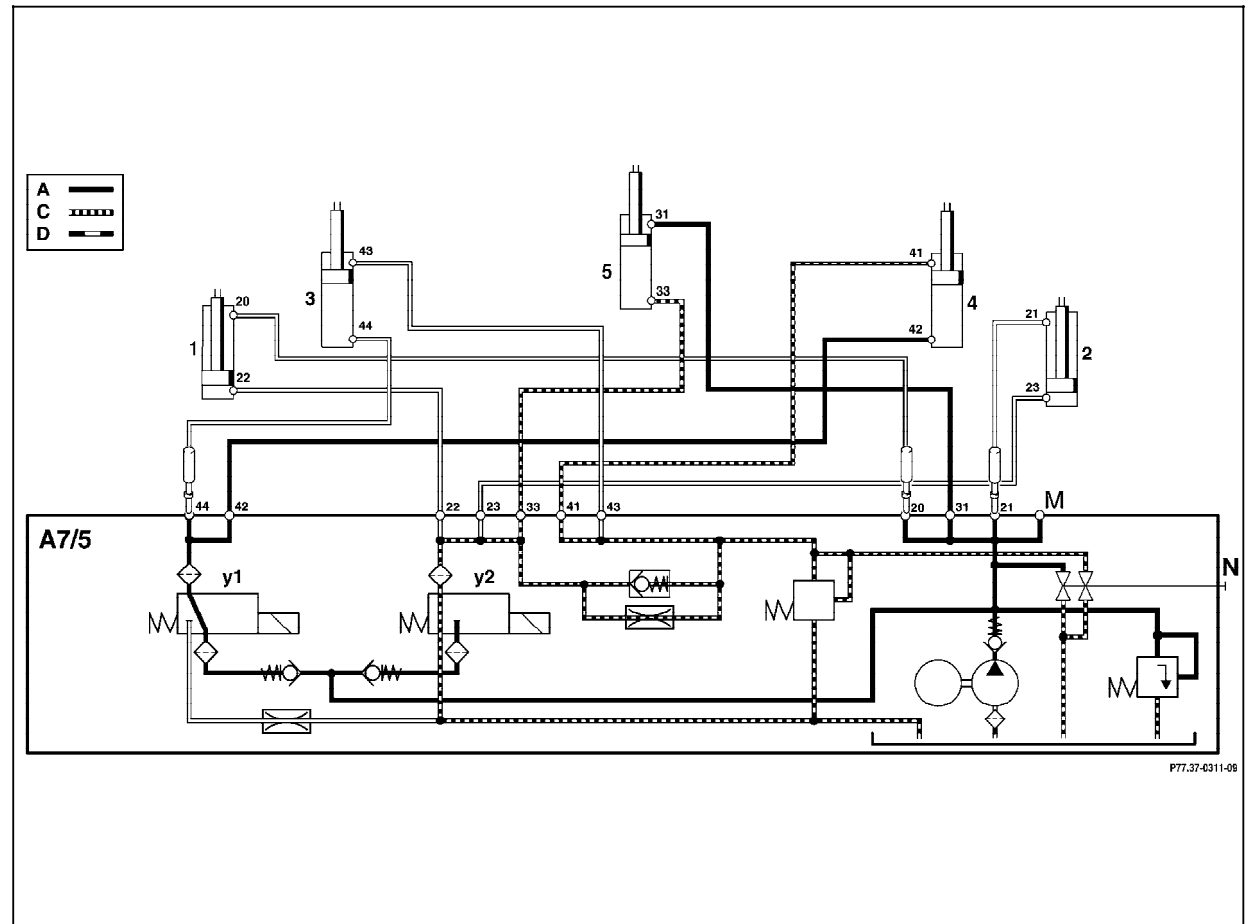



Figure 24

- A7/5 Hydraulic unit
- 1 Left trunk lid hydraulic cylinder
- 2 Right trunk lid hydraulic cylinder
- 3 Retractable hardtop, left actuation hydraulic cylinder
- 4 Retractable hardtop, right actuation hydraulic cylinder
- 5 Front hydraulic lock cylinder
- A Retractable hardtop hydraulic circuit
- C Return line
- D Suction line
- M Test (measuring) connection
- N Emergency operation relief valve
- y1 Retractable hardtop solenoid valve
- y2 Trunk lid solenoid valve

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## Hydraulic Test Program – Test

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
7.2		<p>Checking retractable hardtop actuation hydraulic cylinder (<b>piston side</b>) (3, Figure 24)</p> <p><b>Complaint:</b> Front latch lock does not lock.</p>	<p>Connect pressure gauge according to connection diagram (Figure 3).</p> <p>Disconnect hydraulic line number 44 from hydraulic unit. Seal connection with plug 129 589 00 91 01.</p> <p>Leave hydraulic lines numbers 20 and 21 disconnected.</p>	<p><b>Retractable hardtop closed, front latch lock open, trunk lid locked into its latches in the trunk, trunk lid open, rotary latch on trunk lid lock locked.</b></p> <p>Ignition: <b>ON</b> Press retractable hardtop switch (S84) to close position for 5 sec.</p> <p><b>Read test pressure while depressing the switch</b></p>	<p>180 – 200 bar</p>	<p><b>Nominal values O. K.:</b> Retractable hardtop actuation hydraulic cylinder (3, Figure 24) leaking. Replace hydraulic cylinder.</p> <p><b>&lt;180 bar:</b> ⇒ 7.3</p>

## Hydraulic Test Program – Test

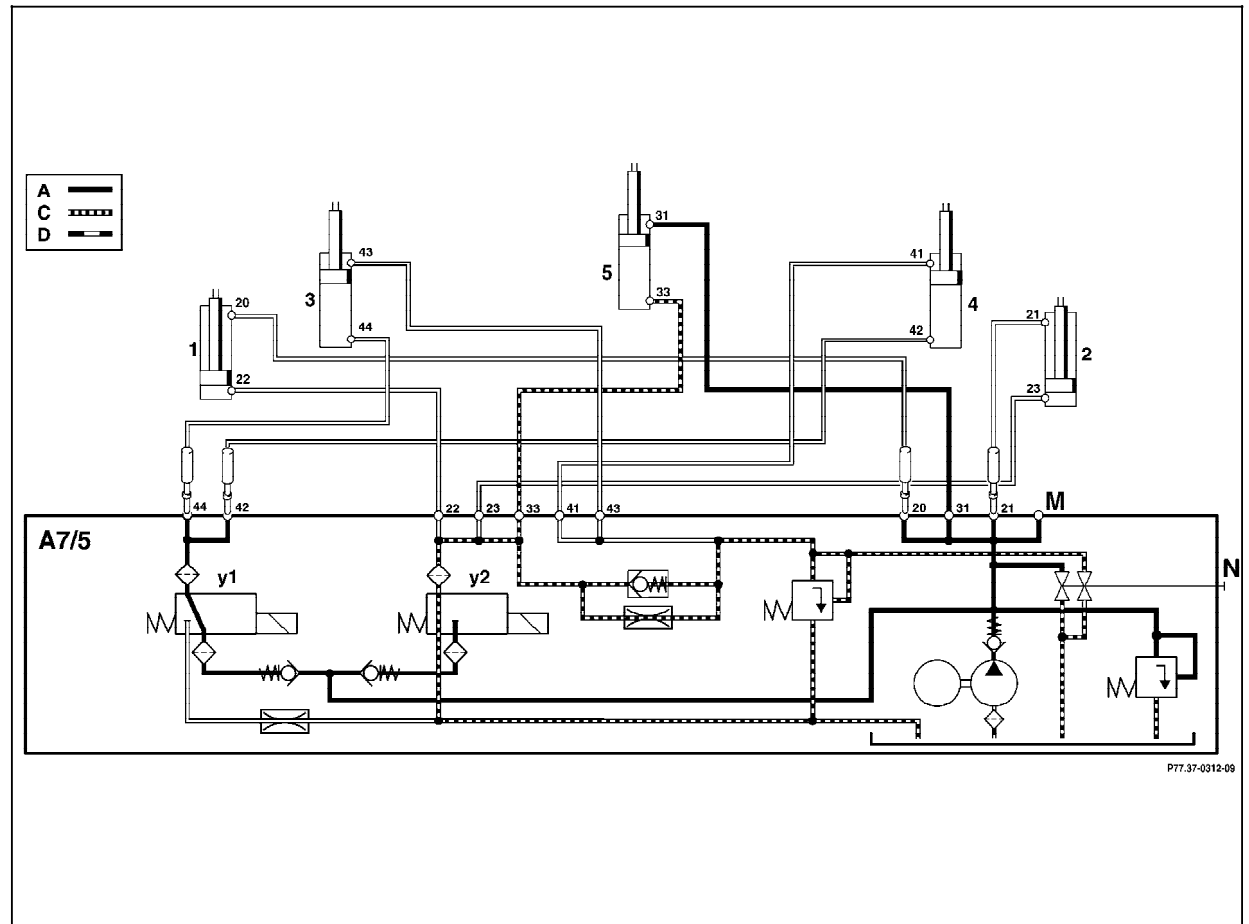



Figure 25

- A7/5 Hydraulic unit
- 1 Left trunk lid hydraulic cylinder
- 2 Right trunk lid hydraulic cylinder
- 3 Retractable hardtop, left actuation hydraulic cylinder
- 4 Retractable hardtop, right actuation hydraulic cylinder
- 5 Front hydraulic lock cylinder
- A Retractable hardtop hydraulic circuit
- C Return line
- D Suction line
- M Test (measuring) connection
- N Emergency operation relief valve
- y1 Retractable hardtop solenoid valve
- y2 Trunk lid solenoid valve

P77.37-0312-79

## Hydraulic Test Program – Test

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
7.3		<p>Checking retractable hardtop actuation hydraulic cylinder (<b>piston side</b>) (4, Figure 25)</p> <p><b>Complaint:</b> Front latch lock does not lock.</p>	<p>Connect pressure gauge according to connection diagram (Figure 3).</p> <p>Disconnect hydraulic line number 42 from hydraulic unit. Seal connection with plug 129 589 00 91 01.</p> <p>Leave hydraulic lines numbers 20, 21 and 44 disconnected.</p>	<p><b>Retractable hardtop closed, front latch lock open, trunk lid locked into its latches in the trunk, trunk lid open, rotary latch on trunk lid lock locked.</b></p> <p>Ignition: <b>ON</b> Press retractable hardtop switch (S84) to close position for 5 sec.</p> <p><b>Read test pressure while depressing the switch</b></p>	<p>180 – 200 bar</p>	<p><b>Nominal values O. K.:</b> Retractable hardtop actuation hydraulic cylinder (4, Figure 25) leaking. Replace hydraulic cylinder.</p> <p><b>&lt;180 bar:</b> ⇒ 6.0</p>