


ENGINE 112, 113, 275 in MODEL 230

Connection diagram

079  Volt ampere tester

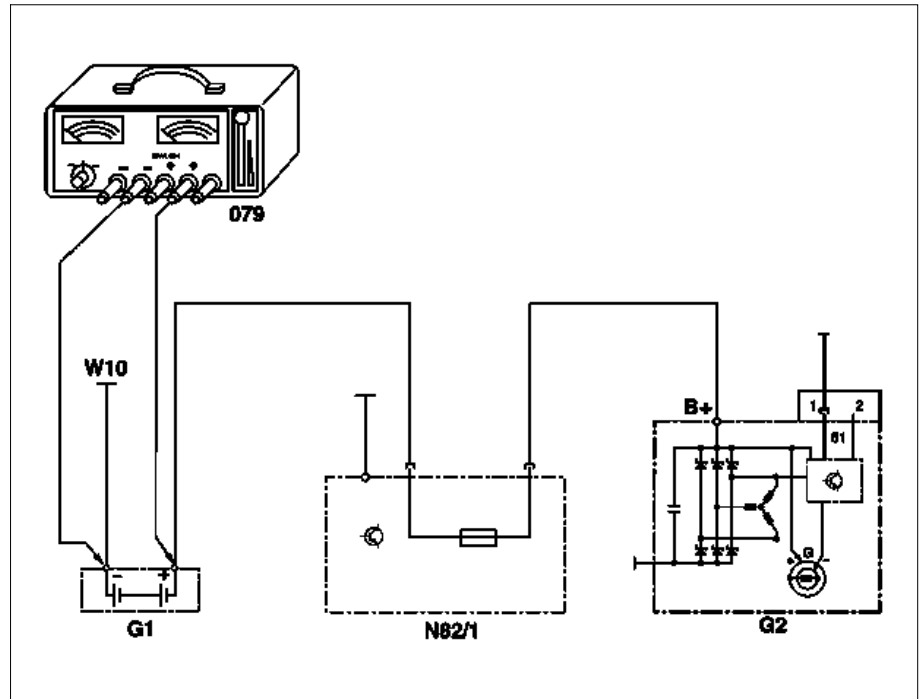
B+ Charging current connection

G1 On-board electrical system battery

G2 Alternator

N82/1 Vehicle power supply control unit

W10 Ground (battery)












P15.40-2366-06

F52 Fuse through-plating



P15.40-2156-01

	Checking		
	<p>Risk of explosion caused by escaping oxyhydrogen gas. Risk of injury caused by caustic burns to eyes, skin and mucous membranes from battery electrolyte (contains diluted sulfuric acid) or metal spatter due to short circuit. Risk of burn injuries caused by short circuit. Risk of poisoning caused by swallowing battery electrolyte (contains diluted sulfuric acid) or absorption of lead over the skin or orifices</p>	<p>No fire, sparks, open flames or smoking. Wear acid-resistant gloves and clothing and safety glasses with side guards. Do not place any conductive objects on the battery and avoid any short circuit from battery positive to ground. Only fill liquid battery electrolyte (diluted sulfuric acid) into suitable and appropriately marked containers.</p>	AS54.10-Z-0001-01A
!	Notes on battery		AH54.10-P-0001-01A
1	Check condition of on-board electrical system battery (G1)		AR54.10-P-1129I
2	Check whether preconditions for alternator testing have been fulfilled		AR15.40-P-5009R
3	Attach volt ampere tester (079) according to connection plan	<p> Volt ampere tester with load resistance</p> <p> Volt ampere Tester ETT 011.00</p>	<p>*WH58.30-Z-1002-09A</p> <p>*WH58.30-Z-1003-09A</p>
4	<p>Risk of accident caused by vehicle starting off by itself when engine is running. Risk of injury caused by contusions and burns during starting procedure or when working near the running engine</p> <p>Start engine</p>	<p>Secure vehicle to prevent it from moving by itself.</p> <p>Wear closed and snug-fitting work clothes. Do not grasp hot or rotating parts.</p>	AS00.00-Z-0005-01A
5	Check function of charge indicator lamp when engine is idling and with increasing engine speed (up to 3000 rpm)	<p> If charging current is correct, no fault message appears in the display of the instrument cluster.</p>	

6	Load on-board electrical system battery G1) with a permanent consumer and check regulation voltage of alternator (G2)	 Volt ampere tester with load resistance  Volt ampere Tester ETT 011.00  Regulation voltage > 15.0 V: ↓ <ul style="list-style-type: none"> ● Replace regulator Engine 112, 113 ● Replace alternator (G2) Engine 275  Regulation voltage < 13.0 V: ↓ <ul style="list-style-type: none"> ● Check electrical connections for charging system for transition resistances; repair if necessary. Electrical connections OK: ↓ Check fuse 1 and fuse 2 in fuse through-plating (F52). The fuse through-plating (F52) is located in the right footwell under foot support. For vehicles with Sound System (code 810) the bass box under the foot support must also be removed. Fuse through-plating (F52) OK: ↓ ● Check alternator (G2) diodes Engine tester with oscilloscope If diodes are faulty: ↓ ● Replace alternator (G2) Engine 112, 113 Engine 275 	*BE15.40-P-1001-02A *WH58.30-Z-1002-09A *WH58.30-Z-1003-09A AR15.40-P-5760R AR15.40-P-5032RA AR15.40-P-9301-02R *WH58.30-Z-1046-13A AR15.40-P-5032R AR15.40-P-5032RA
7	Turn off engine		
8	Clamp off volt amp(s) tester (079)	 Volt ampere tester with load resistance  Volt ampere Tester ETT 011.00	*WH58.30-Z-1002-09A *WH58.30-Z-1003-09A

Check values for regulator

Number	Designation		Engines 103, 104, 111, 112, 113, 119, 120, 137, 155, 166, 275	
BE15.40-P-1001-02A	Regulating voltage (at battery)	Loading: only on permanent consumer	V	13...15
Engine speed		rpm	3000	
Measured after		min	≈ 2	

Commercially available tools

Number	Designation
WH58.30-Z-1002-09A	Volt-amp(s) tester with load resistance (no longer available)
WH58.30-Z-1003-09A	Volt ampere tester
WH58.30-Z-1046-13A	Engine tester with oscilloscope