



# ***Handlebar Control (Advance / Retard, Dimmer, and Signal Horn) Switch***

***(Also See Ignition Systems for Russian Motorcycles,  
Part II: PM-05 Breaker/Distributor)***

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(06/2011)***

# **Handlebar P-45 Control (Advance / Retard, Dimmer, and Signal Horn) Switch**

- **Functionality**
  - Advance / Retard Lever Control of PM-05 Manual Spark Advance
  - Push-Button for Signal Horn (Ground Contact)
  - High / Low Beam Control of Headlight
    - Slider SPDT Switch
- **Usage: Mated with PM-05 Ignition Breaker**
  - Ural: M-72, M-72K, M-72M, M-61 and Early M-62's
  - Dnepr: M-72, M-72N, and Early K-650's, K-750's, K-750M's, MB-750's, MB-750M's, MT-9's, and MT-12's
- **Size: Fits 25mm Diameter Handlebars**

**Part# 72185 fits a 25mm diameter Handlebar**



**Table I: IMZ (ИМЗ) - Ural (Урал) Model/Year vs. Electrical System (01/11)**

Model	Year	Engine Size	Voltage	Generator/ Alternator	Regulator	Ignition Coil	Breaker/ Distributor	Battery
M-72	1941-56	750cc	6-Volt	G-11, G-11A (1952)	PP-1, PP-31 (1950)	KM-01, B2B, IG-4085B (1950)	PM-05	3MT-7 (7A-hr) or 3MT-14 (14A-hr)
M-72M	1956-61	750cc	6-Volt	G-11A (1952)	PP-31A	KM-01	PM-05	
M-72K	1954-60	750cc	6-Volt	*Magneto*	None	-	PM-05	None
M-61	1961-63	650cc	6-Volt	G-11A (1952)	PP-30, PP-31A (1956)	B11, KM-01	PM-05	3MT-12 (12A-hrs)
M-62	1963-65	650cc	6-Volt	G-414 (1957)	PP-31	B2B (1963)	PM-05	3MT-6 (6A-hrs) or 3MT-12 (12A-hrs)
					PP-302, PP-302A	B201, B201A	PM-302, PM-302A	
M-63 (Ural-2)	1965-80	650cc	6-Volt	G-414 (1957)	PP-302 (1963), PP-302A	B2B (1963)	PM-11A	
						B201, B201A	PM-302, PM-302A	
M-66 (Ural-3)	1971-75	650cc	6-Volt	G-414 (1957)	PP-302 (1963), PP-302A	B201, B201A	PM-302, PM-302A	
M-67	1974-76	650cc	12-Volt	G-424 (1974)	PP-302A, PP-330	B204	PM-302, PM-302A	6MTS-9 (9A-hrs) or 2X 3MT-6 (2X 6A-hrs)
M-67.36	1976-95	650cc	12-Volt	G-424 (1974)	PP-330, 33.3702 (1992)	B204	PM-302, PM-302A	
8.103 and 8.107 Series “650”	1994-98	650cc	12-Volt	G-424 (1974)	PP-330, 33.3702 (1992)	B204	PM-302A (1982)	6MTS-9 or 6CT-18-36A (18-to-36A-hrs)
						BC3 (BZ3) Contact-less Ignition System Type I (1994), II (1997), III (1998)		
8.103,8.103X, 8.123,8.123X 650 & 750 Series	1999- 2003	750cc	12-Volt	14.3771 (1998)	Internal to Alternator (YA212A11E)	Contact-less Ignition System Type IV (2002)		Varta YB18L
8.103,8.103X, 8.123,8.123X “750”Series	2004- present	750cc	12-Volt	Nippon Denso (2004)	Internal to Alternator	Type V (2004) Ducati (2006), Power Arc		6MTS-18, Interstate FAYTX-20HL

**Notes:**

1. M-64 (1961) and M-65 (1965) were prototypes.
2. Alternators progress in output voltage and power from Г-11 (G-11) generator of 6-Volts/45-Watts in 1941, Г-11A of 6 V/45 W in 1952, Г-414 6V/65 W in 1957, Г-424 of 12V/150W in 1974, 14.3771 of 12V/350W in 1998.5, to the present-day Nippon-Denso alternator of 12V/770W.
3. M-73 (1976) was an M-72 (750cc) with engageable sidecar wheel.
4. M-75 (1943) was experimental model with 500cc engine (6-Volt) on M-72 frame. M-76 (1947) was experimental (820cc).
5. Г-424 alternator (150 Watts) has external relay/regulator (PP-302 or PP-330). 14.3771 and Nippon Denso alternators have internal regulators.
6. 12-Volt ignition coil B2B (manual spark advance) paired with PM-05 distributor, B201/B201A (ignition coil for automatic spark advance) paired with PM-302/PM-302A. B2B and B201 coils for 6-Volts and B204 for 12-Volts.
7. PP-1, PP-30, PP-31 reverse-relay/voltage regulator for generator G-11/-11A systems were replaced with PP-302/-302A voltage regulator for G-414, and finally P-330 for the G-424 alternator.
8. 33.3702 Solid-State Voltage Regulator replaced the PP-330 in 1992.

# Table II: KMZ (KM3) - Dnepr (Днепр) Model/Year vs. Electrical System (01/11)

Model	Year	Engine Size	Voltage	Generator/ Alternator	Regulator	Ignition Coil	Breaker/ Distributor	Battery
<i>M-72</i>	<i>1951-56</i>	<i>750cc</i>	<i>6-Volt</i>	<i>G-11A (1952)</i>	<i>PP-31 (1950)</i>	<i>KM-01, B-2B</i>	<i>PM-05</i>	<i>3MT-7 (7A-hr) or 3MT-14 (14A-hr)</i>
<i>M-72N (H)</i>	<i>1957-59</i>	<i>750cc</i>	<i>6-Volt</i>	<i>G-11A (1952)</i>	<i>PP-31A (1956)</i>	<i>KM-01</i>	<i>PM-05</i>	
<i>K-750</i>	<i>1956-63</i>	<i>750cc</i>	<i>6-Volt</i>	<i>G-11A (1952)</i>	<i>PP-31A (1956)</i>	<i>IG-4085</i>	<i>PM-05, PM-11A</i>	<i>3MT-7, -10, -14</i>
	<i>1963-67</i>			<i>G-414 (1957)</i>	<i>PP-302 (1963)</i>	<i>B2B (1963), B201</i>	<i>PM-302</i>	<i>3MT-12 or -14</i>
<i>K-750M</i>	<i>1963-77</i>	<i>750cc</i>	<i>6-Volt</i>	<i>G-414 (1957)</i>	<i>PP-302 (1963)</i>	<i>B2B (1963)</i>	<i>PM-05</i>	<i>3MT-6</i>
						<i>B201</i>	<i>PM-302</i>	
<i>MT-12 (Dnepr-12)</i>	<i>1974-82 2WD 1982-85 1WD</i>	<i>750cc</i>	<i>6-Volt</i>	<i>G-414 (1957)</i>	<i>PP-302 (1963), PP-302A</i>	<i>B2B (1963)</i>	<i>PM-05</i>	<i>3MT-12</i>
						<i>B201</i>	<i>PM-302</i>	
<i>MB-750</i>	<i>1964-73</i>	<i>750cc</i>	<i>6-Volt</i>	<i>G-414 (1957)</i>	<i>PP-302 (1963)</i>	<i>B2B (1963)</i>	<i>PM-05</i>	<i>3MT-12</i>
						<i>B201</i>	<i>PM-301/PM-302</i>	
<i>MB-750M</i>	<i>1973-77</i>	<i>750cc</i>	<i>6-Volt</i>	<i>G-414 (1957)</i>	<i>PP-302 (1963), 33.3702 (1992)</i>	<i>B2B (1963)</i>	<i>PM-05</i>	
						<i>B201</i>	<i>PM-302</i>	
<i>K-650/MT-8</i>	<i>1967-70</i>	<i>650cc</i>	<i>6-Volt</i>	<i>G-414 (1957)</i>	<i>PP-302 (1963), PP-302A</i>	<i>B2B</i>	<i>PM-05, PM-11A</i>	<i>3MT-12</i>
						<i>B201</i>	<i>PM-302</i>	
<i>K-650/MT-9</i>	<i>1971-74</i>	<i>650cc</i>	<i>6-Volt</i>	<i>G-414 (1957)</i>	<i>PP-302 (1963), PP-302A</i>	<i>B2B</i>	<i>PM-05</i>	<i>3MT-6 or 3MT-12</i>
						<i>B201A</i>	<i>PM-302</i>	
<i>MB-650</i>	<i>1968-91</i>	<i>650cc</i>	<i>12-Volt</i>	<i>G-424 (1974)</i>	<i>PP-330</i>	<i>B204</i>	<i>PM-302, PM-302A(1982)</i>	<i>6MTS-9 or 2X 3MT-6</i>
<i>MB-650M1</i>	<i>1985-late 90s</i>	<i>650cc</i>	<i>12-Volt</i>	<i>G-424 (1974)</i>	<i>PP-330</i>	<i>B204</i>	<i>PM-302A</i>	
<i>MT-10</i>	<i>1973-76</i>	<i>650cc</i>	<i>12-Volt</i>	<i>G-424 (1974)</i>	<i>PP-330</i>	<i>B204</i>	<i>PM-302, PM-302A (1982)</i>	
<i>MT-10.36</i>	<i>1976-88</i>	<i>650cc</i>	<i>12-Volt</i>	<i>G-424 (1974)</i>	<i>PP-330</i>	<i>B204</i>	<i>PM-302A (1982)</i>	
<i>MT-11 (Dnepr-11)</i>	<i>1982-late 90s</i>	<i>650cc</i>	<i>12-Volt</i>	<i>G-424 (1974)</i>	<i>PP-330, 33.3702 (1992)</i>	<i>B204</i>	<i>PM-302A (1982)</i>	
<i>MT-16 (Dnepr-16)</i>	<i>1985-late 90s</i>	<i>650cc</i>	<i>12-Volt</i>	<i>G-424 (1974)</i>	<i>PP-30, PP-31, PP-330, 33.3702 (1992)</i>	<i>B201, B204</i>	<i>PM-302, PM-302A (1982)</i>	<i>6MTS-9 (9A-hr)</i>

## Notes:

1. MT-14 (1977) was a prototype.
2. MB-650 is military version of MT-16 and MB-750 is a military version of the MT-12
3. Alternators progress in output voltage and power from Г-11 (G-11) generator of 6-Volts/45-Watts in 1941, Г-11A of 6 V/45 W in 1952, Г-414 6V/65 W in 1957, Г-424 of 12V/150W in 1974, 14.3771 of 12V/350W in 1998.5, to the present-day Nippon-Denso alternator of 12V/770W.
4. MT-11 and MT-16 remained in production until 1991 when they were re-named the Dnipro-11 (Dnepr-11) and Dnipro-16 (Dnepr-16).
5. Model #'s: H = N, MW = MB = MV
6. 33.3702 Solid-State Voltage Regulator replaced the PP-330 in 1992.
7. Г-424 alternator (150 Watts) has external relay/regulator (PP-302 or PP-330). 14.3771(350 Watts) alternator has internal regulator.
8. 12-Volt ignition coil B2B (manual spark advance) paired with PM-05 distributor, B201/B201A (ignition coil for automatic spark advance) paired with PM-302/PM-302A. B2B and B201 coils for 6-Volts and B204 for 12-Volts.



# Diagram of P-45 Control Switch Functionality

**Dimmer (Hi/Lo Beam) Control**

**Advance Lever Control**

**Push-Button for Signal Horn**



A Bowden cable is a type of flexible cable used to transmit mechanical force by the movement of an inner cable (most commonly of steel) relative to a hollow outer cable housing.

**Bowden Cable**

**Bowden Cable**



to  
**Headlight**

**C-35 / C-37  
Signal Horn**



**PM-05  
Ignition**



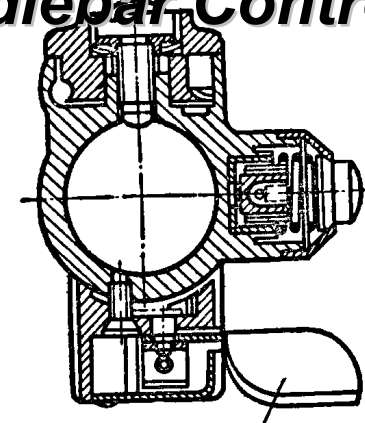
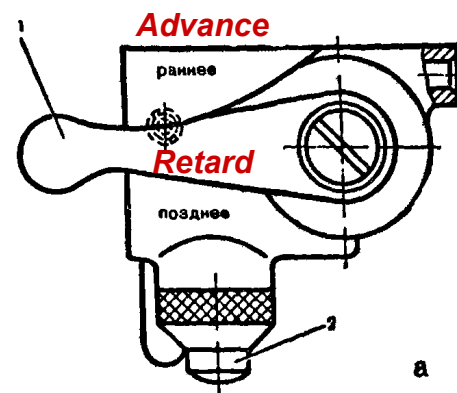
**Dimmer (high/low beam) switching is designed to work via a Bowden cable with a mechanical "switch" that is mounted inside the headlamp cavity. The control switch also contains an advance / retard control for the PM-05 breaker points, and a push-button switch for the signal horn.**

# M-72, K-750, MB-750, MT-9 and MT-12 Handlebar Control

1. Advance/Retard Lever
2. Horn Signal Button
3. Hi/Lo Beam Lever

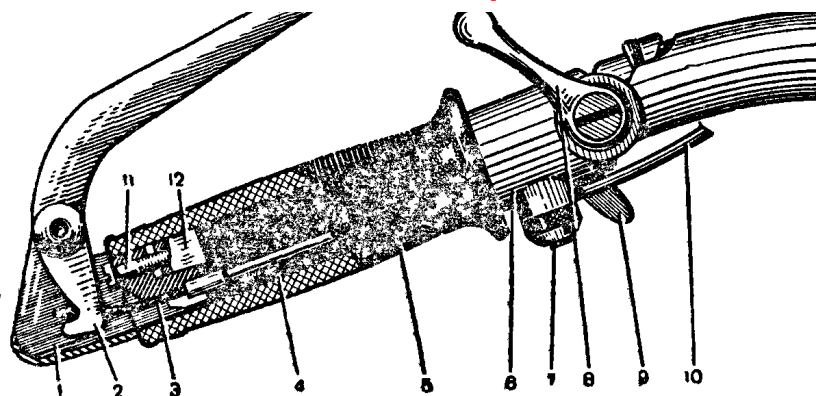


[www.ural-hamburg.de](http://www.ural-hamburg.de)

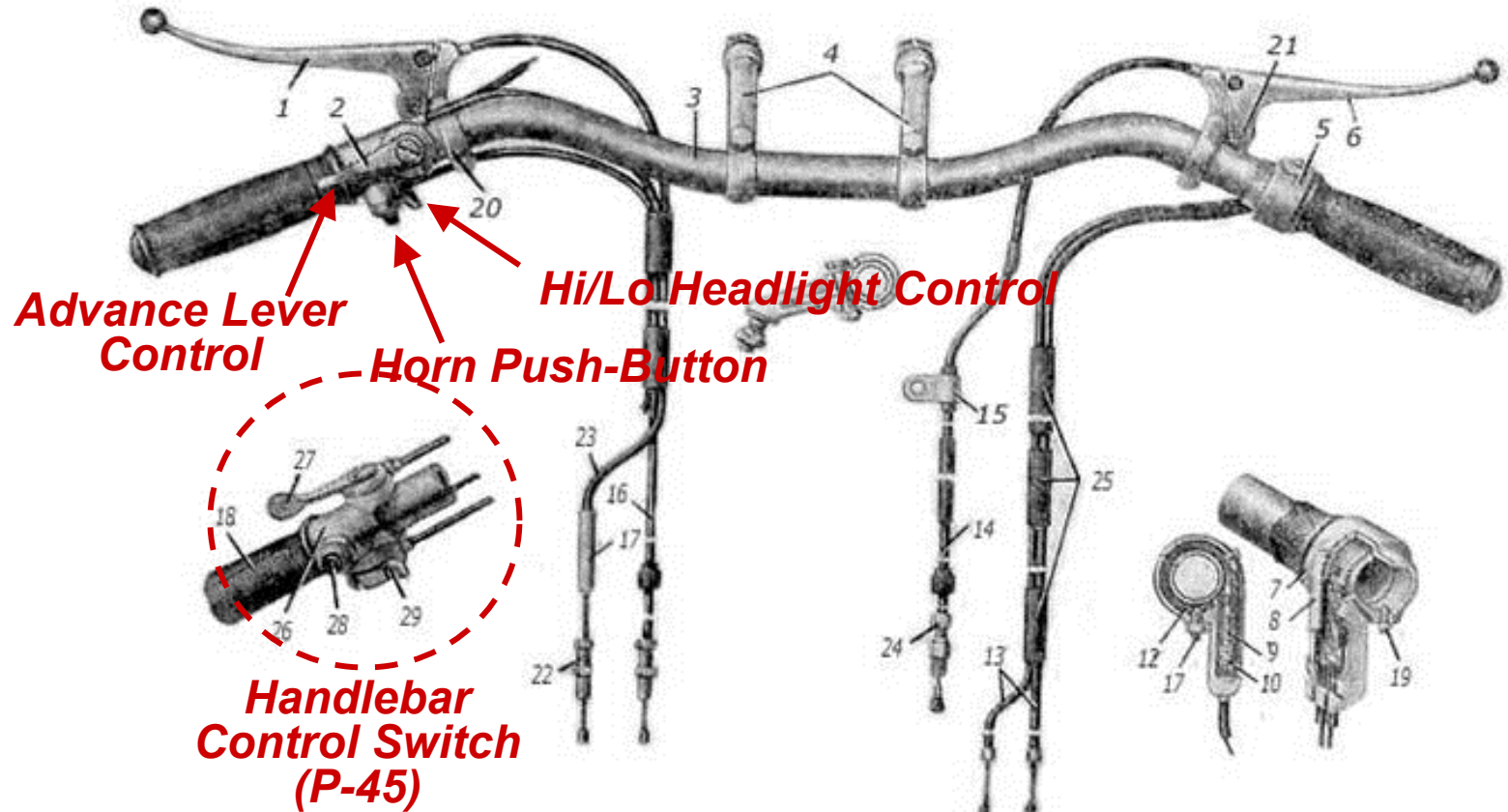


1. Cluth Lever
2. Lever
3. Line Coupling
4. Cable Sheath
5. Rubber Shell Grips
6. Handlebar
7. Button Signal to Horn
8. Ignition Advance Lever
9. Hi/Lo Beam Lever
10. Horn Signal Lead
11. Wedge-Shaped Biscuit
12. Screw biscuit

**Переключатель Света П45 (Control Switch P-45)**



# K-750M and MB-750, K-650 and MB-750M

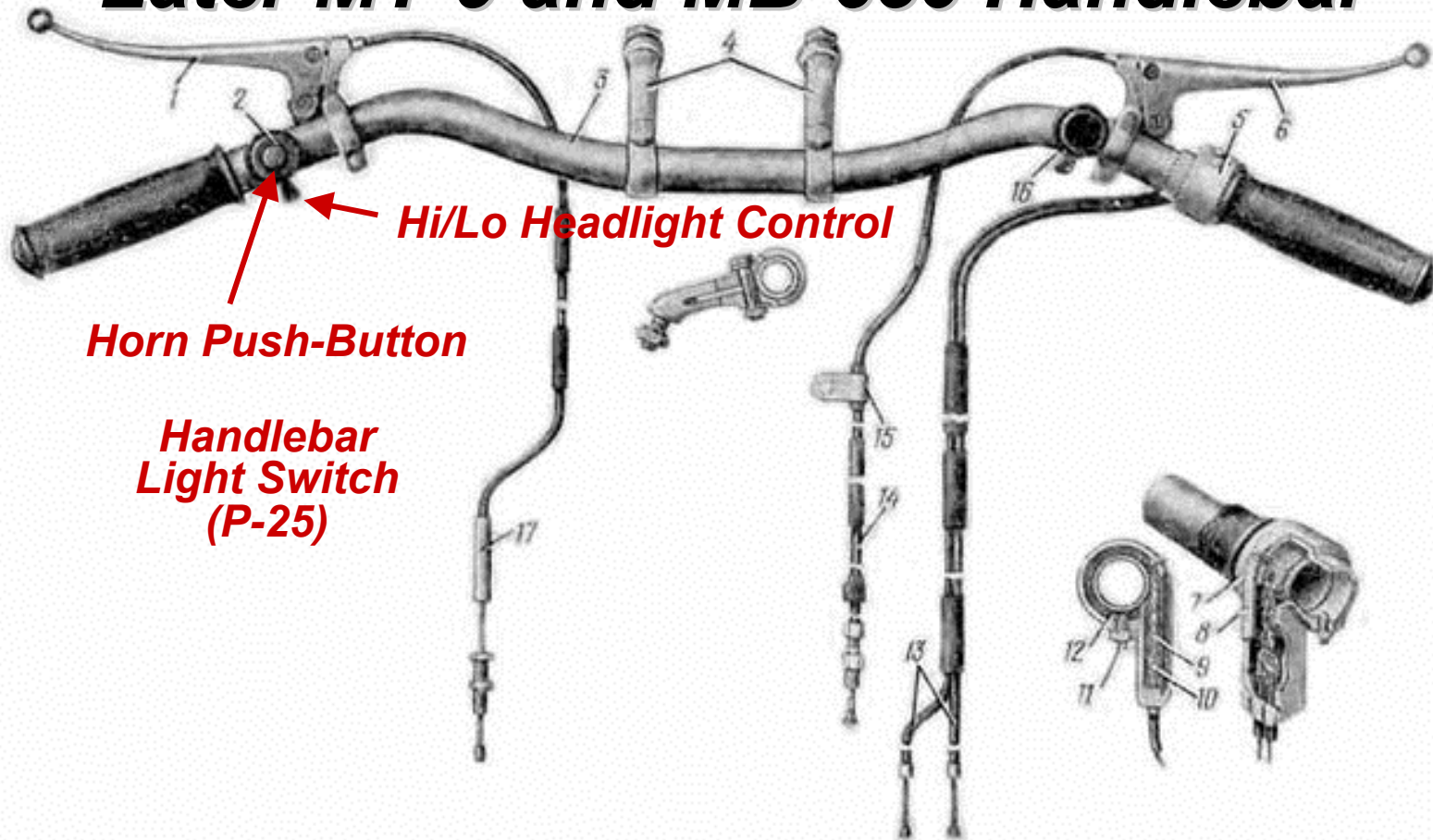


1 - Left Arm Assembly, 2 - Handlebar Control Switch P45, 3 - Trumpet Steering, 4 - Wheel Brackets, 5 - Throttle Grip Control Assembly, 6 - Right Arm Assembly, 7 - Body Control Knob Throttle, 8 - Housing cover 9 - Chain Assembly; 10 - Slide 11 - Throttle Adjustment Screw Knob, 12 - Spring, 13 - Throttle Cable Assemblies, 14 - Cable Front Brake Assembly; 15 - Caliper Front Brake Cable, 16 - Cable Ignition Assembly, 17 - Protective Tube, 18 - Steering Lever 19 - Lock Screw, 20 - Lever Bracket, 21 - Lever Axis, 22 - Adjusting Screw 23 - Clutch Cable, 24 - Adjustment Fitting 25 - Protective Sleeve; 26 - Metal Body 27 - Ignition lever, 28 - Horn Button, 29 - Hi/Lo Beam Lever

**Lever switch 29 controls near and far beam, through the cable connected to the switch in the headlight cavity. Moving the lever from one extreme to another, switches between the driving and passing beams.**



# Later MT-9 and MB-650 Handlebar

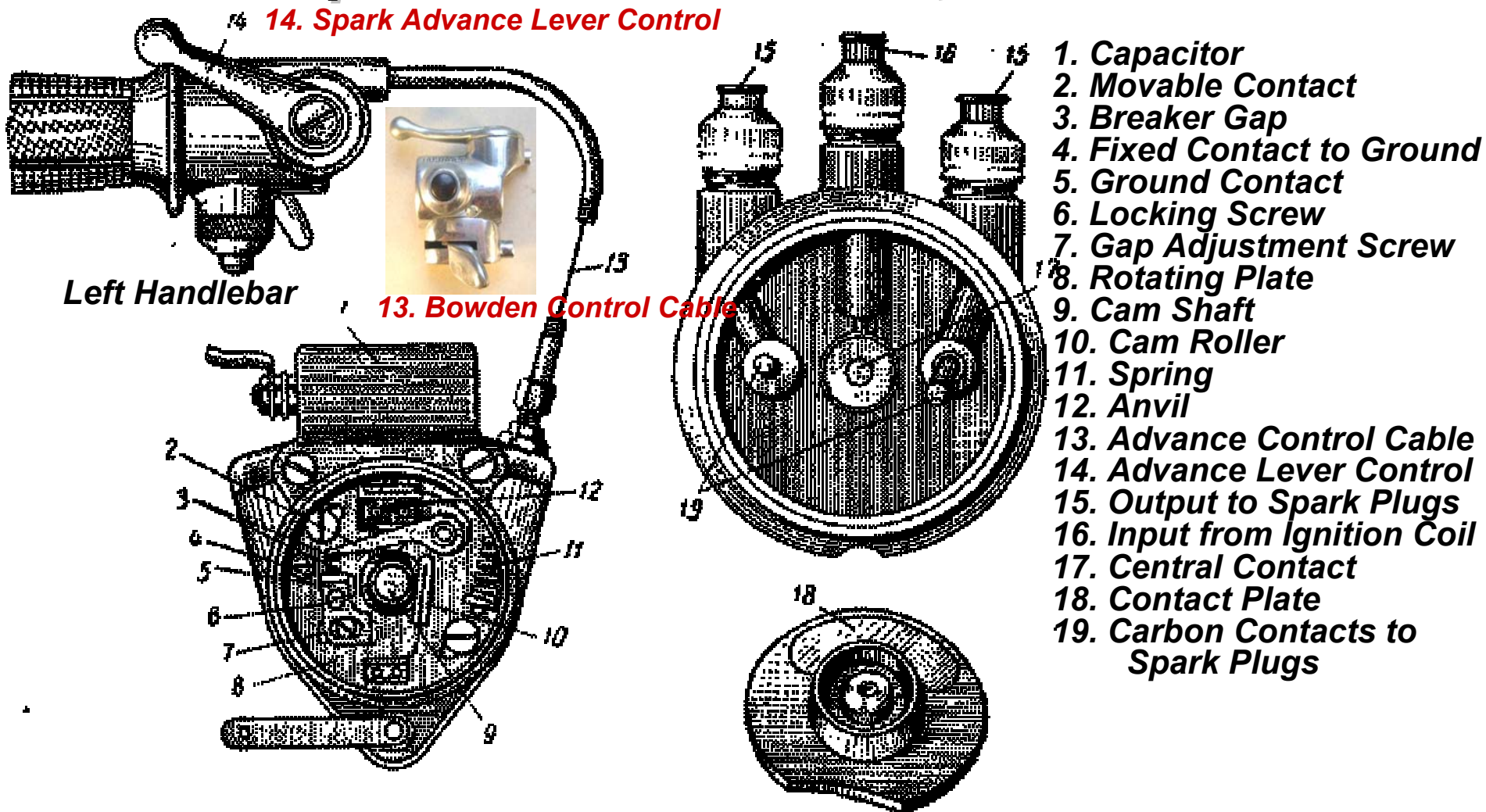


1 - Left Arm Assembly, 2 - Near/Far Beam Switch and Horn Button, 3 - Trumpet Steering, 4 - Wheel Brackets, 5 - Throttle Grip Control Assembly, 6 - Right Arm Assembly, 7 - Body Control Knob Throttle, 8 - Housing Cover 9 - Chain Assembly; 10 - Slide, 11 - Throttle Adjustment Screw Knob, 12 - Spring, 13 - Throttle Cable Assemblies, 14 - Cable Front Brake Assembly; 15 - Caliper Front Brake Cable, 16 - Switch Indicators, 17 - Protective Tube

**The handlebar control switch changed for later MT-9's and MB-650's, losing the advance/retard function, but retaining the the horn button and hi/lo beam function.**



# Manual Spark Advance M-61, K-750 and M-72



**The PM-05 is controlled by the ignition lever on the left handlebar, while the later PM-302 centrifugal regulator, provided an automatic change of ignition timing depending on engine speed.**

# ***Why Advance/Retard Ignition Timing?***

- ***"Timing Advance" refers to the number of degrees Before Top Dead Center (BTDC) that the spark will ignite the air-fuel mixture in the combustion chamber during the compression stroke.***
- ***Retarded timing can be defined as changing the timing so that fuel ignition happens later than the manufacturer's specified time.***
- ***Timing advance is required because it takes time to burn the air-fuel mixture. Igniting the mixture before the piston reaches Top Dead Center (TDC) will allow the mixture to fully burn soon after the piston reaches TDC.***
- ***As the engine speed increases, the time available to burn the mixture decreases, but the burning itself proceeds at the same speed. It needs to be started increasingly earlier to complete (advanced) in time.***
- ***In a classic ignition system with breaker points, the basic timing can be set statically using a test light or dynamically using a timing light.***

***Ignition timing is the process of setting the time when a spark will occur during the compression stroke relative to piston position and crankshaft angular velocity.***

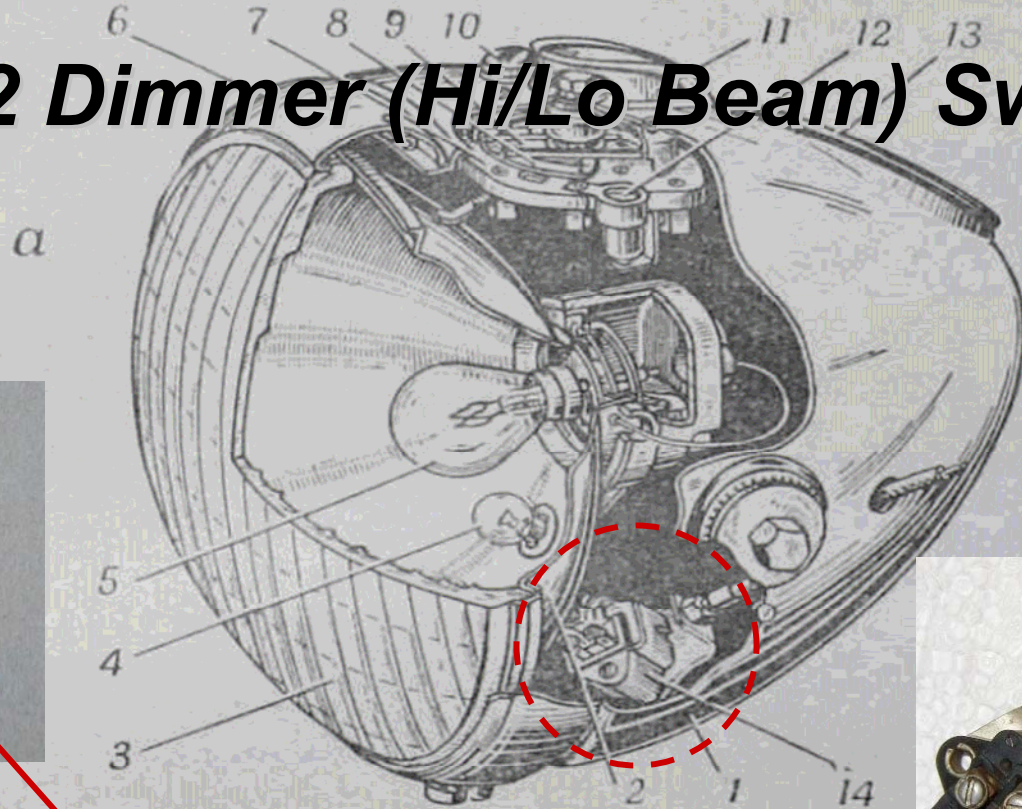
# ***Use of Handlebar Timing Lever*** (CossackPower (b-Cozz))

- ***On the Open Road: Full Advance***
- ***Going Up a Steep Hill: Retard a Bit***
- ***Show-Off (slow thumpy idle when stopped): Full or Almost Retard***
- ***If Bike Stalls (like a kill switch) when Pulled to Full Retard:***
  - ***Probably Due to Cable Stretch***
  - ***Retarding Too Far***
- ***Never Ride on Full Retard***
- ***When Spark Advance Is Increased (point when the ignition spark occurs, BTDC of the compression stroke) we Get More Power, but Also More Heat***
- ***There is a point after which we get lots more heat and very little extra power. (STOP before we get to this point!)***
- ***With Engine at Normal Operating Temperature and Idling, Advance Timing Slowly (Engine Will Speed Up)***
- ***Move Timing Back and Forth, Advancing and Retarding to Get Highest Engine Idling Speed***
- ***Back It Off (retard) a Bit***
  - ***Engine Speed Slows Down Just a Little (Still idling, don't touch the throttle)***
- ***Take Short Ride to Make Sure Engine Does Not "Ping" under Load***
- ***Check Color of Spark Plugs to Make Sure Not Running Too Hot***

***The manual control of spark advance is controlled by a handlebar lever connected to a PM-05 breaker/distributor.***



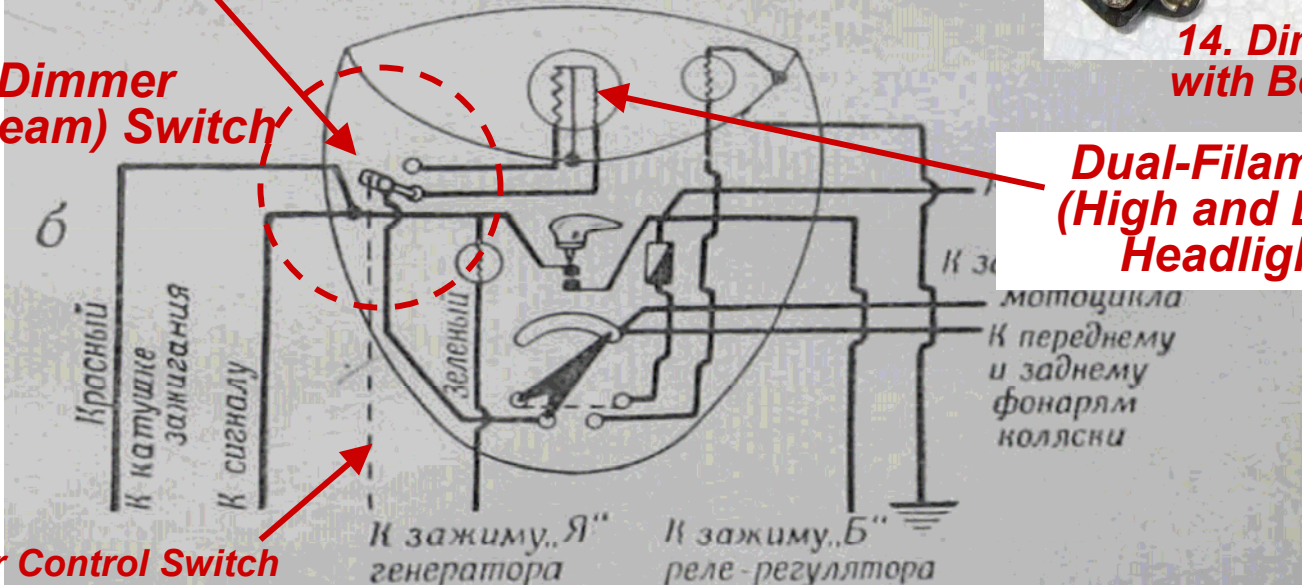
# M-72 Dimmer (Hi/Lo Beam) Switch



**14. Dimmer Switch with Bowden Cable**

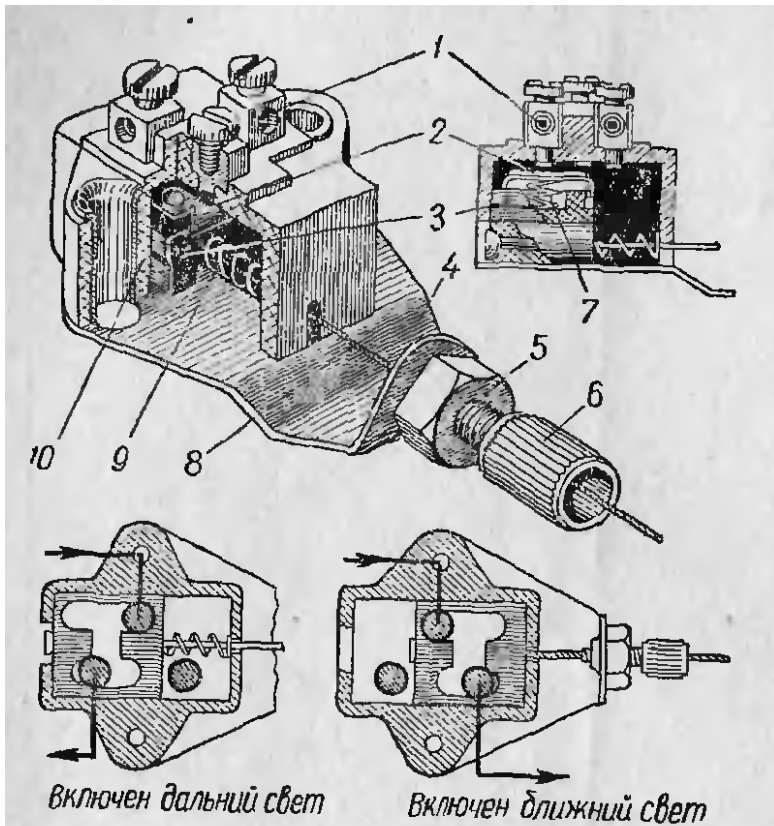
**14. Dimmer (Hi/Lo Beam) Switch**

**Dual-Filament (High and Low) Headlight**



**to Handlebar Control Switch**

# Dimmer Light Switch with Manual Ignition Advance (M-72 and Early K-750's, MT-9's, and MT-12's)



Фиг. 88. Переключатель дальнего света и света стоянки:

1 — клемма; 2 — подвижной контакт; 3 — движок; 4 — основание; 5 — кронштейн; 6 — регулировочный винт; 7 — пружина движка; 8 — трос переключения света; 9 — поворотная пружина; 10 — корпус.



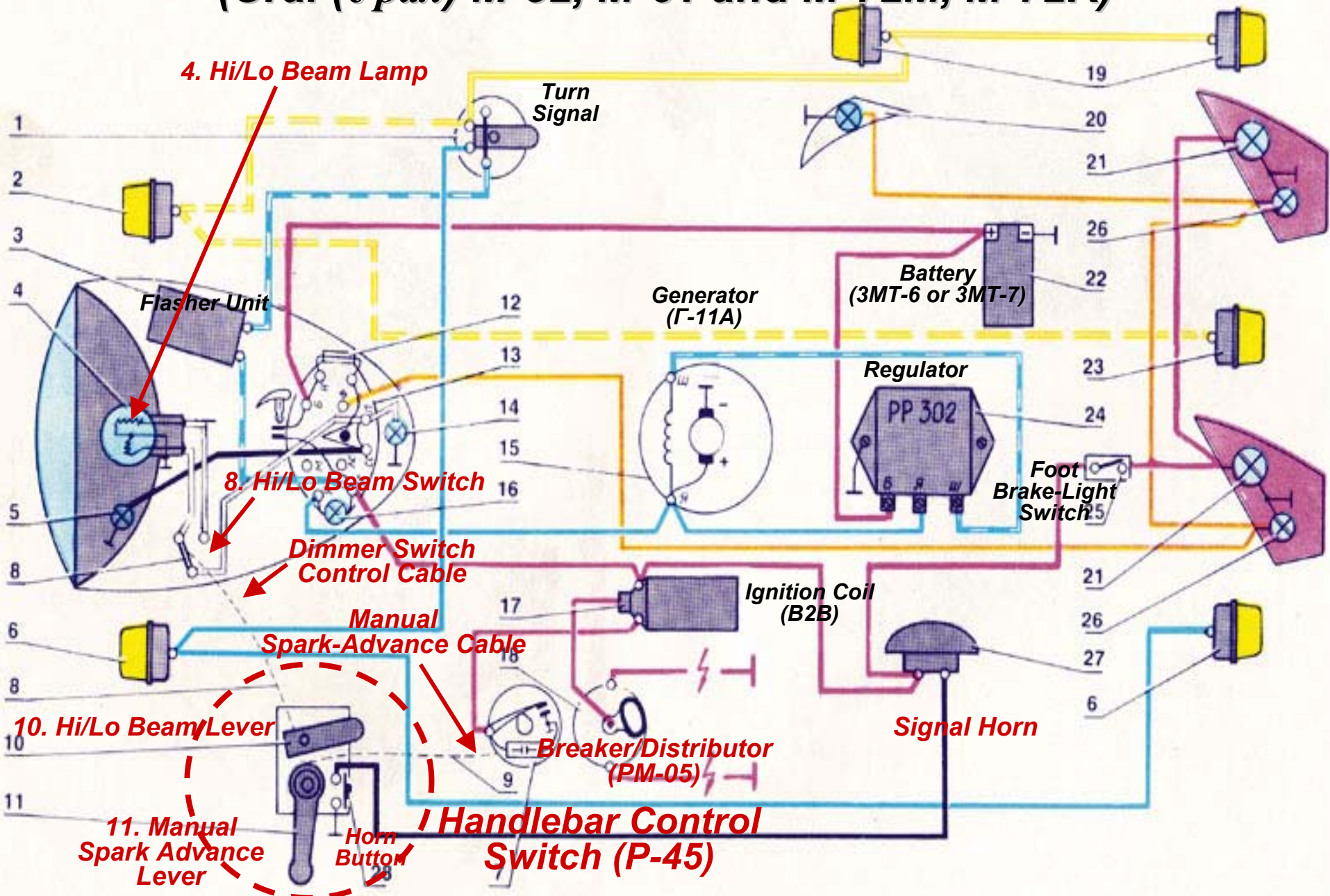
1. Terminal 2. Mobile Contact 3. Slider 4. Base 5. Lock Nut 6. Adjusting Screw 7. Spring Engine 8. Cable to Light Switch 9. Rotational Spring 10. Housing



**High/low beam switching is designed to work via a Bowden cable with a mechanical "switch" that is mounted inside the headlamp cavity.**



# Typical Application of Handlebar Control Switch (Ural (Урал) M-52, M-61 and M-72M, M-72K)





# M-72

1. Headlight Cavity
2. Hi/Lo-Beam Switch
3. Central Switch
4. Ignition Switch
5. Charge Light
6. Safety Fuse
7. Sidecar Running Lamps (no turn signals)
8. Signal Horn
9. Generator (Г-11)
10. Battery
11. Relay Regulator (RR-1/PP-1)
12. Rear Bike Lamp
13. Ignition Coil
14. Breaker Points
15. Distributor
16. Spark Plug (candle)
17. Horn Button Switch
18. Spark Advance Lever
19. Hi/Lo-Beam Dimmer Lever

**Left Handlebar  
Spark-Advance Lever**

**Hi/Lo Beam Switch**

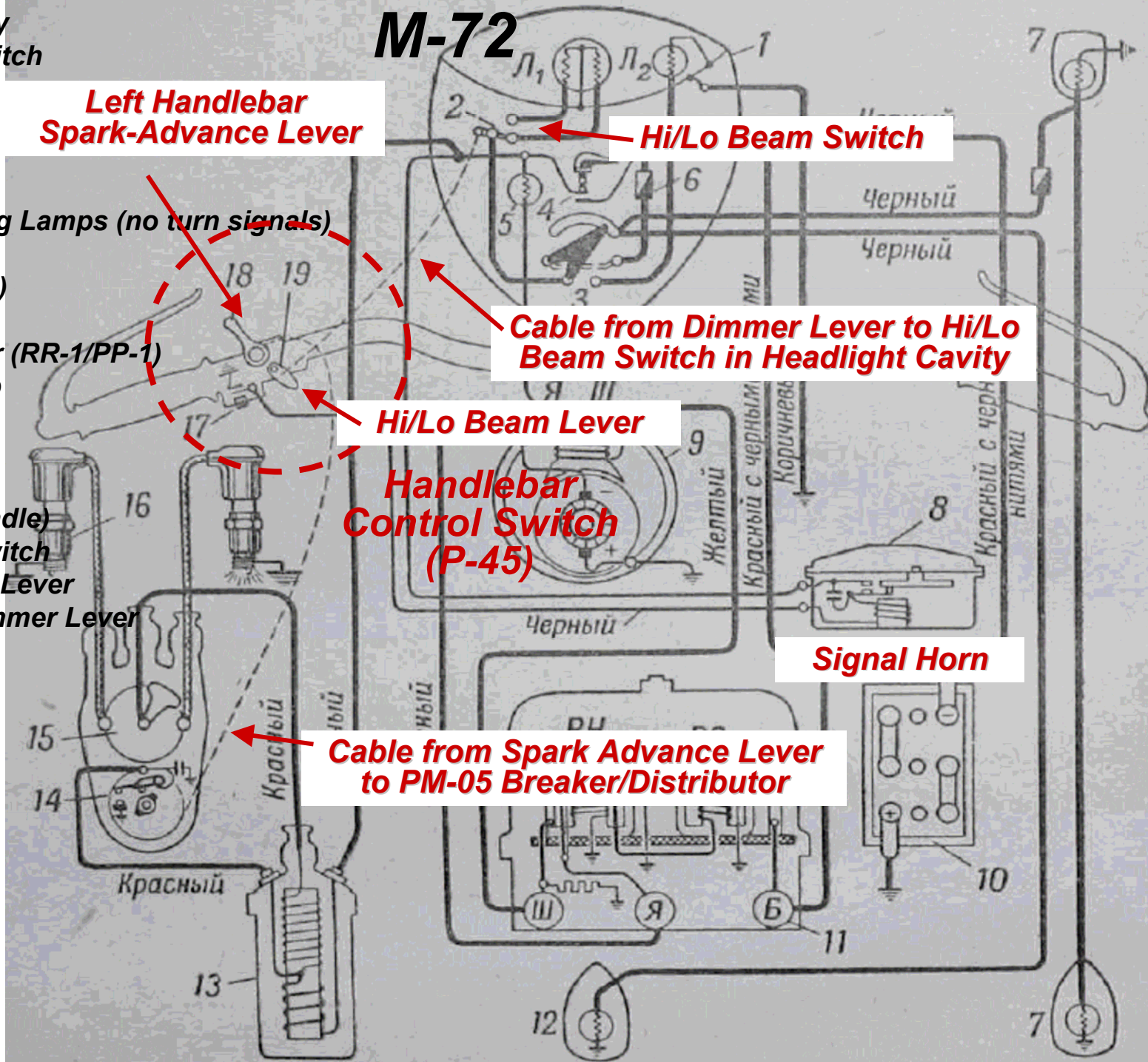
**Cable from Dimmer Lever to Hi/Lo  
Beam Switch in Headlight Cavity**

**Hi/Lo Beam Lever**

**Handlebar  
Control Switch  
(P-45)**

**Signal Horn**

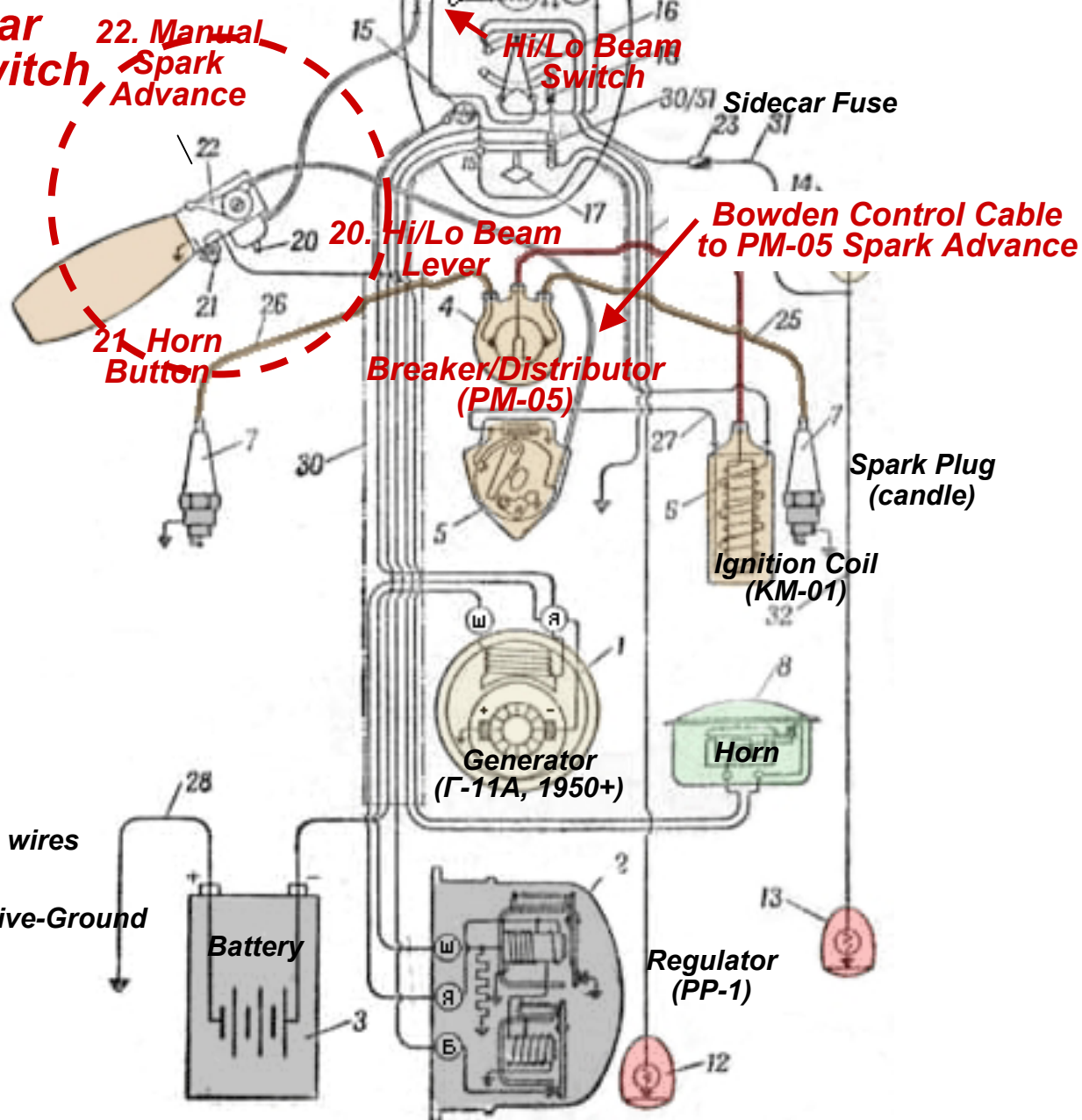
**Cable from Spark Advance Lever  
to PM-05 Breaker/Distributor**



# Ural (Урал) M-72 with Voltage Regulator PP-1 (thru 1949)

- 1 - generator: Г-11
- 2 - relay-regulator: PP-1
- 3 - rechargeable battery
- 4 - valve
- 5 - breaker/distributor: PM-05
- 6 - ignition coil: KM-01
- 7 - spark plugs (candles)
- 8 - signal
- 9 - lamp
- 10 - driving lamp and low light
- 11 - the parking light bulb
- 12 - tail light
- 13 - tail light sidecar
- 14 - front light sidecar
- 15 - control lamp
- 16 - ignition switch
- 17 - key
- 18 - fuse
- 19 - switch beam and dipped beam
- 20 - lever switch near and far light
- 21 - horn button signal
- 22 - Ignition control stick
- 23 - fuse lamps
- 24, 25 and 26 - high voltage wires
- 27, 28, 29 and 30 - bundle of low voltage wires
- 31 and 32 wire lanterns sidecar

Positive-Ground



# Ural (Урал) M-72 with Voltage Regulator PP-31

(1950+)

- 1 – generator: Г-11А)
- 2 - relay-regulator: PP-31
- 3 - rechargeable battery
- 4 – valve
- 5 – breaker: PM-05
- 6 - ignition coil: B2B
- 7 – spark plugs (candles)
- 8 – signal
- 9 – lamp
- 10 - driving lamp and low light
- 11 - the parking light bulb
- 12 - tail light
- 13 - tail light sidecar
- 14 - front light sidecar
- 15 - control lamp
- 16 - a central switch
- 17 – key
- 18 – safety
- 19 - switch beam and dipped beam
- 20 - lever switch near and far light
- 21 - button signal
- 22 - Ignition control stick
- 23 - fuse lamps
- 24, 25 and 26 - high voltage wires
- 27, 28, 29 and 30 - bundle of low voltage wires
- 31 and 32 wire lanterns stroller

**Handlebar Control Switch (P-45)**

Manual Spark Advance

Hi/Lo Beam Switch

Hi/Lo Beam Lever

Bowden Control Cable to PM-05 Spark Advance

Breaker/Distributor (PM-05)

Spark Plug (candle)

Ignition Coil (B2B)

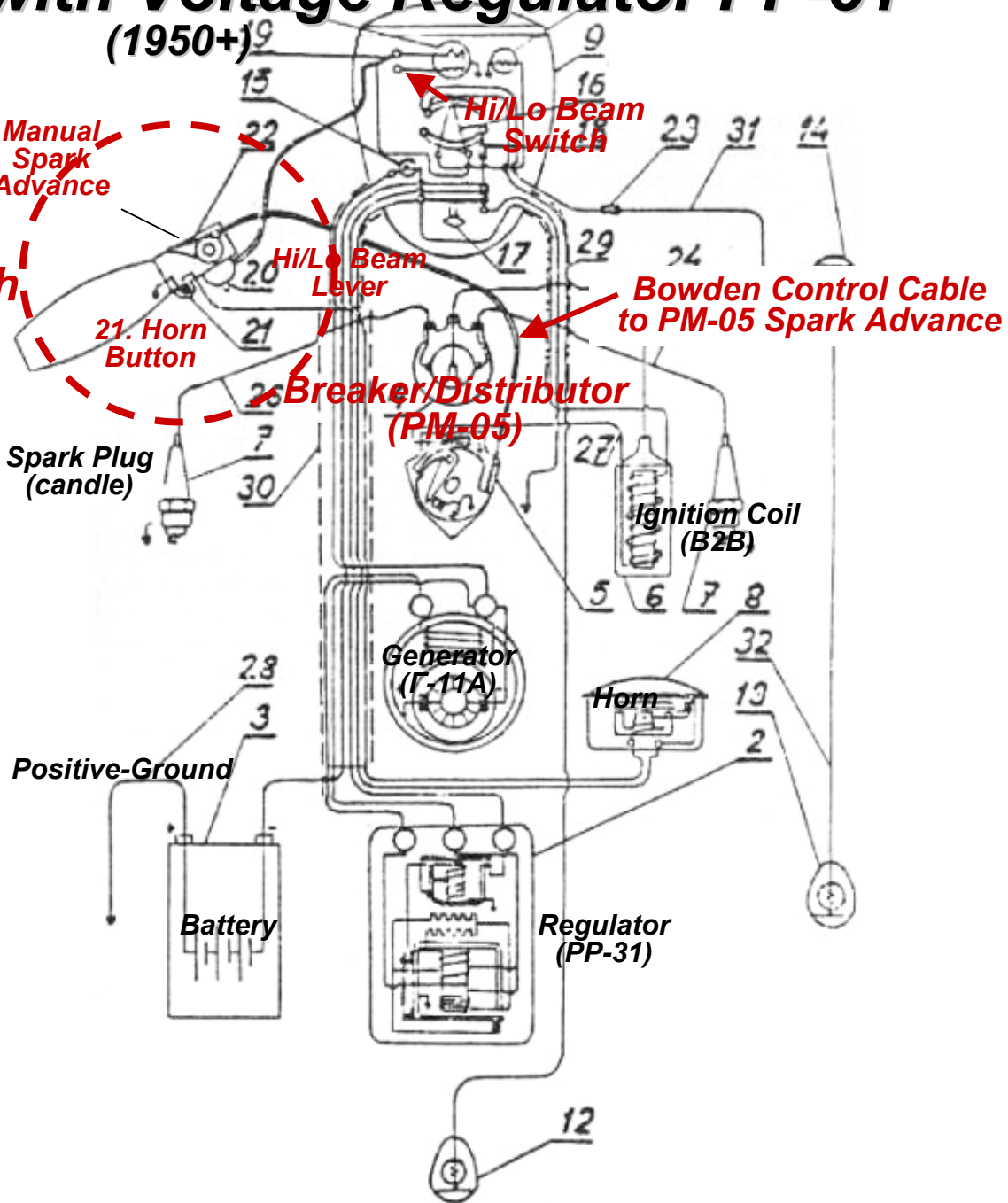
Generator (Г-11А)

Horn

Positive-Ground

Battery

Regulator (PP-31)



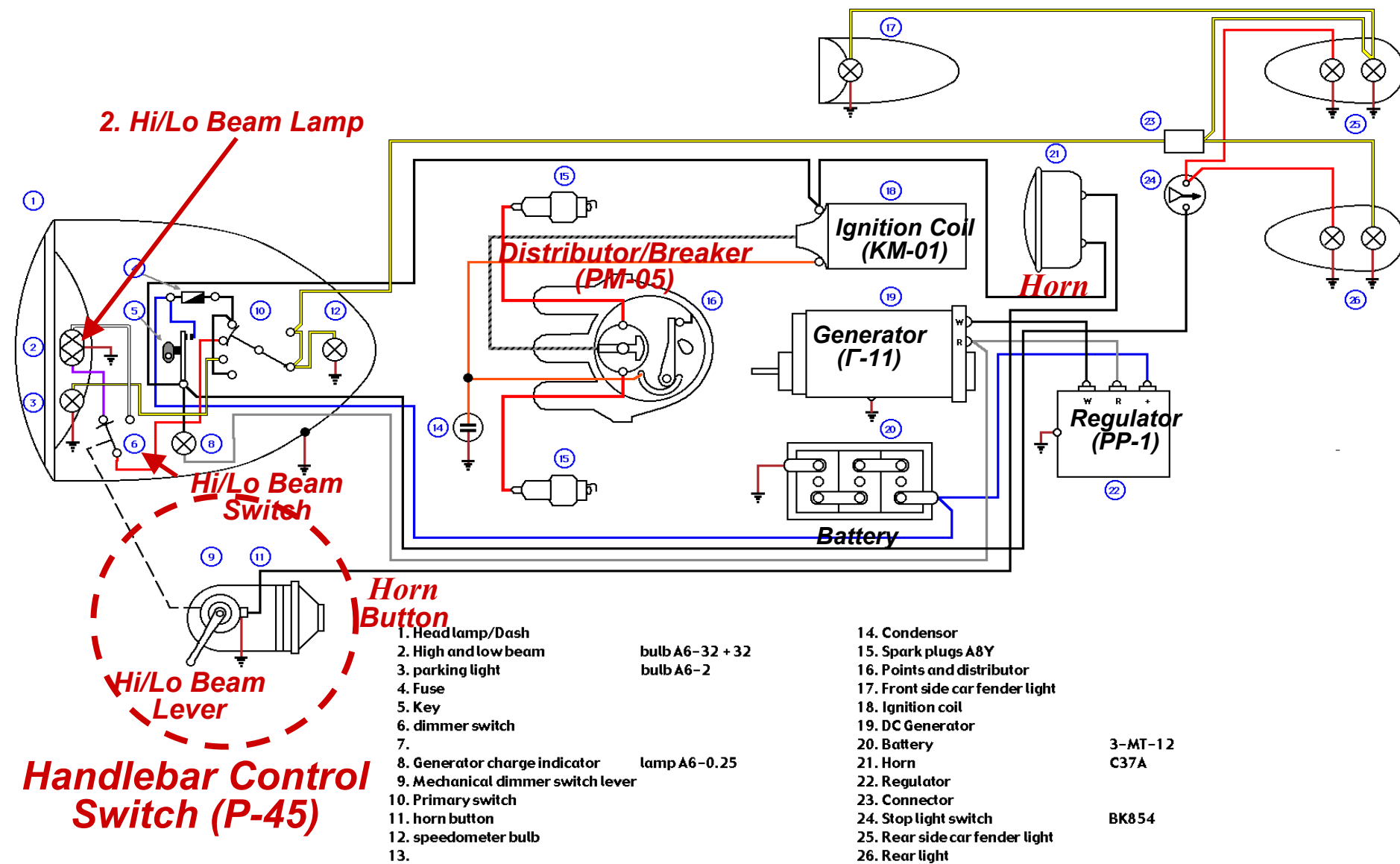


23 November 2006

Carl Allison

Note: Wire colors are not likely correct nor consistent with factory wiring.  
Schematic may have errors as well.

# 1941 Dnepr (Днепр) M-72, K-750, K-750M and MT-12 with PM-05 Distributor/Breaker Points



7217/10

# Early Ural (Урал) M-72 (1942) Part# 72185

Таблица 14

## Handlebar Control Switch (P-45)

Manual  
Spark AdvanceHi/Lo Beam  
Lever

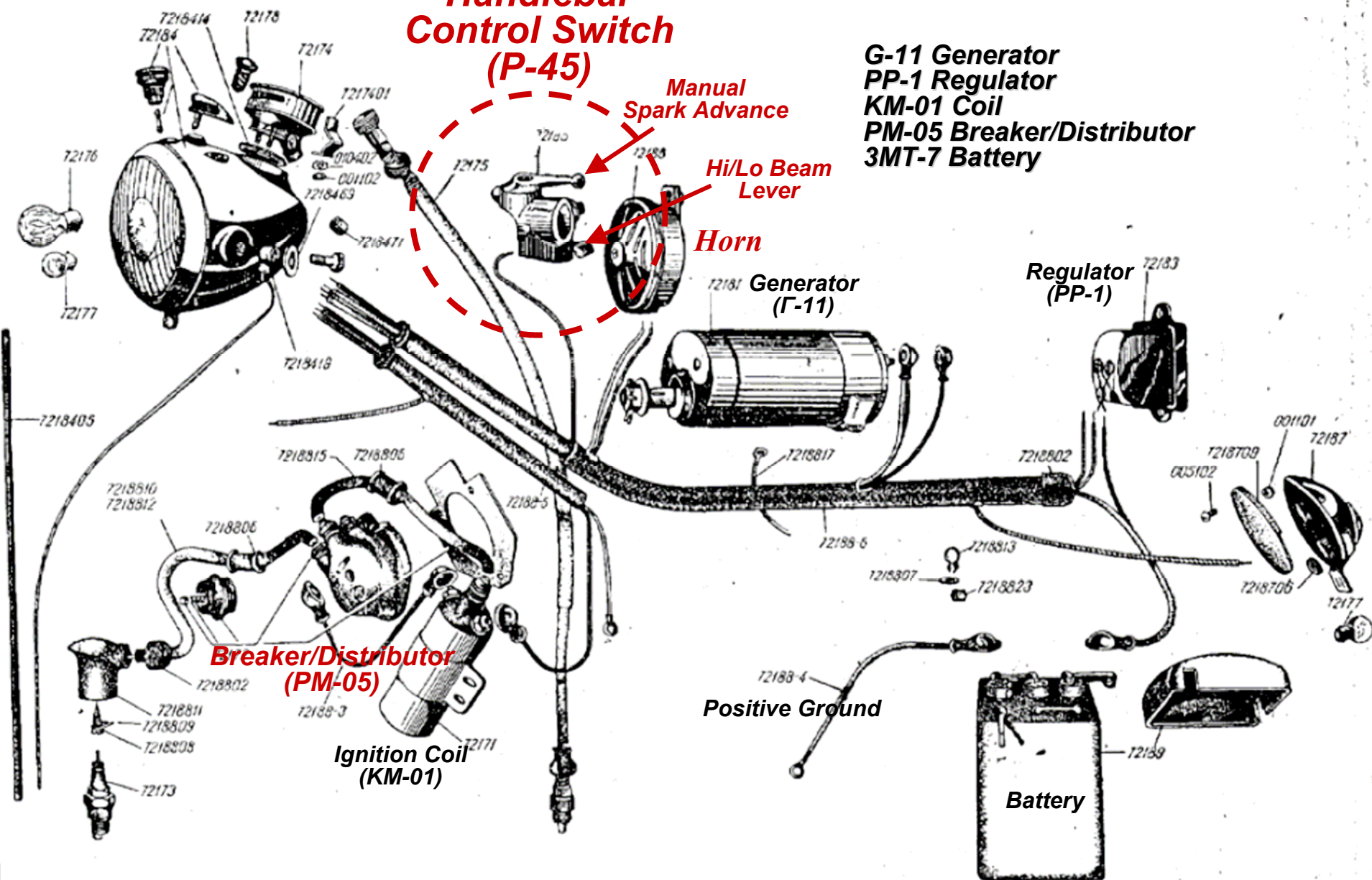
Horn

G-11 Generator  
PP-1 Regulator  
KM-01 Coil  
PM-05 Breaker/Distributor  
3MT-7 Battery

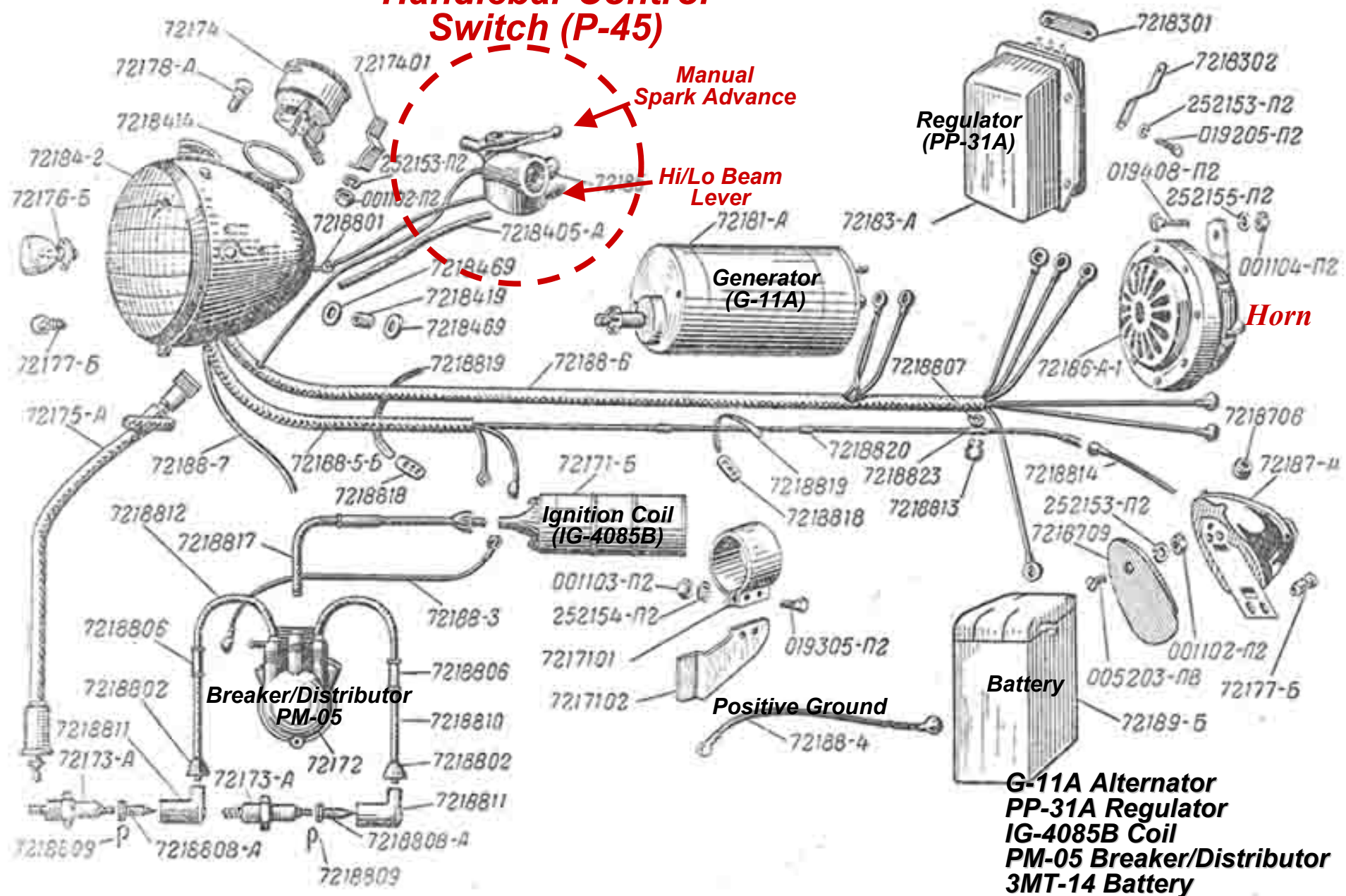
Generator  
(Г-11)Regulator  
(PP-1)Breaker/Distributor  
(PM-05)Ignition Coil  
(KM-01)

Positive Ground

Battery



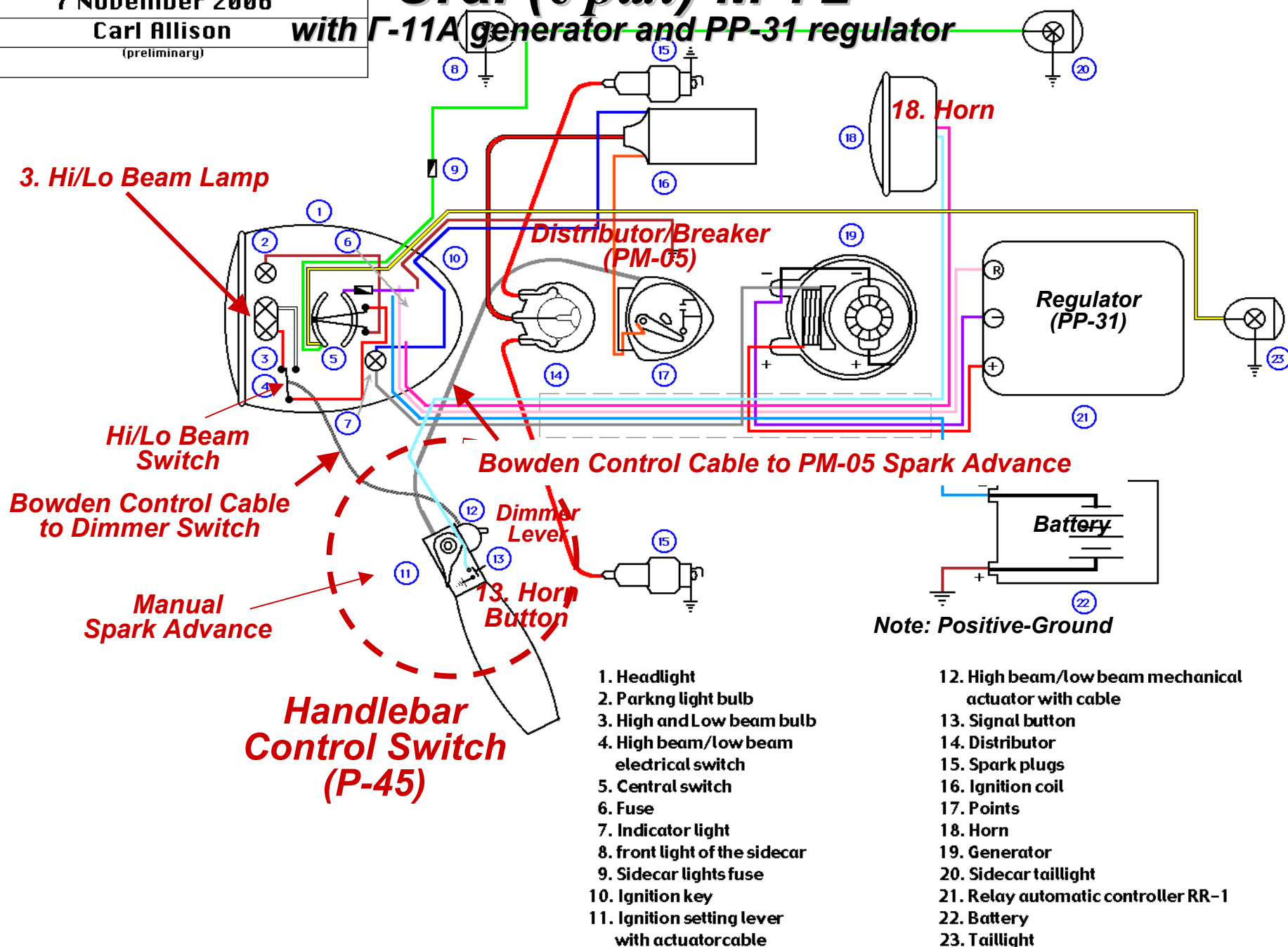
## Handlebar Control Switch (P-45)





# Ural (Урал) M-72

with Г-11А generator and PP-31 regulator



# M-72, with Front Horn

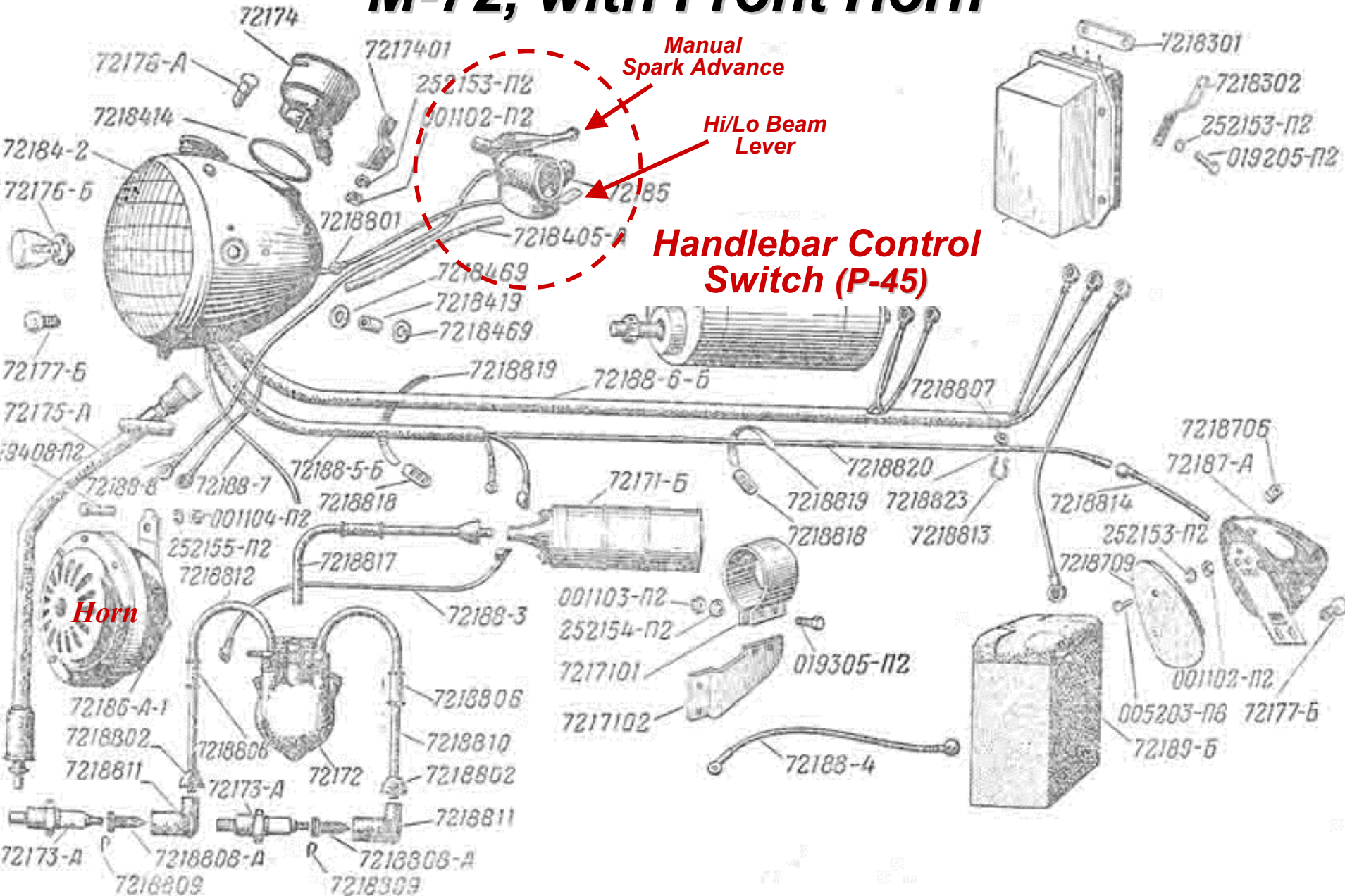
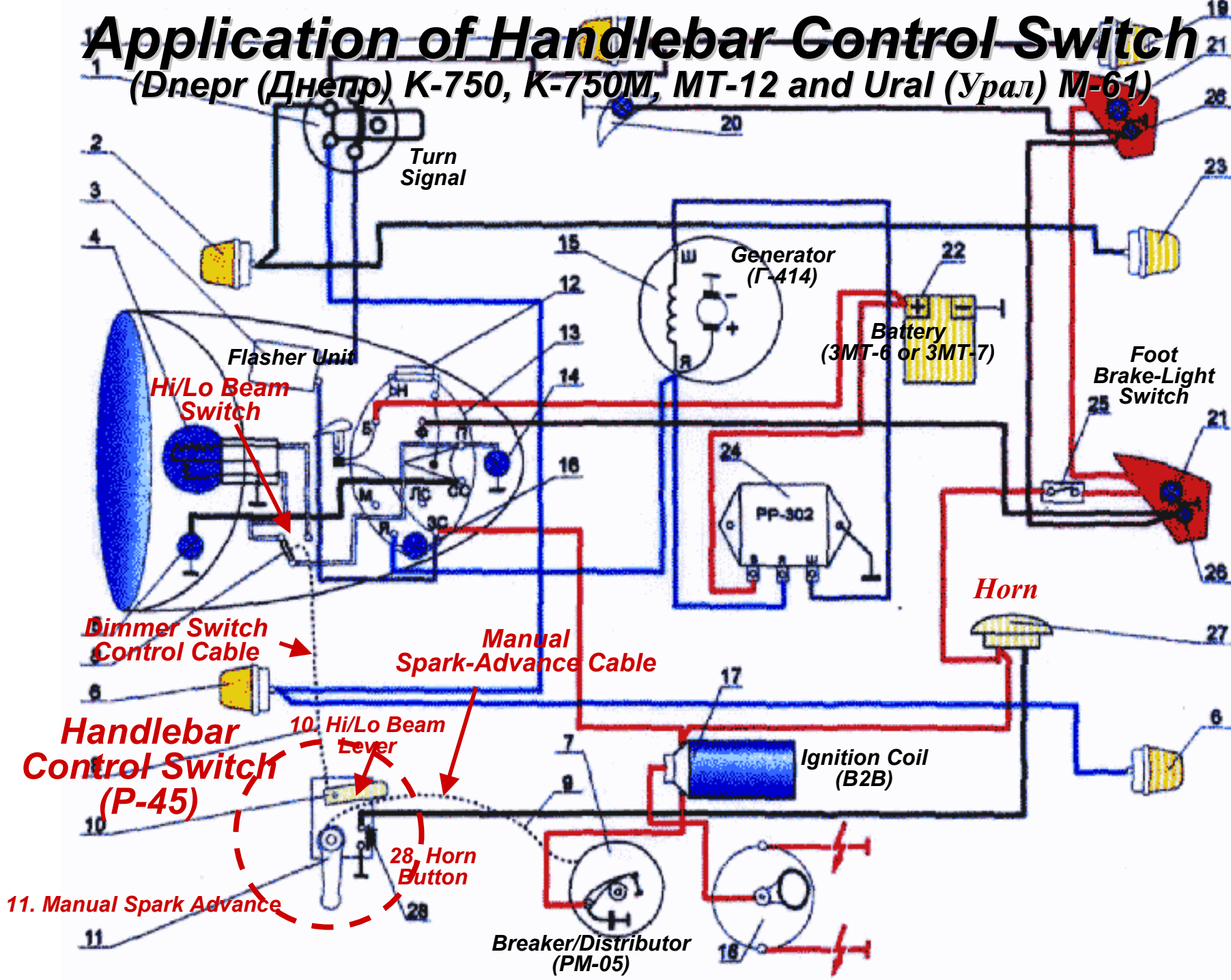


Рис. 35. Монтажная схема № 2 электрооборудования мотоцикла

# Application of Handlebar Control Switch

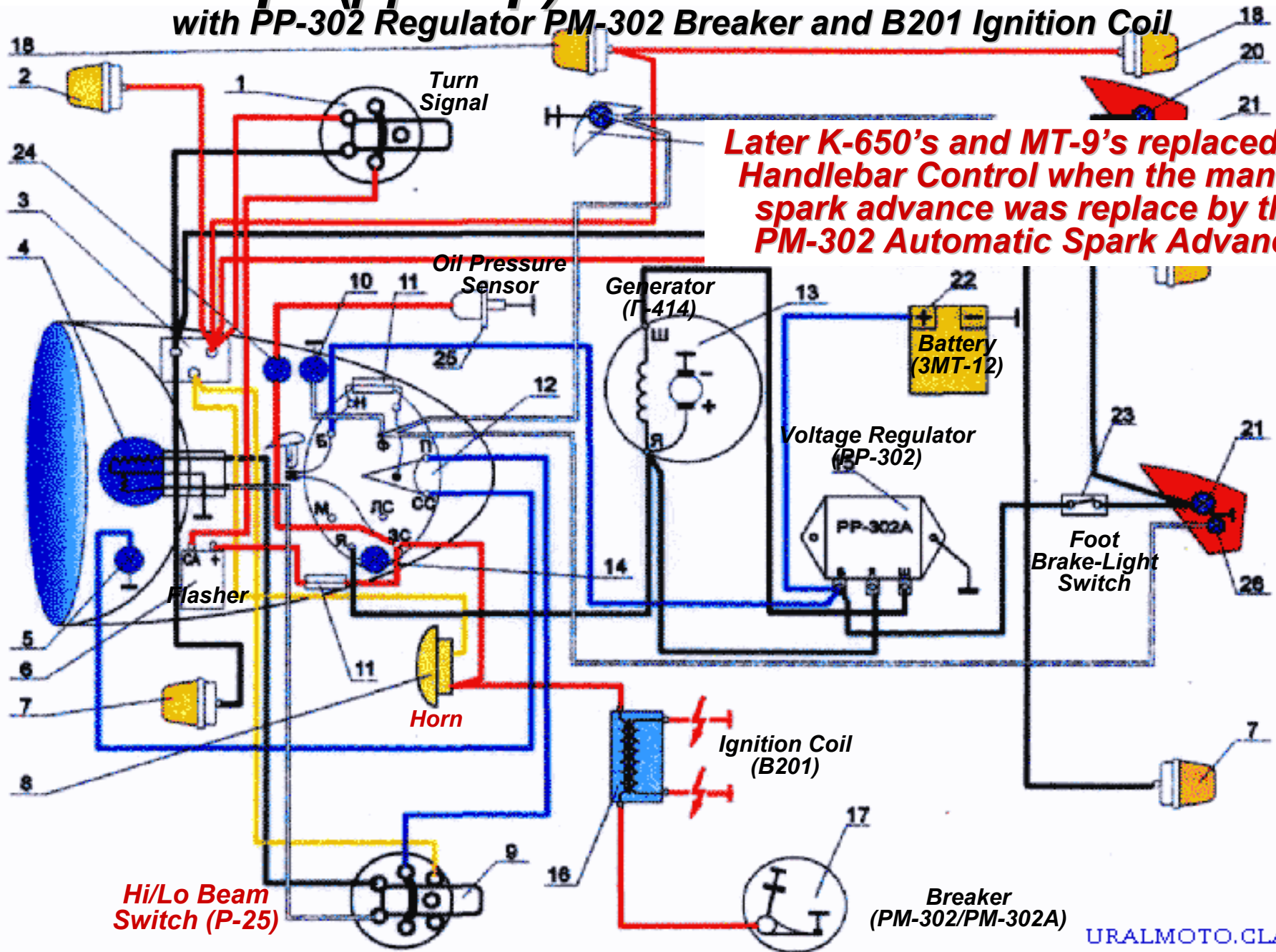
(Днепр (Днепр) K-750, K-750M, MT-12 and Ural (Урал) M-61)



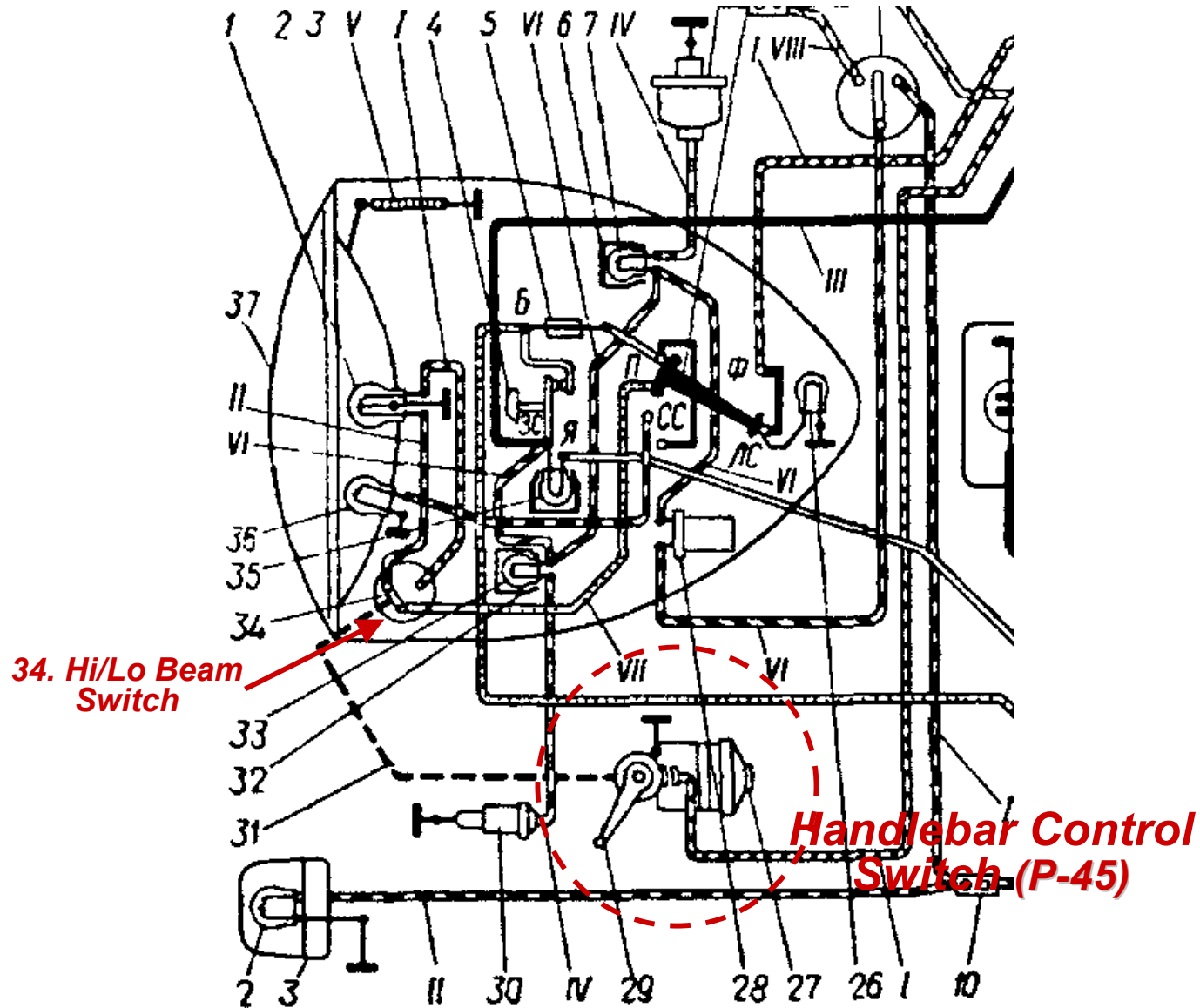


# Dnepr (Днепр) Later K-650 and MT-9

with PP-302 Regulator PM-302 Breaker and B201 Ignition Coil

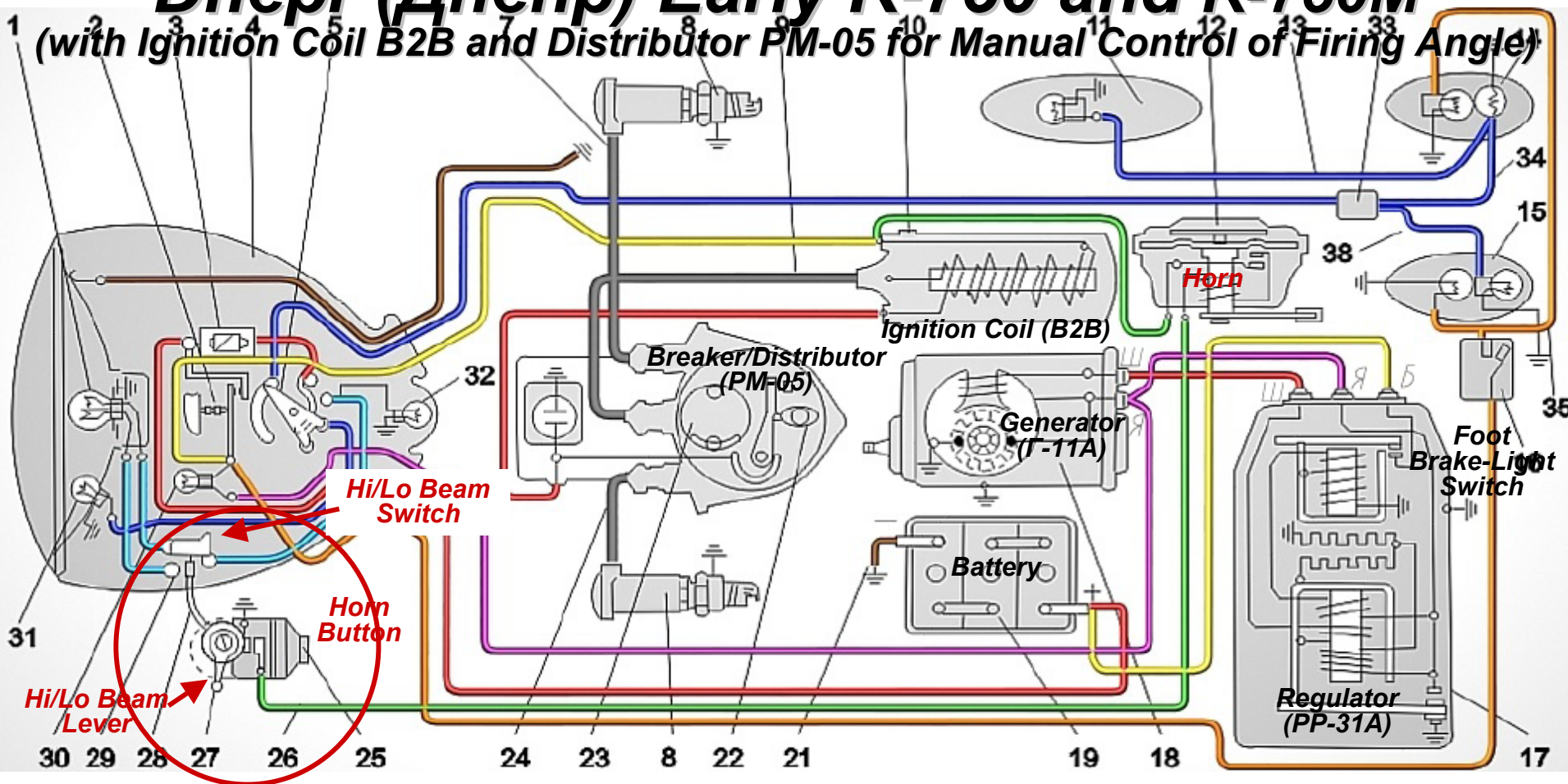


# Early MT-9, with PM-05 Ignition and Handlebar Control



1. Light Beam and Low Beam, 4. Key, 5. Fuse, 4. Lamp, 5. Central Switch, 27. Signal Horn Button Switch, 29. Advance Ignition Lever, 31. Cable Switch for Hi/Lo Light, 34. Hi/Lo Light Switch 33. Warning Light 35. Parking Light Bulb

# **Днепр (Днепр) Early K-750 and K-750M** (with Ignition Coil B2B and Distributor PM-05 for Manual Control of Firing Angle)



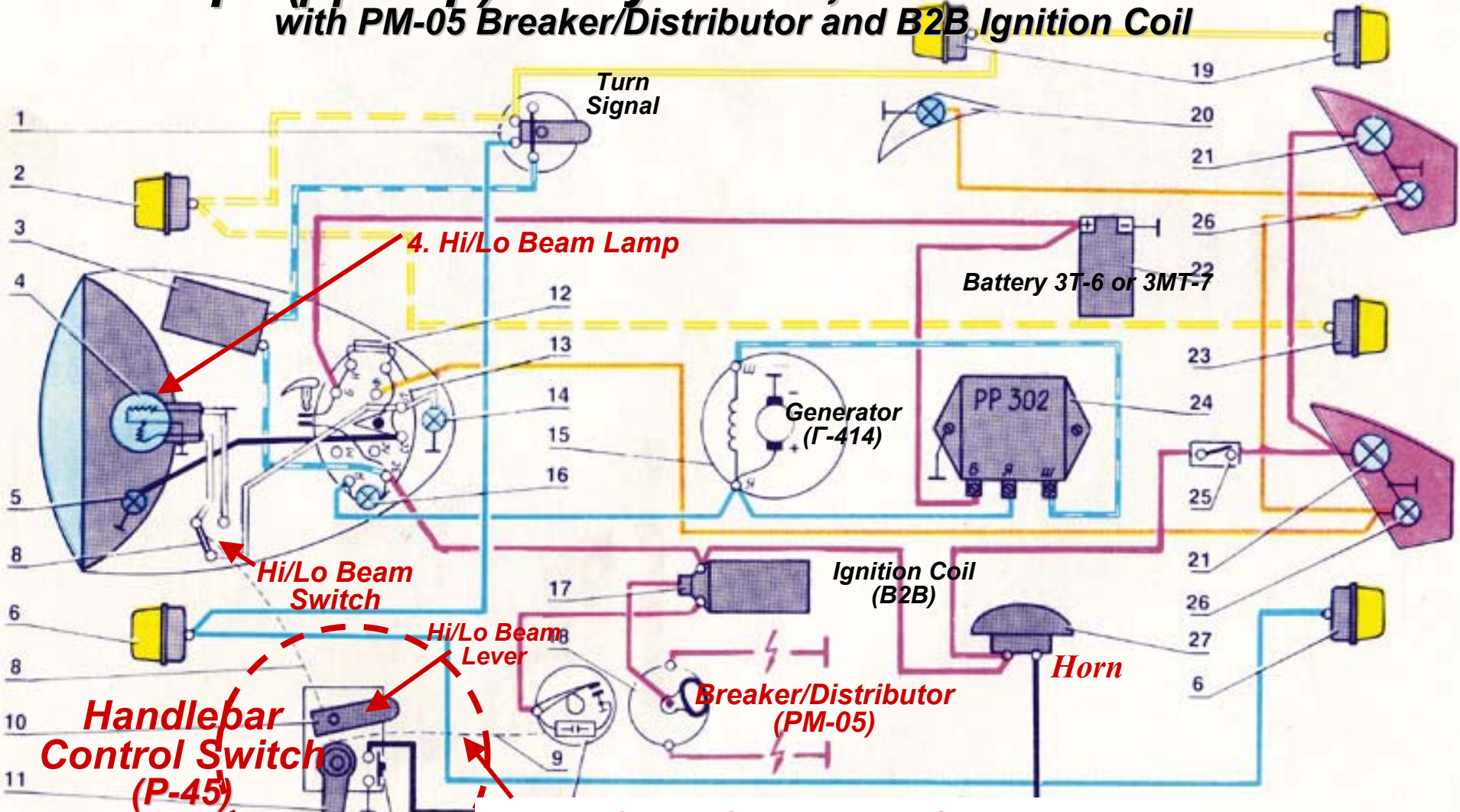
## **Handlebar Control Switch (P-45)**

1 - lamp high and low beam, 2 - key 3 - fuse 4 - lamp, 5 - central switch, 6 - "ground" wire, 7 - high voltage wire, 8 - spark plugs, 9 - high voltage 10 - ignition coil, 11 - front light sidecar, 12 - horn, 13 - wire front canopy sidecar, 14 - tail light sidecar, 15 - tail lamp of motorcycle, 16 - gauge stoplight, 17 - Relay-regulator, 18 - generator, 19 - battery, 20 - Low voltage wiring loom, 21 - battery ground wire, 22 - breaker, 23 - valve, 24 - high voltage wire and 25 - horn signal button contact 26 - wire signal 27 - advance ignition lever; 28 - cord switch hi/lo beam, 29 - hi/lo light switch, 30 - control lamp, 31 - parking light bulb, 32 - lamp illuminated; 33 - Connecting Jack wires, 34 - cable sidecar lamps, 35 - wire from the sensor to Stop lamp, 36 - wire from the connector to the lamp lighting plate



# Dnepr (Днепр) Early K-750, K-750M and MT-12

## with PM-05 Breaker/Distributor and B2B Ignition Coil



**Handlebar Control Switch (P-45)**

**4. Hi/Lo Beam Lamp**

**Hi/Lo Beam Switch**

**Hi/Lo Beam Lever**

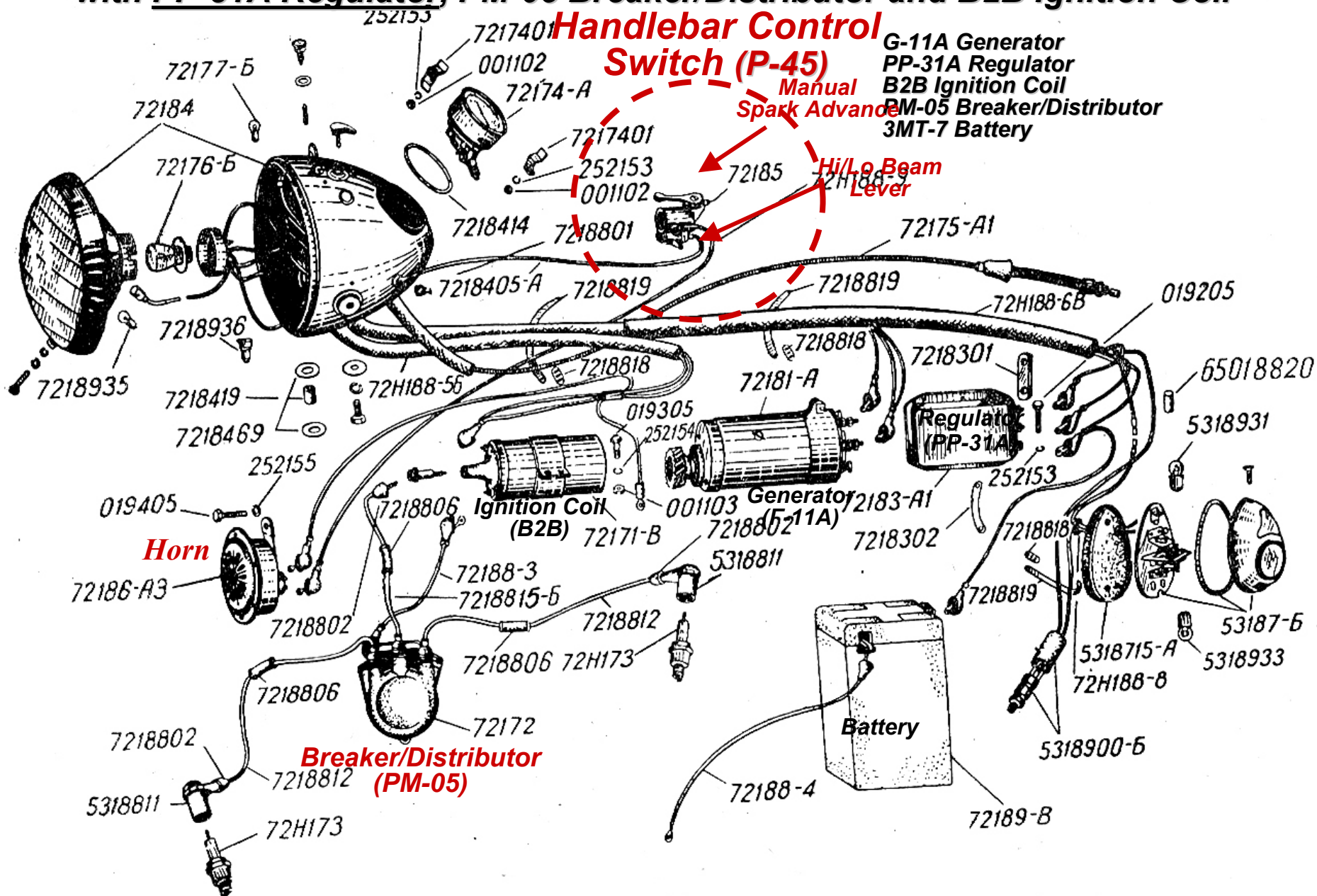
**Bowden Control Cable to PM-05 Spark Advance**

***with PP-31A Regulator, PM-05 Breaker/Distributor and B2B Ignition Coil***

### Manual Spark Advance

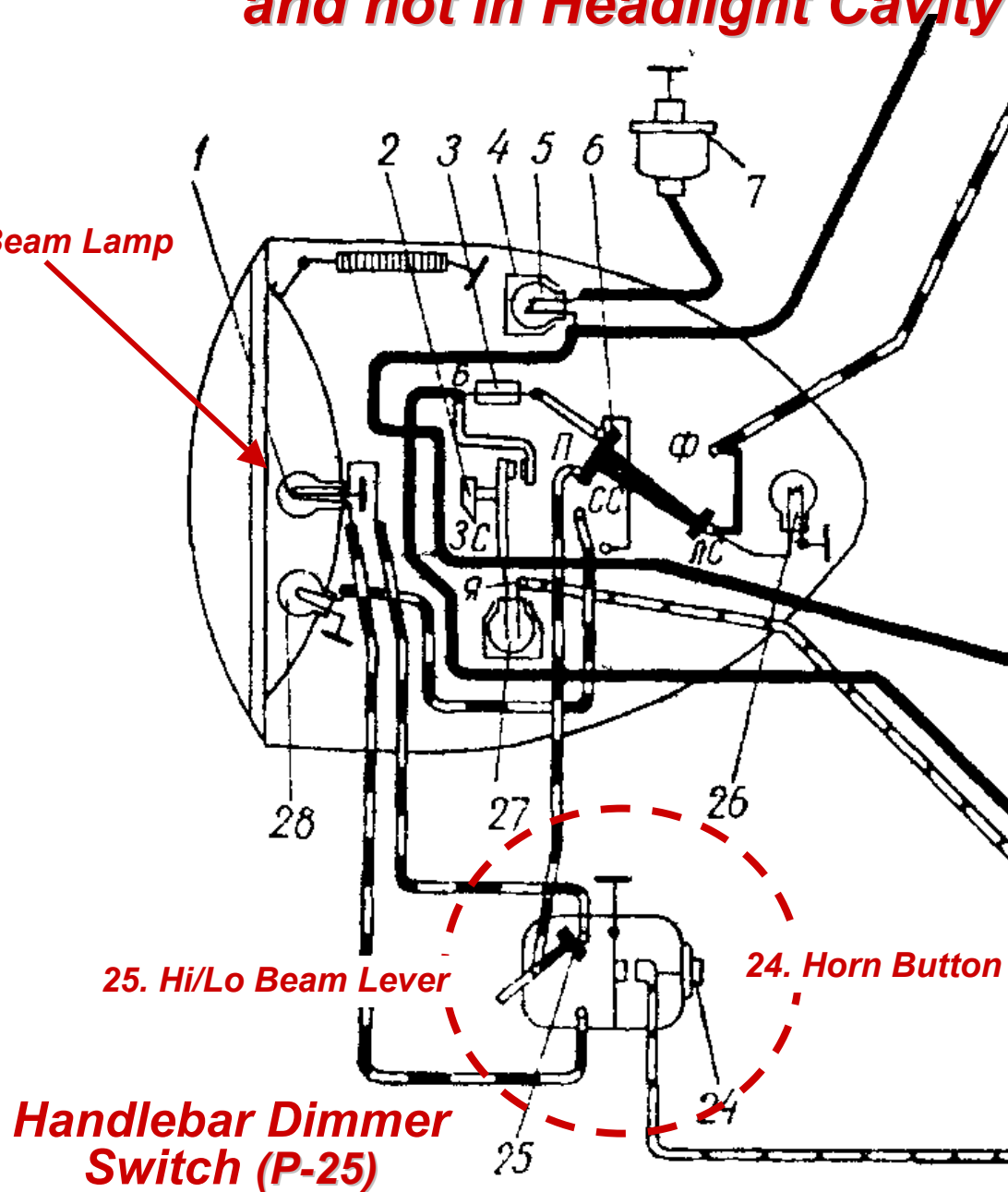
Hi/Lo Beam  
72H188-9  
Lever

**Breaker/Distributor**  
**(PM-05)**



**Later K-650, with Hi/Lo Beam Dimmer Switch in Handlebar,  
and not in Headlight Cavity**

1. Hi/Lo Beam Lamp





# Dnepr (Днепр) Early K-750 and K-750M

## with PP-302 Regulator, PM-05 Breaker/Distributor and B2B Ignition Coil

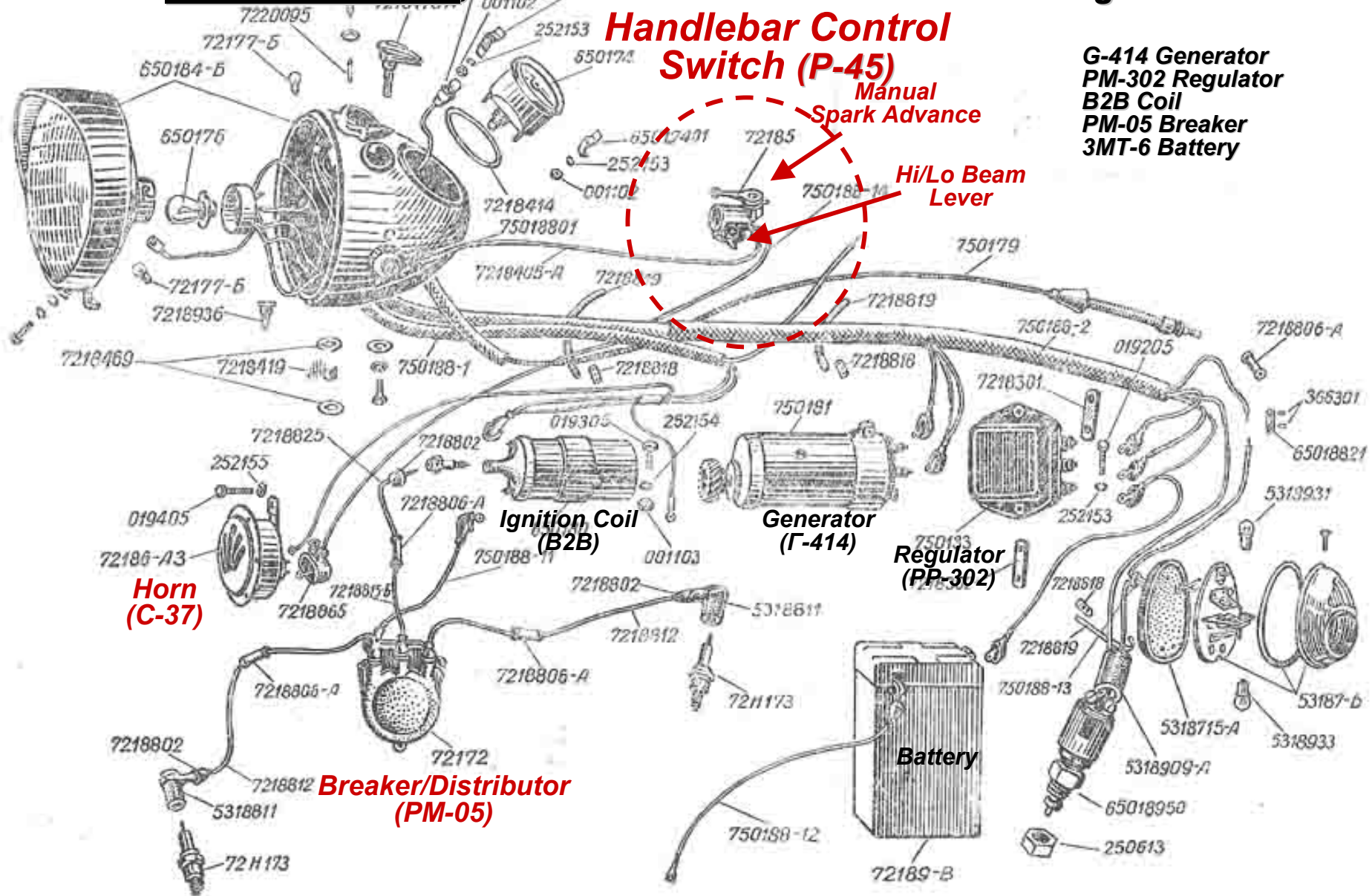


Рис. 34. Монтажная схема электрооборудования мотоцикла

# Early K-750M, with PM-05 Ignition and Handlebar Control

1. Hi/Lo Beam Lamp

Breaker/Distributor  
(PM-05)

26. Horn Button

28. Hi/Lo Beam Lever

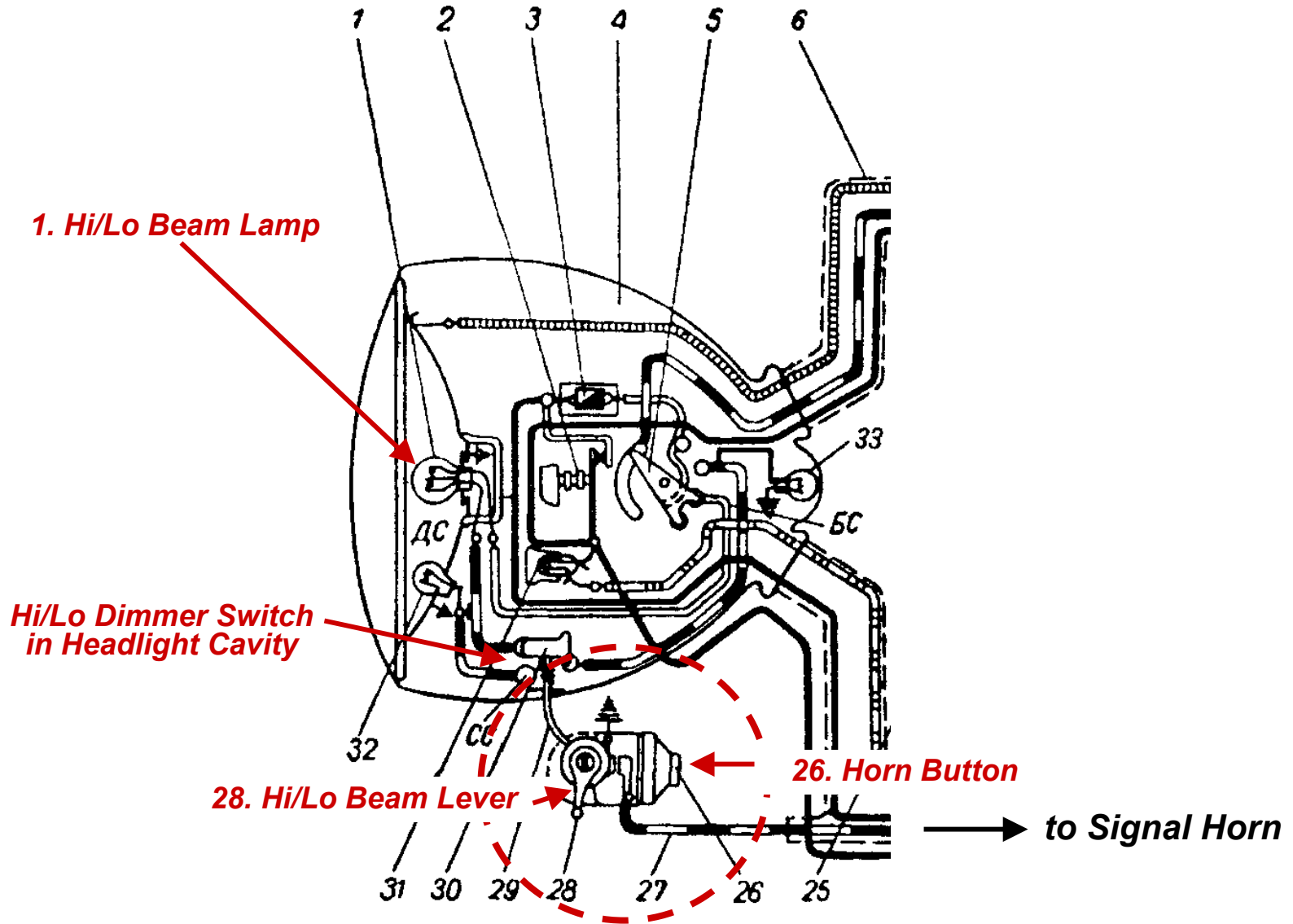
Handlebar  
Control Switch  
(P-45)

i elektrycznej motocykla K-750 W

1 — żarówka światła szosowego, 2 — przewód do „masy”, 3, 4, 24, 2 — przednia przyczepe, 12 — syg. lampa tylna motocykla, 16 — 19 — bateria akumulatorów, 20 — przewody niskiego napięcia, 21 — przerywacz, 22 — rozdzielacz zapłonu, 23 — przycisk sygnału dźwiękowego, 27 — przewód sygnału, 28 — dźwignia przyspieszenia momentu zapłonu, 29 — linka przełącznika świateł, 30 — przełącznik świateł, 31 — lampka kontrolna, 32 — żarówka światła postojowego, 33 — żarówka oświetlenia skali szybkościomierza, 34 — gniazdo przewodów, 35 — przewód lampy przyczepe, 36 — przewód od włącznika do lamp światła hamulcowego („stop”), 37 — przewód od gniazda przewodów do lampy oświetlenia tablicy rejestracyjnej

1 — bezpiecznik, 4 — reflektor, 5 — główny przełącznik, 6 — 7 — 8 — świece zapłonowe, 10 — cewka zapłonowa, 11 — lampa 1 do przedniej lampy przyczepe, 14 — lampa tylna przyczepe, 15 — ego („stop”), 17 — regulator prądu, 18 — prądnicą prądu stałego, 19 — bateria łączący baterię akumulatorów z „masą”, 22 — 23 — 24 — 25 — 26 — 27 — 28 — 29 — 30 — 31 — 32 — 33 — 34 — 35 — 36 — 37 —

# K-750M, with PM-05 Ignition and Handlebar Control



1. Light Beam and Low Beam, 2. Key, 3. Fuse, 4. Lamp, 5. Central Switch, 6. Ground Wire, 26. Signal Horn Button Switch, 27. Signal Wire, 28. Hi/Lo Beam Lever, 29. Cable Switch for Hi/Lo Light, 30. Driving and Parking Light Switch 31. Warning Light 32. Parking Light Bulb 33. Backlight Speedometer



# Dnpr (Днепр) Early K-750M

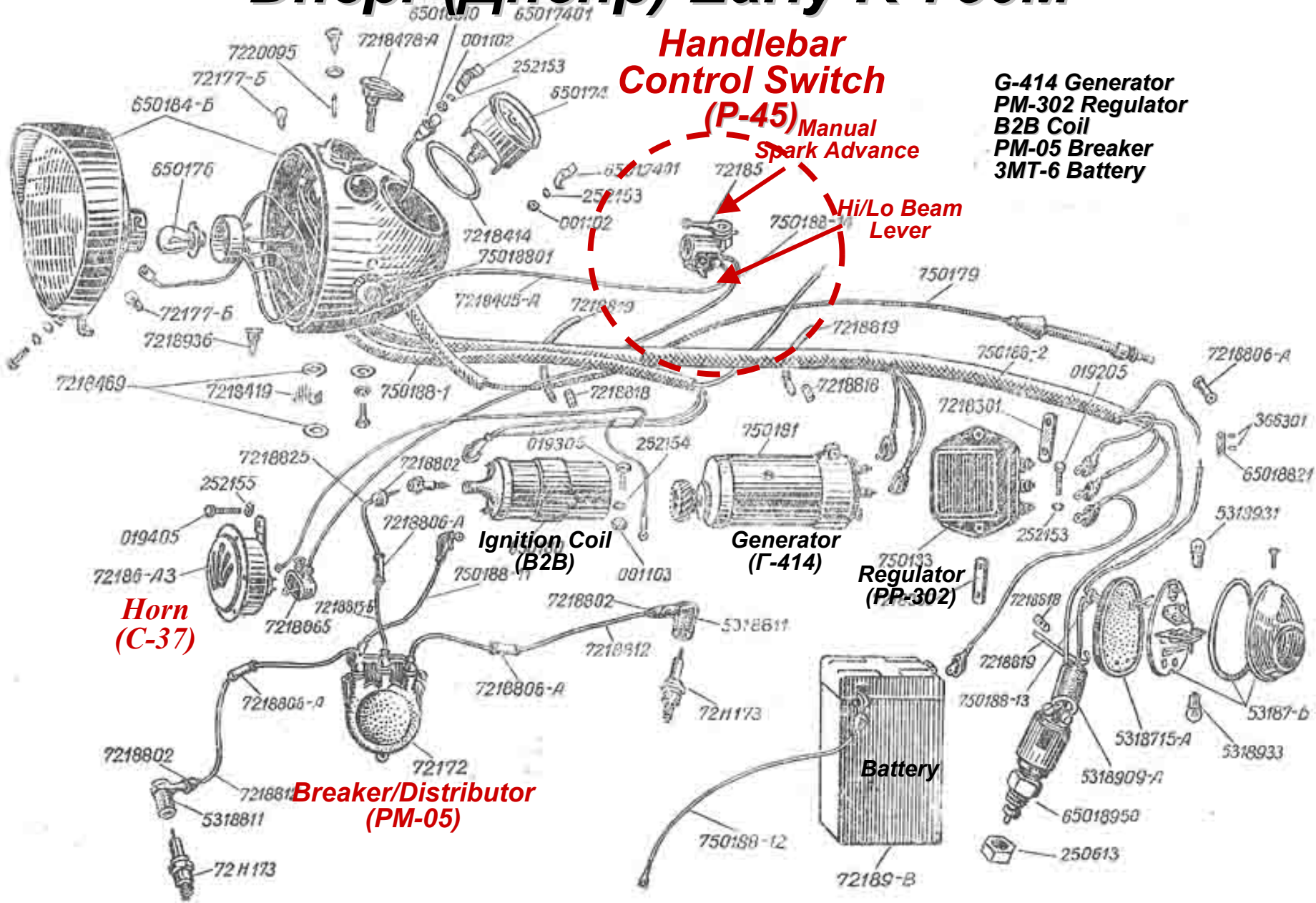
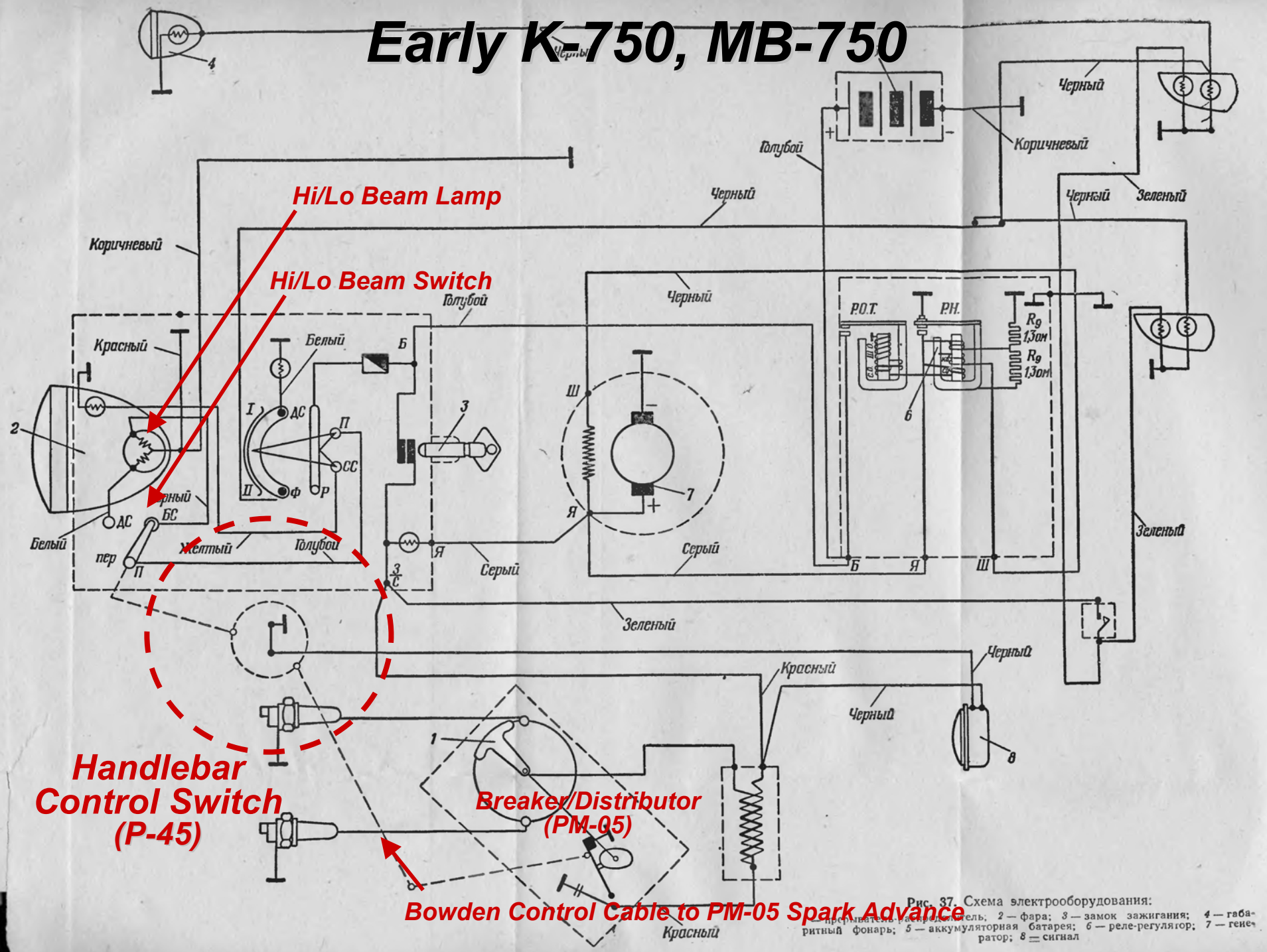


Рис. 34. Монтажная схема электрооборудования мотоцикла

# Early K-750, MB-750





# Dnepr (Днепр) Early K-650

## with PM-05 Breaker/Distributor and B2B Ignition Coil

7&8-Oil Pressure Sensor (MM-106) and Emergency Light

15- Spark Plug (Candle) (A8)

16-Interrupter/Distributor (PM-05)

18-Horn (C37A)

22-Foot Brake-Light Switch (BK854)

23-Regulator (PP-31A)

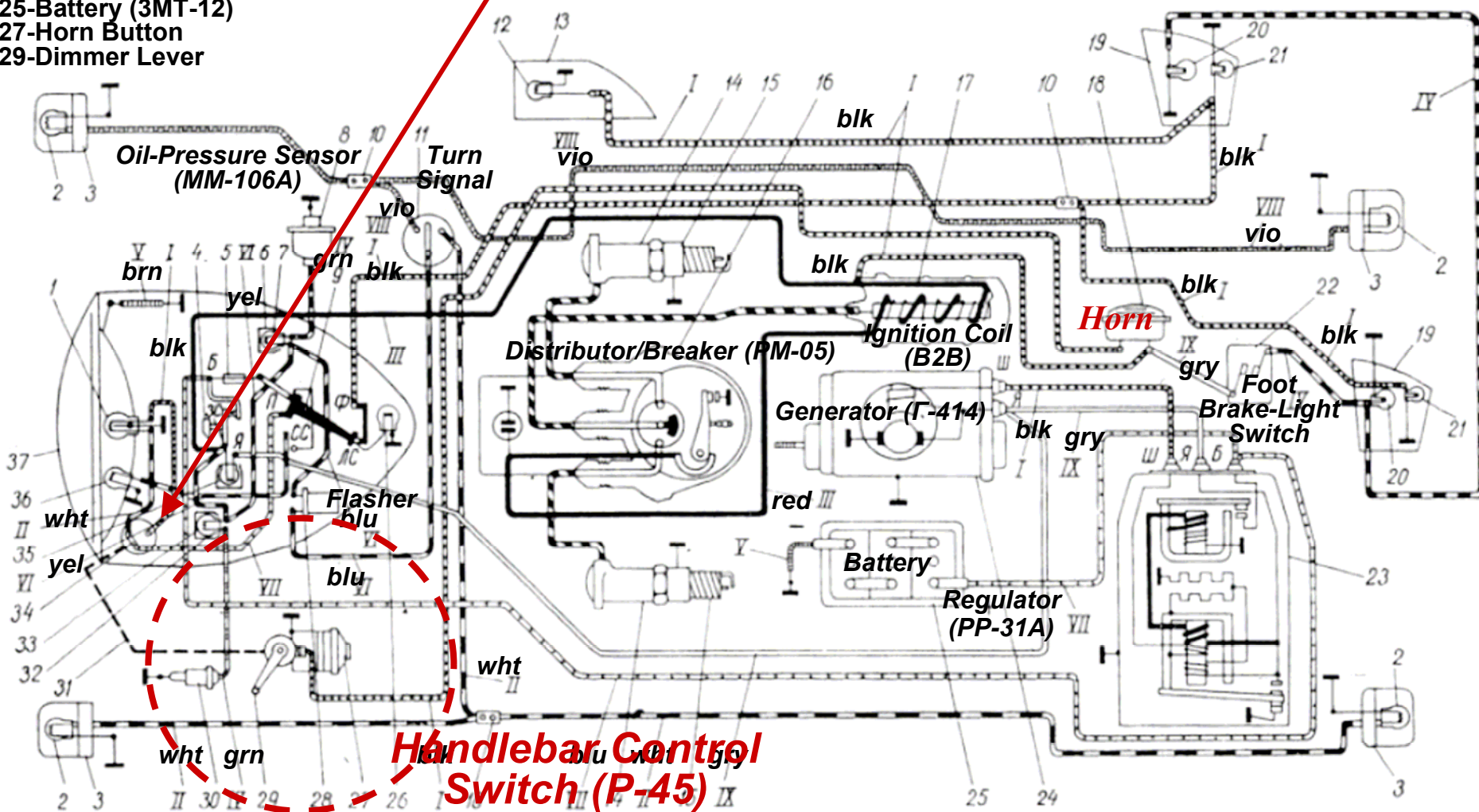
24- Generator (Г-414)

25-Battery (3MT-12)

27-Horn Button

29-Dimmer Lever

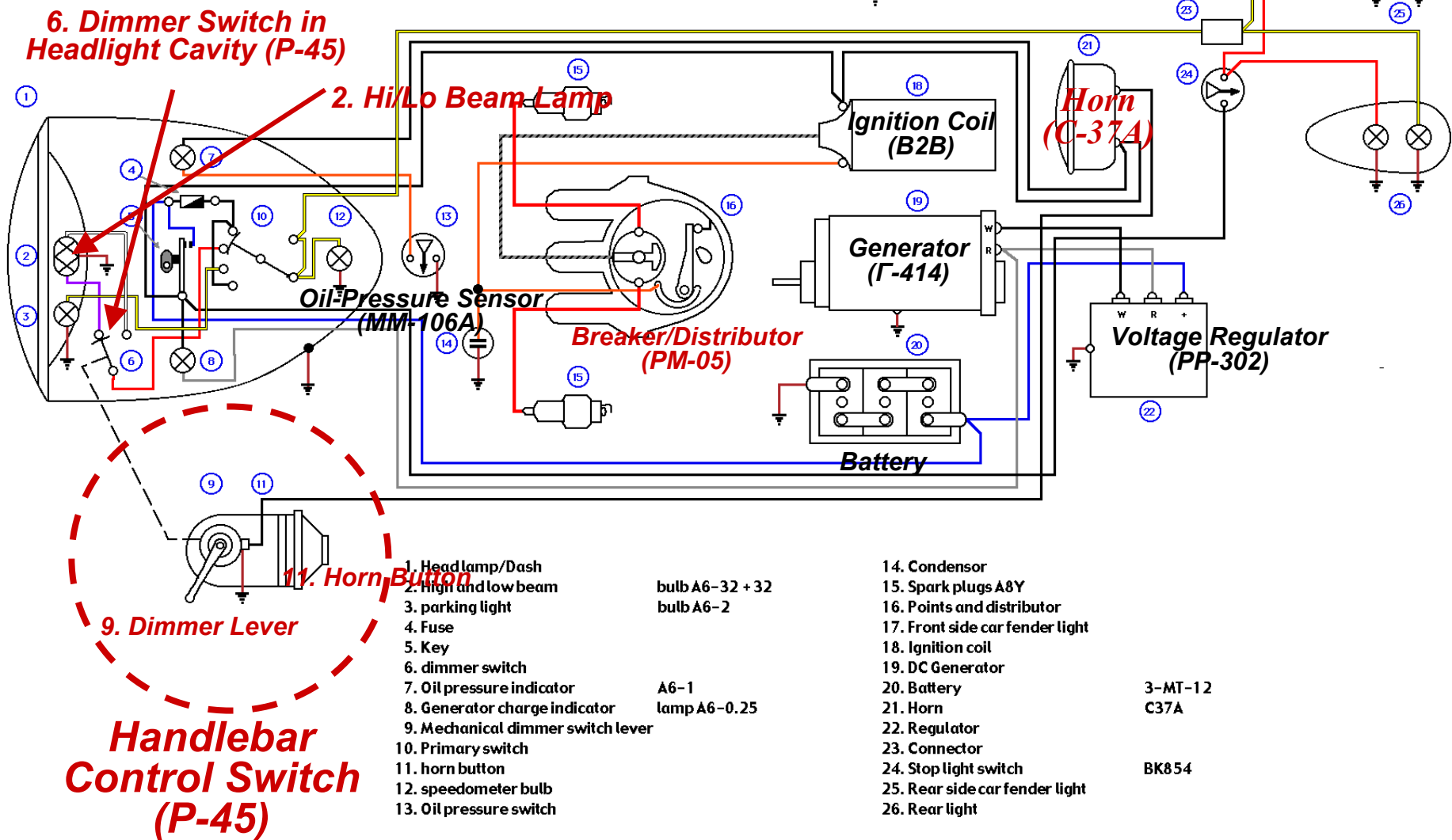
29. Dimmer Switch in  
Headlight Cavity





# Dnepr (Днепр) Early K-650 and MT-9

## with PM-05 Breaker/Distributor and B2B Ignition Coil



1968 K-650, Dnepr MT-9

# Dnepr (Днепр) Later K-750

(with Breaker PM-11A, PP-302 and B201 for Automatic Control of Firing Angle)

**Dimmer Switch in Handlebar Control (P-25), No Spark Advance Lever**

**1. Hi/Lo Beam Lamp**

Oil-Pressure Sensor  
(MM-106A)

Breaker/Distributor (PM-302)

**14. Horn**

Ignition Coil  
(B201)

Generator  
(Г-414)

Battery

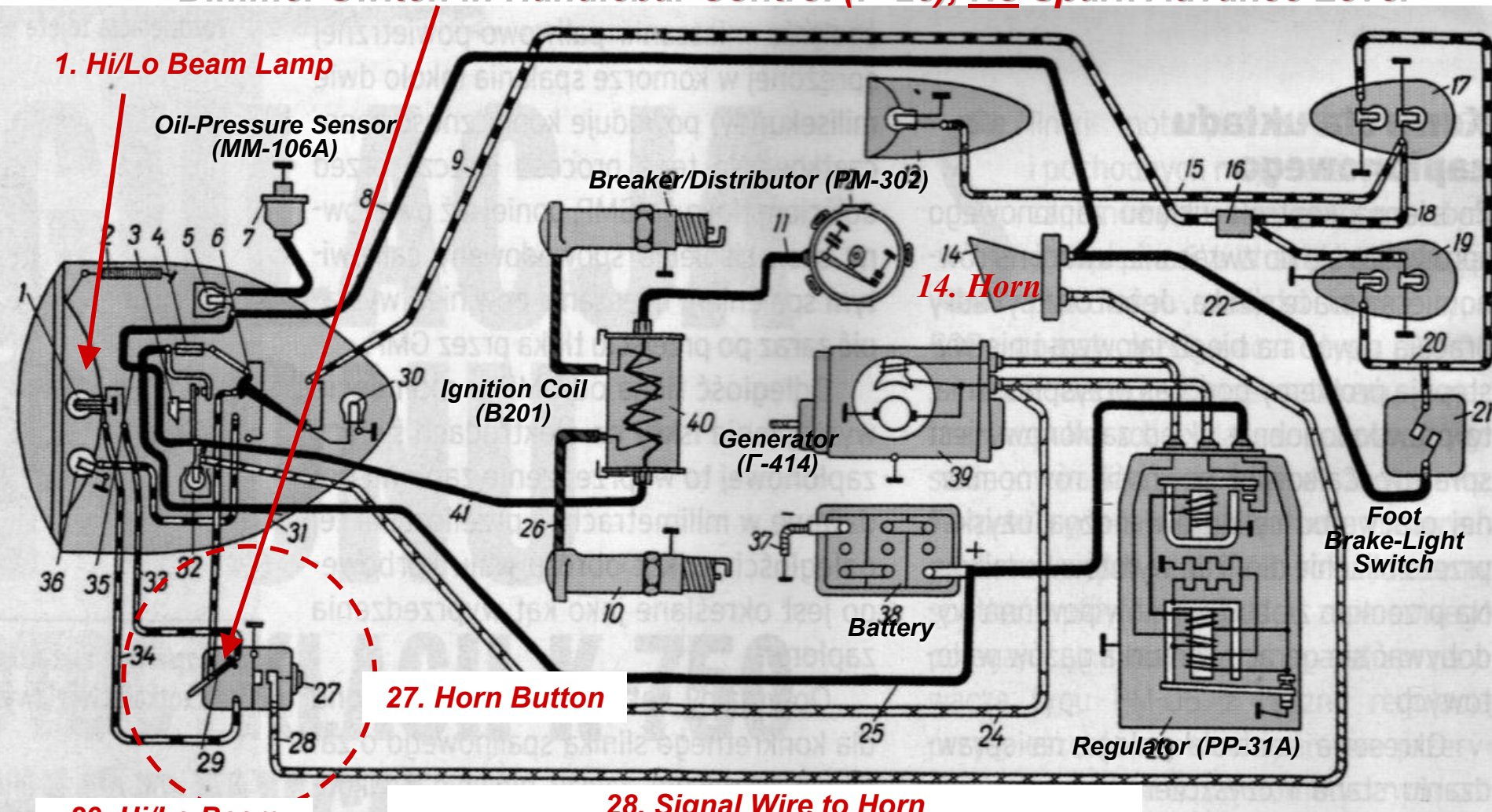
Foot  
Brake-Light  
Switch

**27. Horn Button**

Regulator (PP-31A)

**29. Hi/Lo Beam  
Dimmer Switch**

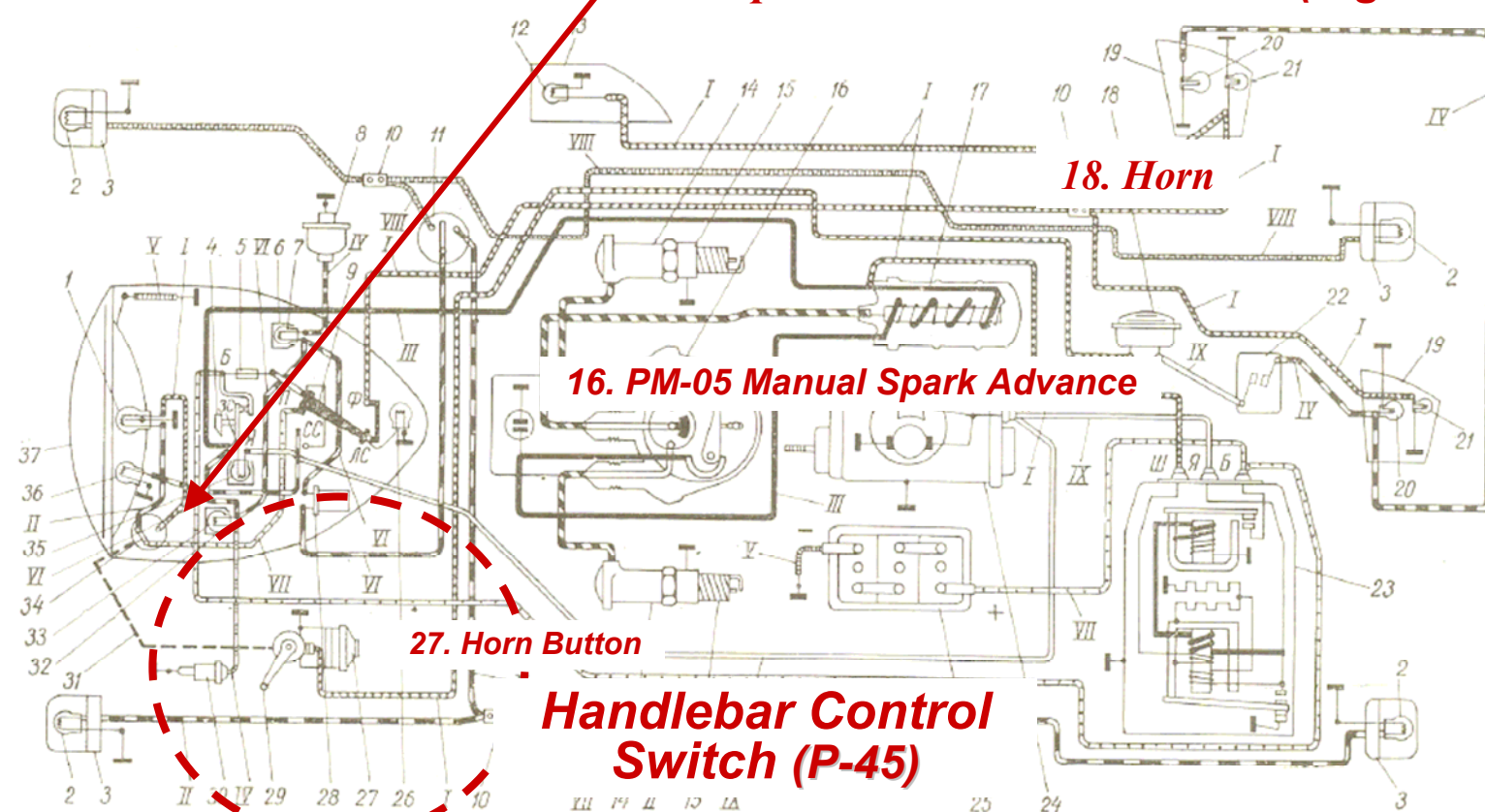
**28. Signal Wire to Horn  
(Switch "Grounds" Lead to Energize Horn)**



# Early MT-9 with Manual (PM-05) Spark Advance

## (Dimmer Switch (34) in Headlight Cavity)

**Переключатель Света П45 (Light Switch P-45)**



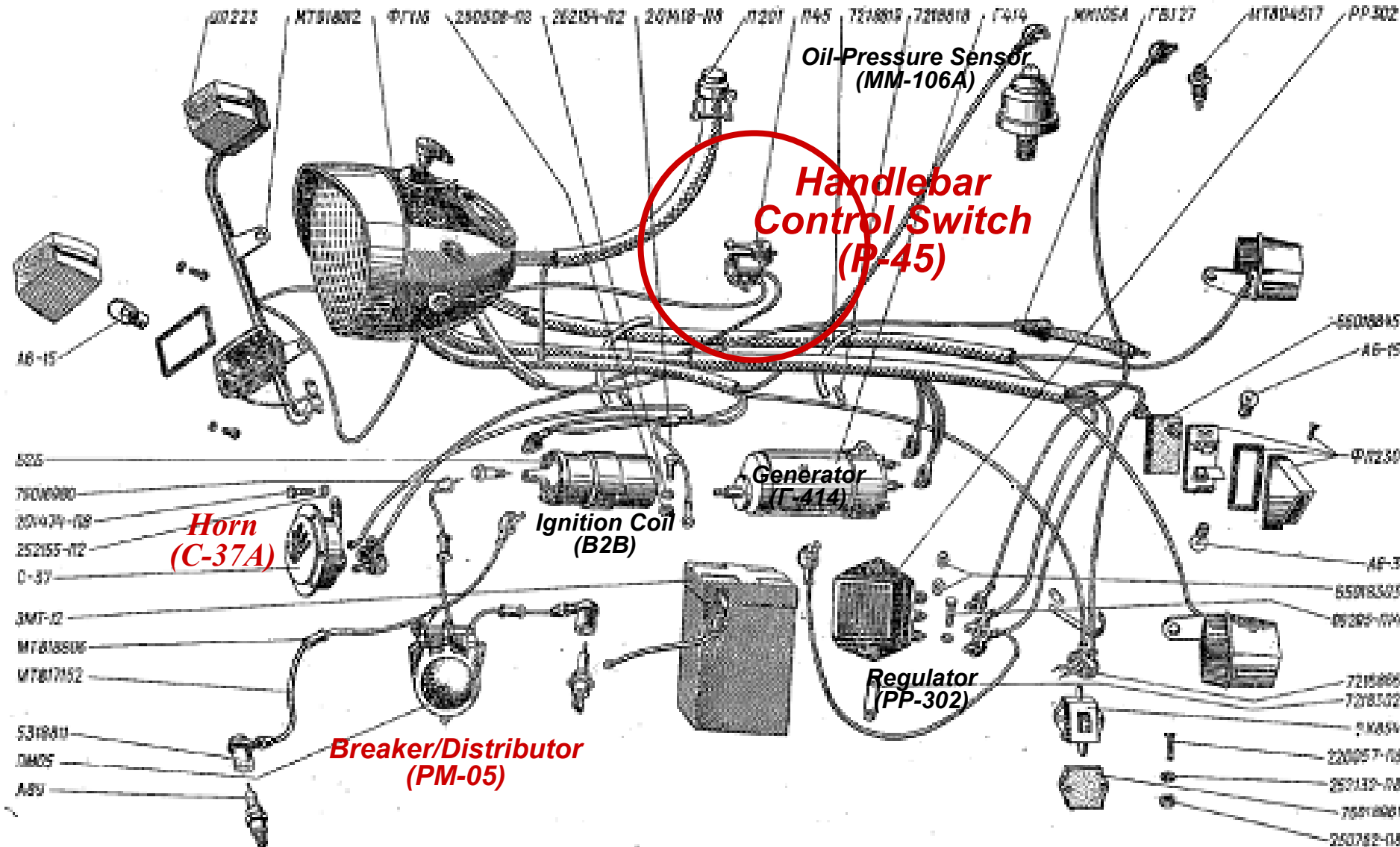
am of  
electrical equipment  
and colour of wires:

1 — far and passing  
beam lamp A6 32+32;  
2 — lamp A6-15; 3 —  
turn light УП223; 4 —  
ignition key; 5 — fuse  
15A; 6 — control light  
ПД-20; 7 — oil low-  
pressure warning light  
A6-1; 8 — oil low-  
pressure pick-up MM  
106A; 9 — central  
switch; 10 — wire con-  
nector; 11 — direction  
indicator switch 25A;  
12 — side lamp A6-2 of  
sidcar front light; 13 —  
sidcar front light  
ПФ200; 14 — plug shell;  
15 — spark plug A8V;  
16 — distributor-and-  
contact breaker unit  
ПМ05; 17 — ignition  
coil Б2Б; 18 — horn  
C37A; 19 — tail ФП230;  
20 — lamp A6-15

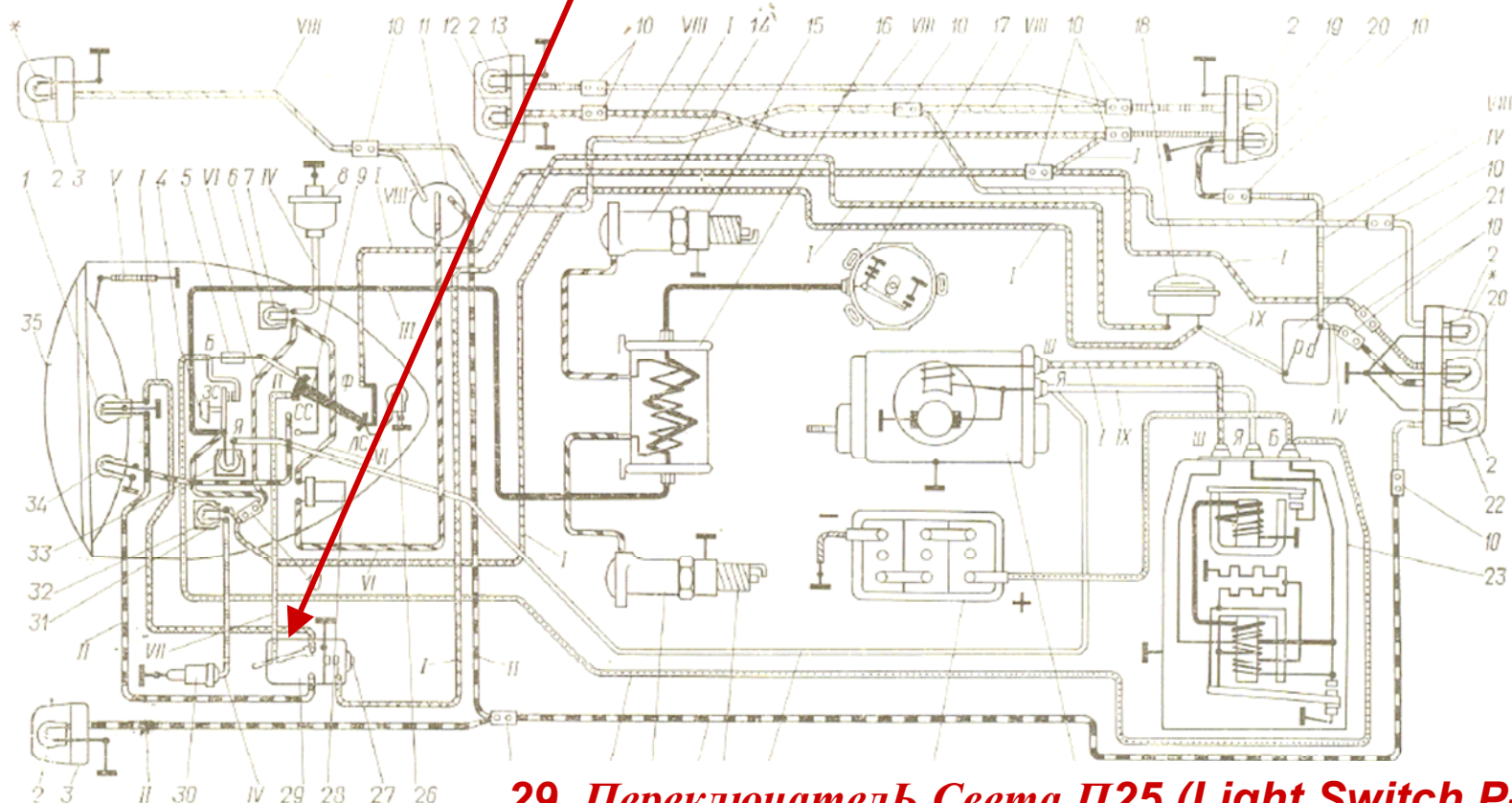
of 29. Hi/Lo Beam Lever A6-3 of tail light; 22 — stop light switch BK854; 23 — regulating relay PP302; 24 — direct-  
current generator 1414; 25 — storage battery 3MT-12; 26 — speedometer brightening lamp A6-2; 27 — horn button; 28 — turn light  
blinker PC419; 29 — timing angle adjustment lever; 30 — neutral position pick-up (contact plug); 31 — dim-switch cable; 32 —  
control light ПД-20Г; 33 — lamp A6-1, indicating neutral position of gearshift mechanism; 34 — dim-switch П45; 35 — stora-  
ge battery charge control lamp A6-0.25; 36 — parking lamp A6-2; 37 — head lamp ФП116; I — black; II — white; III — red;  
IV — green; V — brown; VI — yellow; VII — blue; VIII — violet; IX — grey



# ***Dnepr (Днепр) Early MT-9 with Manual Control of Firing Angle*** ***(B2B Ignition Coil and **PM-05** Breaker/Distributor)***



# Later MT-9 with Automatic (PM-201) Spark Advance (Dimmer Switch(P-25) in Handlebar Control, No Spark Advance Lever)



**29. Переключатель Света П25 (Light Switch P-25)**

Fig. 8. Diagram of electric equipment and colour of wires:

1 — far and passing beam lamp A6-32+32; 2 — lamp A6-15; 3 — turn light УП-223; 4 — ignition key; 5 — fuse 15A; 6 — control light ПД-20; 7 — oil low-pressure warning light A6-1; 8 — oil low-pressure pick-up MM106A; 9 — central switch; 10 — wire connector; 11 — direction indicator switch П201; 12 — lamp A6-3; 13 — sidecar front light ПФ-232; 14 — plug shell; 15 — spark plug AY8; 16 — ignition coil Б201А; 17 — contact breaker ПМ-302; 18 — horn С37А; 19 — sidecar tail light ФП-219; 20 — lamp A6-21+3; 21 — stop light switch BK854; 22 — motorcycle tail light ФП-217; 23 — regulating relay PP-302; 24 — direct current generator Г-414; 25 — storage battery 3MT-12; 26 — speedometer brightening lamp A6-2; 27 — horn button; 28 — turn light blinker PC419; 29 — dimmer switch П25; 30 — neutral position pick-up (contact plug); 31 — control light ПД-20Г; 32 — lamp A6-1 indicating neutral position of gearshift lever; 33 — generator switching control lamp A6-0,25; 34 — parking lamp A6-2; 35 — head lamp ФГ-116;

I — black; II — white; III — red; IV — green; V — brown; VI — yellow; VII — blue; VIII — violet; IX — grey

Note. In case the motorcycle is used with a sidecar the lamps designated in the drawing with \* are disconnected

# Днепр (Днепр) Early MT-12 with PM-05 (Manual) Spark Advance

17. Hi/Lo Beam Lamp

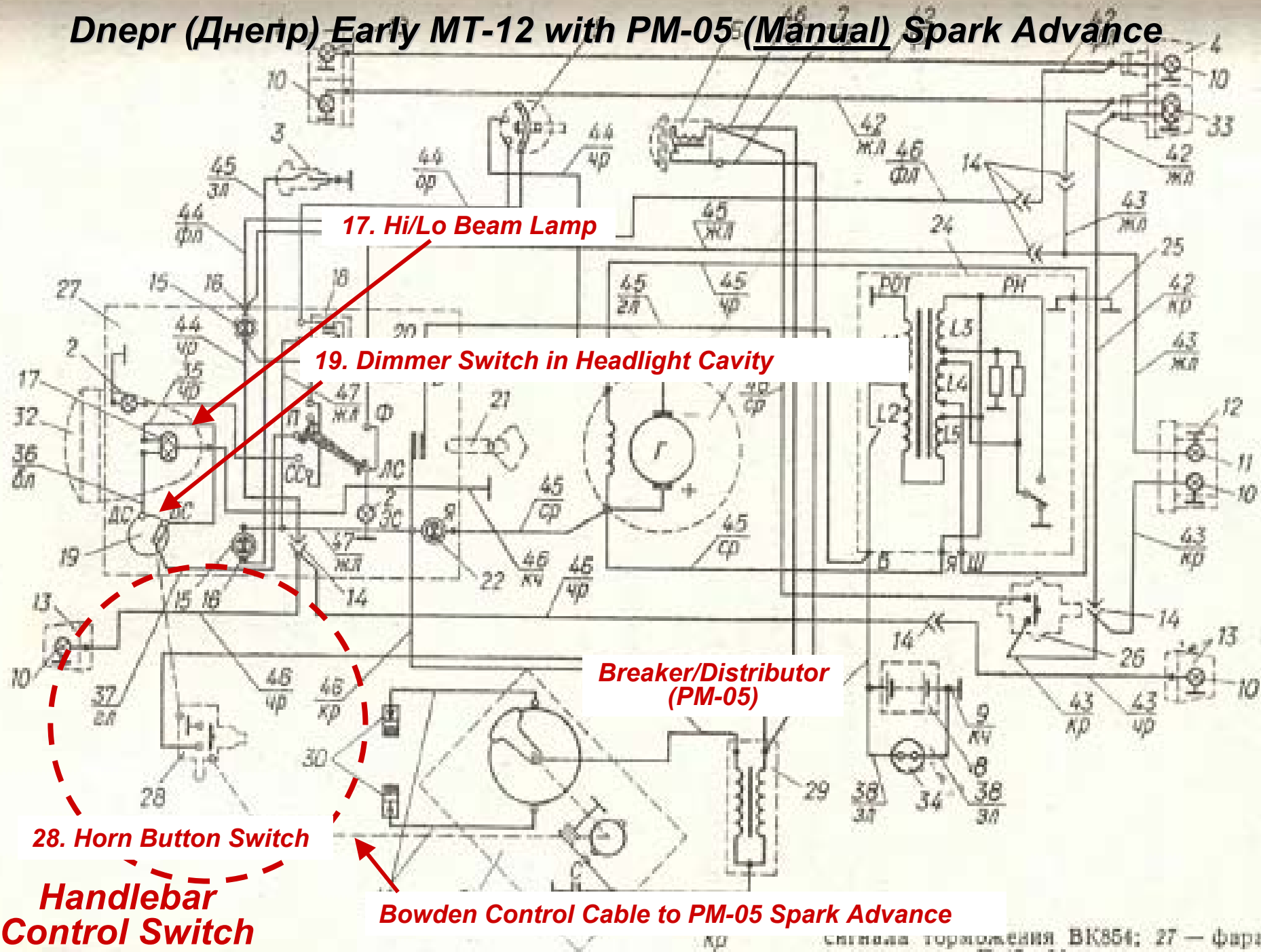
19. Dimmer Switch in Headlight Cavity

Breaker/Distributor  
(PM-05)

28. Horn Button Switch

Handlebar  
Control Switch

Bowden Control Cable to PM-05 Spark Advance





**G-414 Generator**  
**PP-302 Regulator**  
**B2B Coil**  
**PM-05 Breaker**  
**3MT-12 Battery**

