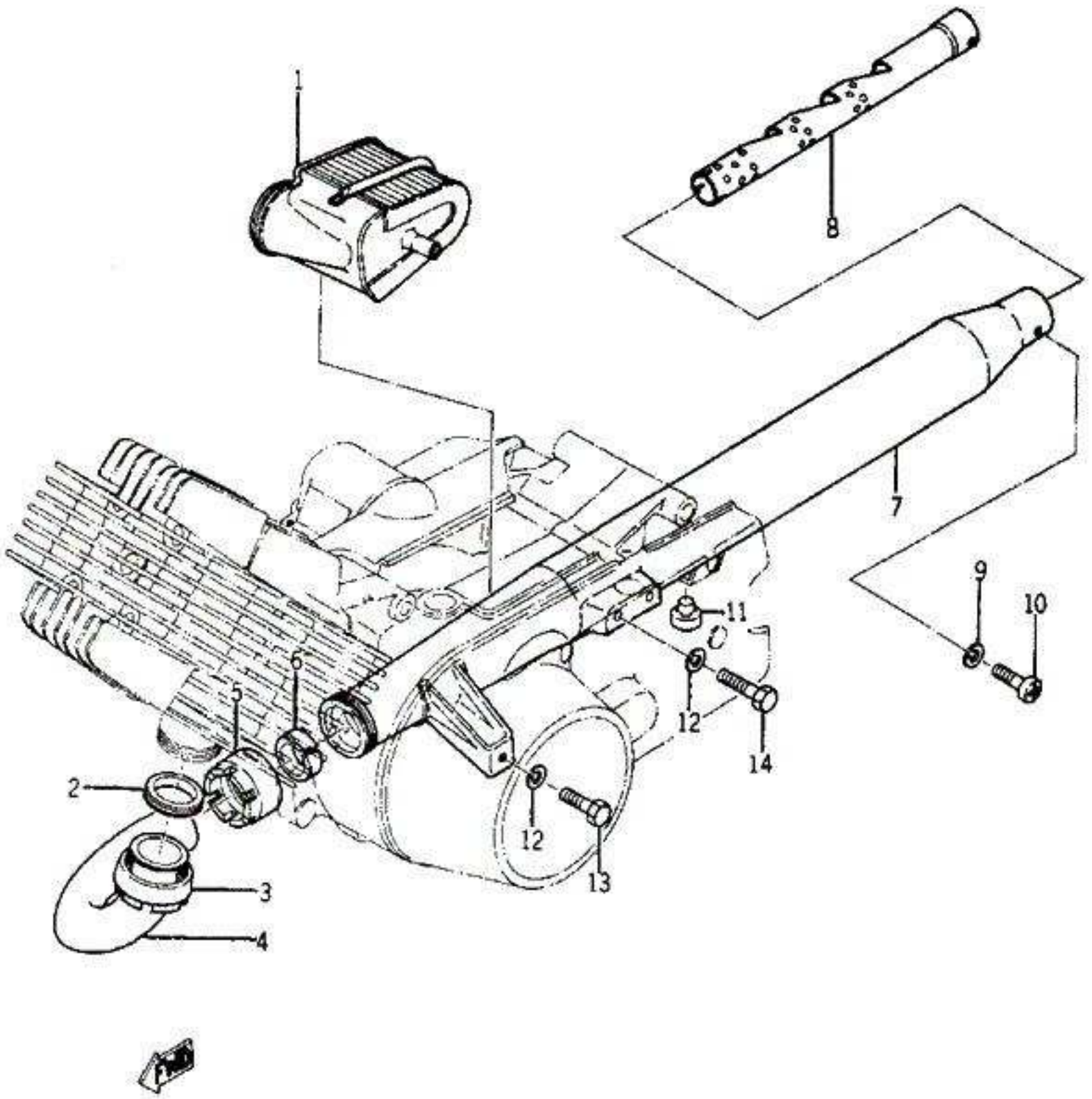
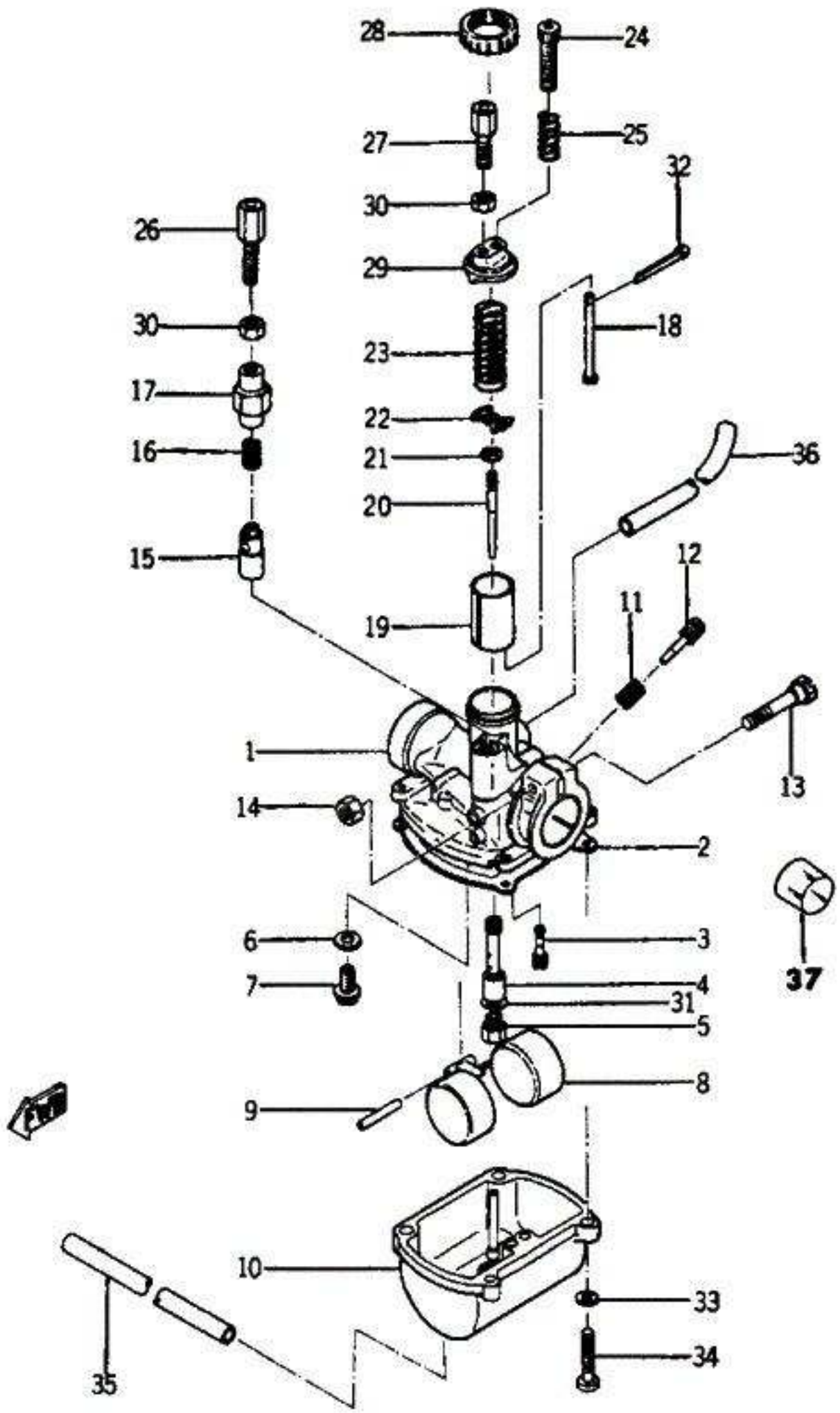
AIR CLEANER-MUFFLER



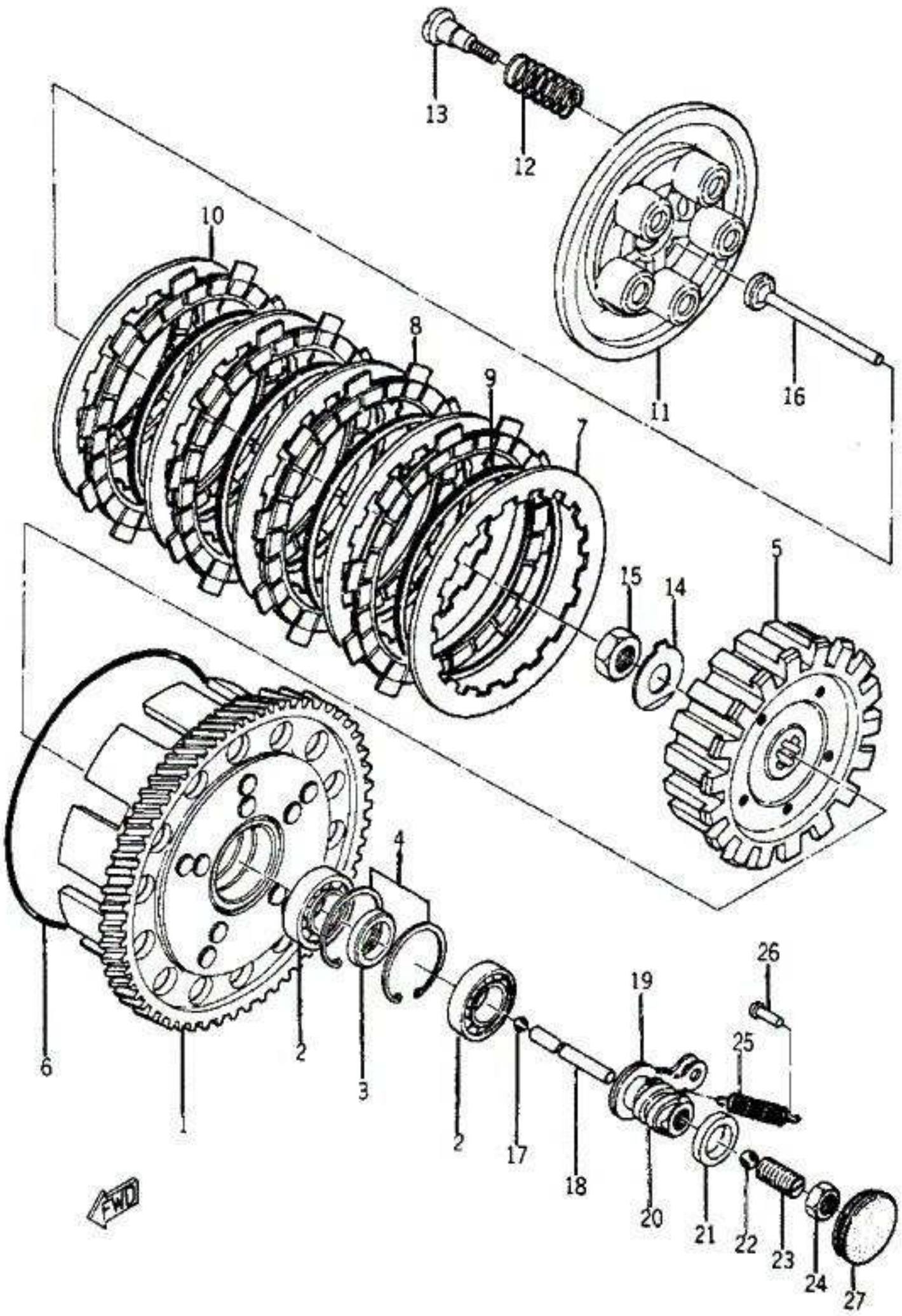
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CARBURETOR



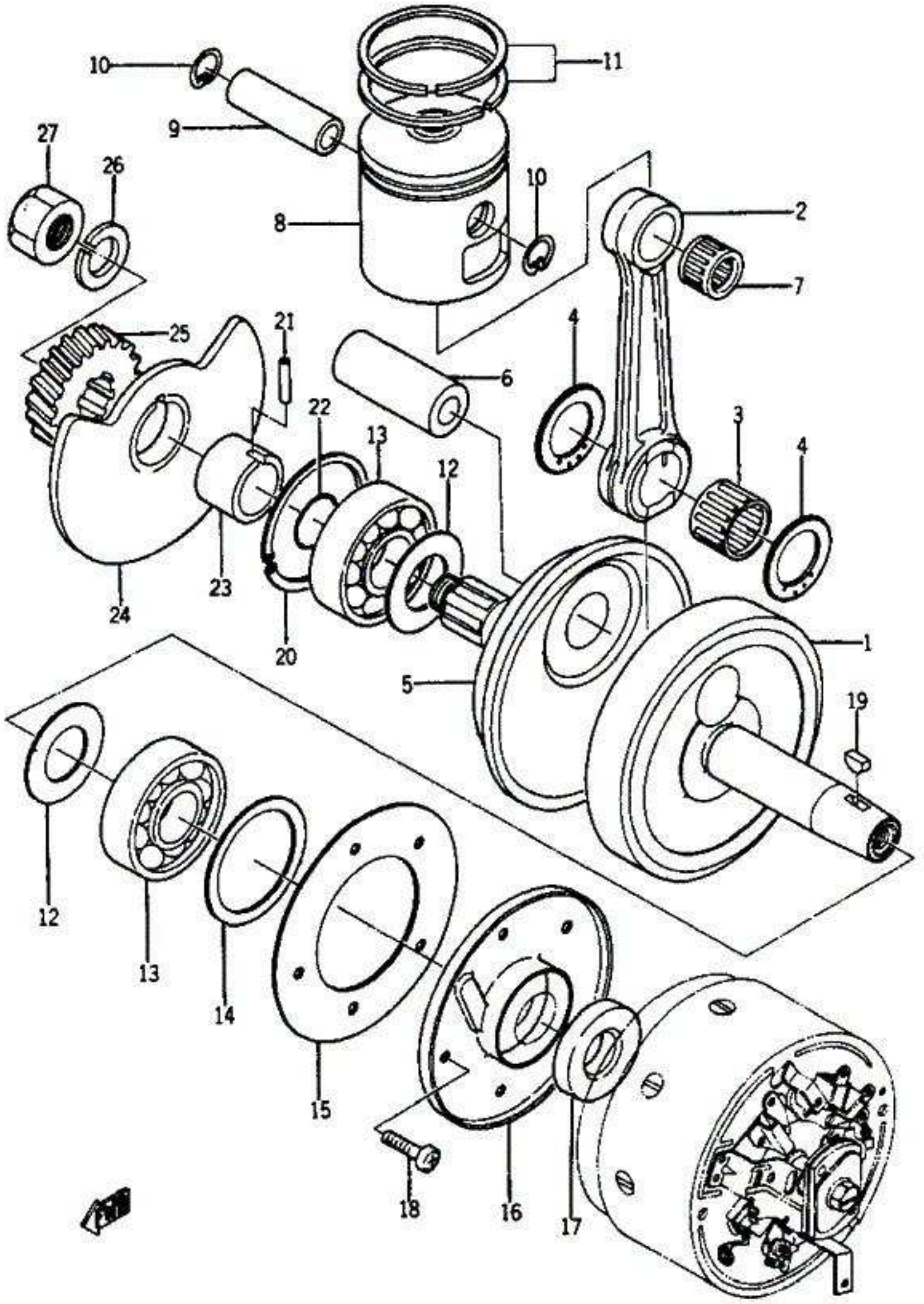
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CLUTCH



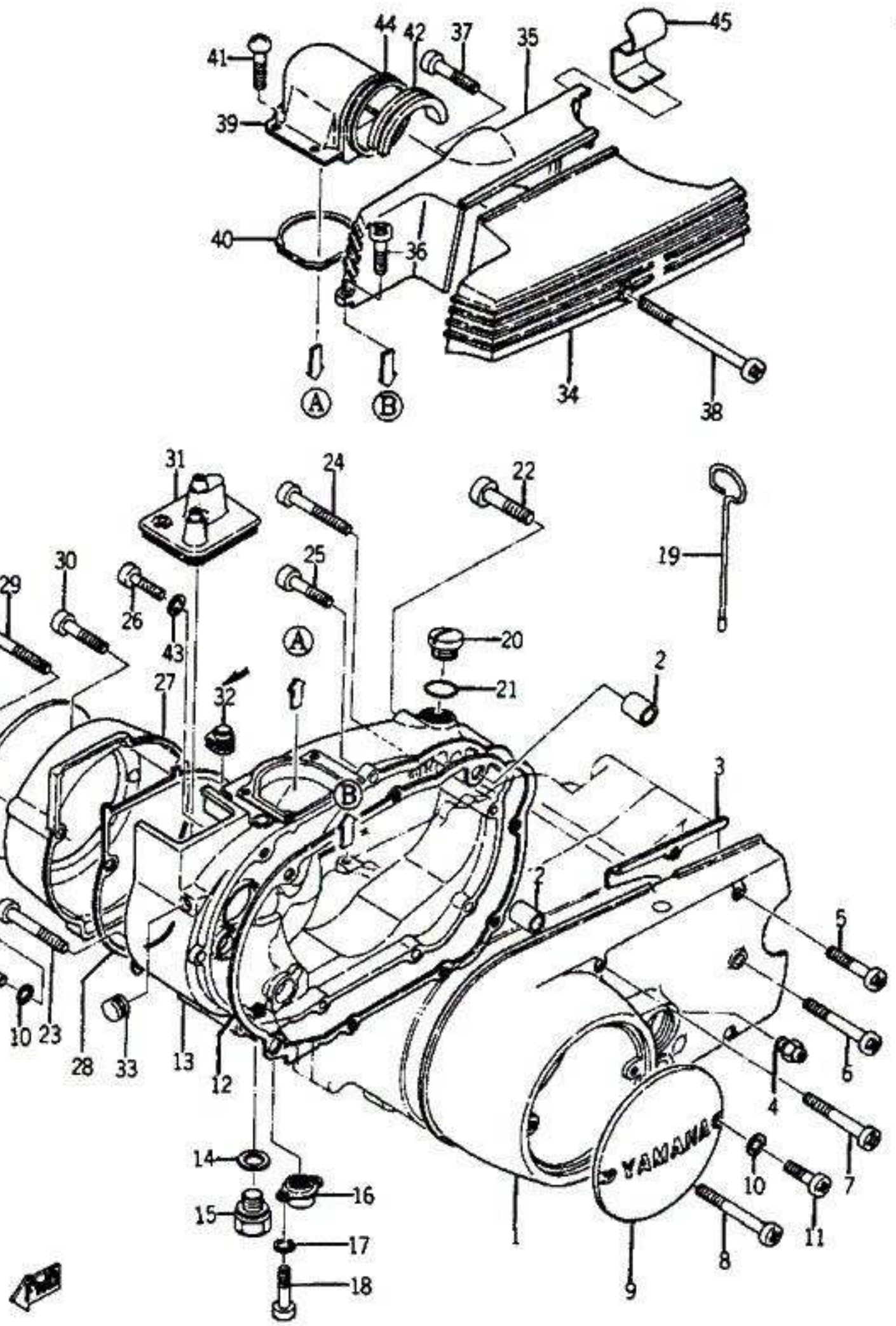
(c) 2004 Yamaha Motor Corporation, U.S.A.

CRANK-PISTON



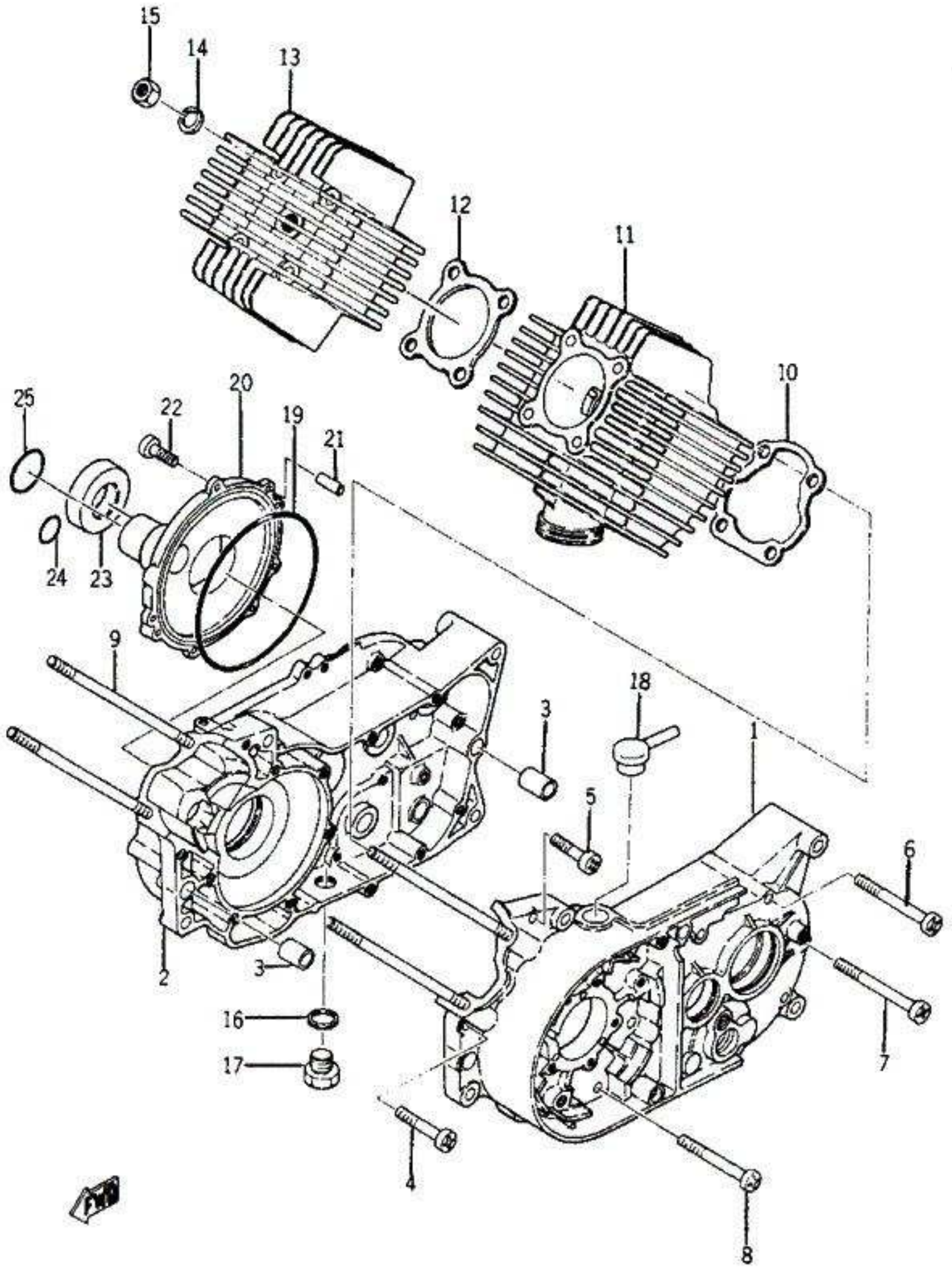
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CRANKCASE COVER



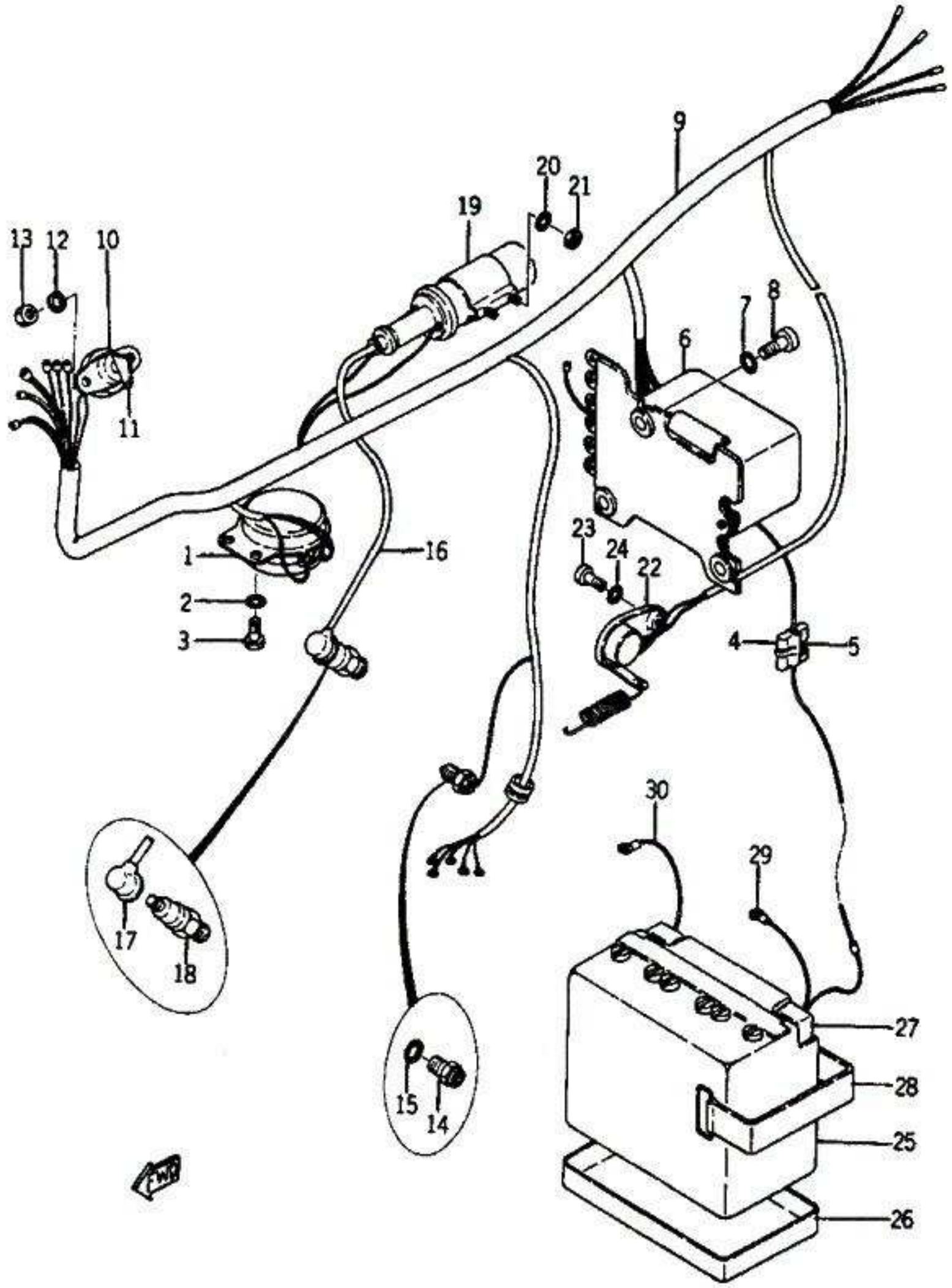
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CRANKCASE



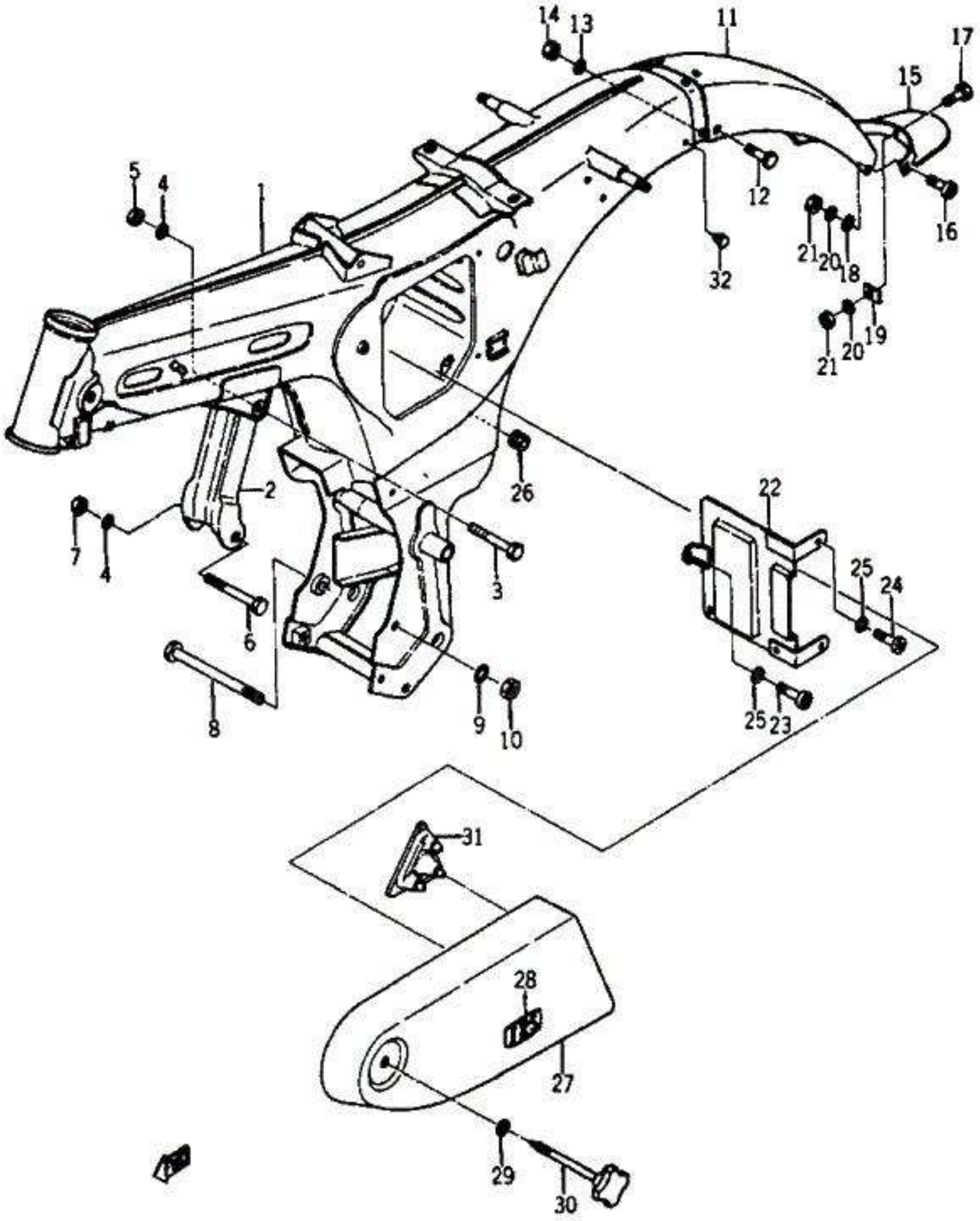
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ELECTRICAL



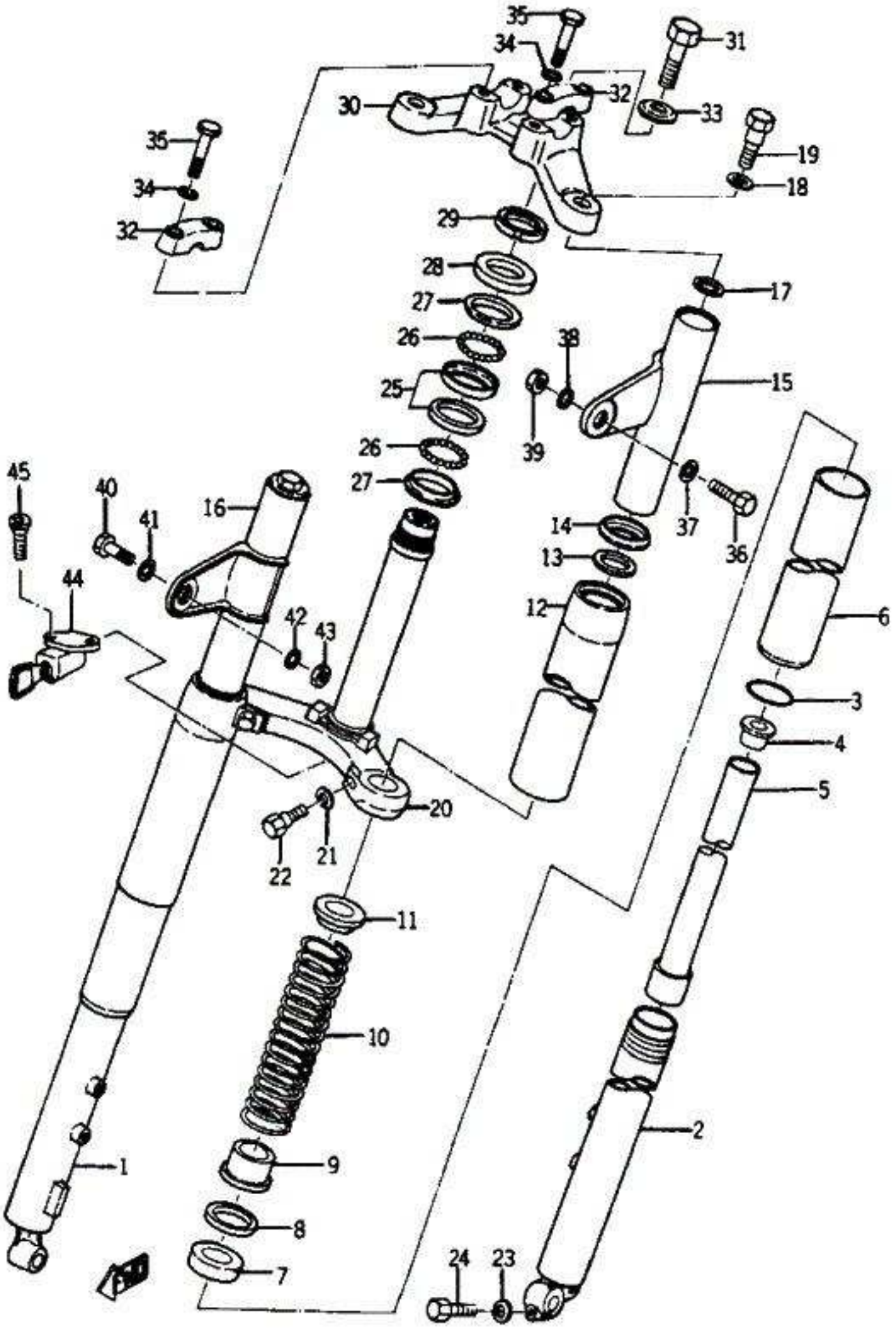
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FRAME



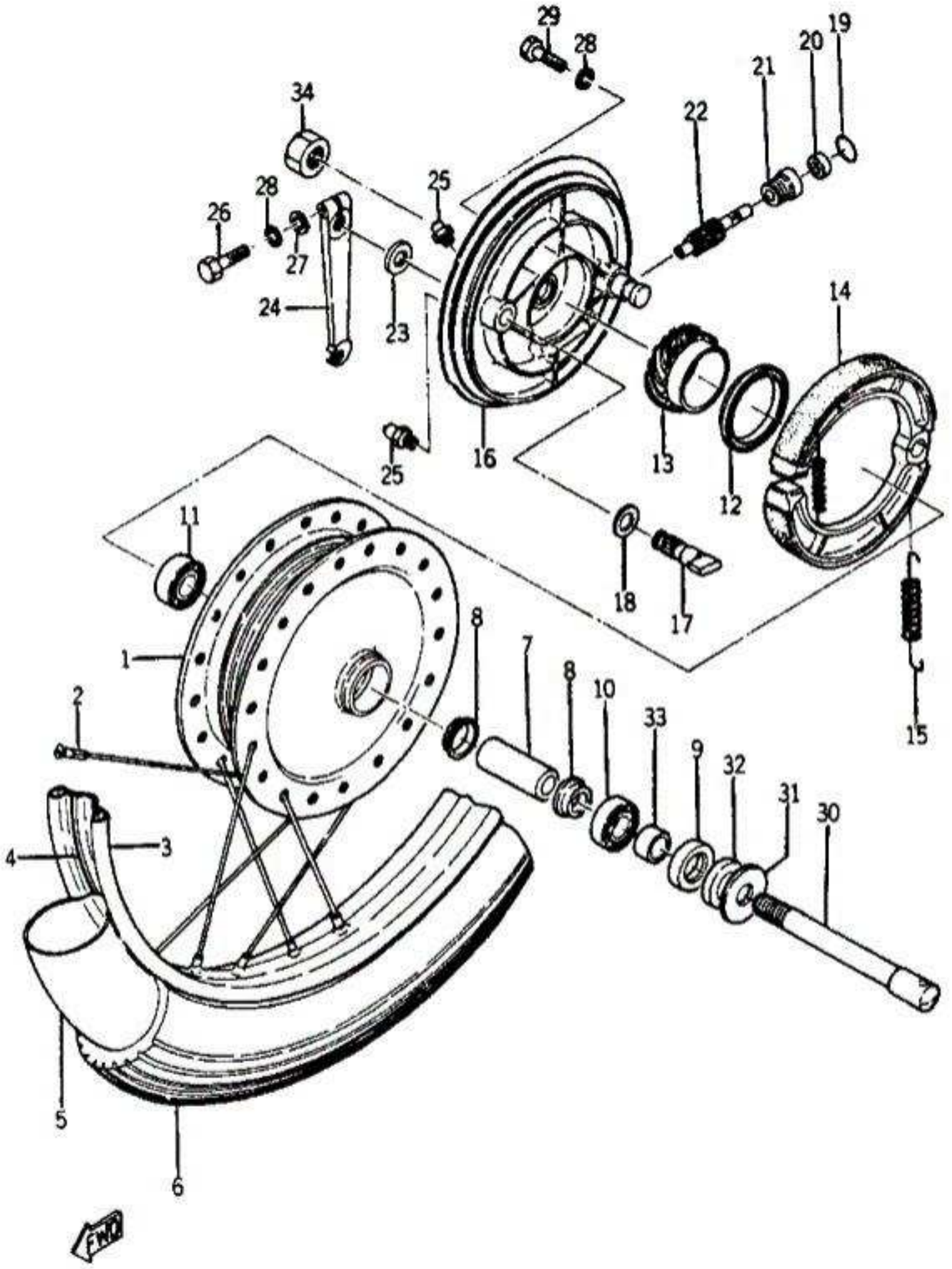
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FRONT FORK



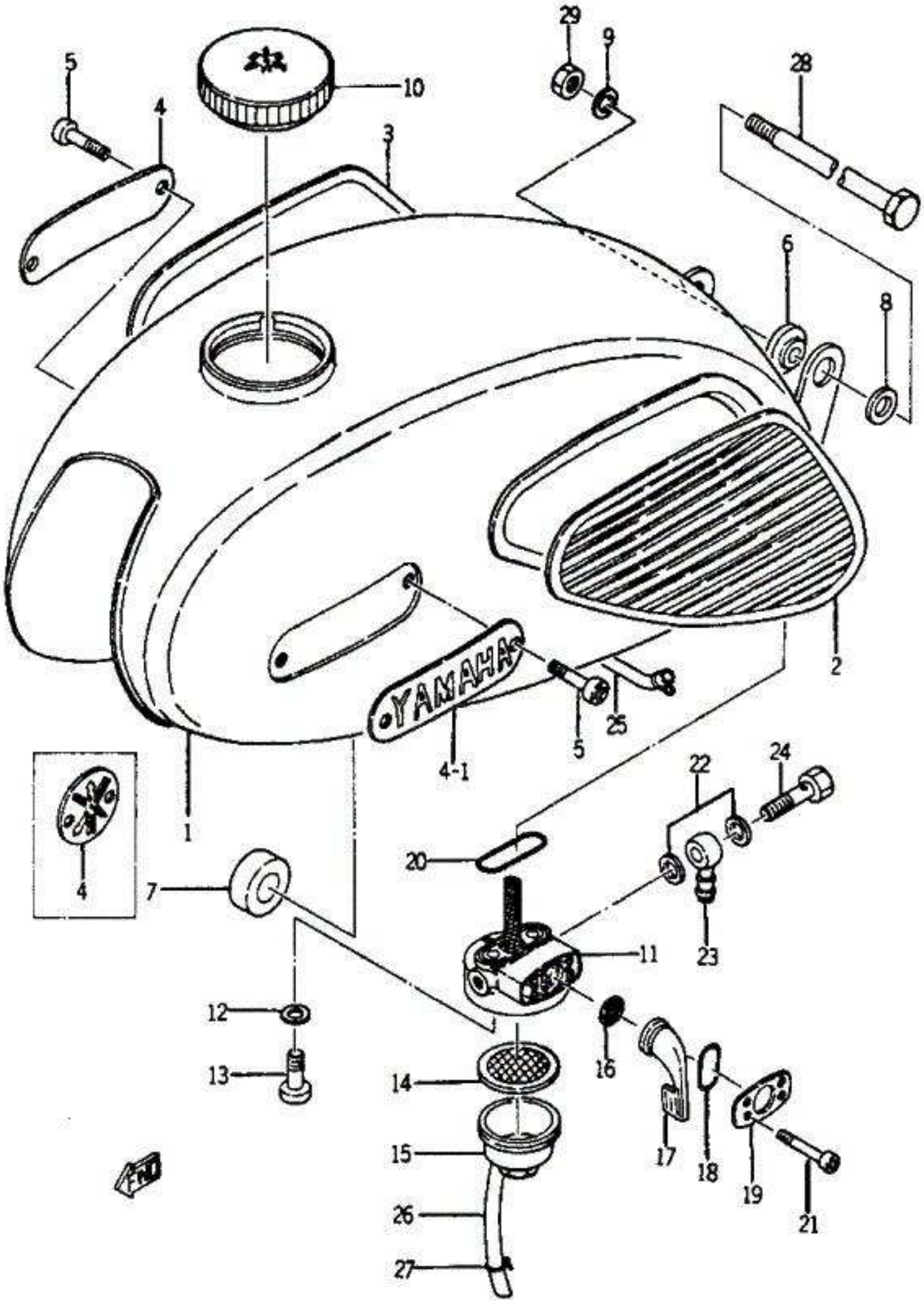
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FRONT WHEEL



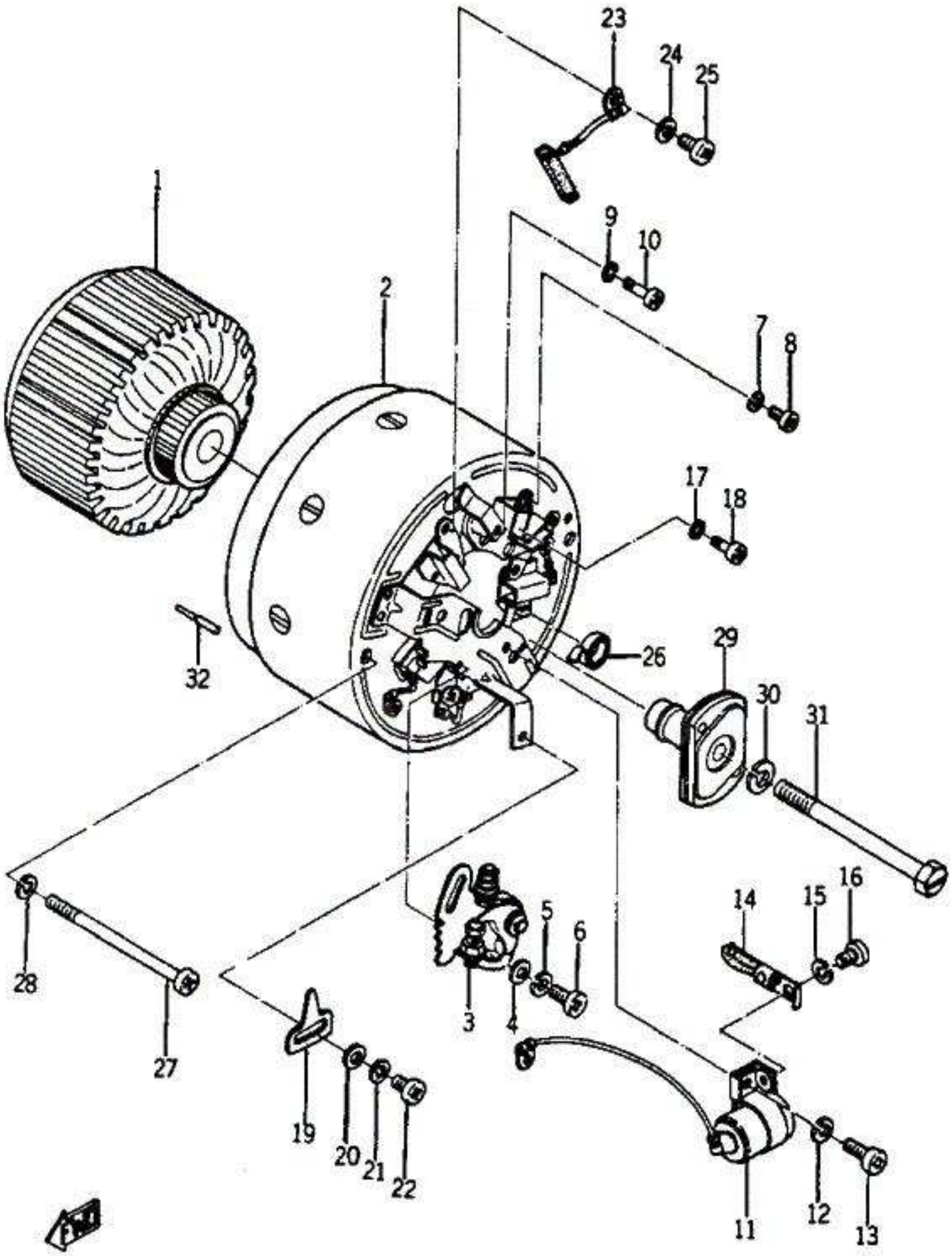
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FUEL TANK



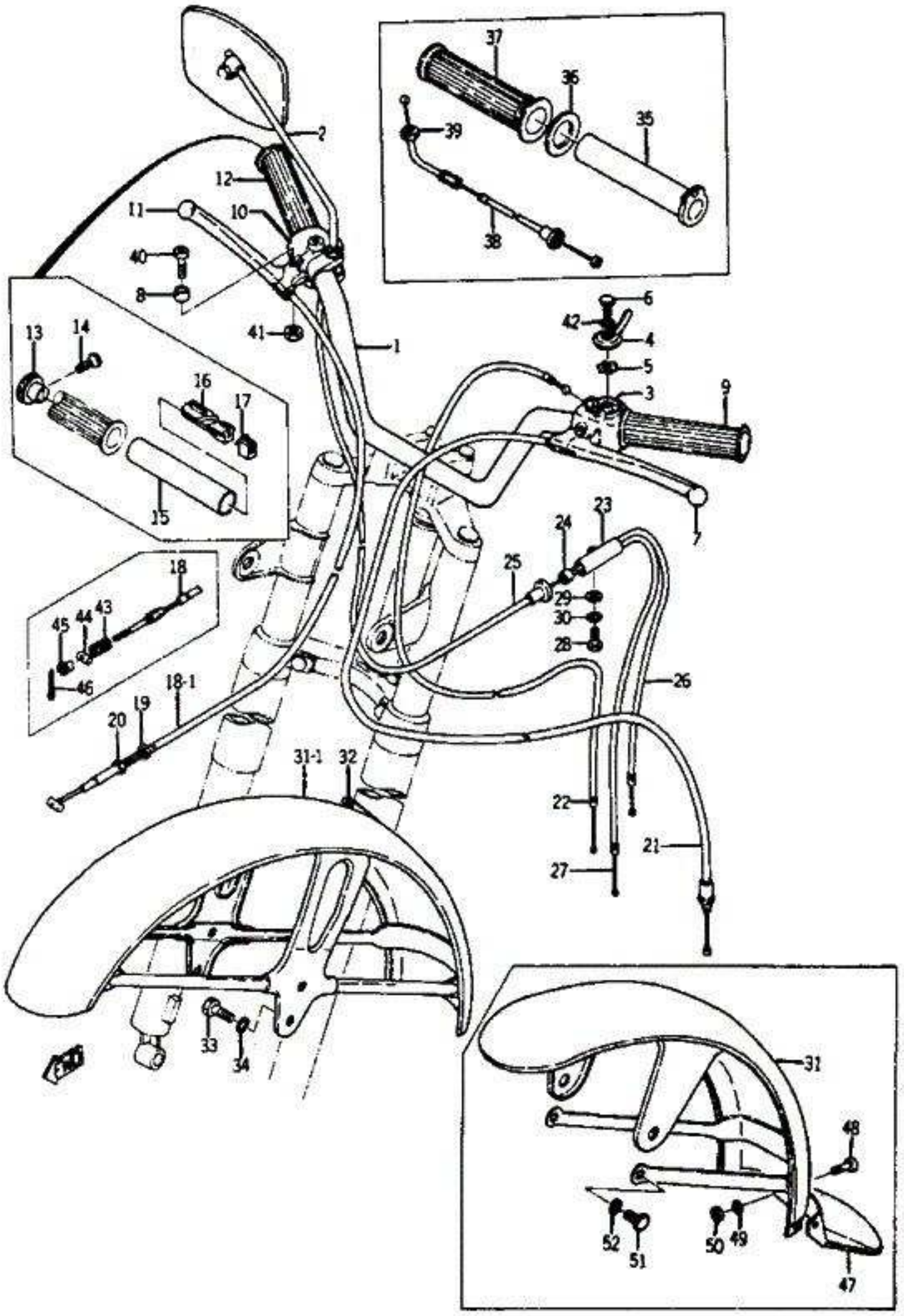
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GENERATOR



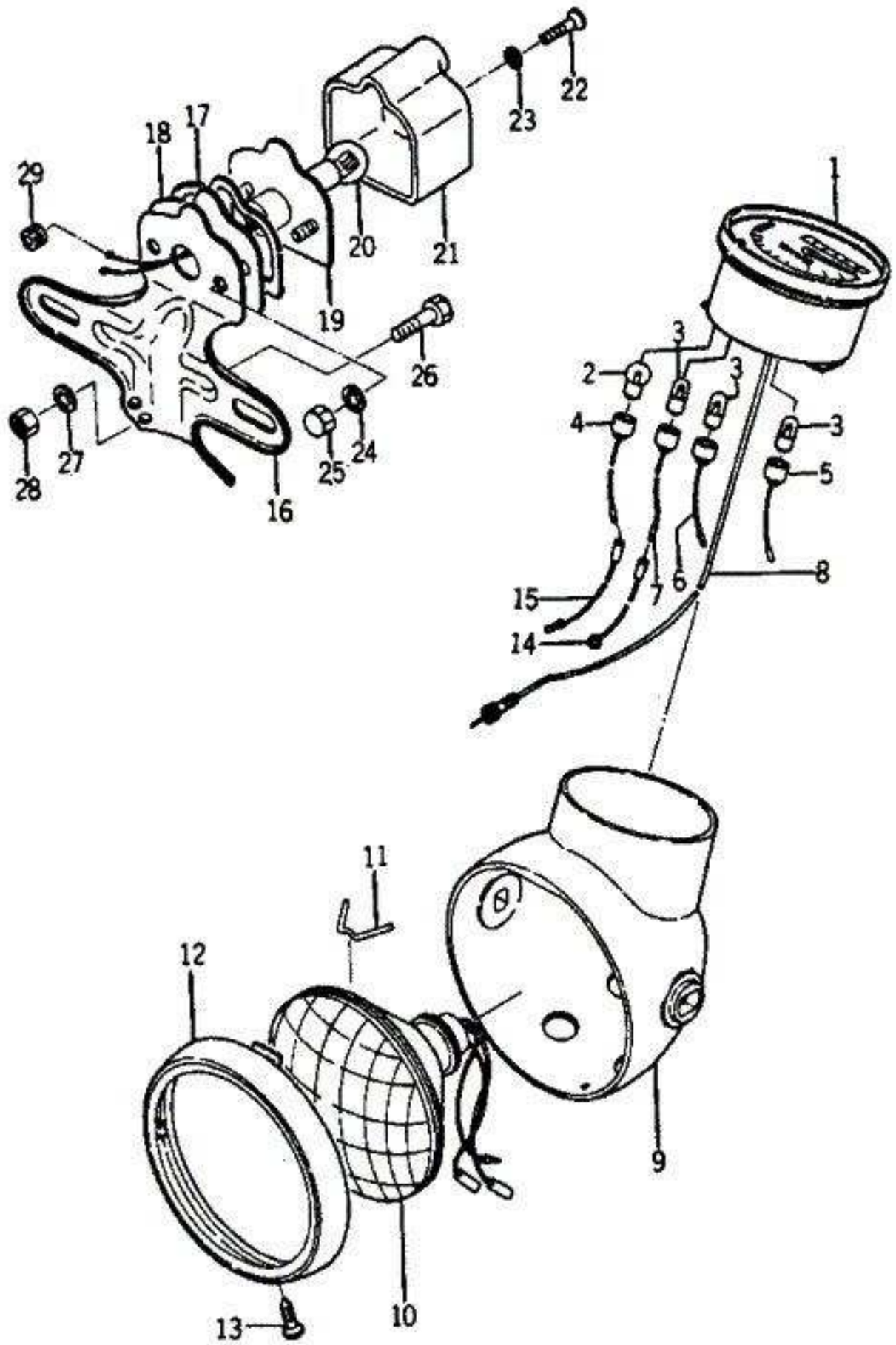
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HANDLE-FRONT FENDER



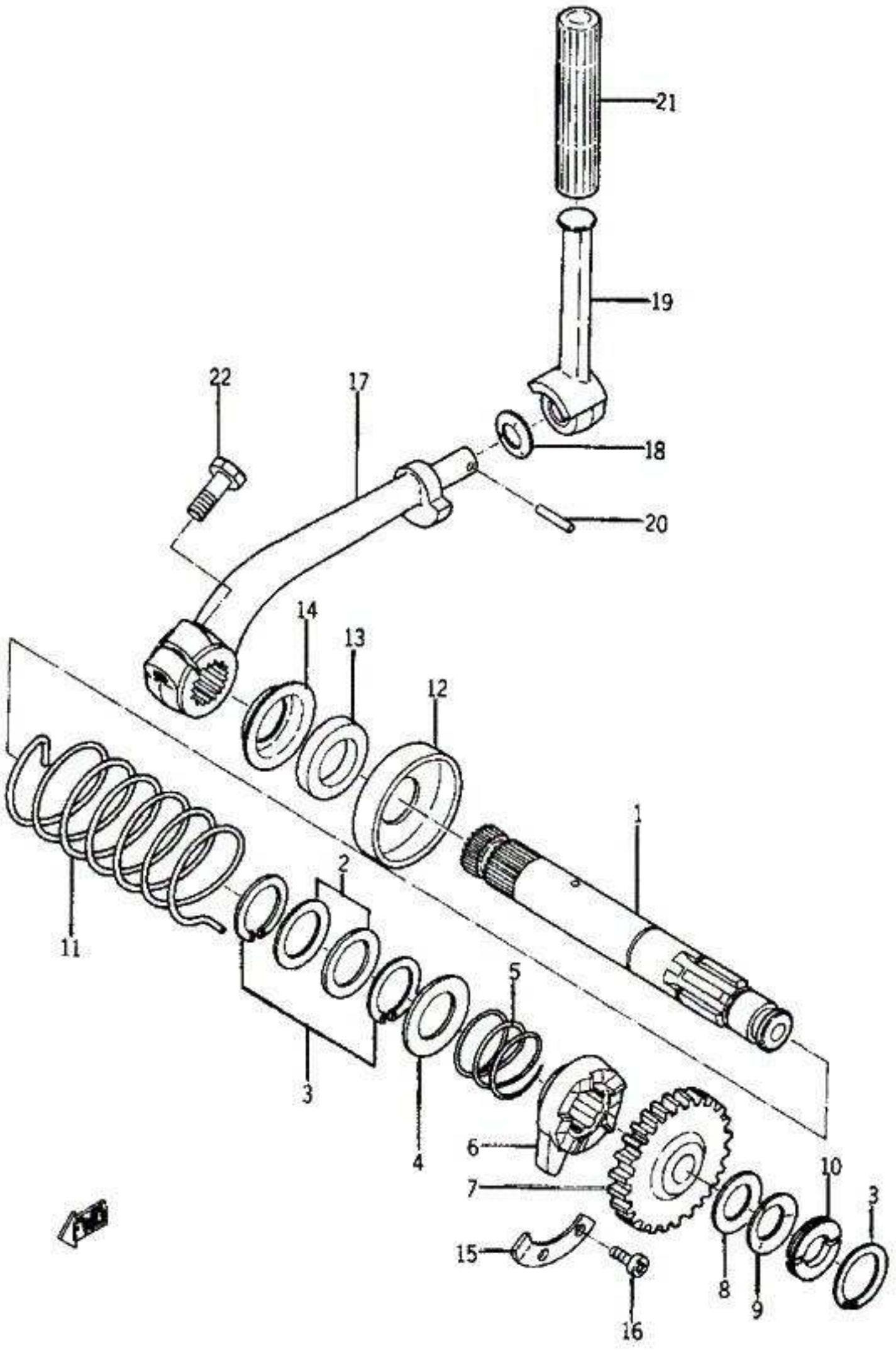
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HEAD LAMP-TAIL LAMP



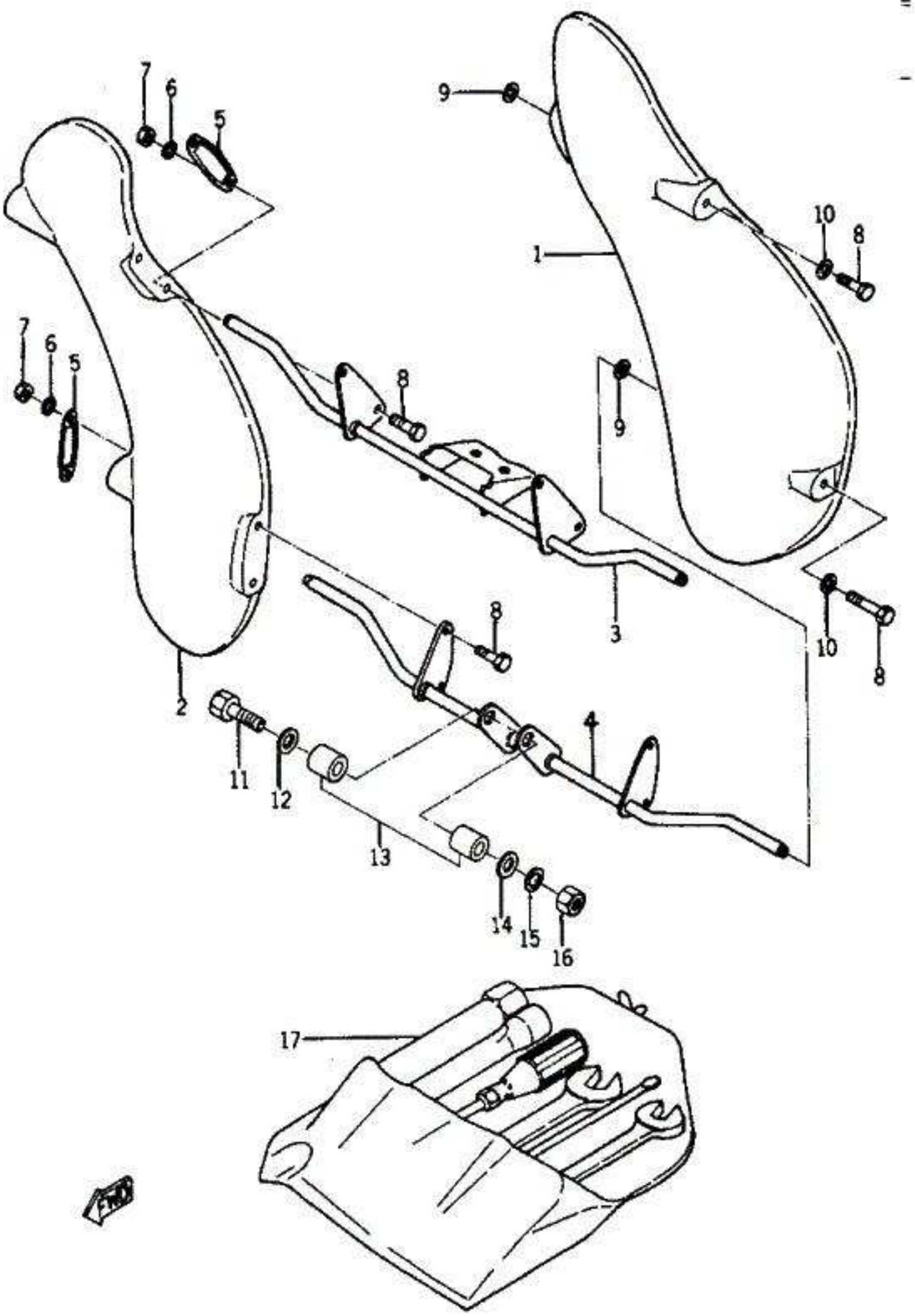
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KICK



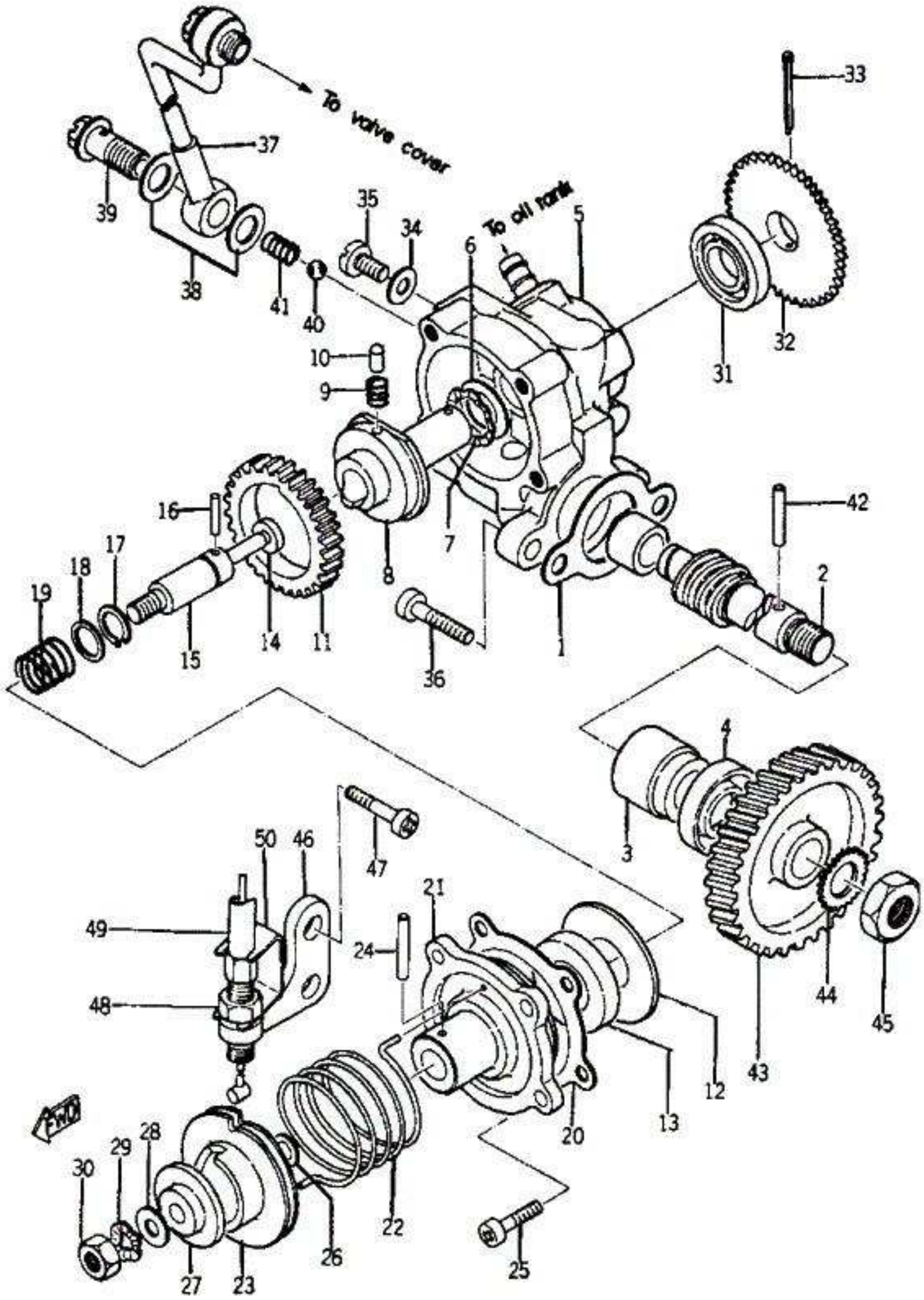
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LEG SHIELDS-TOOLS



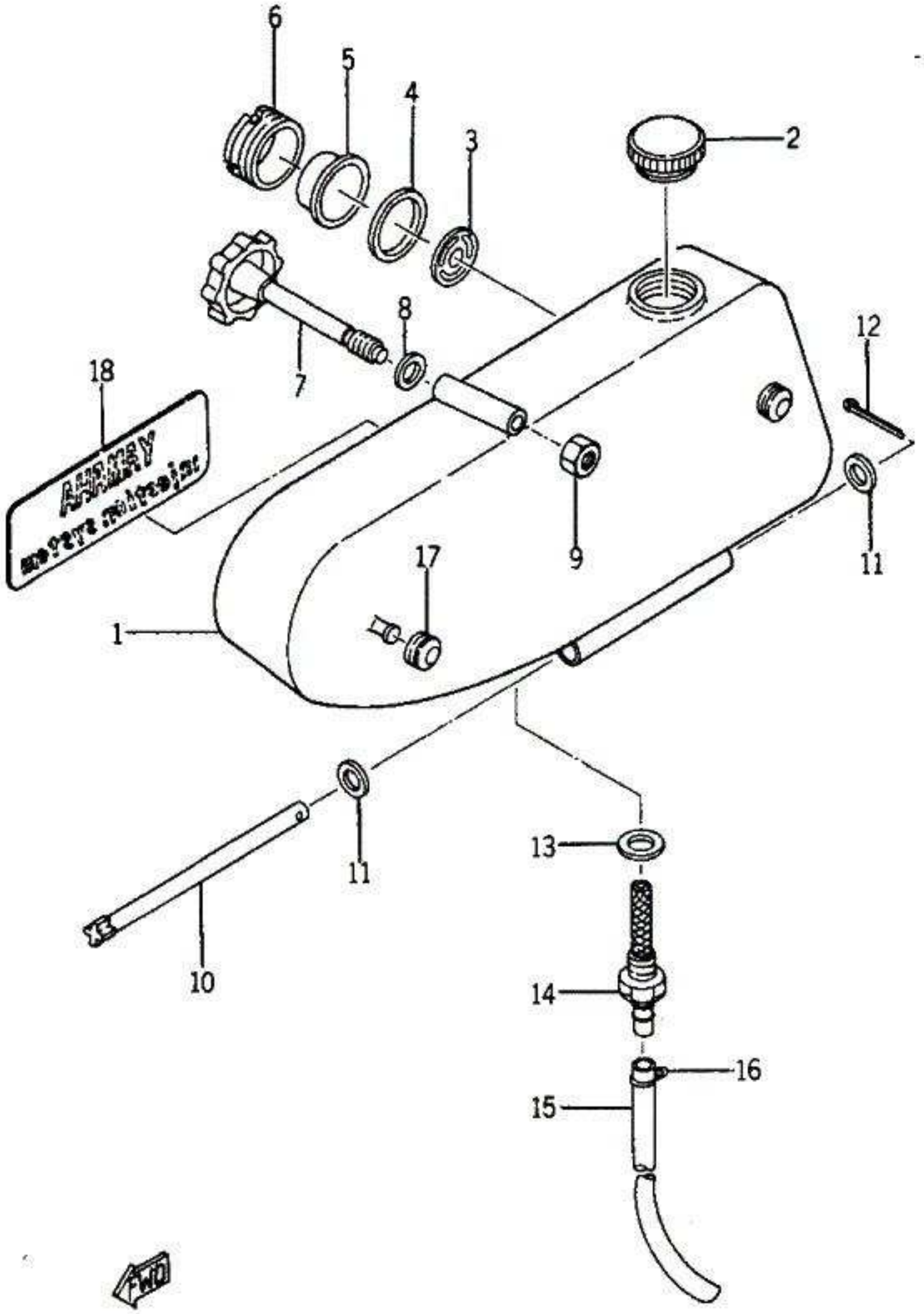
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OIL PUMP



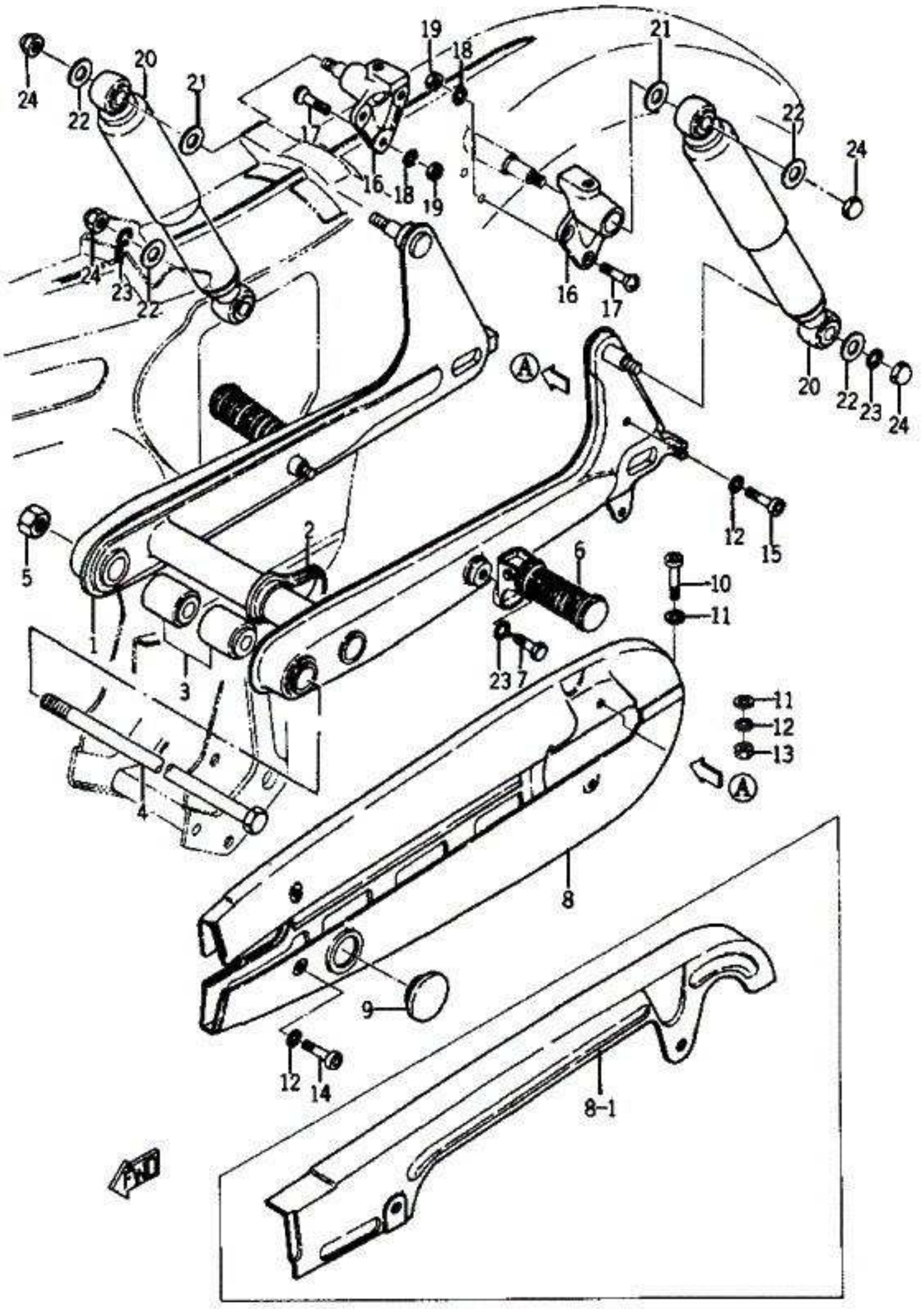
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OIL TANK



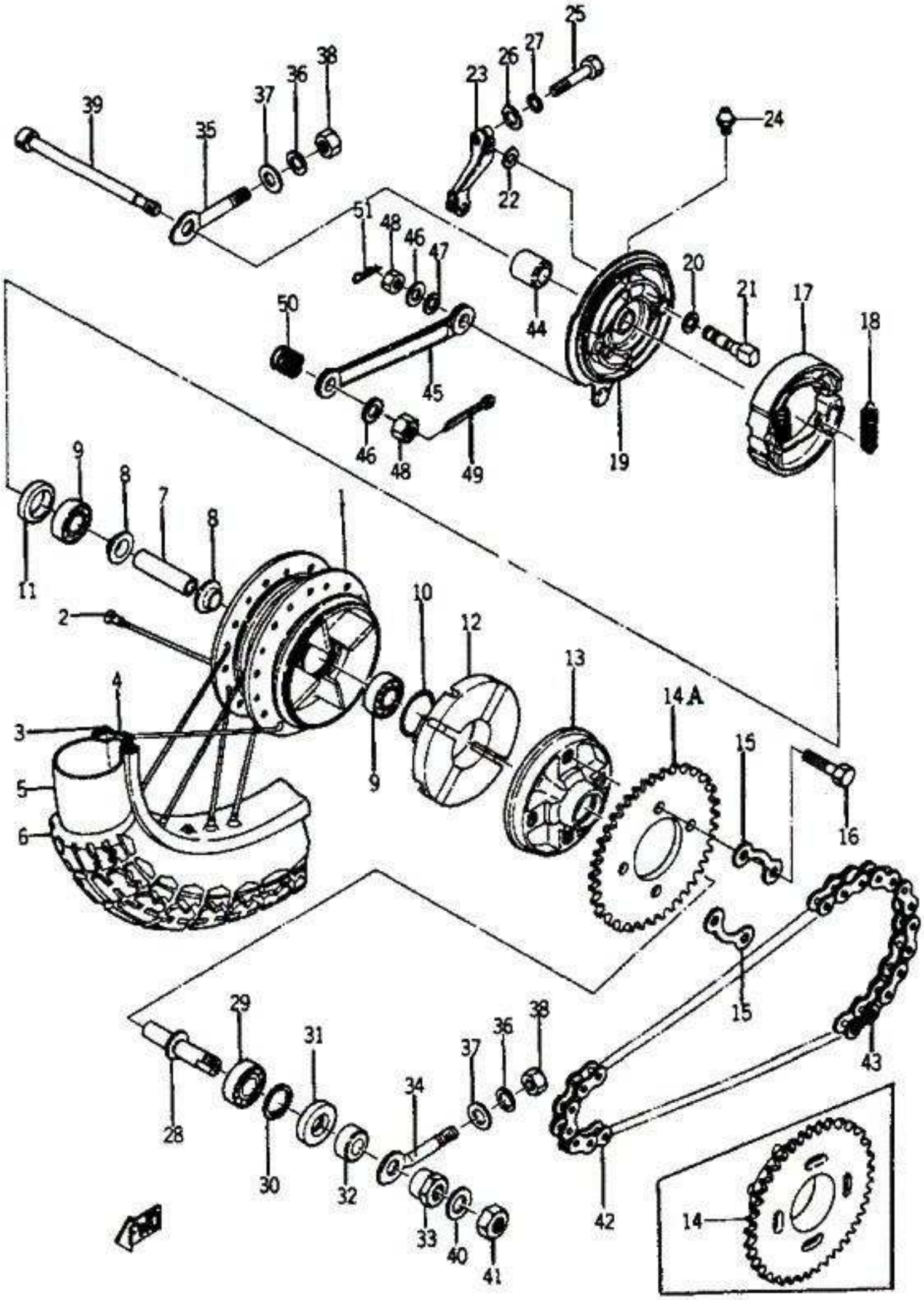
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REAR ARM-REAR CUSHION-CHAIN CASE



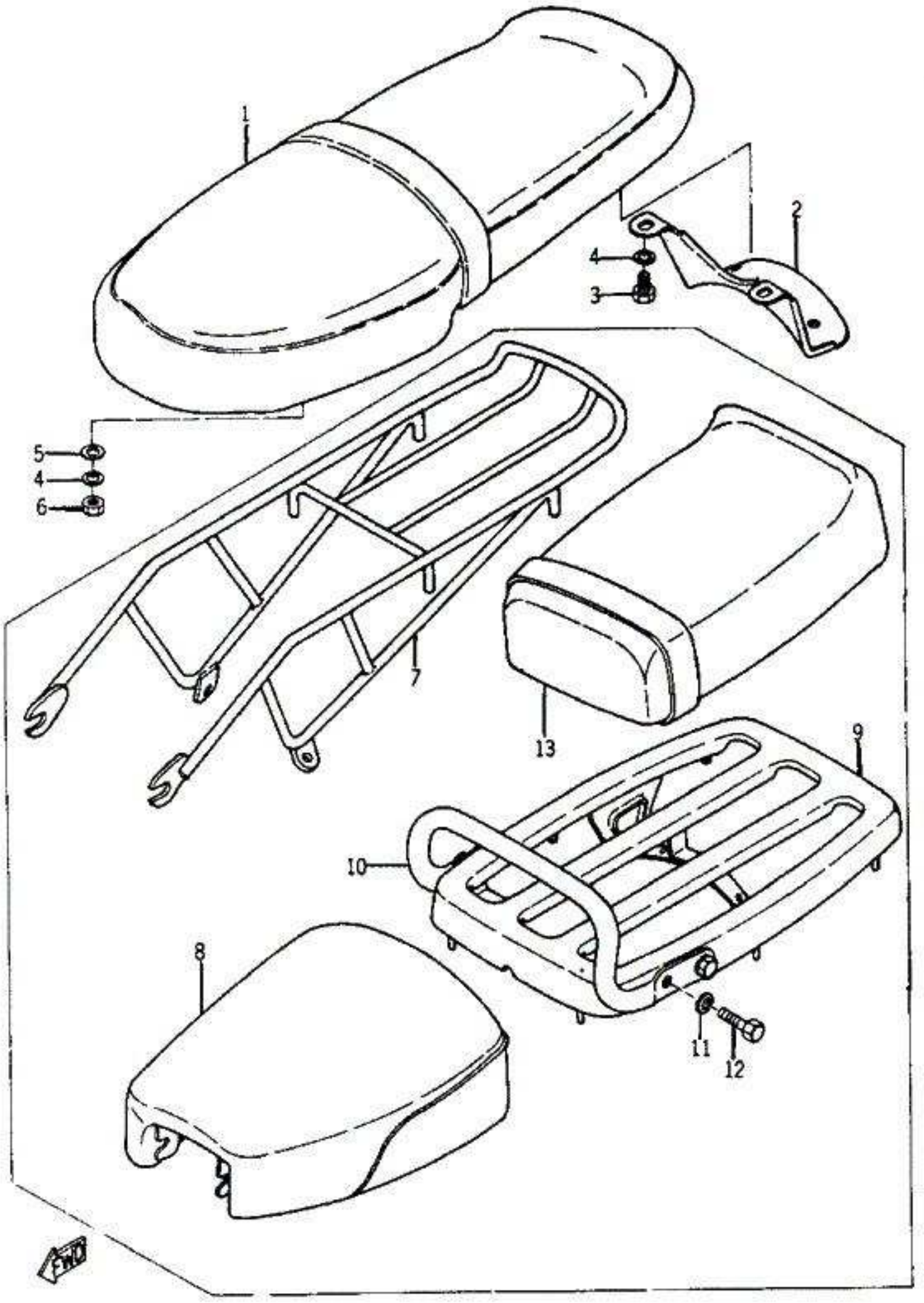
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REAR WHEEL



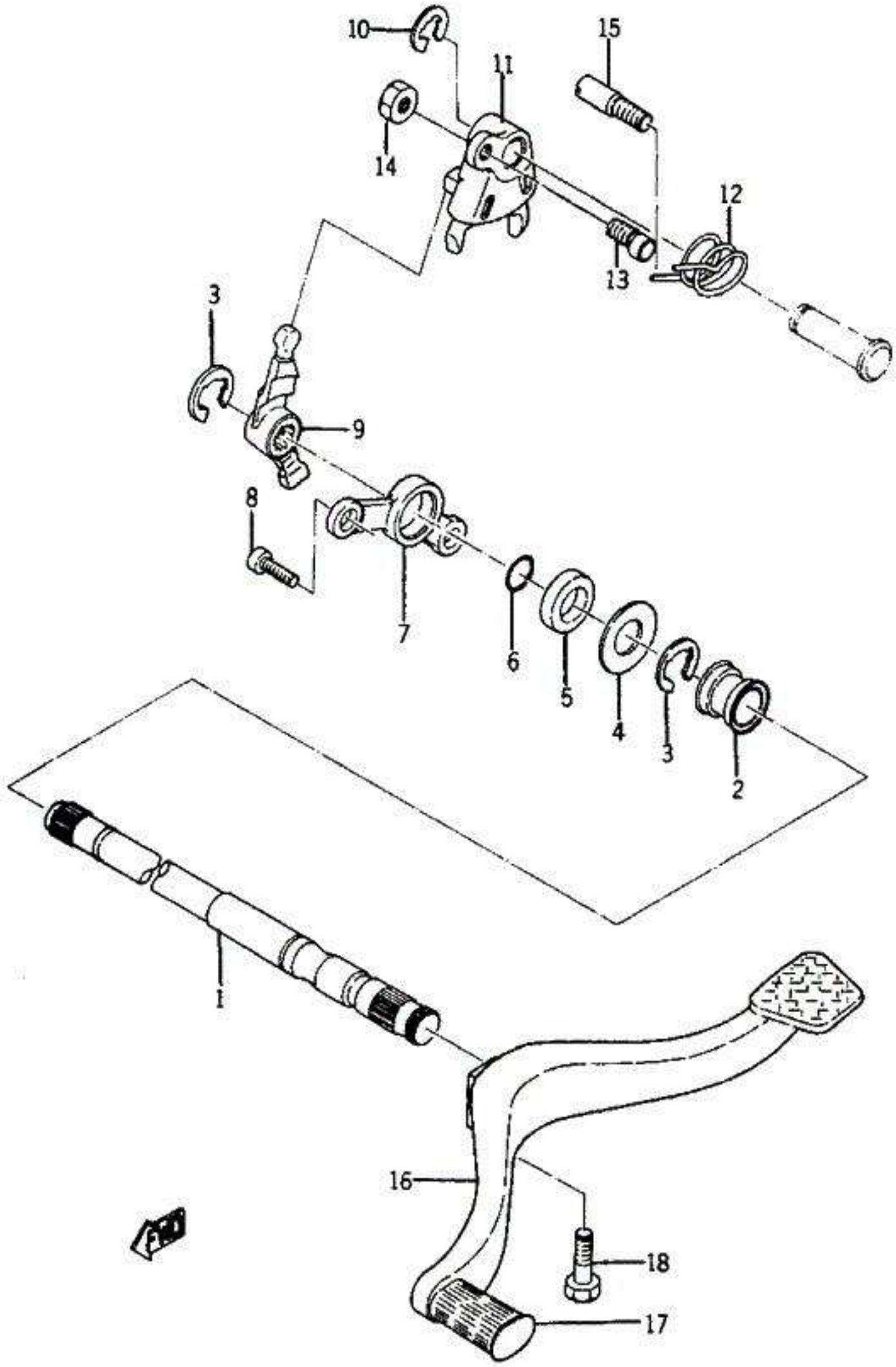
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SEAT-CARRIER



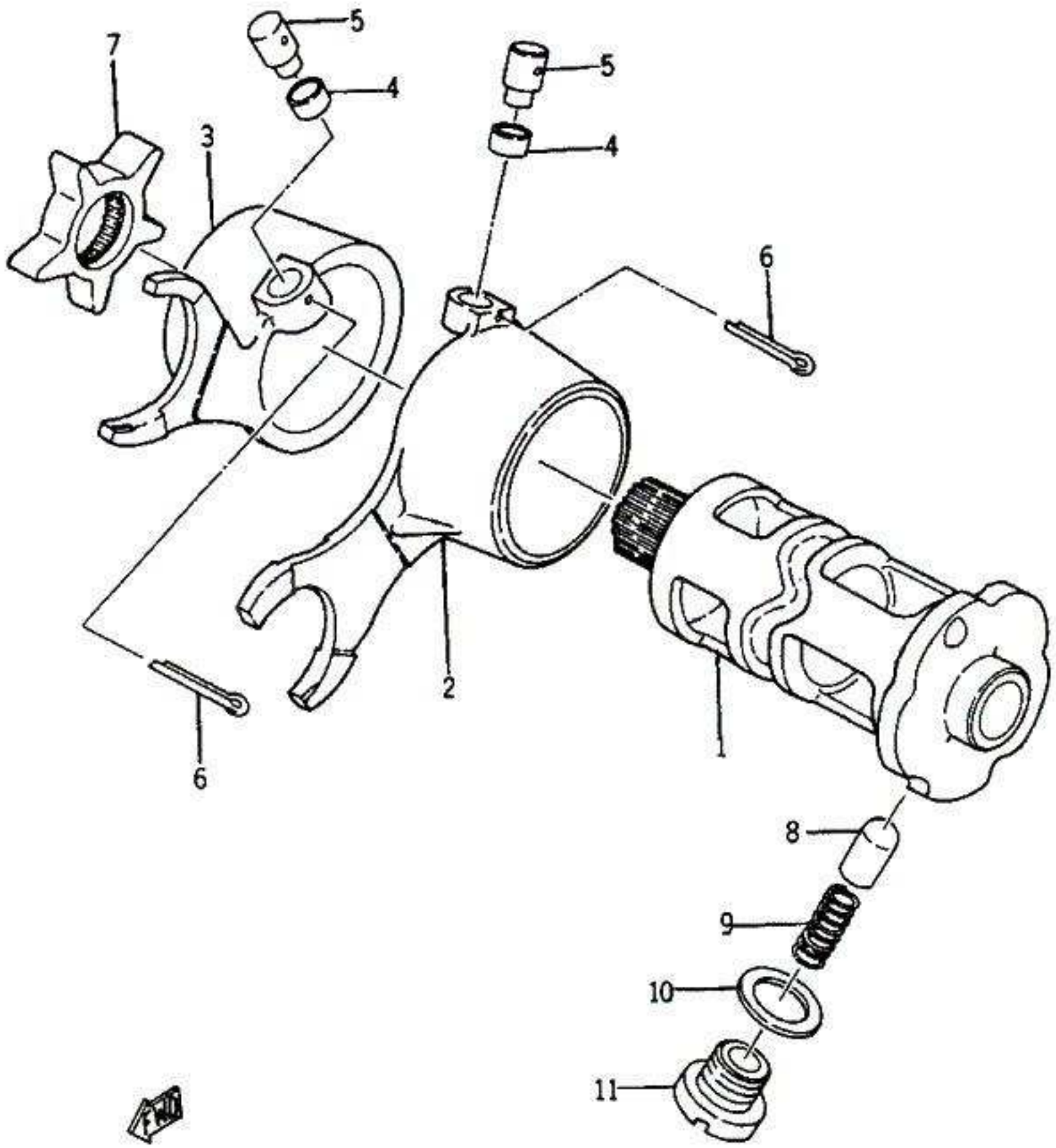
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SHIFTER 1



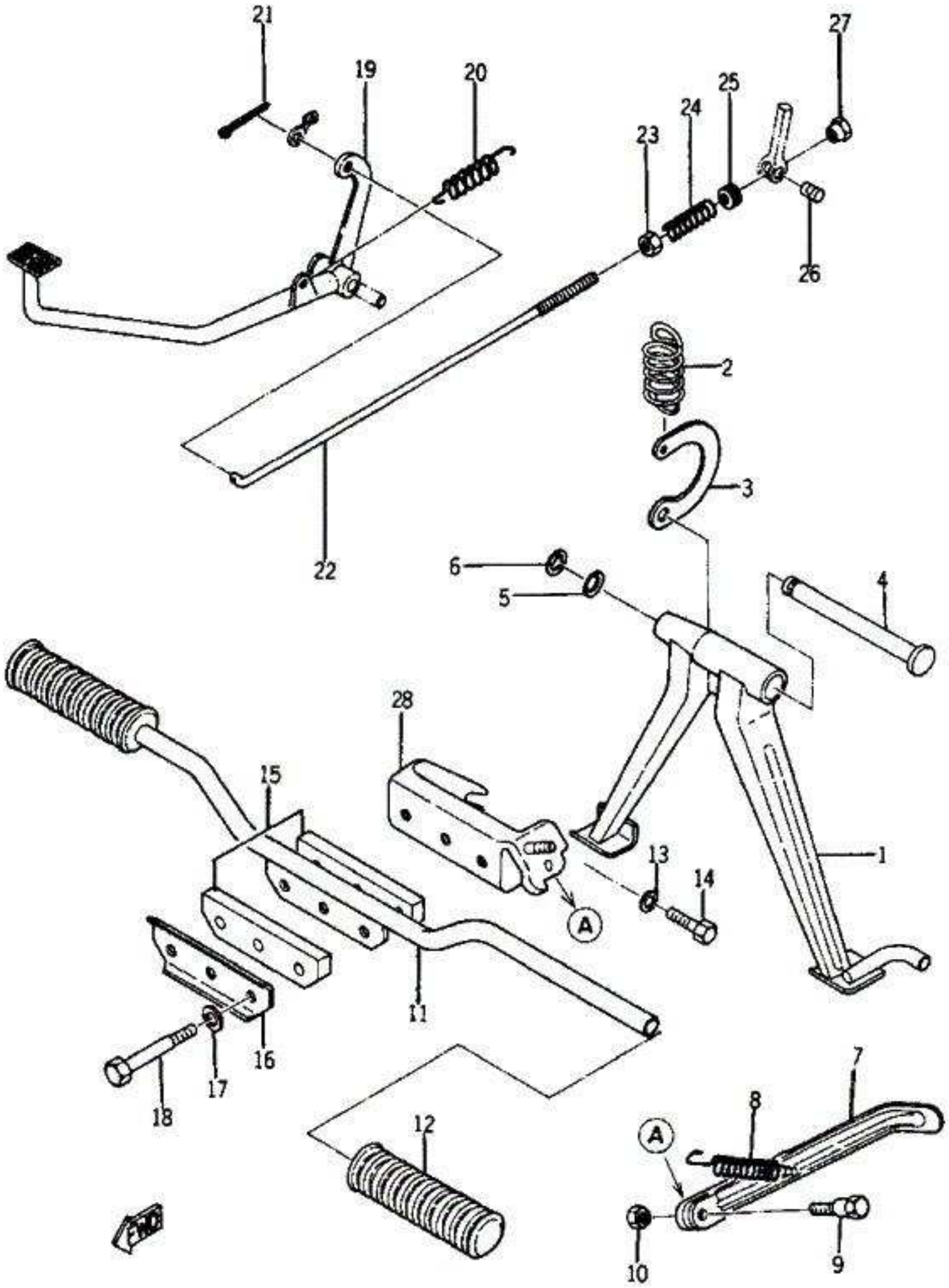
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SHIFTER 2



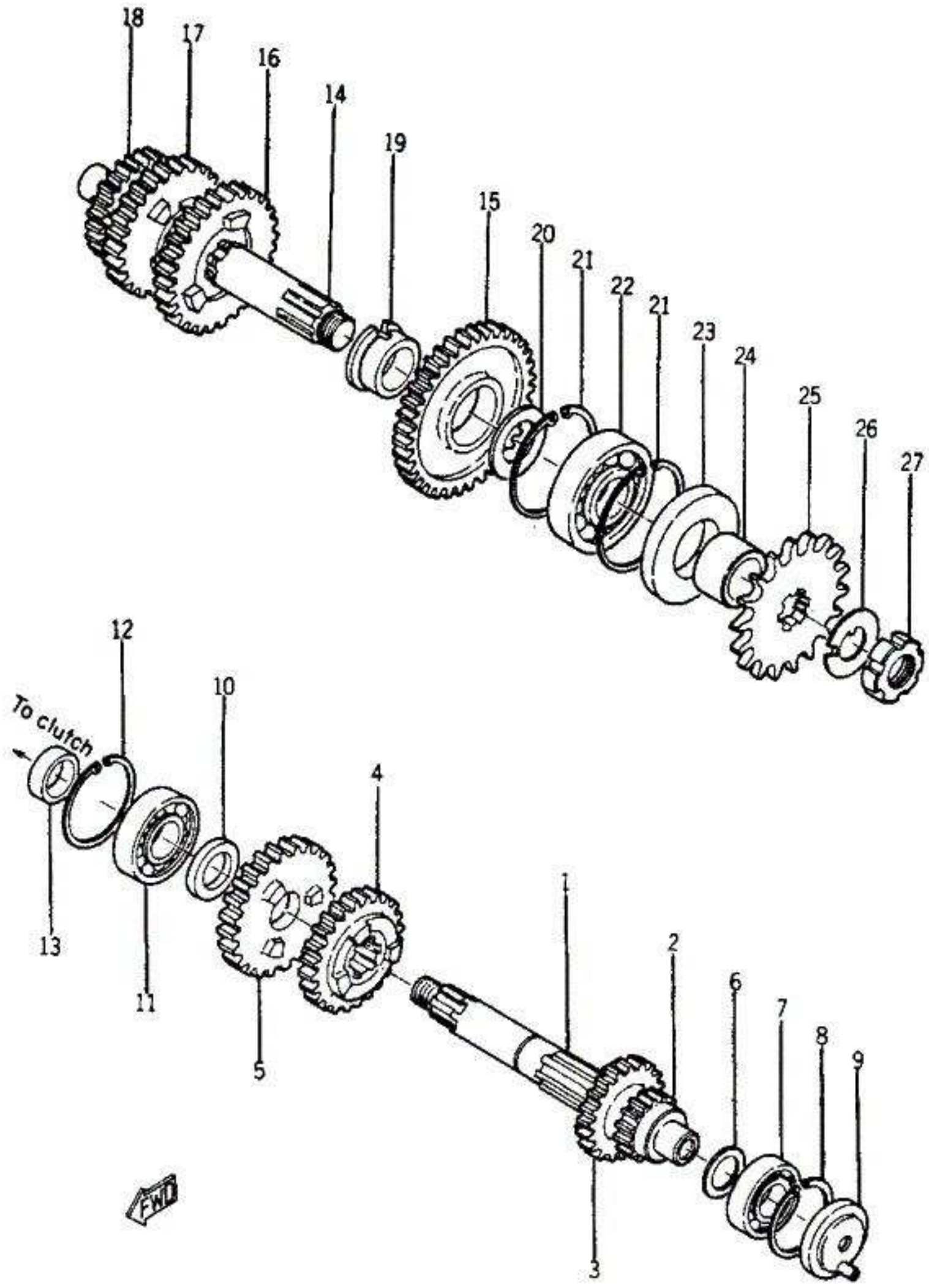
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STAND-FOOTREST-BRAKE PEDAL



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TRANSMISSION



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TECHNICAL BULLETIN

YAMAHA SERVICE NEWS

7733 TELEGRAPH ROAD · MONTEBELLO, CALIFORNIA
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Service News #171

YAMAHA SERVICE NEWS
7733 TELEGRAPH ROAD · MONTEBELLO, CALIFORNIA
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AREA CODE: 213 · OVERLAND 5-5135
Service News 172

CHANGES IN THE NEW 1966 YA6

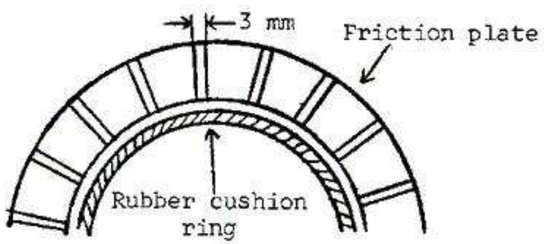
The new YA6 has been tested by YAMAHA INTERNATIONAL for over 5,000 miles without one single mechanical failure. Listed below are the improvements in the new YA6.

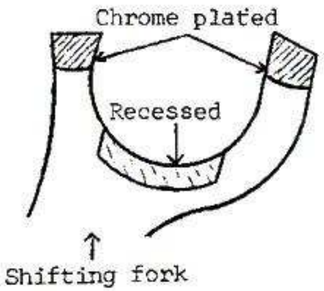
1. CLUTCH: The number of grooves in the friction plates has been increased from 24 to 32 and the width of these grooves increased from 2 to 3mm.

2. A rubber cushion ring similar to the one in the 80cc clutches has been added to the YA6.

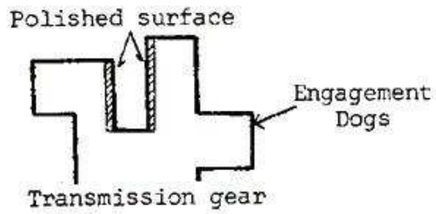
3. The diameter of the clutch push rod has been increased from 4.8 to 4.9mm.

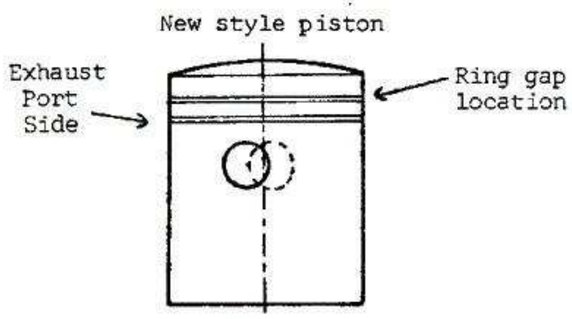
4. SHIFTING FORKS: The contact ends of these forks have been chrome plated for longer life, and the area between the ends of the forks has been recessed for added clearance. SEE DRAWINGS BELOW.





5. TRANSMISSION GEARS: The number of engagement dogs on the gears has been increased from 3 to 6, and the groove in which the shifting forks ride has been polished for smoother transmission operation.





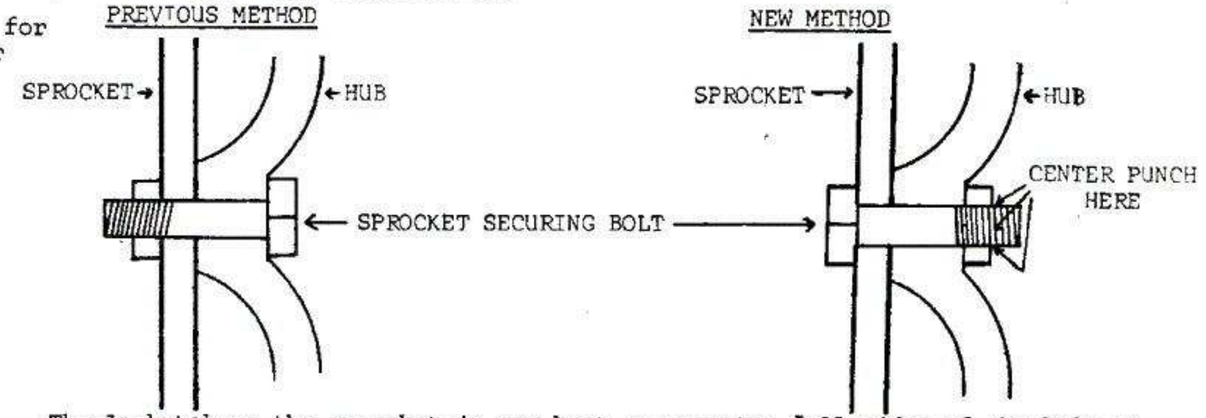
6. PISTON: The piston pin location has been moved off center toward the exhaust port side to give better surface contact between the piston and cylinder wall. The location of the ring gap has been moved opposite the exhaust port.

7. CARBURETOR: The jet needle setting has been moved from the 2nd to the 3rd stage position.

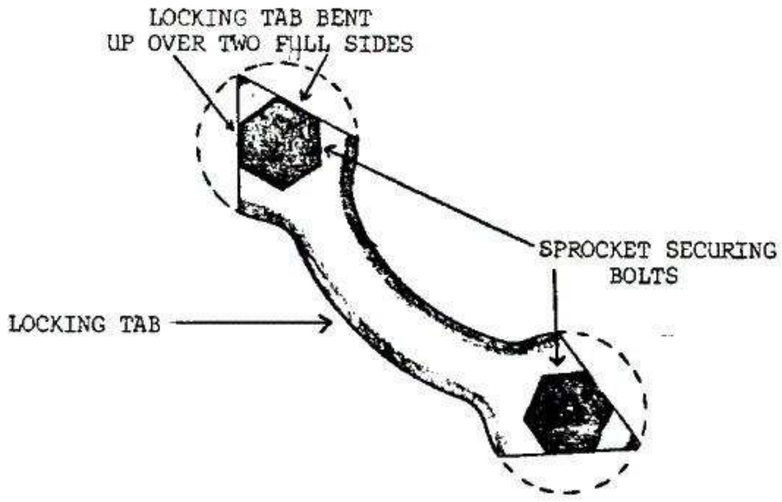
SUBJECT: LOOSE SPROCKETS

The problem of the rear sprockets coming loose in the smaller Yamahas, 50 through 100cc machines, has been solved by the procedures mentioned below.

The sprocket securing bolts are now specially heat treated (case hardened) and tightened with 14.5 to 21.7 ft. lbs., (2 to 3 kg-m). The bolts on the sprocket are installed in the opposite direction and center punched in three places on the back side. See figure below.



The lock tab on the sprocket is now bent up over two full sides of the bolt as shown below.



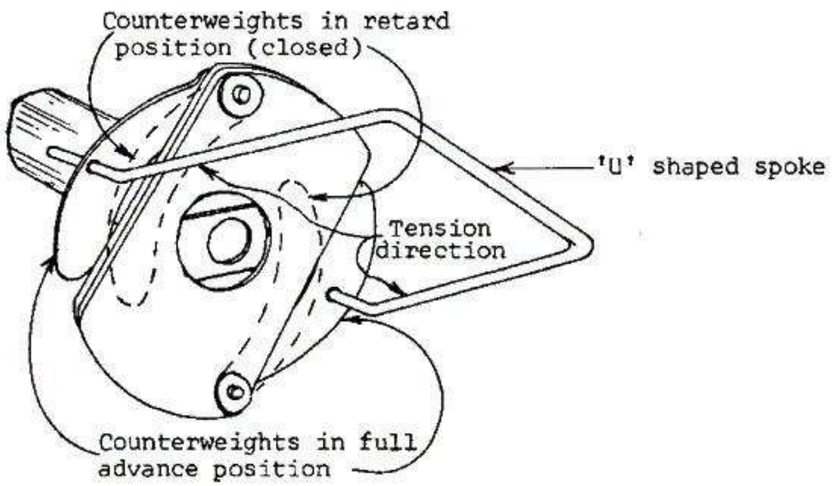
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Service News 189

IGNITION TIMING: Electric starting models with centrifugal advance

When setting ignition timing the centrifical advance counterweights must be held to full advance position. This is very easily done by use of a spoke formed into a 'U' shape as shown below. This procedure must also be used when checking the ignition timing.



NOTE: When the counterweights are opened to full advance position, the ignition point cam will move to full advance position.

Models with electric starter and centrifugal advance

YDS-5	YA-3
YCS-1	YA-5
YL-2C	YA-6
YL-1E	YD-3
U-5E	YDT-1

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Service News #198 A

OIL PUMP COLOR CODE

PLEASE FILE THIS AND DESTROY ORIGINAL #198 DATED: FEBRUARY 20, 1968

Twin Cylinder	YR-1	Green
	YM-1	Red
	YM2C	Green - REPLACEMENT PARTS ONLY BLACK - NEW MACHINES ONLY
	YDS5-E	Gray
	YDS3	White
	YCS1	Blue
	YAS-1	Brown
Single Cylinder	U-5 (E)	Green
	YG5T	Sky Blue
	YG1K	Red
	YL2C	Gray
	YA6	White - New Type - White (Die Cast) - Old Type - Red (Sand Cast)
	DT1	Black

MARCH 1, 1968

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MOTORCYCLE
M7-075

NEW BATTERY SERVICE AND MAINTENANCE

To reduce battery replacement costs and maintain customer satisfaction, new batteries must be serviced according to the following instructions. This information applies to batteries in new motorcycles and replacement batteries.

INTRODUCTION:

Batteries must be filled with electrolyte **and charged at the proper rate** for a specified period of time.

WARNING: **Battery electrolyte fluid is sulfuric acid solution. It is poisonous and dangerous, causing severe burns to materials and skin. Avoid contact with skin, eyes and clothing.**

WARNING: **The interaction of the battery and its electrolyte fluid produces explosive gases. When filling, changing, or working with batteries, provide good ventilation and avoid sparks, flames, power tools and electrical appliances.**

A. Fill the battery with battery electrolyte to the upper level line. The temperature of the electrolyte should be below 86° F (30° C). Let the battery stand for 30 minutes. Top off, if necessary.

B. Charge the battery at 1/10 of the battery's ampere/hour rating. For example, a 6N43-2A-3 battery should be charged at 0.4 amperes. A 12N12A-4A-1 battery should be charged at 1.2 amps.

C. The length of time a new battery should be charged depends upon the time elapsed since the date of manufacture. The date is stamped on the battery. Note illustration A.

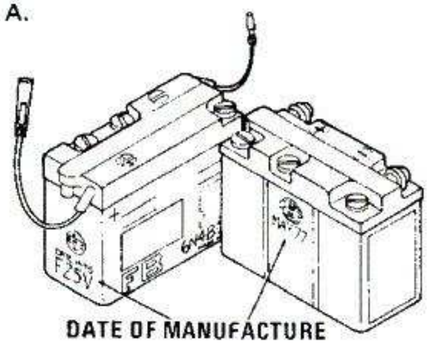


ILLUSTRATION A

NEW BATTERY PROCEDURE:

1) Remove shipping vent cap from battery.

2) Attach vent tube. Be sure exit is clear.

PROCEDURE (cont'd.)

3) Remove filler caps and fill each cell to the upper line with fresh electrolyte below 86° F (30° C).

4) Let the battery stand for 30 minutes. Top off with more electrolyte if necessary.

5) Depending upon the time elapsed from date of manufacture, charge the battery at 1/10 of its ampere/hour rating for the proper time as shown in the charging time chart.

Months after manufacture	0~6	7~9	10~12	over 12
Charging hours	20	30	40	60

After proper charging, use only distilled water to top up the battery. The mineral content in tap water will cause premature failure of the battery.

To test a battery for sufficient charge, use a float-type hydrometer such as Yamaha part number 90890-03036-00, not a "floating ball" type. The specific gravity for 6 and 12 volt batteries should be between 1.260~1.280. The correct charging rate and specific gravity for each model are listed on the Service Data Sheet for that model. See illustration B.

6) After charging, be sure the vent hose is attached, open and routed properly when installing the battery.

BATTERY MAINTENANCE PROCEDURE:

Customer satisfaction can be increased through adequate instruction in battery care.

A battery will tend to discharge and create sulfation deposits if not used regularly and kept adequately charged either through the vehicle charging system or an independent charger. A battery not in use tends to discharge at about 1% per day.

Batteries already in use should be charged at a maximum of 1/10 of their ampere hour rating until they reach a specific gravity of 1.260~1.280. The battery of a motorcycle not being ridden every day should be charged every 30 days. Slow charging (under 1 amp) tends to remove some of the sulfate deposits.

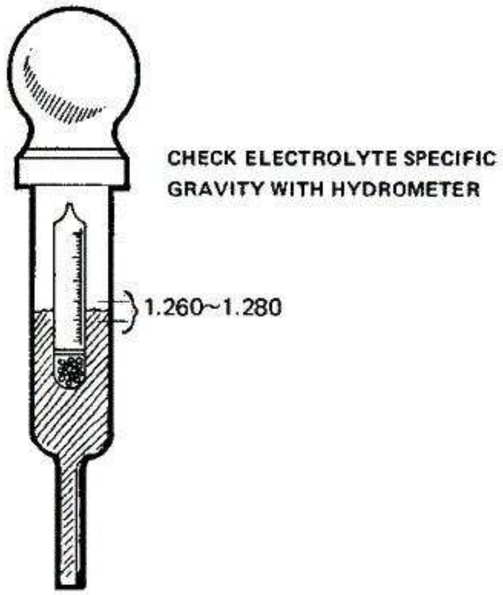


ILLUSTRATION B

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Service News #162

THE FACTORY RECOMMENDS THE USE OF PROPER TORQUE TO TIGHTEN THE CYLINDER HEAD FITTING NUTS, AND SPARK PLUGS AS FOLLOWS:

MODEL		CYL. HEAD	SPARK PLUG
MFX	50cc	90 in-lb	90 in-lb
U5	50cc	90 in-lb	90 in-lb
MJ2	55cc	90 in-lb	90 in-lb
YJ1	55cc	90 in-lb	90 in-lb
YJ2	60cc	90 in-lb	90 in-lb
YG1	80cc	90 in-lb	90 in-lb
YG1T	80cc	90 in-lb	90 in-lb
YG1SK	80cc	90 in-lb	90 in-lb
YG1TK	80cc	90 in-lb	90 in-lb
YGS1	80cc	90 in-lb	90 in-lb
YG1ST	80cc	90 in-lb	90 in-lb
MG1T	80cc	90 in-lb	90 in-lb
YL1	100cc	90 in-lb	90 in-lb
YA3	125cc	90 in-lb	100 in-lb
YA5	125cc	180 in-lb	100 in-lb
YA6	125cc	180 in-lb	100 in-lb
YD2	250cc	180 in-lb	100 in-lb
YD3	250cc	180 in-lb	100 in-lb
YDS1	250cc	180 in-lb	100 in-lb
YDS2	250cc	180 in-lb	100 in-lb
YDS3	250cc	180 in-lb	100 in-lb
YDS3C	250cc	180 in-lb	100 in-lb
YDT1	250cc	180 in-lb	100 in-lb
YM1	305cc	180 in-lb	100 in-lb

On all racing engines, torque should be increased by 10 in-lbs.

YDS3M	250cc	190 in-lb	110 in-lb
TD1A	250cc	190 in-lb	110 in-lb
TD1B	250cc	190 in-lb	110 in-lb

NOTE: All Yamaha torque specifications are maximum, factory allows plus or minus 5%.

As you can see from the above table, a general rule is to set all small studs to 90 in-lbs. and all large studs to 180 in-lbs.

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Service News #169

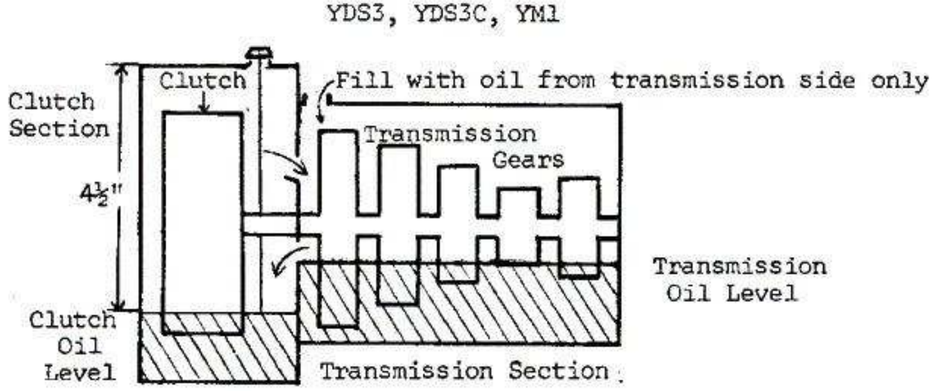
TRANSMISSION AND CLUTCH OIL LEVELS

The transmission oil level in the larger Yamaha sportcycles, (100cc and over,) is at a different level than the oil in the clutch section. Because of this, it is imparative in these models that the transmission oil be added to the transmission, not the clutch side. Adding the oil to the clutch side of the case will not lubricate the transmission gears.

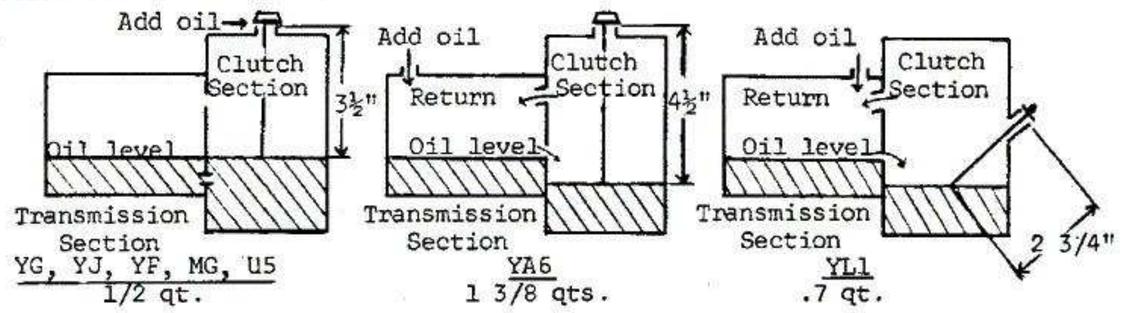
The oil is made to run at two different levels by the use of an oil bucket. Oil in the clutch section is picked up and thrown into the oil bucket. Sometimes the oil bucket is a special part, (YDS3, YM1, YDS3C,) and sometimes it is a section of the crankcase that is designed to catch this oil. From the oil bucket the oil is returned back into the transmission section. The oil then drains back into the clutch side.

Below is a diagram of the YDS3, YDS3C, and YM1 series engines, showing the different oil levels and the flow of oil in the engine.

YDS3, YDS3C, YM1



As you can see from the first diagram below, the oil level for the small machines is the same in both sides of the case. The YA6 and the YL1 are quite similar to the 250cc series machines. Remember, oil must be added only to the transmission side of the case.



When setting up a new machine, always check the transmission oil level. Sometimes during shipping, transmission oil will leak out of a new machine. Be sure you add the oil to the transmission section.

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